

TOWN OF CALEDON PLANNING RECEIVED

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14 Agnes Street Town of Caledon

Proposed Residential Development Transportation Impact Study

Paradigm Transportation Solutions Limited

December 2023 230683 (220188)



Project Summary



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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.

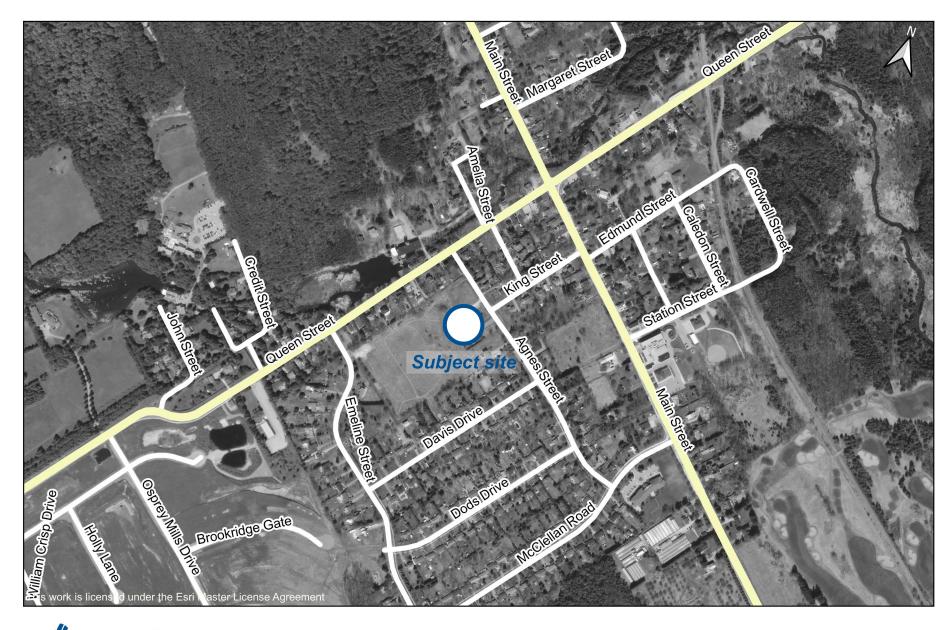
This study has been completed in accordance with the Town of Caledon *Transportation Impact Studies Terms of Reference and*



*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.







Site Location

14 Agnes Street - Transportation Impact Study 220188

Figure 1.1

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

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



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

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

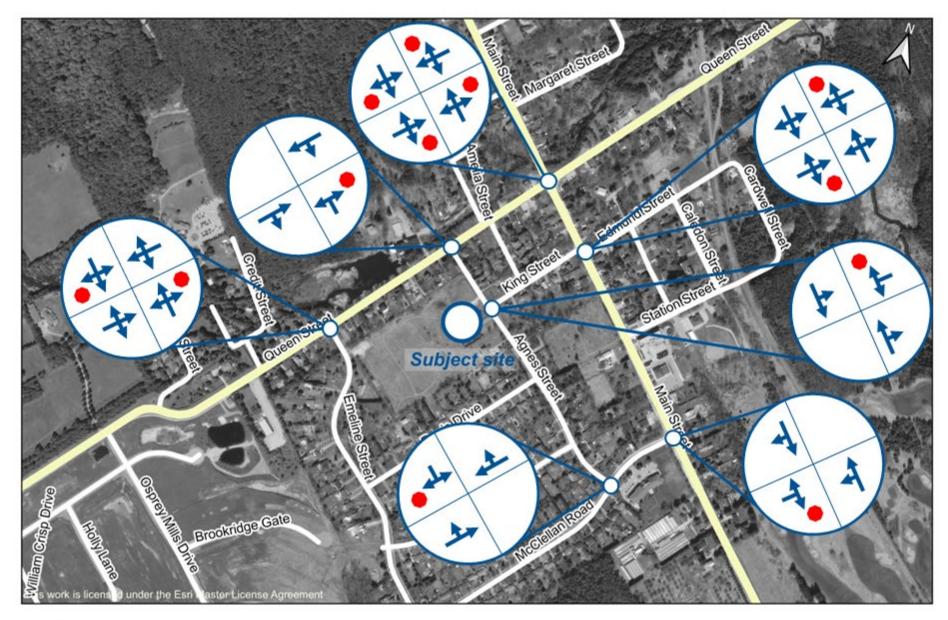
The Town of Caledon does not run any regular transit service within the study area. There are two on-demand specialized transit services provided currently:

- TransHelp is a specialized transit service that provides specific trips, flexible trips, subscription trips, return trips and crossboundary 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

⁵ Caledon Community Services, Specialized Transportation Application, Accessed 7 December 2022. <u>https://ccs4u.org/specialized-transportation-application</u>



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





Existing Lane Configurations and Traffic Control

14 Agnes Street - Transportation Impact Study 220188 Figure 2.1

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.

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



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

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.

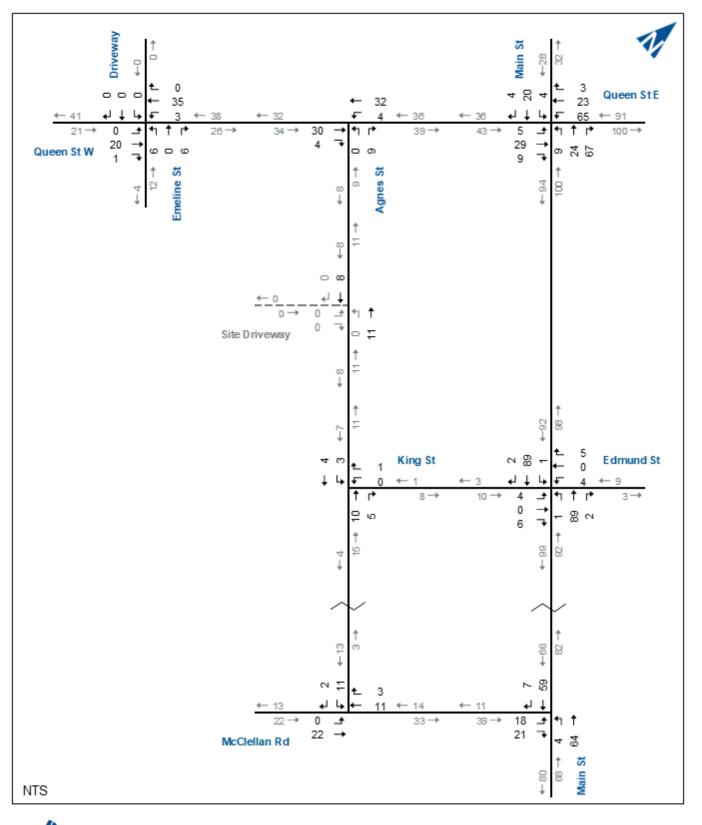
Paradigm collected TMCs at the study area intersections on Wednesday, October 12, 2022, and Wednesday, November 23, 2022 during the AM and PM peak periods. The data was counted in 15minute intervals and vehicles were classified by type.

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.

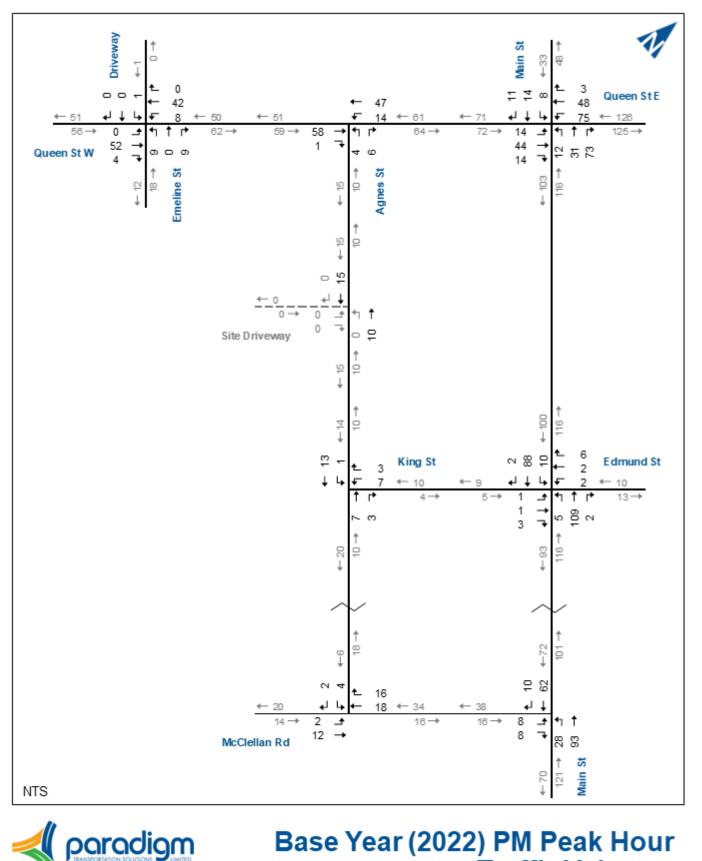




Base Year (2022) AM Peak Hour Traffic Volumes

14 Agnes Street – Transportation Impact Study 220188

Figure 2.2



Base Year (2022) PM Peak Hour Traffic Volumes

14 Agnes Street - Transportation Impact Study 220188

Figure 2.3

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 stopcontrolled 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.

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

TABLE 2.1: VEHICLE LEVEL OF SERVICE DEFINITIONS

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

-		Direction/Movement/Approach																		
erio					Eastb	ound			West				North				South	bound		
Analysis Period	Intersection	Control Type	MOE	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Overall
	Main St & Queen St W/Queen St E	AWSC	LOS Delay V/C Q	v v v v	A 8 0.05 15.3	~ ~ ~ ~	A 8	<pre></pre>	A 8 0.12 17.2	~ ~ ~ ~	A 8	v v v v	A 8 0.12 18.9	~ ~ ~	A 8	v v v v	A 8 0.04 15.2	~ ~ ~ ~	A 8	
	Main St & King St/Edmund St	TWSC	LOS Delay V/C Q	v v v v	A 10 0.02 0.4	~ ^ ^ ^	A 10	v v v v	A 9 0.01 0.3	~ ~ ~ ~	A 9	v v v v	A 0 0.0	~ ~ ~ ~	A 0	~ ~ ~ ~	A 0 0 0.0	~ ^ ^ ^	A 0	
ur	Agnes St & Queen St W	TWSC	LOS Delay V/C Q		A 0 0.02 0.0	^ ^ ^ ^	A 0	v v v v	A 1 0 0.1		A 1	A 8 0.01 0.2		~ ~ ~ ~	A 8					
AM Peak Hour	Agnes St & King St	TWSC	LOS Delay V/C Q					A 8 0 0.0		~ ^ ^ ^	A 8		A 0 0.01 0.0	~ ~ ~ ~	A 0	v v v v	A 3 0 0.1		A 3	
	Emeline St/Driveway & Queen St W	TWSC	LOS Delay V/C Q	v v v v	A 0 0.0	^ ^ ^ ^	A 0	v v v v	A 1 0 0.1	~ ^ ^ ^	A 1	v v v v	A 9 0.02 0.5	~ ~ ~ ~	A 9	v v v v	A 0 0 0.0	^ ^ ^ ^	A 0	
	Main St & McClellan Rd	TWSC	LOS Delay V/C Q	A 9 0.05 1.4		~ ^ ^ ^	A 9					v v v v	A 0 0.1		A 0		A 0 0.05 0.0	~ ^ ^ ^	A 0	
	McClellan Rd & Agnes St	TWSC	LOS Delay V/C Q	v v v v	A 0 0 0.0		A 0		A 0 0.01 0.0	~ ~ ~ ~	A 0					A 9 0.01 0.4		~ ^ ^ ^	A 9	
	Main St & Queen St W/Queen St E	AWSC	LOS Delay V/C Q	v v v v	A 8 0.11 16.9	^ ^ ^ ^	A 8	v v v v	A 9 0.20 20	~ ^ ^ ^	A 9	v v v v	A 8 0.17 20	~ ~ ~ ~	A 8	v v v v	A 8 0.05 14	^ ^ ^ ^	A 8	
	Main St & King St/Edmund St	TWSC	LOS Delay V/C Q	v v v v	A 10 0.01 0.2	~ ^ ^ ^	A 10	v v v v	A 10 0.01 0.3	v v v v	A 10	v v v v	A 0 0.1	v v v v	A 0	v v v v	A 1 0.01 0.2	~ ~ ~ ~	A 1	
L	Agnes St & Queen St W	TWSC	LOS Delay V/C Q		A 0 0.04 0.0	~ ~ ~ ~	A 0	~ ~ ~ ~	A 2 0.01 0.3		A 2	A 9 0.01 0.3		v v v v	A 9					
PM Peak Hour	Agnes St & King St	TWSC	LOS Delay V/C Q					A 9 0.01 0.4		v v v v	9 9		A 0 0.01 0.0	v v v v	A 0	v v v v	A 0 0 0.0		A 0	
PN	Emeline St/Driveway & Queen St W	TWSC	LOS Delay V/C Q	v v v v	A 0 0.0	^ ^ ^ ^	A 0	~ ~ ~ ~	A 1 0.01 0.2	~ ^ ^ ^	A 1	v v v v	A 9 0.03 0.7	~ ~ ~ ~	A 9	v v v v	A 10 0 0.0	^ ^ ^ ^	A 10	
	Main St & McClellan Rd	TWSC	LOS Delay V/C Q	A 9 0.02 0.5		^ ^ ^ ^	A 9					v v v v	A 2 0.02 0.5		A 2		A 0 0.05 0.0	^ ^ ^ ^	A 0	
	McClellan Rd & Agnes St	TWSC	LOS Delay V/C Q	v v v v	A 1 0 0.0	th Dor	A 1		A 0 0.02 0.0	~ ^ ^ ^	A 0					A 9 0.01 0.1		^ ^ ^ ^	A 9	

MOE - Measure of Effectiveness

Q - 95th Percentile Queue Length (m) TWSC - Two-Way Stop Control

LOS - Level of Service

AWSC - All-Way Stop Control

Delay - Average Delay per Vehicle in Seconds V/C - Volume to Capacity Ratio

</s>



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

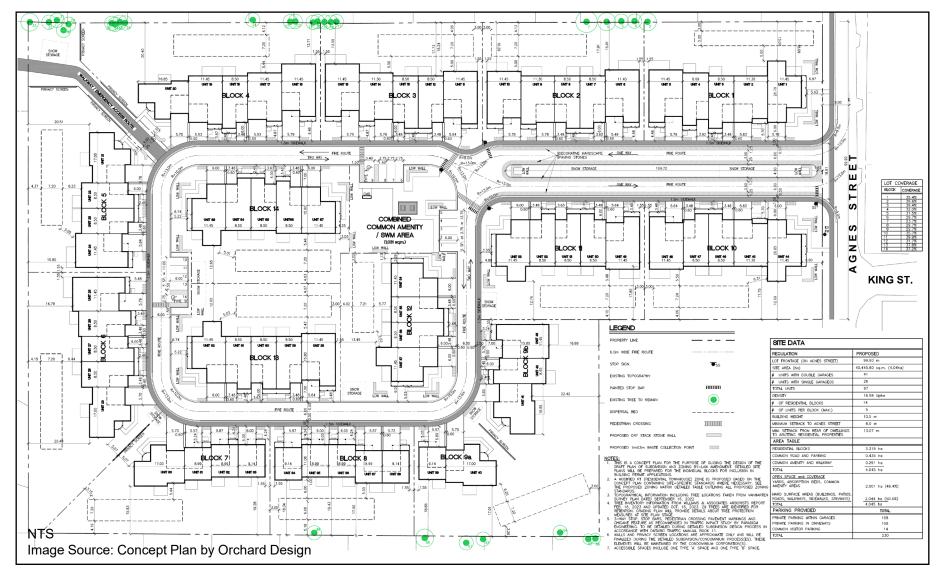
Sidewalks within the site are proposed and a 1.5-metre sidewalk is proposed on the west side of Agnes Street between Queen Street West and Davis Drive to connect with the site.

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







Concept Plan

14 Agnes Street – Transportation Impact Study 230883 (220188)

Figure 3.1

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

¹³ Town of Caledon, *Development Application Map*, Accessed 1 December 2022. <u>https://caledon.maps.arcgis.com/apps/instant/lookup/index.html?appid=554d71fd</u> <u>87dc4bbb83dc3e6973b08e16</u>



¹¹ Town of Caledon, *Official Plan, Section 1.4*, April 2018, p1-3.

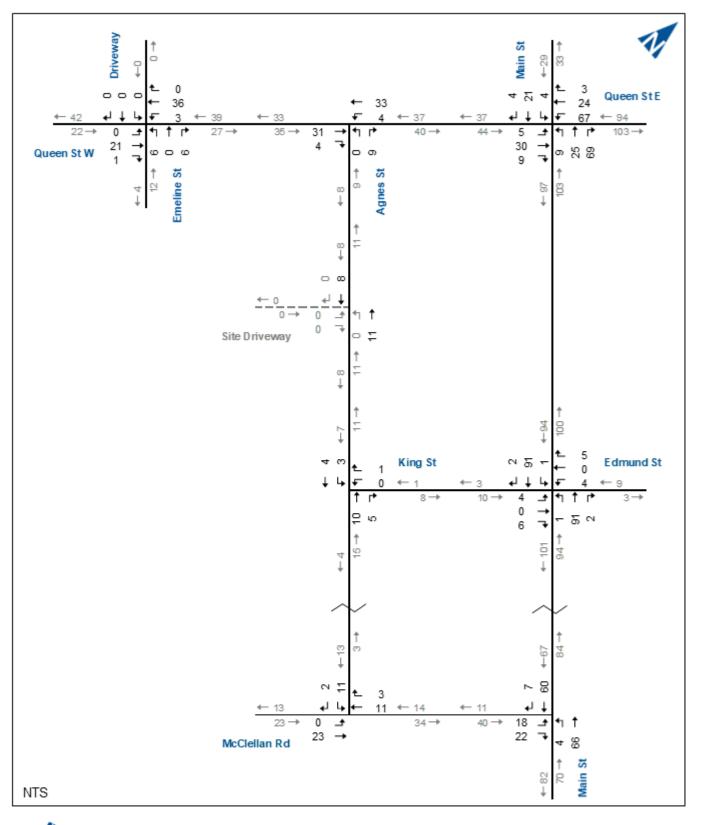
¹² The Town of Caledon's draft revised Official Plan similarly states that "only a limited amount of growth will be permitted" in Villages and Hamlets such as Alton.

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.

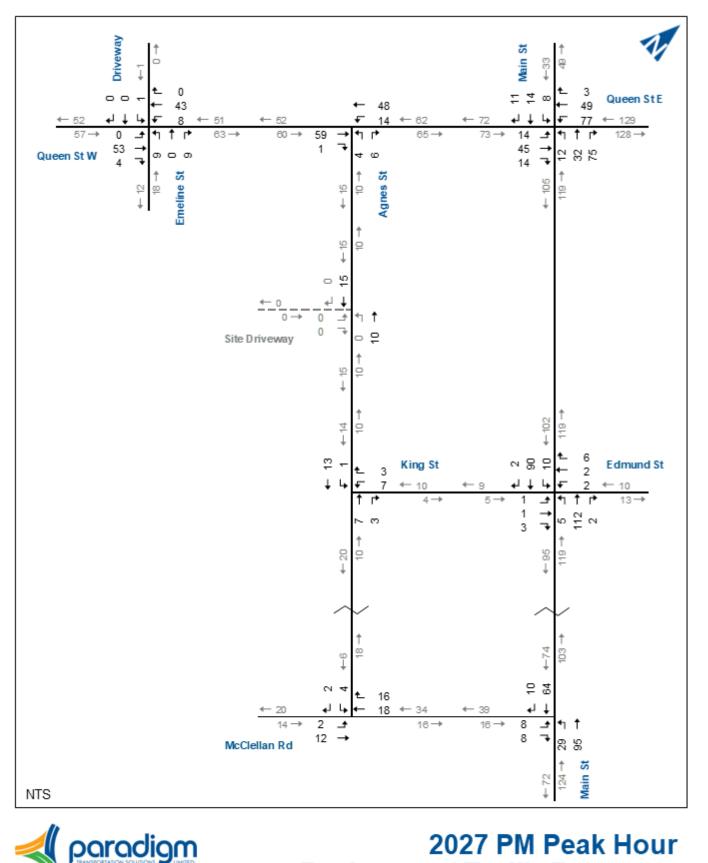






2027 AM Peak Hour Background Traffic Forecasts

14 Agnes Street – Transportation Impact Study 220188



2027 PM Peak Hour **Background Traffic Forecasts**

14 Agnes Street - Transportation Impact Study 220188

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.

Land	Units	Α	M Pea	ak Hou	r	PM Peak Hour				
Use	Units	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	

TABLE 4.1: SITE TRIP GENERATION

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.

Origin/Destination	AM Pea	ak Hour	PM Peak Hour			
Origin/Destination	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%		

TABLE 4.2: TRIP DISTRIBUTION

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.

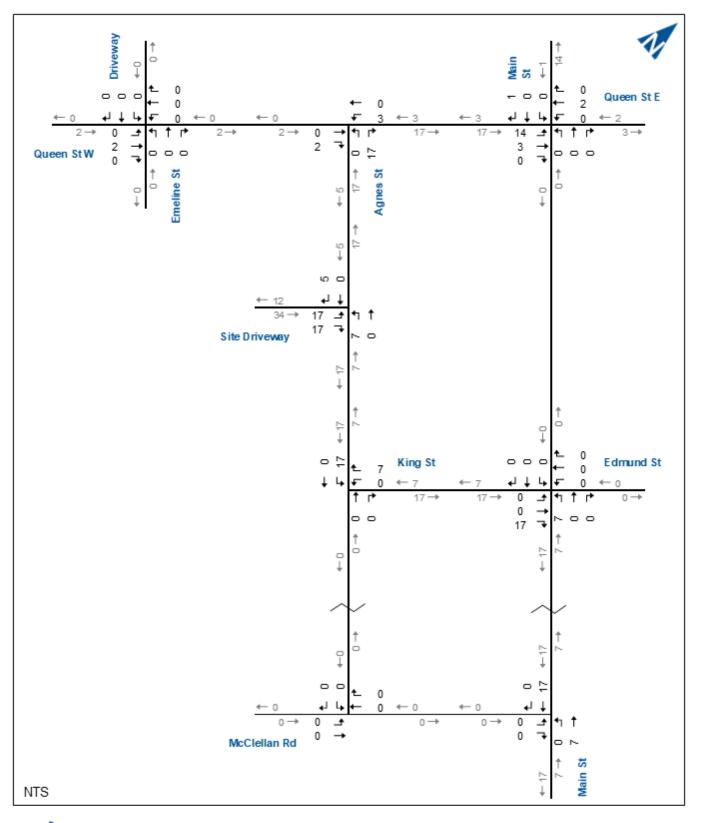
4.4 Future Total Traffic Volumes

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.

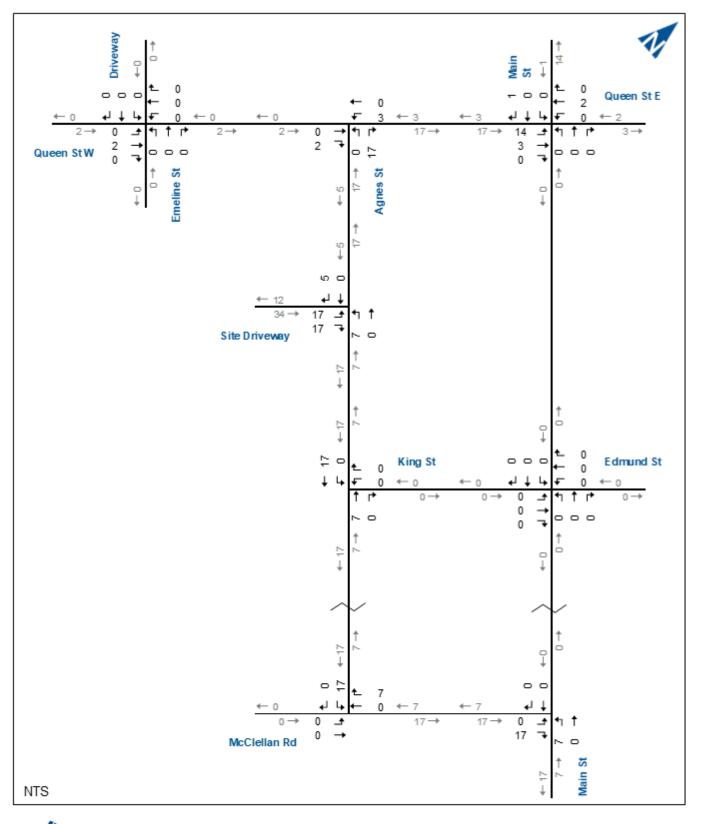






Site-Generated AM Peak Hour Traffic Forecasts (Base Case)

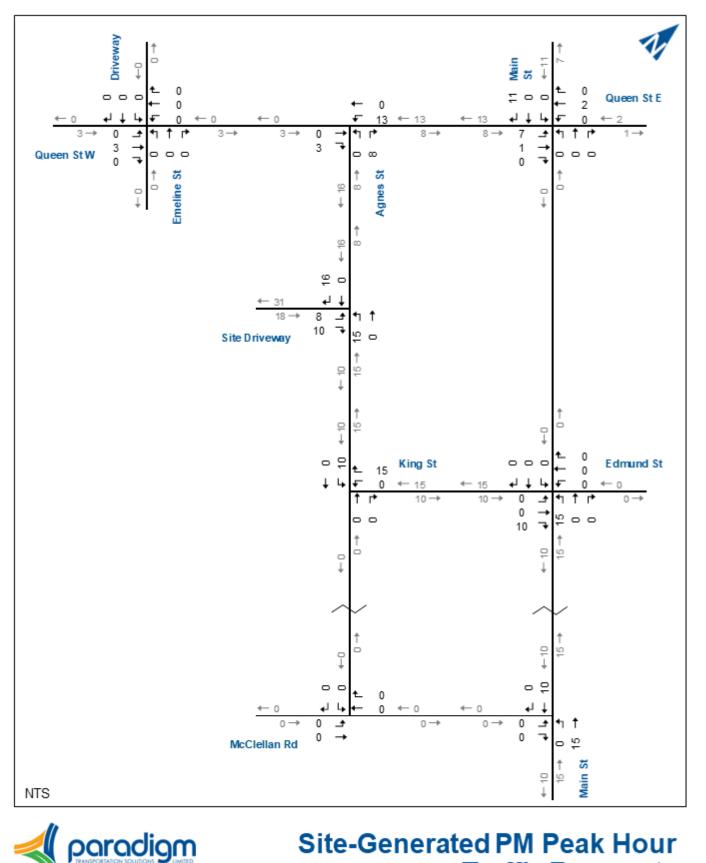
14 Agnes Street – Transportation Impact Study 220188



Rearadigm

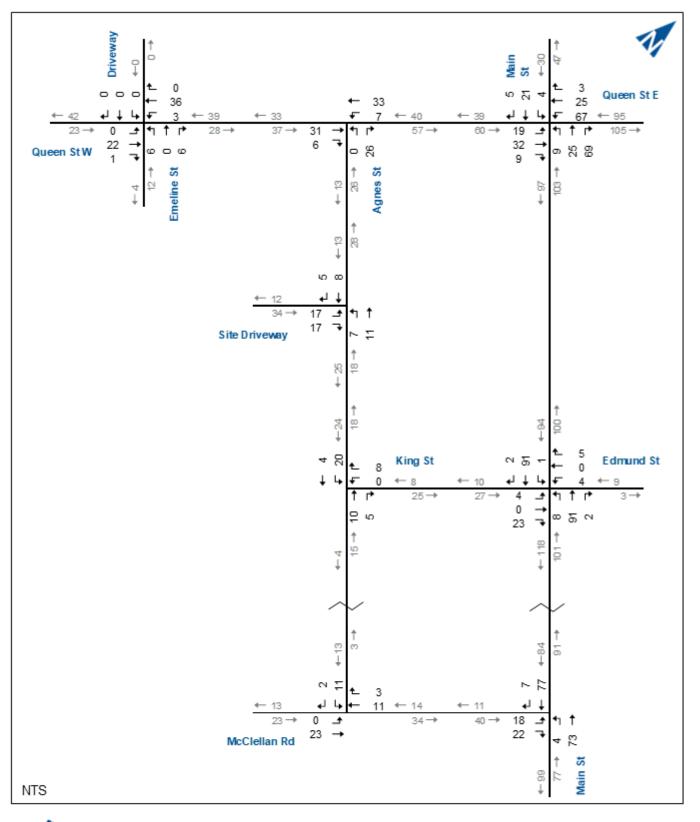
Site-Generated AM Peak Hour Traffic Forecasts (Sensitivity Test)

14 Agnes Street – Transportation Impact Study 220188



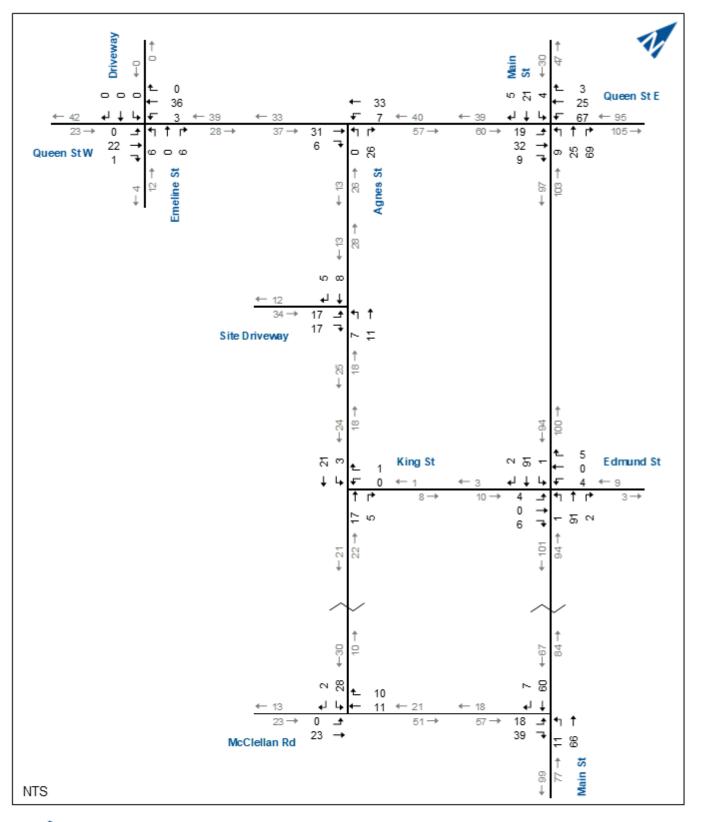
Site-Generated PM Peak Hour Traffic Forecasts

14 Agnes Street - Transportation Impact Study 220188



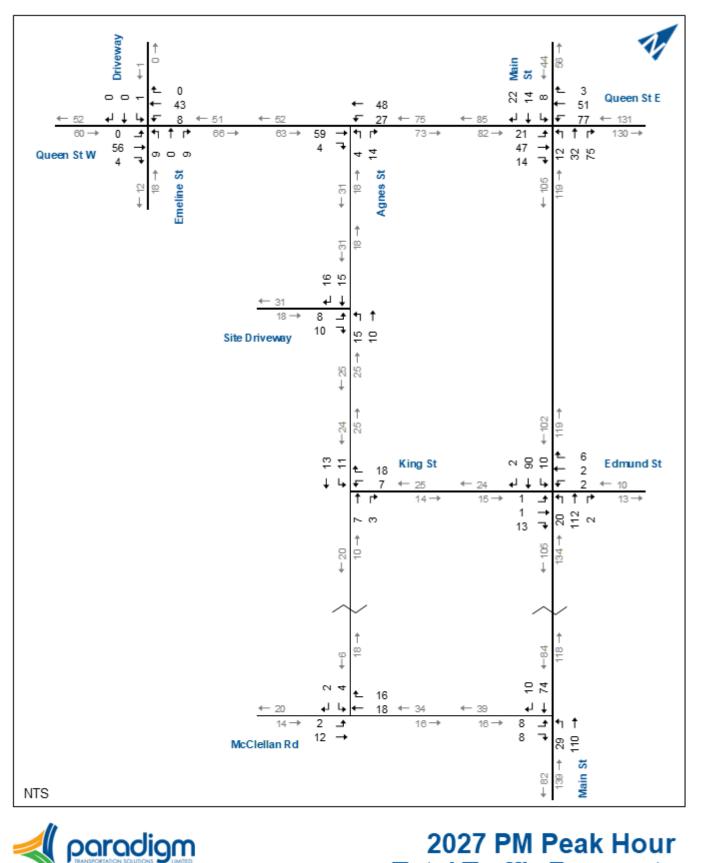
2027 AM Peak Hour Total Traffic Forecasts (Base Case)

14 Agnes Street – Transportation Impact Study 220188



2027 AM Peak Hour Total Traffic Forecasts (Sensitivity Test)

14 Agnes Street – Transportation Impact Study 220188





14 Agnes Street - Transportation Impact Study 220188

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

73										Direct	ion/Me	oveme	nt/App	roach	1					1
erio					Eastb	ound			West				North				South	bound		
Analysis Period	Intersection	Control Type	MOE	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Overall
	Main St & Queen St W/Queen St E	AWSC	LOS Delay V/C Q	v v v v	A 8 0.06 15.3	~ ^ ^ ^	A 8	v v v v	A 8 0.12 15.7	~ ~ ~ ~	A 8	v v v v	A 8 0.13 19.5	~ ~ ~ ~	A 8	v v v v	A 8 0.04 14.9	~ ~ ~ ~	A 8	
	Main St & King St/Edmund St	TWSC	LOS Delay V/C Q	~ ~ ~ ~	A 10 0.02 0.4	~ ~ ~ ~	A 10	v v v v	A 9 0.01 0.3	> > > >	A 9	~ ~ ~ ~	A 0 0 0.0	> > > >	A 0	~ ~ ~ ~	A 0 0 0.0	~ ~ ~ ~	A 0	
ur	Agnes St & Queen St W	TWSC	LOS Delay V/C Q		A 0 0.02 0.0	~ ^ ^ ^	A 0	v v v v	A 1 0 0.1		A 1	A 8 0.01 0.2		> > > >	A 8					
AM Peak Hour	Agnes St & King St	TWSC	LOS Delay V/C Q					A 8 0 0.0		> > > >	A 8		A 0 0.01 0.0	> > > >	A 0	v v v v	A 3 0 0.1		A 3	
A	Emeline St/Driveway & Queen St W	TWSC	LOS Delay V/C Q	v v v v	A 0 0 0.0	^ ^ ^ ^	A 0	v v v v	A 1 0 0.1	> > > > >	A 1	v v v v	A 9 0.02 0.5	> > > >	A 9	v v v v	A 0 0 0.0	^ ^ ^ ^	A 0	
	Main St & McClellan Rd	TWSC	LOS Delay V/C Q	A 9 0.06 1.4		^ ^ ^ ^	A 9					v v v v	A 0 0.1		A 0		A 0 0.05 0.0	^ ^ ^ ^	A 0	
	McClellan Rd & Agnes St	TWSC	LOS Delay V/C Q	v v v v	A 0 0.0		A 0		A 0 0.01 0.0	~ ~ ~ ~	A 0					A 9 0.01 0.4		^ ^ ^ ^	A 9	
	Main St & Queen St W/Queen St E	AWSC	LOS Delay V/C Q	v v v v	A 8 0.11 17	^ ^ ^ ^	A 8	v v v v	A 9 0.20 19.6	~ ~ ~ ~	ረ ወ	v v v v	A 8 0.17 20.3	~ ~ ~ ~	A 8	v v v v	A 8 0.05 14.6	^ ^ ^ ^	A 8	
	Main St & King St/Edmund St	TWSC	LOS Delay V/C Q	v v v v	A 10 0.01 0.2	^ ^ ^ ^	A 10	v v v v	A 10 0.01 0.3	v v v v	A 10	v v v v	A 0 0.1	~ ~ ~ ~	A 0	v v v v	A 1 0.01 0.2	~ ^ ^ ^	A 1	
ır	Agnes St & Queen St W	TWSC	LOS Delay V/C Q		A 0 0.04 0.0	~ ^ ^ ^	A 0	v v v v	A 2 0.01 0.3		A 2	A 9 0.01 0.3		~ ~ ~ ~	A 9					
PM Peak Hour	Agnes St & King St	TWSC	LOS Delay V/C Q					A 9 0.01 0.4		~ ~ ~ ~	A 9		A 0 0.01 0.0	~ ~ ~ ~	A 0	v v v v	A 0 0.0		A 0	
•	Emeline St/Driveway & Queen St W	TWSC	LOS Delay V/C Q	v v v v	A 0 0 0.0	^ ^ ^ ^	A 0	v v v v	A 1 0.01 0.2	~ ~ ~ ~	A 1	v v v v	A 9 0.03 0.7	> > > >	A 9	v v v v	A 10 0 0.0	^ ^ ^ ^	A 10	
	Main St & McClellan Rd	TWSC	LOS Delay V/C Q	A 9 0.02 0.5		^ ^ ^ ^	A 9					v v v v	A 2 0.02 0.5		A 2		A 0 0.05 0.0	^ ^ ^ ^	A 0	
	McClellan Rd & Agnes St	TWSC	LOS Delay V/C Q	v v v v	A 1 0 0.0		A 1		A 0 0.02 0.0	~ ~ ~ ~	A 0					A 9 0.01 0.1		^ ^ ^ ^	A 9	

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)

σ										Direct	tion/Me	oveme	nt/App	roach						
erio					Eastb	ound			West	ound			North	oound			South	bound		
Analysis Period	Intersection	Control Type	MOE	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Overall
	Main St & Queen St W/Queen St E	AWSC	LOS Delay V/C Q	v v v v	A 8 0.08 14.6	~ ^ ^ ^	A 8	v v v v	A 8 0.13 16.5	~ ^ ^ ^	A 8	v v v v	A 8 0.13 20.1	~ ~ ~ ~	A 8	v v v v	A 8 0.04 13.7	~ ~ ~ ~	A 8	
	Main St & King St/Edmund St	TWSC	LOS Delay V/C Q	v v v v	A 10 0.04 1.0	^ ^ ^ ^	A 10	v v v v	A 10 0.01 0.3	~ ^ ^ ^	A 10	v v v v	A 1 0.01 0.1	~ ~ ~ ~	A 1	v v v v	A 0 0 0.0	~ ~ ~ ~	A 0	
	Agnes St & Queen St W	TWSC	LOS Delay V/C Q		A 0 0.02 0.0	^ ^ ^ ^	A 0	v v v v	A 1 0 0.1		A 1	A 9 0.03 0.7		~ ~ ~ ~	ຊ ໑					
Peak Hour	Agnes St & King St	TWSC	LOS Delay V/C Q					A 8 0.01 0.3		~ ^ ^ ^	A 8		A 0 0.01 0.0	~ ~ ~ ~	A 0	v v v v	A 6 0.02 0.5		A 6	
AM Pea	Emeline St/Driveway & Queen St W	TWSC	LOS Delay V/C Q	v v v v	A 0 0 0.0	^ ^ ^ ^	A 0	v v v v	A 1 0 0.1	^ ^ ^ ^	A 1	v v v v	A 9 0.02 0.5	> > > >	A 9	v v v v	A 0 0 0.0	> > > >	A 0	
	Main St & McClellan Rd	TWSC	LOS Delay V/C Q	A 10 0.06 1.5		^ ^ ^ ^	A 10					v v v v	A 0 0.1		4 0		A 0 0.06 0.0	~ ~ ~ ~	A 0	
	McClellan Rd & Agnes St	TWSC	LOS Delay V/C Q	v v v v	A 0 0.0		A 0		A 0 0.01 0.0	^ ^ ^ ^	A 0					A 9 0.01 0.4		~ ~ ~ ~	A 9	
	Agnes St & Site Driveway	TWSC	LOS Delay V/C Q	A 9 0.04 0.9		~ ~ ~ ~	A 9					v v v v	A 3 0 0.1		A 3		A 0 0.01 0.0	~ ~ ~ ~	A 0	
	Main St & Queen St W/Queen St E	AWSC	LOS Delay V/C Q	~ ~ ~ ~	A 8 0.13 17.4	~ ~ ~ ~	A 8	~ ~ ~ ~	A 9 0.21 19.8	~ ~ ~ ~	A 9	~ ~ ~ ~	A 8 0.17 21.6	~ ~ ~ ~	A 8	~ ~ ~ ~	A 8 0.07 15.5	~ ~ ~ ~	A 8	
	Main St & King St/Edmund St	TWSC	LOS Delay V/C Q	~ ~ ~ ~	A 10 0.02 0.5	~ ~ ~ ~	A 10	~ ~ ~ ~	A 10 0.01 0.4	~ ~ ~ ~	A 10	~ ~ ~ ~	A 1 0.02 0.5	~ ~ ~ ~	A 1	~ ~ ~ ~	A 1 0.01 0.2	> > > >	A 1	
	Agnes St & Queen St W	TWSC	LOS Delay V/C Q		A 0 0.05 0.0	~ ~ ~ ~	A 0	~ ~ ~ ~	A 3 0.02 0.5		A 3	A 9 0.02 0.6		~ ~ ~ ~	A 9					
ik Hour	Agnes St & King St	TWSC	LOS Delay V/C Q					A 9 0.03 0.9		^ ^ ^ ^	A 9		A 0 0.01 0.0	~ ~ ~ ~	A 0	v v v v	A 3 0.01 0.2		A 3	
PM Peak Hou	Emeline St/Driveway & Queen St W	TWSC	LOS Delay V/C Q	v v v v	A 0 0 0.0	~ ^ ^ ^	A 0	v v v v	A 1 0.01 0.2	~ ^ ^ ^	A 1	v v v v	A 9 0.03 0.7	~ ~ ~ ~	A 9	v v v v	A 10 0 0.0	~ ~ ~ ~	A 10	
	Main St & McClellan Rd	TWSC	LOS Delay V/C Q	A 10 0.02 0.5		~ ^ ^ ^	A 10					v v v v	A 2 0.02 0.5		A 2		A 0 0.05 0.0	~ ~ ~ ~	A 0	
	McClellan Rd & Agnes St	TWSC	LOS Delay V/C Q	v v v v	A 1 0 0.0		A 1		A 0 0.02 0.0	^ ^ ^ ^	A 0					A 9 0.01 0.1		~ ~ ~ ~	A 9	
	Agnes St & Site Driveway	TWSC	LOS Delay V/C Q	A 9 0.02 0.5		> > > >	A 9		Lengt			v v v	A 4 0.01 0.2		A 4		A 0 0.02 0.0	> > > >	A 0	

MOE - Measure of Effectiveness

Q - 95th Percentile Queue Length (m)

LOS - Level of Service

Delay - Average Delay per Vehicle in Seconds V/C - Volume to Capacity Ratio

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)

σ										Direct	tion/M	oveme	nt/App	roach						
<u>erio</u>					Eastb	ound			West	oound			North	bound			South	bound		
Analysis Period	Intersection	Control Type	MOE	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Overall
	Main St & Queen St W/Queen St E	AWSC	LOS Delay V/C Q	~ ~ ~ ~	A 8 0.08 14.6	~ ~ ~ ~	A 8	v v v v	A 8 0.13 16.5	v v v v	A 8	~ ~ ~ ~	A 8 0.13 20.1	~ ~ ~ ~	A 8	~ ~ ~ ~	A 8 0.04 13.7	~ ~ ~ ~	A 8	
	Main St & King St/Edmund St	TWSC	LOS Delay V/C Q	~ ~ ~ ~	A 10 0.02 0.4	~ ~ ~ ~	A 10	v v v v	A 9 0.01 0.3	~ ~ ~ ~	A 9	~ ~ ~ ~	A 0 0 0.0	~ ~ ~ ~	A 0	v v v v	A 0 0 0.0	~ ~ ~ ~	A 0	
	Agnes St & Queen St W	TWSC	LOS Delay V/C Q		A 0 0.02 0.0	~ ~ ~ ~	A 0	v v v v	A 1 0 0.1		A 1	A 9 0.03 0.7		~ ~ ~ ~	A 9					
k Hour	Agnes St & King St	TWSC	LOS Delay V/C Q					A 8 0 0.0		~ ~ ~ ~	A 8		A 0 0.02 0.0	~ ~ ~ ~	A 0	~ ~ ~ ~	A 1 0 0.1		A 1	
AM Peak Hour	Emeline St/Driveway & Queen St W	TWSC	LOS Delay V/C Q	v v v v	A 0 0 0.0	~ ^ ^ ^	A 0	v v v v	A 1 0 0.1	~ ^ ^ ^	A 1	<pre></pre>	A 9 0.02 0.5	~ ^ ^ ^	A 9	v v v v	A 0 0 0.0	~ ^ ^ ^	A 0	
	Main St & McClellan Rd	TWSC	LOS Delay V/C Q	A 9 0.08 2.1		~ ~ ~ ~	A 9					<pre></pre>	A 1 0.01 0.2		A 1		A 0 0.05 0.0	~ ~ ~ ~	A 0	
	McClellan Rd & Agnes St	TWSC	LOS Delay V/C Q	v v v v	A 0 0 0.0		A 0		A 0 0.01 0.0	~ ~ ~ ~	A 0					A 9 0.03 0.9		~ ~ ~ ~	A 9	
	Agnes St & Site Driveway	TWSC	LOS Delay V/C Q	A 9 0.04 0.9	0.00	> > > >	A 9	0	Lenat	h (m)		~ ~ ~ ~	A 3 0 0.1		A 3		A 0 0.01 0.0	~ ~ ~ ~	A 0	

MOE - Measure of Effectiveness LOS - Level of Service

Q - 95th Percentile Queue Length (m) TWSC - Two-Way Stop Control

AWSC - All-Way Stop Control

</>< - Shared with through movement

Delay - Average Delay per Vehicle in Seconds V/C - Volume to Capacity Ratio



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.

Intersection	2027 Backgroun Volume Increase	d vs. 2027 Total e (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%)

TABLE 5.4: TRAFFIC VOLUME INCREASE

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 proposeddevelopment in comparison to the proposed parking supply.

Туре	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

TABLE 6.1: REQUIRED AND PROVIDED VEHICULAR PARKING

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 2015-058¹⁶ 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

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



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

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.
-----------	------------------------------

Туре	Required Rate	Required Spaces	Proposed Spaces	Surplus/ (Deficit)
Double-garage	units			
Resident (41 units)	2.0 spaces/unit	82	164	71
Visitor (41 units)	0.25 spaces/unit	11	(by unit)	71
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

TABLE 6.2: PARKING JUSTIFICATION

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 (twoway) 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 oneway 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.



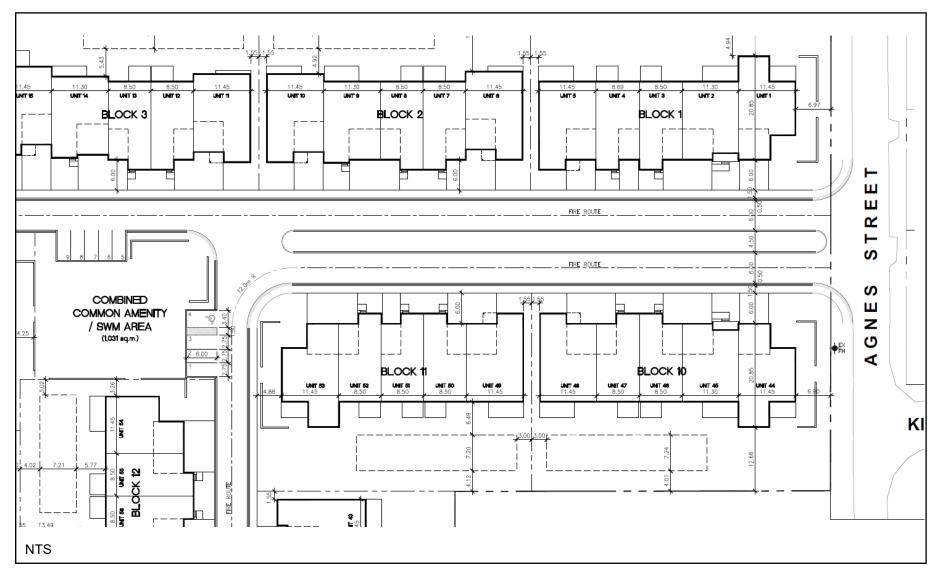
As a result, three alternative configurations for this intersection were considered:

- 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**.

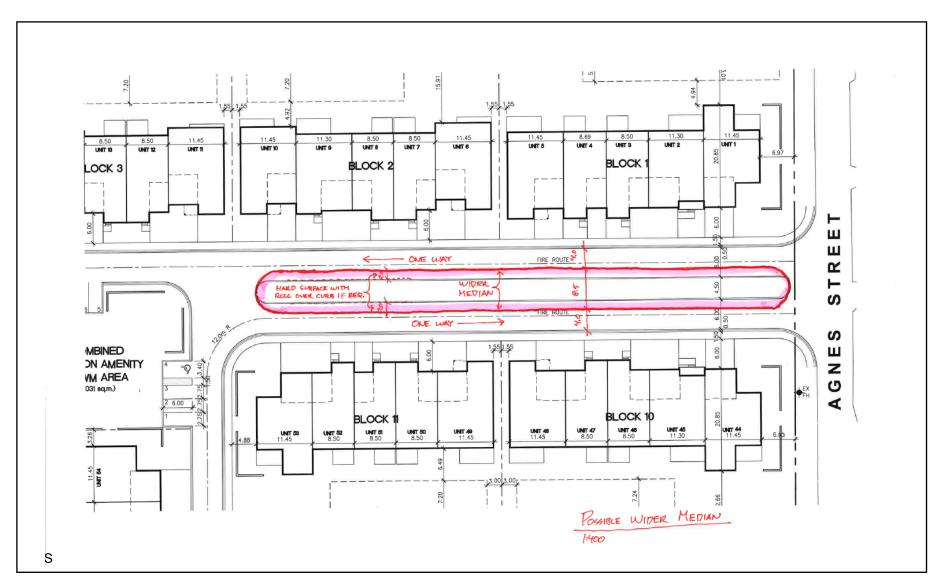






Internal Intersection Original Configuration

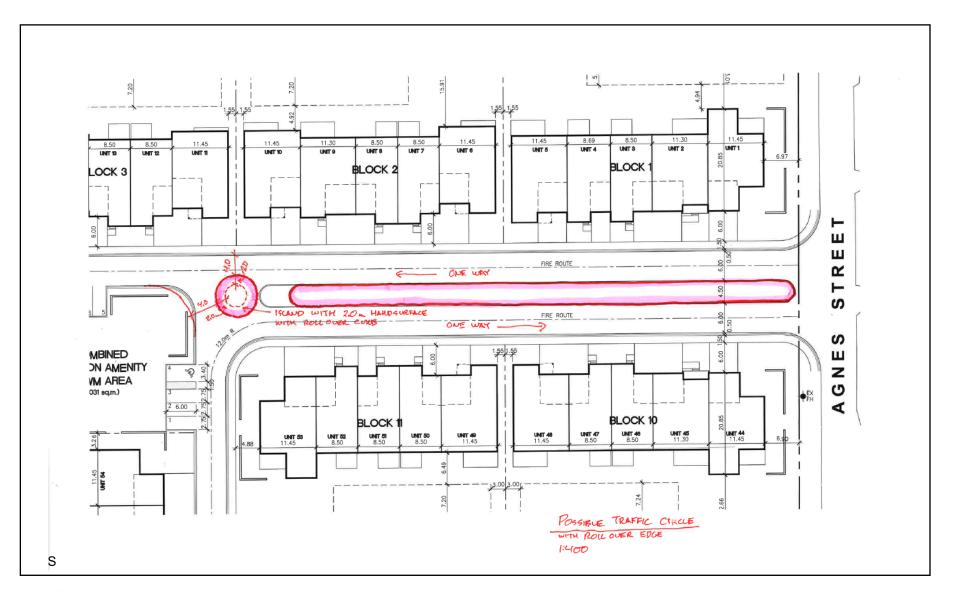
14 Agnes Street – Transportation Impact Study 230683





Internal Intersection Option 1 – Wider Medians

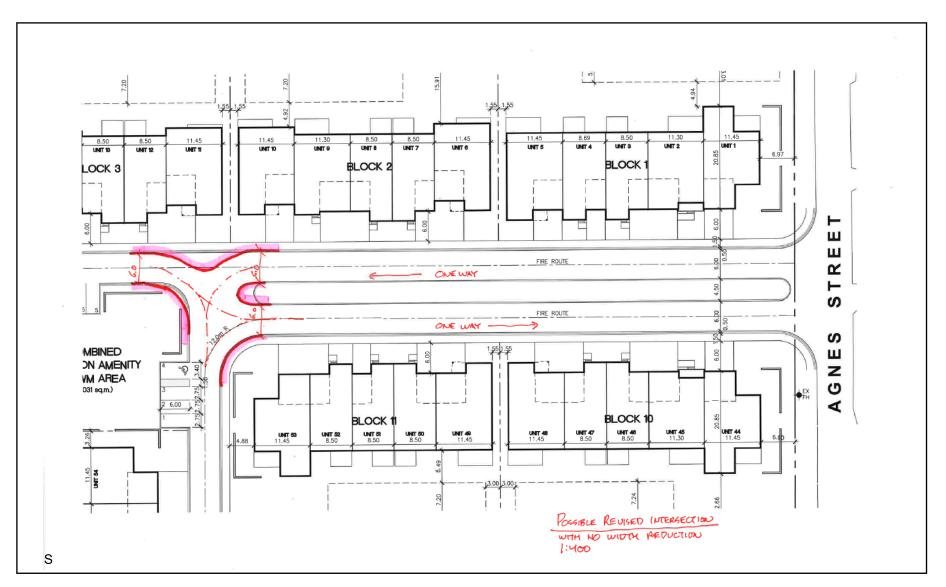
Agnes Street – Transportation Impact Study 683





Internal Intersection Option 2 – Traffic Circle

Agnes Street – Transportation Impact Study 683





Internal Intersection Option 3 – Bump-out

Agnes Street – Transportation Impact Study 683

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





For the best experience, open this PDF portfolio in Acrobat X or Adobe Reader X, or later.

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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 satisfied 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 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 sale-caledon.ca

 Cc: Anthony Staniscia <anthony.staniscia@caledon.ca>

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

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the contents to be safe.

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 ------

To:Anthony Staniscia <anthony.staniscia@caledon.ca> CC:Jeremy Grant <jeremy@seatongroup.com>, Bryan Bruce
 <b

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>

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



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

If you have received this email in error, kindly reply to that effect and I will ensure the address is corrected, and please delete the received email.

------ Forwarded Message -----Subject:RE: (220188) 14 Agnes Street Caledon - Access & Circulation review
Date:Thu, 2 Feb 2023 21:18:19 +0000
From:Tom Willis <a href="mailto:
From:Tom Willis <a href="mailto:
To:Bryan Bruce <a href="mailto:bruce@orcharddesign.ca>
CC:Jeremy Grant <a href="mailto:, Jordan Grant - Work <a href="mailto: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 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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To Work. Certifie

 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; Tom Willis twillis@ptsl.com

 Cb: 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>

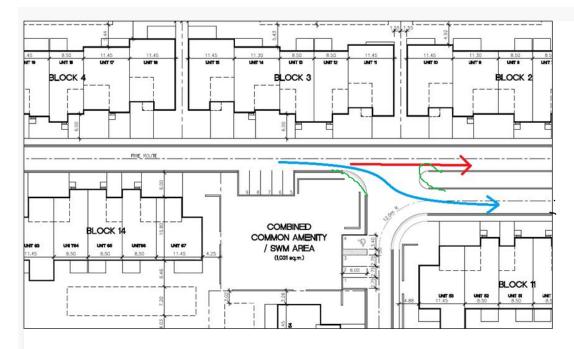
 Cc: Bryan Bruce
sbruce@orcharddesign.ca>; Keith Reycraft <reycraft@orcharddesign.ca>; Jeremy@seatongroup.com>

 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 <<u>jordan@seatongroup.com></u>

 Sent: February 1, 2023 11:47 AM

 To: Jeremy Grant <<u>jeremy@seatongroup.com></u>; Keith Reycraft <<u>reycraft@orcharddesign.ca></u>; Bryan Bruce

 <bbruce@orcharddesign.ca>

 Cc: Tom Willis <<u>twillis@ptsl.com></u>

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,

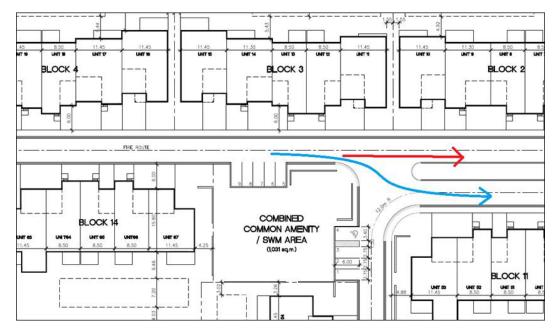
Jordan

------ 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)



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Appendix B

Traffic Data



Wed Nov 23, 2022 Full Length (6 AM-9 AM, 4 PM-7 PM) All Classes (Motorcycles, Lights, Single-Unit Trucks, Articulated Trucks, Buses, P

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



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

All Movements

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

Leg	McClellan Roa	h				McClellan Roa	ad				Agnes Street					
Direction	Eastbound	iu				Westbound	id .				Southbound					
Time	T	L	U	Арр	Ped*	R	Т	U	Арр	Ped*	R	L	U	Арр	Ped*	Int
2022-11-23 6:00AM	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	1	0	1	0	
6:30AM	5	0	0	5	0		0	0	0	0	0	1	0	1	0	
6:45AM	4	0	0	4	4		0	0	0	0		12	0	12	4	16
Hourly Total	11	0	0	11	4		0	0	0	0		18	0	18	4	29
7:00AM	5	0	0	5	2		1	0	2	0	0	3	0	3	3	
7:15AM	1	0	0	1	0		0	0	0	0		6	0	6	0	
7:30AM	8	0	0	8	0		1	0	2	0		3	0	3	2	
	5	0	0	5	0		0	0	0	0		2	0	2	0	
Hourly Total	19	0	0	19	2		2	0	4	0		14	0	14	5	
8:00AM	6	0	0	6	2		0	1	2	0	1	3	0	4	1	12
8:15AM	5	0	0	5	0		4	0	5	0	0	4	0	4	3	
8:30AM	7	0	0	7	0	1	2	0	3	0	1	2	0	3	2	
8:45AM	4	0	0	4	1	0	5	0	5	0	0	2	0	2	0	
Hourly Total	22	0	0	22	3	3	11	1	15	0	2	11	0	13	6	1
4:00PM	5	0	0	5	0		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	
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	
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	McClellan Roa	d				McClellan Roa	d				Agnes Street					
Direction	Eastbound					Westbound					Southbound					
Time	Т	L	U	Арр	Ped*	R	Т	U	Арр	Ped*	R	L	U	Арр	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

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

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



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

[N] Agnes Street Total: 111 Out: 44 ln: 67 58 ი 16 13 \sim [W] McClellan Road [E] McClellan Road 42 ln: 103 Total: 149 In: 81 Out: 68 59 Total: 242 2 2 Out: 139 79 Q

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)



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

All Movements

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

															- ,	
Leg	McClellan Ro	ad				McClellan Roa	d				Agnes Street					
Direction	Eastbound					Westbound					Southbound					
Time	Т	L	U	Арр	Ped*	R	Т	U	Арр	Ped*	R	L	U	Арр	Ped*	Int
2022-11-23 8:00A	M 6	0	0	6	2	1	0	1	2	0	1	3	0	4	1	12
8:15A	М 5	0	0	5	0	1	4	0	5	0	0	4	0	4	3	14
8:30A	M 7	0	0	7	0	1	2	0	3	0	1	2	0	3	2	13
8:45A	M 4	0	0	4	1	0	5	0	5	0	0	2	0	2	0	11
То	al 22	0	0	22	3	3	11	1	15	0	2	11	0	13	6	50
% Арргоа	ch 100%	0%	0%	-	-	20.0%	73.3%	6.7%	-	-	15.4%	84.6%	0%	-	-	-
	al 44.0%	0%	0%	44.0%	-	6.0%	22.0%	2.0%	30.0%	-	4.0%	22.0%	0%	26.0%	-	-
PI	IF 0.786	-	-	0.786	-	0.750	0.550	0.250	0.750	-	0.500	0.688	-	0.813	-	0.893
Motorcyc	es 0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcyc	es 0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Ligl	ts 21	0	0	21	-	2	10	0	12	-	1	11	0	12	-	45
% Lig	ts 95.5%	0%	0%	95.5%	-	66.7%	90.9%	0%	80.0%	-	50.0%	100%	0%	92.3%	-	90.0%
Single-Unit Truc	cs 0	0	0	0	-	0	0	1	1	-	0	0	0	0	-	1
% Single-Unit Truc	cs 0%	0%	0%	0%	-	0%	0%	100%	6.7%	-	0%	0%	0%	0%	-	2.0%
Articulated Truc	ks 0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Articulated Truc	ks 0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Bus	es 1	0	0	1	-	1	1	0	2	-	1	0	0	1	-	4
% Bus	es 4.5%	0%	0%	4.5%	-	33.3%	9.1%	0%	13.3%	-	50.0%	0%	0%	7.7%	-	8.0%
Bicycles on Ro	ad 0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Bicycles on Ro	ad 0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Pedestria	ns -	-	-	-	3	-	-	-	-	0	-	-	-	-	6	
% Pedestria	ns –	-	-	-	100%	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswa	lk -	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswa	lk -	-	-	-	0%	-	-	-	-	-	-	-	-	-	0%	-

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

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

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



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

[N] Agnes Street Total: 16 In: 13 Out: 3 2 11 3 3 Out: 34 In: 15 Total: 49 [E] McClellan Road [W] McClellan Road \sim Total: 35 ln: 22 Out: 13 3 11 1 22 Ч

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)



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

All Movements

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

	-					-										
Leg	McClellan Roa	d				McClellan Roa	d				Agnes Street					
Direction	Eastbound					Westbound					Southbound					
Time	Т	L	U	Арр	Ped*	R	Т	U	Арр	Ped*	R	L	U	Арр	Ped*	Ínt
2022-11-23 4:30PM	I 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
Tota	l 12	2	0	14	3	16	18	1	35	0	2	4	0	6	1	55
% Approach	ı 85.7%	14.3%	0%	-	-	45.7%	51.4%	2.9%	-	-	33.3%	66.7%	0%	-	-	
% Tota	21.8%	3.6%	0%	25.5%	-	29.1%	32.7%	1.8%	63.6%	-	3.6%	7.3%	0%	10.9%	-	
PHE	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	-	(
% 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	-	(
% 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%	-

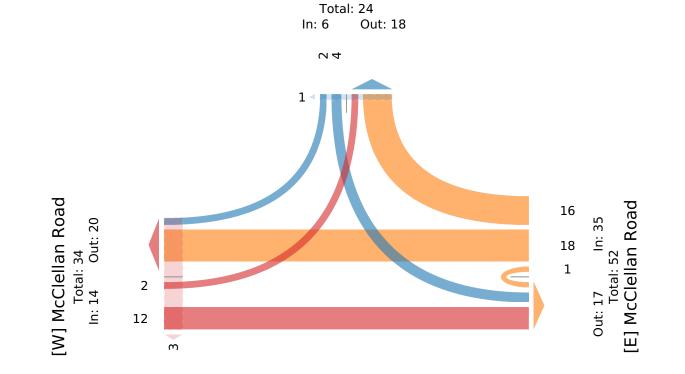
*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

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

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



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



[N] Agnes Street



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 Page No: 1

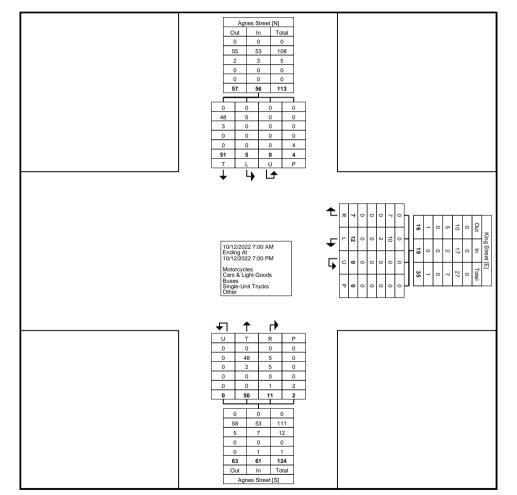
Turning Movement Data

			King Street				ing mo	Agnes Street	Julia				Agnes Street			
Start Time	Left	Right	Westbound U-Turn	Peds	App. Total	Thru	Right	Northbound U-Turn	Peds	App. Total	Left	Thru	Southbound 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	-	-



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 Page No: 3



Turning Movement Data Plot



Paradigm Transportation Solutions Limited 5A-150 Pinebush Rd

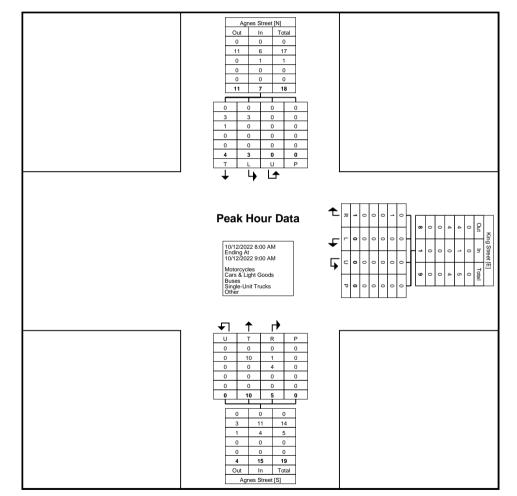
Cambridge, Ontario, Canada N1R 8J8 519-896-3163 cbowness@ptsl.com Count Name: Agnes Street & King Street Site Code: 220188 Start Date: 10/12/2022 Page No: 4

Turning Movement Peak Hour Data (8:00 AM)

					runnių	Jivioven		ak nour i	Dala (o							
			King Street					Agnes Street					Agnes Street			
Start Time	Westbound							Northbound								
	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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 Page No: 5



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



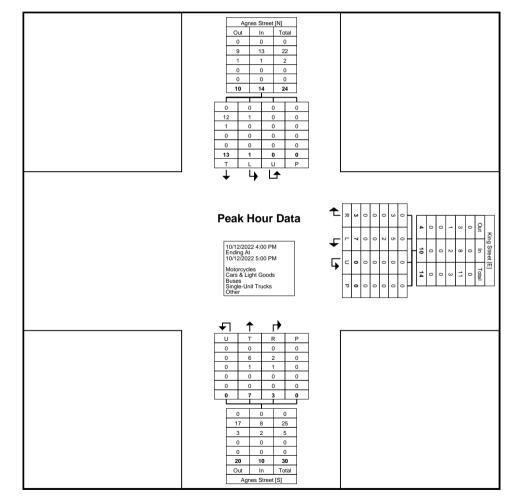
Cambridge, Ontario, Canada N1R 8J8 519-896-3163 cbowness@ptsl.com Count Name: Agnes Street & King Street Site Code: 220188 Start Date: 10/12/2022 Page No: 6

Turning Movement Peak Hour Data (4:00 PM)

					Turring	Jivioven		ak nour i	Dala (4	.00 FIVI)						
			King Street					Agnes Street					Agnes Street			1
Start Time			Westbound					Northbound					Southbound			i
	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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



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



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 Page No: 1

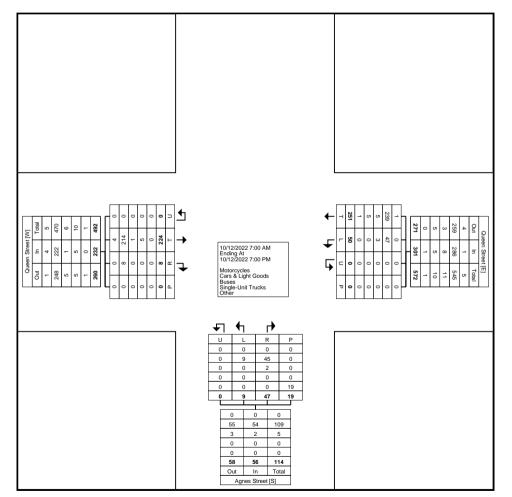
Turning Movement Data

7:00 AM 4 1 5 0 6 0 4 0 0 4 7:15 AM 7 0 0 7 0 6 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 1 0 1 1 0 1 0 1 0 0 1 0 0 1 0 0 1 0 0 0 1 0 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 0 1 0 0 1							i an	inig wio		Julu							1
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4:15 PM 17 0 0 17 7 14 0 0 21 2 0 0 1 2 4:30 PM 11 0 0 0 11 1 11 0 0 12 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 4 0 0 0 1 1 4 1 0 0 0 1 1 1 0 1 1 1 0 1 1 1 0 1 <td>*** BREAK ***</td> <td>-</td>	*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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4:45 PM 12 0 0 12 4 7 0 0 11 2 2 0 1 4 4 Hourly Total 58 1 0 0 59 14 47 0 0 61 4 6 0 4 10 5:00 PM 18 1 0 0 19 1 9 0 0 10 0 3 0 2 3 3 5:15 PM 11 0 0 11 4 13 0 0 17 0 0 0 2 0 0 5:30 PM 5 0 0 5 5 8 0 0 13 0 1 0 1	4:15 PM	17	0	0	0	17	7	14	0	0	21	2	0	0	1	2	40
Hourly Total 58 1 0 0 59 14 47 0 0 61 4 6 0 4 10 5:00 PM 18 1 0 0 19 1 9 0 0 10 0 3 0 2 3 3 5:15 PM 11 0 0 11 4 13 0 0 17 0 0 0 2 0 0 5:30 PM 5 0 0 0 5 5 8 0 0 13 0 1 0 1 <td>4:30 PM</td> <td>11</td> <td>0</td> <td>0</td> <td>0</td> <td>11</td> <td>1</td> <td>11</td> <td>0</td> <td>0</td> <td>12</td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>24</td>	4:30 PM	11	0	0	0	11	1	11	0	0	12	0	1	0	0	1	24
5:00 PM 18 1 0 0 19 1 9 0 0 10 0 3 0 2 3 1 5:15 PM 11 0 0 0 11 4 13 0 0 17 0 0 0 2 0 0 5:30 PM 5 0 0 0 5 5 8 0 0 13 0 1 0 1<	4:45 PM	12	0	0	0	12	4	7	0	0	11	2	2	0	1	4	27
5:15 PM 11 0 0 11 4 13 0 0 17 0 0 0 2 0 5:30 PM 5 0 0 5 5 8 0 0 13 0 1 0 1 1 1 5:30 PM 5 0 0 5 5 8 0 0 13 0 1 0 1 1 1 5:45 PM 11 0 0 11 5 12 0 0 17 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 2 0 0 1 1 0 0 2 2 2 2 2 2 2 2 2 2 2 2 </td <td>Hourly Total</td> <td>58</td> <td>1</td> <td>0</td> <td>0</td> <td>59</td> <td>14</td> <td>47</td> <td>0</td> <td>0</td> <td>61</td> <td>4</td> <td>6</td> <td>0</td> <td>4</td> <td>10</td> <td>130</td>	Hourly Total	58	1	0	0	59	14	47	0	0	61	4	6	0	4	10	130
5:30 PM 5 0 0 5 5 8 0 0 13 0 1 0 1 1 1 5:45 PM 11 0 0 0 11 5 12 0 0 17 0 2 0 0 2 0 2 2 0 2	5:00 PM	18	1	0	0	19	1	9	0	0	10	0	3	0	2	3	32
5:45 PM 11 0 0 11 5 12 0 0 17 0 2 0 0 1 0 0 2 0 0 1 1 0 2 2 2 1 1 0 2 2 2 1 1 1 0 1 <th< td=""><td>5:15 PM</td><td>11</td><td>0</td><td>0</td><td>0</td><td>11</td><td>4</td><td>13</td><td>0</td><td>0</td><td>17</td><td>0</td><td>0</td><td>0</td><td>2</td><td>0</td><td>28</td></th<>	5:15 PM	11	0	0	0	11	4	13	0	0	17	0	0	0	2	0	28
Hourly Total 45 1 0 0 46 15 42 0 0 57 0 6 0 5 6 6:00 PM 12 0 0 12 4 11 0 0 15 1 1 0 2 2 6:15 PM 7 2 0 0 9 2 5 0 0 7 0 3 0 0 3 3 3	5:30 PM	5	0	0	0	5	5	8	0	0	13	0	1	0	1	1	19
6:00 PM 12 0 0 12 4 11 0 0 15 1 1 0 2 2 6:15 PM 7 2 0 0 9 2 5 0 0 7 0 3 0 0 3	5:45 PM	11	0	0	0	11	5	12	0	0	17	0	2	0	0	2	30
6:15 PM 7 2 0 0 9 2 5 0 0 7 0 3 0 0 3	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	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	Hourly Total	32	2	0	0	34	11	71	0	0	82	3	11	0	6	14	130
		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 16.6 83.4 0.0 16.1 83.9 0.0	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		38.0	1.4	0.0	-	39.4		42.6	0.0	-	51.1				-	9.5	-
Motorcycles 4 0 0 - 4 0 1 0 - 1 0 0 0 - 0	Motorcycles	4	0	0	-	-	0	1		-	1				-		5
% Motorcycles 1.8 0.0 - 1.7 0.0 0.4 - - 0.3 0.0 0.0 - - 0.0		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	-	-



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



Turning Movement Data Plot



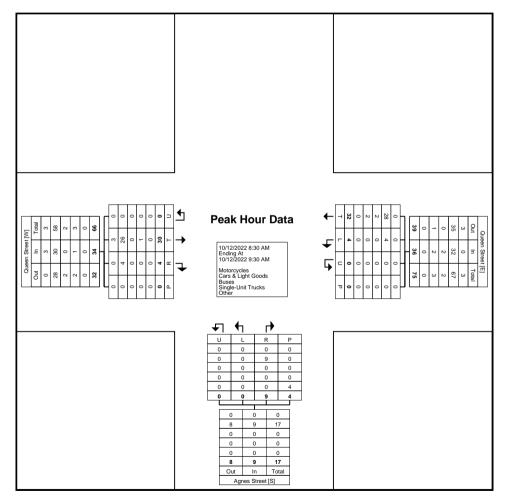
Cambridge, Ontario, Canada N1R 8J8 519-896-3163 cbowness@ptsl.com Count Name: Agnes Street & Queen Street Site Code: 220188 Start Date: 10/12/2022 Page No: 4

Turning Movement Peak Hour Data (8:30 AM)

					runnių	Jivioven	IEIII FEG		Jala (o	.50 AW						
			Queen Street					Queen Street					Agnes Street			1
Start Time			Eastbound					Westbound					Northbound			
Start Time	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	-	-



Count Name: Agnes Street & Queen Street Site Code: 220188 Start Date: 10/12/2022 Page No: 5



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



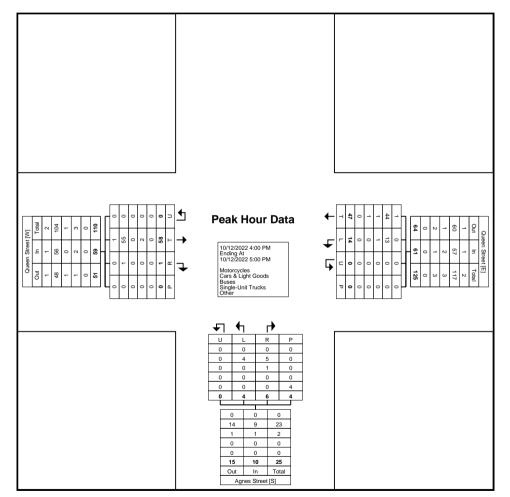
Cambridge, Ontario, Canada N1R 8J8 519-896-3163 cbowness@ptsl.com Count Name: Agnes Street & Queen Street Site Code: 220188 Start Date: 10/12/2022 Page No: 6

Turning Movement Peak Hour Data (4:00 PM)

					runnių	livioven			Dala (4	.00 F IVI)	l.					
			Queen Street					Queen Street					Agnes Street			1
Start Time			Eastbound					Westbound					Northbound			l I
Start Time	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	-	-



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



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



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: 1

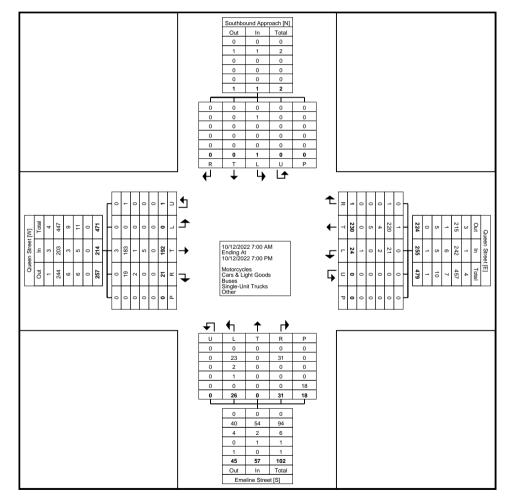
Turning Movement Data

				n Street bound						n Street bound	0					ne Street nbound						nd Approach hbound	1		
Start Time	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
7:00 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	-	-	-	-	-	-	-	-



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



Turning Movement Data Plot



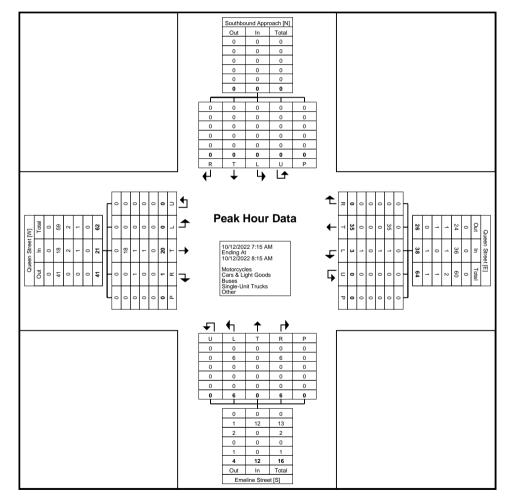
Cambridge, Ontario, Canada N1R 8J8 519-896-3163 cbowness@ptsl.com Count Name: Emeline Street & Queen Street Site Code: 220188 Start Date: 10/12/2022 Page No: 4

Turning Movement Peak Hour Data (7:15 AM)

								run	iing iv	vioven	ient r	-eak i	JOUL	Dala	(7.15	Aivi)									
			Quee	n Street					Quee	n Street					Emelin	e Street				:	Southboun	d Approach	n		
			East	tbound					West	tbound					North	bound					South	bound			
Start Time	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Count Name: Emeline Street & Queen Street Site Code: 220188 Start Date: 10/12/2022 Page No: 5



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



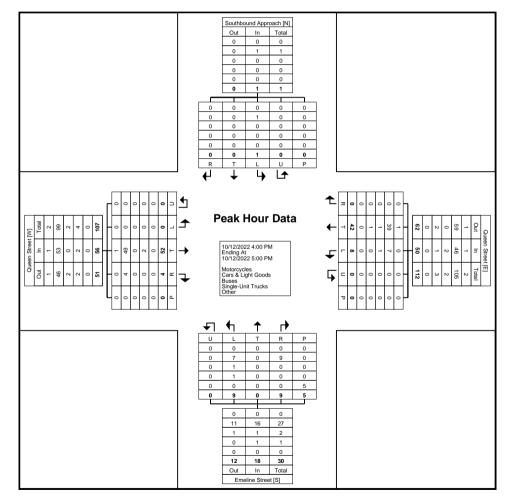
Cambridge, Ontario, Canada N1R 8J8 519-896-3163 cbowness@ptsl.com Count Name: Emeline Street & Queen Street Site Code: 220188 Start Date: 10/12/2022 Page No: 6

Turning Movement Peak Hour Data (4:00 PM)

				n Street bound					Queer	n Street bound						e Street bound				:		d Approach bound			
Start Time	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	-	-	-	-	-	-	-	-



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)



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: 1

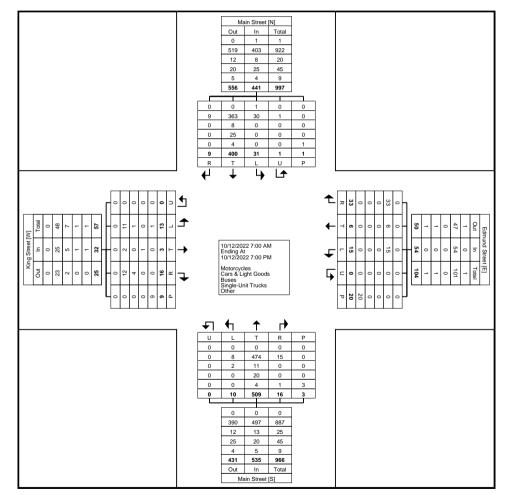
Turning Movement Data

				Street bound						nd Street tbound	Ũ	lover				Street bound						Street nbound			
Start Time	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
7:00 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	0.0	0	0	0.0	-	0	1	0	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	-	-



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



Turning Movement Data Plot



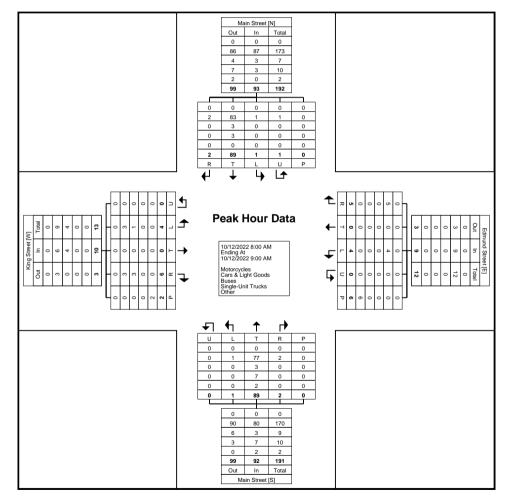
Cambridge, Ontario, Canada N1R 8J8 519-896-3163 cbowness@ptsl.com Count Name: King Street & Main Street Site Code: 220188 Start Date: 10/12/2022 Page No: 4

Turning Movement Peak Hour Data (8:00 AM)

			•	Street bound					Edmun	d Street bound						Street bound					Main South				
Start Time	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Int. Total
8:00 AM	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Count Name: King Street & Main Street Site Code: 220188 Start Date: 10/12/2022 Page No: 5



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



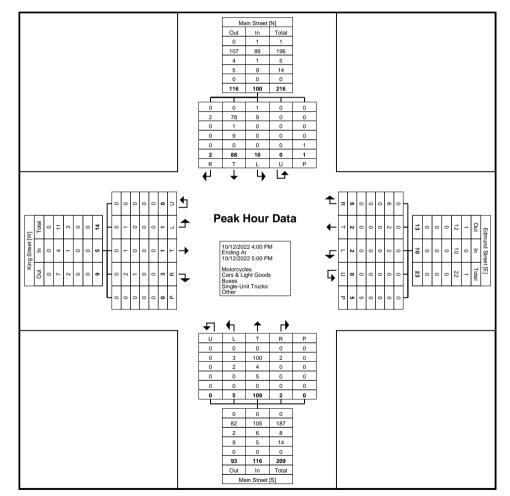
Cambridge, Ontario, Canada N1R 8J8 519-896-3163 cbowness@ptsl.com Count Name: King Street & Main Street Site Code: 220188 Start Date: 10/12/2022 Page No: 6

Turning Movement Peak Hour Data (4:00 PM)

				Street bound						d Street bound		ourri			Main	Street bound					Main South				
Start Time	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	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	-	-



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)

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)



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

All Movements

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

-																
	McClellan Roa	ad				Main Street					Main Street					
Direction	Eastbound					Northbound					Southbound					
Time	R	L	U	Арр	Ped*	Т	L	U		Ped*	R	Т	U	Арр	Ped*	
2022-11-23 6:00AM	4	0	0	4	0		0	0	4	0		9	0	9	0	
6:15AM	3	0	0	3	0	0	0	0	0	0	0	19	0	19	0	
6:30AM	4	1	0	5	0	4	0	0	4	0	0	15	0	15	0	
6:45AM	16	1	0	17	0		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	-
7:15AM	6	1	0	7	1	11	0	0	11	0	0	15	0	15	0	
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	
8:15AM	4	6	0	10	0	11	2	0	13	0	3	16	0	19	0	1
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	
4:00PM	2	3	0	5	1	23	6	0	29	0	3	20	0	23	0	
4:15PM	1	1	0	2	0	19	9	0	28	0	0	14	0	14	0	1
4:30PM	4	0	0	4	0	25	4	0	29	0	3	15	0	18	0	
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	1
5:30PM	4	0	0	4	0	17	3	1	21	0	4	14	0	18	0	
5:45PM	2	2	0	4	0	16	3	0	19	0	3	10	0	13	0	
Hourly Total	12	7	0	19	0	73	21	3	97	0	10	49	0	59	0	
6:00PM	1	1	0	2	0	16	4	0	20	0	1	9	0	10	0	
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

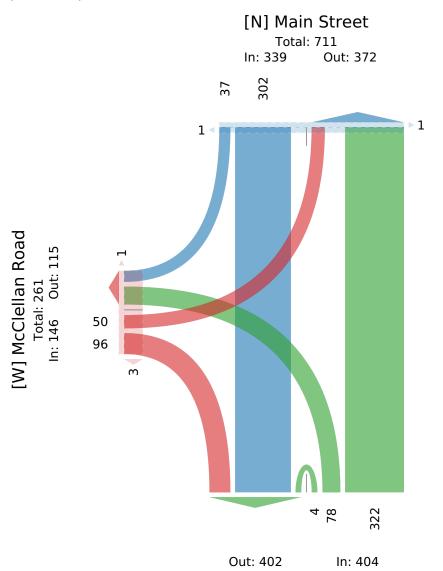
Leg	McClellan Road	1				Main Street					Main Street					
Direction	Eastbound					Northbound					Southbound					
Time	R	L	U	Арр	Ped*	Т	L	U	Арр	Ped*	R	Т	U	Арр	Ped*	Int
% Lights	94.8%	98.0%	0%	95.9%	-	93.8%	94.9%	75.0%	93.8%	-	91.9%	95.4%	0%	95.0%	-	94.6%
Single-Unit Trucks	2	1	0	3	-	9	2	1	12	-	0	5	0	5	-	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

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

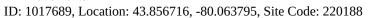


ID: 1017689, Location: 43.856716, -80.063795, Site Code: 220188



Total: 806 [S] Main Street Provided by: Paradigm Transportation Solutions Limited 5A-150 Pinebush Road, Cambridge, ON, N1R 8J8, CA

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





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

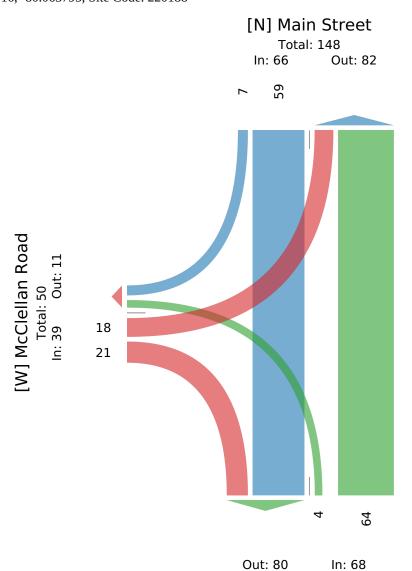
Leg Direction	McClellan Ro Eastbound	ad				Main Street Northbound					Main Street Southbound					
Time	R	L	U	Арр	Ped*	Т	L	U	Арр	Ped*	R	Т	U	Арр	Ped*	Int
2022-11-23 7:45A	.M 8	0	0	8	0	13	0	0	13	0	0	10	0	10	0	31
8:00A	.M 6	6	0	12	0	18	1	0	19	0	1	14	0	15	0	46
8:15A	M 4	6	0	10	0	11	2	0	13	0	3	16	0	19	0	42
8:30A	.М 3	6	0	9	0	22	1	0	23	0	3	19	0	22	0	54
То	tal 21	18	0	39	0	64	4	0	68	0	7	59	0	66	0	173
% Approa	ch 53.8%	46.2%	0%	-	-	94.1%	5.9%	0%	-	-	10.6%	89.4%	0%	-	-	-
% To	tal 12.1%	10.4%	0%	22.5%	-	37.0%	2.3%	0%	39.3%	-	4.0%	34.1%	0%	38.2%	-	-
PI	HF 0.656	0.750	-	0.813	-	0.727	0.500	-	0.739	-	0.583	0.776	-	0.750	-	0.801
Motorcyc	les 0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Motorcyc	les 0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Ligl	nts 19	17	0	36	-	61	3	0	64	-	6	56	0	62	-	162
% Lig	nts 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 Truc	ks 1	1	0	2	-	1	1	0	2	-	0	0	0	0	-	4
% Single-Unit Truc	ks 4.8%	5.6%	0%	5.1%	-	1.6%	25.0%	0%	2.9%	-	0%	0%	0%	0%	-	2.3%
Articulated Truc	ks 0	0	0	0	-	2	0	0	2	-	0	2	0	2	-	4
% Articulated Truc	ks 0%	0%	0%	0%	-	3.1%	0%	0%	2.9%	-	0%	3.4%	0%	3.0%	-	2.3%
Bus	ses 1	0	0	1	-	0	0	0	0	-	1	1	0	2	-	3
% Bus	es 4.8%	0%	0%	2.6%	-	0%	0%	0%	0%	-	14.3%	1.7%	0%	3.0%	-	1.7%
Bicycles on Ro	ad 0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0
% Bicycles on Ro	ad 0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0%
Pedestria	ns -	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestria	ns -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswa	ılk -	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswa	ılk -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

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



Total: 148 [S] Main Street Provided by: Paradigm Transportation Solutions Limited 5A-150 Pinebush Road, Cambridge, ON, N1R 8J8, CA

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)



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

All Movements

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

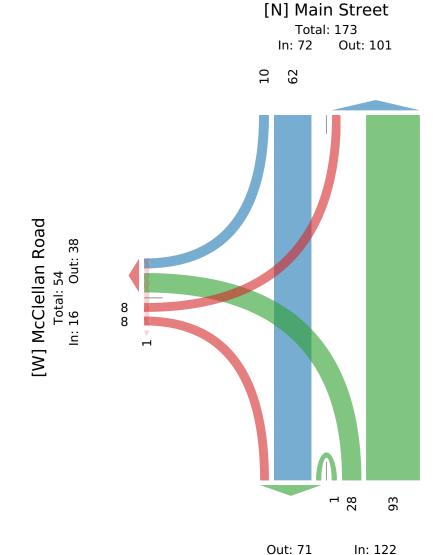
Leg	McClellan Road	d				Main Street					Main Street					
Direction	Eastbound					Northbound					Southbound					
Time	R	L	U	Арр	Ped*	Т	L	U	Арр	Ped*	R	Т	U	Арр	Ped*	Int
2022-11-23 4:00PM	2	3	0	5	1	23	6	0	29	0	3	20	0	23	0	57
4:15PM	1	1	0	2	0	19	9	0	28	0	0	14	0	14	0	44
4:30PM	4	0	0	4	0	25	4	0	29	0	3	15	0	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

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





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 Page No: 1

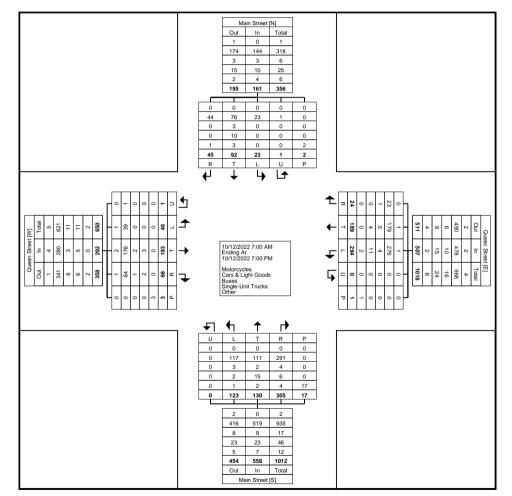
Turning Movement Data

YOAM 0 5 2 0 0 0 11 2 0 0 4 1 3 2 0 0 Y155MM 2 4 0 0 6 14 7 0 0 11 2 5 13 0 0 20 1 5 3 0 0 Y26AM 2 2 7 2 0 0 11 10 0 0 21 2 5 13 0 0 17 2 4 10 0 0 21 2 13 0 0 17 2 4 10 0 0 23 0 0 0 24 22 2 13 0 0 14 24 24 10 24 24 20 2 2 3 0 0 0 14 3 24 20 20 2 3 <th>Orest Time</th> <th></th> <th></th> <th></th> <th>n Street bound</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>n Street bound</th> <th></th> <th>lover</th> <th></th> <th></th> <th></th> <th>Street bound</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>Street bound</th> <th></th> <th></th> <th></th>	Orest Time				n Street bound						n Street bound		lover				Street bound						Street bound			
7:5 AM 2 4 2 0 0 8 1 2 5 0 0 8 0 7 1 0 0 7:3 AM 2 7 2 0 0 11 13 11 0 0 21 2 5 13 0 0 7 2 4 1 0 0 7:6 AM 2 7 2 0 0 11 13 11 0 0 21 2 1 6 13 0 0 0 21 2 1 0 0 0 0 21 2 1 0 0 0 0 0 1 0	Start Time	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
P30 AM 2 4 0 0 6 14 7 0 0 21 2 5 13 0 0 20 1 5 3 0 0 20 1 5 3 0 0 1 5 3 0 0 20 1 5 3 0 0 1 5 3 0 0 1 1 5 3 0 0 2 1 7 7 9 33 0 0 1 1 3 2 0 0 2 0 2 1 1 0 0 0 2 1 0 0 1 3 0 0 0 0 1 1 3 0 0 0 1 1 1 1 1 1 1 3 0 0 0 1 1 1 1 1 1 1 <	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
7.45 AM 2 7 2 0 0 11 13 11 0 0 24 2 2 13 0 0 17 2 4 1 0 0 Houly Total 6 20 6 0 32 48 23 0 0 71 7 9 33 0 0 44 4 19 7 0 0 2 5 3 0 0 42 5 3 0 0 0 1 16 13 0 4 2 2 5 3 0 0 0 1 16 1 0 0 0 12 4 10 1 15 0 0 0 0 0 1 18 0 0 0 0 16 1 10 10 7 1 0 0 11 11 12 2 3 0 0 0 1 11 13 1 0 0 0 0 1	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
Hourly Total 6 20 6 0 92 48 23 0 0 71 7 9 33 0 0 44 19 7 0 0 0 1 80 AM 1 6 3 0 0 10 20 5 0 0 25 1 6 13 0 4 20 2 5 3 0 0 1 1 3 2 0 0 6 22 2 0 0 12 4 10 21 0 1 35 0 5 0 0 0 0 12 2 4 10 1 18 0 0 1 18 0 1 1 2 2 10 10 10 10 10 10 10 11 11 2 4 0 0 10 10 10 10 10	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
8:00 AM 1 6 3 0 4 2 5 3 0 0 1 8:15 AM 1 3 2 0 0 6 2 2 0 0 2 6 20 0 0 28 0 6 0 0 0 0 28 0 6 0 0 0 0 28 0 6 0 0 0 0 0 28 0 6 0 0 0 0 1 1 0 1 1 0 0 18 2 4 12 0 1 18 0 7 0 0 0 0 0 18 2 1 0 0 85 0 0 11 11 2 3 0 0 0 0 0 13 2 1 0 0 0 0 11 11 2 3 1 0 0 0 0 11 11 2 3 1	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
B15 AM 1 3 2 0 6 28 2 2 0 30 2 6 20 0 28 0 6 0 0 0 8:30 AM 1 13 2 0 0 16 6 5 1 0 0 12 4 10 21 0 1 36 0 5 0 0 0 0 0 18 2 4 10 21 0 1 36 0 5 0 0 0 0 0 18 2 4 10 0 1 3 0 0 0 0 11 11 2 4 0 0 11 11 2 4 0 0 11 11 2 4 0 0 11 11 2 4 0 0 11 11 2 2 10 0 1 0 0 10 1 0 0 10 10 1 0 0	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
830 AM 1 13 2 0 0 16 6 5 1 0 0 12 4 10 21 0 1 35 0 5 0 0 0 845 AM 1 4 5 0 1 10 7 1 0 18 2 4 12 0 1 18 0 7 0 0 0 900 AM 0 6 3 0 0 9 9 8 0 0 17 4 6 8 0 0 18 2 3 0 0 0 23 2 1 0 0 17 4 6 8 0 0 18 2 11 1 2 3 0 0 0 0 11 11 2 4 0 0 11 11 2 13 2 1 0 0 11 11 1 0 11 11 11 0 0 12 <	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
8:45 AM 1 4 5 0 1 10 7 1 0 0 18 2 4 12 0 1 18 0 7 0 0 0 Houry Total 4 26 12 0 1 42 62 0 6 1 18 0 7 0 0 0 900 AM 0 6 3 0 0 9 8 0 0 11 1 2 4 0 0 17 1 2 2 0 0 0 0 0 1 1 2 4 0 0 11 1 2 4 0 0 1 0 0 1 0 1 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0	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
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 2 9:00 AM 0 6 3 0 0 9 9 8 0 0 17 4 6 8 0 0 18 2 3 0 0 0 9:30 AM 1 7 1 0 0 9 5 7 3 0 0 15 3 2 17 0 0 1 0 0 22 0 2 1 0 0 1 0 0 1 0 0 1 0 0 15 3 2 1 0 0 2 0 1 0 0 1 0 1 0 1 0 0 0<	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
900 AM 0 6 3 0 9 9 8 0 0 17 4 6 8 0 0 18 2 3 0 0 0 9:16 AM 1 3 1 0 0 5 8 2 1 0 0 11 11 2 4 0 0 17 1 2 2 0 0 0 0 0 0 0 0 0 0 11 11 2 4 0 0 12 0 17 1 2 0 0 0 0 0 12 0 4 15 0 3 2 1 0 1 0 4 15 0 3 2 1 0 0 12 0 4 15 4 0 0 2 13 0 0 1 1 0 1 1 0 1 1 0 1 1 0 0 1 1 0 <t< td=""><td>8:45 AM</td><td>1</td><td>4</td><td>5</td><td>0</td><td>1</td><td>10</td><td>10</td><td>7</td><td>1</td><td>0</td><td>0</td><td>18</td><td>2</td><td>4</td><td>12</td><td>0</td><td>1</td><td>18</td><td>0</td><td>7</td><td>0</td><td>0</td><td>0</td><td>7</td><td>53</td></t<>	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
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 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 2 1 0 0 2 1 0 0 20 3 0 12 0 4 15 0 0 1 0 4 72 3 10 5 1 0 0 63 21 10 4 12 3 10 5 1 0 0 4 72 3 3 3 0 0 2 12 7 7 7 7 7 7 7 7 7 1 0 0 2 2 2 6 21 0 0 2 3	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
9:30 AM 1 7 1 0 9 5 7 3 0 15 3 2 17 0 0 2 1 0 0 9:45 AM 0 7 7 0 0 14 13 7 0 0 20 3 0 12 0 4 15 0 3 2 1 0 0 1 0 1 0 1 0 1 0 1 0 0 1 0 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 2 9 21 0 0 0 0 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 </td <td>9:00 AM</td> <td>0</td> <td>6</td> <td>3</td> <td>0</td> <td>0</td> <td>9</td> <td>9</td> <td>8</td> <td>0</td> <td>0</td> <td>0</td> <td>17</td> <td>4</td> <td>6</td> <td>8</td> <td>0</td> <td>0</td> <td>18</td> <td>2</td> <td>3</td> <td>0</td> <td>0</td> <td>0</td> <td>5</td> <td>49</td>	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
9:45 AM 0 7 7 0 0 14 13 7 0 0 20 3 0 12 0 4 15 0 3 2 1 0 Hourly Total 2 23 12 0 0 37 35 24 4 0 63 21 10 41 0 4 72 3 10 5 1 0 1 "BREAK"" - <t< td=""><td>9:15 AM</td><td>1</td><td>3</td><td>1</td><td>0</td><td>0</td><td>5</td><td>8</td><td>2</td><td>1</td><td>0</td><td>0</td><td>11</td><td>11</td><td>2</td><td>4</td><td>0</td><td>0</td><td>17</td><td>1</td><td>2</td><td>2</td><td>0</td><td>0</td><td>5</td><td>38</td></t<>	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
Hundry Total 2 23 12 0 0 35 24 4 0 0 63 21 10 41 0 4 72 3 10 5 1 0 1 **** -	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
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 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 1 4:30 PM 4 8 2 0 0 14 12 9 1 0 0 22 2 6 21 0 0 29 3 3 4 0 2 1 7 0 0 0 12 7 0 0 12 1 7 0 0 12 1 12 1 12 1 12 1 12 1 1 1 1 0 0 2 3 1 1 0 0 12 1 1 1 0 0	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
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 1 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 0 0 14 44 9 1 1 0 19 5 7 11 0 1 23 2 5 1 0 0 0 1 1 1 0 2 7 0 0 16 1 13 0 0 18 1 0 12 0 0 3 11 1 0 2 13 3 0 0 25 3 11 1 0 0 22 1 1 1 0 0 3 10 2 1 1 0<	*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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 4:45 PM 4 8 5 0 0 17 12 7 0 0 19 5 7 11 0 1 23 2 5 1 0 0 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 3 3 0 0 126 12 31 73 0 3 11 2 2 0 0 0 3 3 0 0 25 3 11 6 0 3 10 2 2 0 0 0 0 3 10 2 1 2 0 0 0 3 <t< td=""><td>4:00 PM</td><td>4</td><td>15</td><td>4</td><td>0</td><td>0</td><td>23</td><td>24</td><td>15</td><td>1</td><td>0</td><td>0</td><td>40</td><td>2</td><td>9</td><td>21</td><td>0</td><td>2</td><td>32</td><td>1</td><td>3</td><td>3</td><td>0</td><td>0</td><td>7</td><td>102</td></t<>	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
4:45 PM 4 8 5 0 0 17 12 7 0 0 19 5 7 11 0 1 23 2 5 1 0 0 Hourly Total 14 44 14 0 2 72 75 48 3 0 126 12 31 73 0 3 116 8 14 11 0 2 3 3 3 0 3 16 8 14 11 0 2 3 3 0 3 16 8 14 11 0 2 3 3 0 26 9 10 12 0 31 1 2 2 0 0 3 3 0 0 25 3 11 6 0 3 20 2 4 3 0 0 22 4 3 0 0 3 10 2 4 0 0 3 11 10 0 11 10 11	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
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 3 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 0 31 1 2 2 0 0 0 31 1 6 0 3 10 2 2 0 0 0 0 31 4 3 15 0 0 22 1 2 0 0 0 0 0 25 3 11 6 0 3 10 2 4 0 0 0 22 1 2 0 0 0 2 1 <	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
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 5:15 PM 0 8 6 0 0 14 9 13 3 0 0 25 3 11 6 0 3 20 2 4 3 0 0 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 5:30 PM 3 10 2 0 0 15 12 13 1 0 26 4 8 15 0 27 1 3 3 0 0 2 3 6 8 0 3 10	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
5:00 PM 1 17 2 0 0 18 5 3 0 0 26 9 10 12 0 0 31 1 2 2 0 0 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 3 16 0 3 20 2 4 3 0 0 0 0 3 15 0 0 22 1 2 0 0 0 0 0 31 4 3 15 0 0 22 1 2 0 0 0 0 0 0 22 1 1 1 0 0 26 4 8 15 0 0 27 1 3 3 0 0 0 2 2 3 6 8 10 17 1 2 4 0 <td>Hourly Total</td> <td>14</td> <td>44</td> <td>14</td> <td>0</td> <td>2</td> <td>72</td> <td>75</td> <td>48</td> <td>3</td> <td>0</td> <td>0</td> <td>126</td> <td>12</td> <td>31</td> <td>73</td> <td>0</td> <td>3</td> <td>116</td> <td>8</td> <td>14</td> <td>11</td> <td>0</td> <td>2</td> <td>33</td> <td>347</td>	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
5:30 PM 3 5 3 0 0 11 15 12 4 0 0 31 4 3 15 0 0 22 1 2 0 0 0 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 Hourly Total 7 40 13 0 60 54 43 11 0 0 108 20 32 48 0 3 100 5 11 8 0 0 20 6:00 PM 4 5 8 1 0 18 11 0 0 0 22 3 6 8 0 0 17 1 2 4 0 0 22 3 6 8 0 0 17 1 2 4 0 0 23 3 0 0 0	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
5:30 PM 3 5 3 0 0 11 15 12 4 0 0 31 4 3 15 0 0 22 1 2 0 0 0 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 0 Hourly Total 7 40 13 0 66 54 43 11 0 0 108 20 32 48 0 3 100 5 11 8 0 0 0 6:00 PM 4 5 8 1 0 11 1 0 0 0 22 3 6 8 0 0 11 8 0 0 0 24 2 2 3 6 8 16 0 0 11 2 4 0 0 11 10 0	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
Hourly Total 7 40 13 0 60 54 43 11 0 108 20 32 48 0 3 100 5 11 8 0 0 2 6:00 PM 4 5 8 1 0 18 11 0 0 22 3 6 8 0 0 17 1 2 4 0 0 0 2 3 6 8 0 0 17 1 2 4 0 0 0 0 22 3 6 8 0 0 17 1 2 4 0	5:30 PM	3	5	3	0	0	11	15	-	4	0	0	31	4	3	15	0	0	22	1	2	0	0	0	3	67
6:00 PM 4 5 8 1 0 11 11 0 0 0 22 3 6 8 0 0 17 1 2 4 0 0 6:15 PM 1 11 1 0 0 1 4 6 8 16 0 0 30 0 3 3 0 0 6:15 PM 1 11 1 0 0 13 2 2 0 0 1 4 6 8 16 0 0 33 3 0 0 6:30 PM 2 5 1 0 0 8 3 7 0 0 18 4 9 0 0 31 0 4 2 0 0 0 36 3 1 0 1 12 2 0 0 18 27 4 11 0 1 44 2 0 6 2 0 0 3 3 0 0	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
6:00 PM 4 5 8 1 0 11 11 0 0 0 22 3 6 8 0 0 17 1 2 4 0 0 6:15 PM 1 11 1 0 0 1 4 6 8 16 0 0 30 0 3 3 0 0 6:15 PM 1 11 1 0 0 13 2 2 0 0 1 4 6 8 16 0 0 33 3 0 0 6:30 PM 2 5 1 0 0 8 3 7 0 0 18 4 9 0 0 31 0 4 2 0 0 0 36 3 1 0 1 12 2 0 0 18 27 4 11 0 1 44 2 0 6 2 0 0 3 3 0 0	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
6:15 PM 1 11 1 0 0 13 2 2 0 0 1 4 6 8 16 0 0 30 0 33 3 0 0 6:30 PM 2 5 1 0 0 8 3 7 0 0 10 18 4 9 0 0 31 0 4 2 0 0 6:30 PM 2 5 1 0 0 8 3 7 0 0 18 4 9 0 0 31 0 4 2 0 0 0 18 27 4 11 0 1 42 0 6 2 0 0 1 10 1 10 1 10 0 0 2 0 0 18 27 4 11 0 1 4 0 1 42 0 6 2 0 0 2 0 0 2 2 44 <td< td=""><td>· · · · ·</td><td>4</td><td>-</td><td></td><td>1</td><td>0</td><td></td><td></td><td></td><td></td><td></td><td>0</td><td></td><td></td><td></td><td></td><td>0</td><td>0</td><td></td><td>1</td><td>2</td><td>-</td><td>0</td><td>0</td><td>7</td><td>64</td></td<>	· · · · ·	4	-		1	0						0					0	0		1	2	-	0	0	7	64
6:30 PM 2 5 1 0 0 8 3 7 0 0 10 18 4 9 0 0 31 0 4 2 0 0 6:30 PM 0 9 1 0 0 12 2 0 10 18 4 9 0 0 31 0 4 2 0 0 6:45 PM 0 9 1 0 10 4 12 2 0 0 18 27 4 11 0 1 42 0 6 2 0 0 1 Hourly Total 7 30 11 1 0 49 20 32 2 0 1 54 54 22 44 0 1 10 4 0 0 2 0 0 2 Hourly Total 7 30 11 0 49 20 32 2 0 1 54 2 44 0 1 <th< td=""><td></td><td>1</td><td>11</td><td>1</td><td>0</td><td>0</td><td></td><td></td><td></td><td></td><td></td><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0</td><td>3</td><td>3</td><td>0</td><td>0</td><td>6</td><td>53</td></th<>		1	11	1	0	0						1								0	3	3	0	0	6	53
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 Hourly Total 7 30 11 1 0 49 20 32 2 0 1 54 22 44 0 1 120 1 15 11 0 0 2		2		1	0	0				0	0	0	10		4	-		0		0	4			0	6	55
Hourly Total 7 30 11 1 0 49 20 32 2 0 1 54 54 22 44 0 1 10 1 11 0 0 2			-	-					•		-	-	-		-	-				1	-	-			8	78
												1								1					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 1	Grand Total	40	183	68		3	292		189	24	0	1	507	-	130	305	0	17	558	23	92	45		2	161	1518
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			-			-						-				-				1				-	10.6	-
						-	-		-			-			-	-		-	-		-		• • • •	-	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	-	-



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



Turning Movement Data Plot



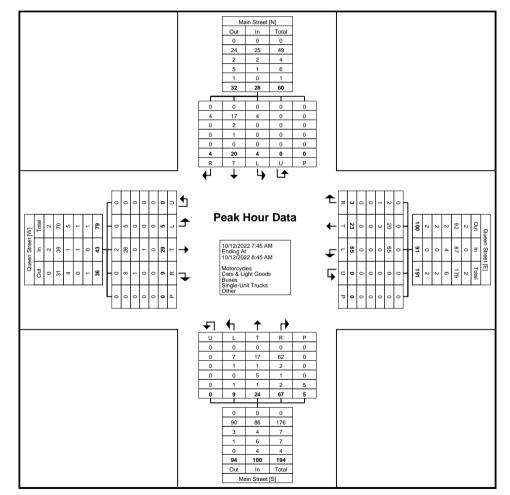
Cambridge, Ontario, Canada N1R 8J8 519-896-3163 cbowness@ptsl.com Count Name: Queen Street & Main Street Site Code: 220188 Start Date: 10/12/2022 Page No: 4

Turning Movement Peak Hour Data (7:45 AM)

	i							TUN	iing i	vioven	ient r	ear	noui	Dala	(7.45	AIVI)									
			Queer	n Street					Quee	n Street					Main	Street					Main	Street			
			East	bound					West	tbound					North	bound					South	bound			
Start Time	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
7:45 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	-	-	-	-	-	-	-	-



Count Name: Queen Street & Main Street Site Code: 220188 Start Date: 10/12/2022 Page No: 5



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



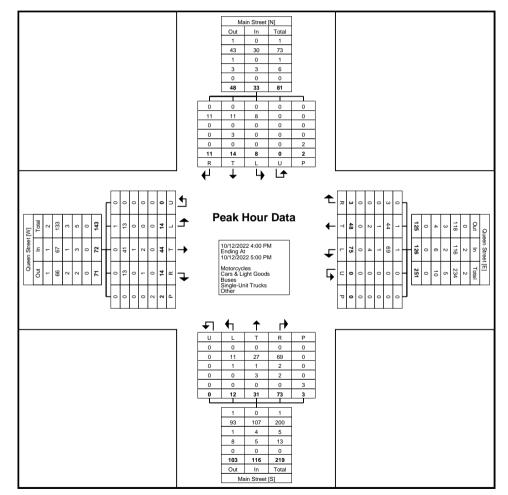
Cambridge, Ontario, Canada N1R 8J8 519-896-3163 cbowness@ptsl.com Count Name: Queen Street & Main Street Site Code: 220188 Start Date: 10/12/2022 Page No: 6

Turning Movement Peak Hour Data (4:00 PM)

				n Street bound					Queer	n Street bound						Street bound					Main South	Street bound			
Start Time	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	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	-	-



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 Page No: 7



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

Appendix C

Base Year (2022) Traffic Operations Report



	≯	-	\mathbf{F}	4	+	*	1	1	1	1	÷.	-
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
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
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
ane 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												
rt		0.971			0.996			0.910			0.981	
Fit Protected		0.995			0.965			0.995			0.993	
Satd. Flow (prot)	0	1758	0	0	1751	0	0	1504	0	0	1670	(
It Permitted		0.995			0.965			0.995			0.993	
Satd. Flow (perm)	0	1758	0	0	1751	0	0	1504	0	0	1670	(
ink Speed (k/h)		40			40			40			40	
ink 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
leavy 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 (%)												
ane Group Flow (vph)	0	46	0	0	96	0	0	107	0	0	29	(
Sign Control		Stop			Stop			Stop			Stop	
ntersection Summary												
Area Type: (Other											

1: Main St & Queer	1011/1	guoon							(-		14 Agnes	
	≯	-	\mathbf{F}	1	+	*	٠	1	1	1	÷.	~
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SB
Lane Configurations		÷			÷			\$			÷	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	5	29	9	65	23	3	9	24	67	4	20	
Future Volume (vph)	5	29	9	65	23	3	9	24	67	4	20	
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	0.9
Hourly flow rate (vph)	5	31	10	69	24	3	10	26	71	4	21	
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	А	A	A								
Intersection Summary												
Delay			7.8									
Level of Service			А									
Intersection Capacity Utiliza	tion		25.4%	IC	U Level o	of Service			A			
Analysis Period (min)			15									

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	≯	-	\mathbf{r}	1	+	*	1	1	1	1	÷.	-
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	C
Flt Permitted		0.980			0.978							
Satd. Flow (perm)	0	1229	0	0	1721	0	0	1667	0	0	1774	C
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	C
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignalized												

	≯	-	\mathbf{r}	-	-	*	•	1	1	1	÷.	~
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		4	2011		4			4		002	4	
Traffic Volume (veh/h)	4	0	6	4	0	5	1	89	2	1	89	
Future Volume (Veh/h)	4	0	6	4	0	5	1	89	2	1	89	
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	0.8
Hourly flow rate (vph)	5	0	7	5	0	6	1	103	2	1	103	
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	А										
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilizatior Analysis Period (min)	1		16.9% 15	IC	U Level c	of Service			A			

Lanes, Volumes, Timings 3: Agnes St & Queen St W Base Year (2022) AM Peak Hour (220188) - 14 Agnes Street

	-	$\mathbf{\hat{z}}$	4	+	1	1	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	ĥ			ا ب	Y		
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 Utiliz	ation 15.0%			IC	CU Level of	of Service	A :
Analysis Period (min) 15							

HCM Unsignalized Intersection Capacity Analysis 3: Agnes St & Queen St W Base Year (2022) AM Peak Hour (220188) - 14 Agnes Street

	-	\mathbf{r}	*	-	1	1
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	ţ,			ર્સ	Y	
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		VEL	
Volume Total	36	38	10			
Volume Left	0	4	0			
Volume Right	4	4	10			
cSH	1700	1577	1036			
Volume to Capacity	0.02	0.00	0.01			
	0.02	0.00	0.01			
Queue Length 95th (m)		0.1	0.2 8.5			
Control Delay (s)	0.0					
Lane LOS		A 0.8	A			
Approach Delay (s)	0.0	0.8	8.5			
Approach LOS			А			
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utiliz	zation		15.0%	IC	U Level of	of Service
Analysis Period (min)			15			
. ()						

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Lanes,	Volum	es, T	imings
4: Agne	s St &	King	St

Base Year (2022) AM Peak Hour (220188) - 14 Agnes Street

	4	*	Ť	1	1	Ļ	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	Y		eî			ę	
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	Ł						
Intersection Capacity Utiliz	ation 13.3%			IC	U Level	of Service	еA
Analysis Period (min) 15							

4: Agnes St & King S	51						(220188) - 14 Agnes Sti
	1	*	1	1	1	Ļ	
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	Y		ĥ			स्	
Traffic Volume (veh/h)	0	1	10	5	3	4	
Future Volume (Veh/h)	0	1	10	5	3	4	
Sian 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)							
Vedian type			None			None	
Median storage veh)							
Jpstream signal (m)							
X, platoon unblocked							
/C, conflicting volume	36	20			24		
/C1, stage 1 conf vol							
/C2, stage 2 conf vol							
/Cu, unblocked vol	36	20			24		
C, single (s)	6.4	6.2			4.1		
C, 2 stage (s)							
F (s)	3.5	3.3			2.2		
00 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				
SH	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						
ntersection Summary							
Average Delay			1.4				
ntersection Capacity Utilization	on		13.3%	IC	U Level o	f Service	A

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		\$			\$			\$			\$	
Traffic Volume (vph)	0	20	1	3	35	0	6	0	6	0	0	(
Future Volume (vph)	0	20	1	3	35	0	6	0	6	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	(
Flt Permitted					0.996			0.976				
Satd. Flow (perm)	0	1673	0	0	1804	0	0	1728	0	0	1900	(
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	(
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	0	0	55	0	0	18	0	0	0	(
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type: 0	Other											
Control Type: Unsignalized												

HCM Unsignalized 5: Emeline St/Drive				y / tria	yolo		Du	50 100	ar (202 (2	20188) -		
	•	-	\mathbf{i}	4	+	×	1	1	1	1	ţ	*
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SE
Lane Configurations		\$			\$			\$			\$	
Traffic Volume (veh/h)	0	20	1	3	35	0	6	0	6	0	0	
Future Volume (Veh/h)	0	20	1	3	35	0	6	0	6	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	0.6
Hourly flow rate (vph)	0	29	1	4	51	0	9	0	9	0	0	
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)		None			None							
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	51			30			88	88	30	98	89	:
vC1, stage 1 conf vol	51			50			00	00	50	50	05	
vC2, stage 2 conf vol												
vCu, unblocked vol	51			30			88	88	30	98	89	5
tC, single (s)	4.1			4.8			7.1	6.5	6.2	7.1	6.5	6
tC, 2 stage (s)	7.1			4.0			7.1	0.0	0.2	7.1	0.0	0
tF (s)	2.2			2.8			3.5	4.0	3.3	3.5	4.0	3
p0 queue free %	100			100			99	100	99	100	100	10
cM capacity (veh/h)	1568			1249			899	803	1051	880	802	102
1 3 ()							033	000	1031	000	002	102
Direction, Lane # Volume Total	EB 1 30	WB 1 55	NB 1 18	SB 1 0								
Volume Left	0	55 4	9	0								
	1	4	9	0								
Volume Right	1568	1249		1700								
cSH Volume to Conscitu	0.00	0.00	969 0.02	0.00								
Volume to Capacity												
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	0.0	A	A 8.8	A 0.0								
Approach Delay (s) Approach LOS	0.0	0.6	8.8 A	0.0 A								
Intersection Summary												
Average Delay			1.9									
Intersection Capacity Utilizat	ion		14.3%	IC	U Level	of Service			А			
Analysis Period (min)			15									

Lanes, Volumes, Timings 6: Main St & McClellan Rd

Base Year (2022) AM Peak Hour (220188) - 14 Agnes Street

	≯	\mathbf{r}	1	1	÷.	-	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	Y			ا ب	ĥ		
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	d						
Intersection Capacity Utiliz	ation 16.6%			IC	CU Level o	of Service	Α
Analysis Period (min) 15							

	≯	\mathbf{r}	1	†	+	-	
Novement	EBL	EBR	NBL	NBT	SBT	SBR	
ane Configurations	Y			ę	4Î		
Fraffic Volume (veh/h)	18	21	4	64	59	7	
Future Volume (Veh/h)	18	21	4	64	59	7	
Sian 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		20	, in the second s	00			
Lane Width (m)							
Walking Speed (m/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				None	None		
Median storage veh)				Nono	Nono		
Upstream signal (m)							
pX, platoon unblocked							
vC, conflicting volume	168	78	83				
vC1, stage 1 conf vol	100						
vC2, stage 2 conf vol							
vCu, unblocked vol	168	78	83				
tC, single (s)	6.5	6.3	4.3				
tC, 2 stage (s)	0.0	0.0	4.0				
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	03				
Volume Right	26	0	9				
cSH	885	1381	1700				
Volume to Capacity	0.05	0.00	0.05				
Queue Length 95th (m)	1.4	0.00	0.05	_			
Control Delay (s)	9.3	0.1	0.0				
Lane LOS	9.3 A	0.5 A	0.0				
Approach Delay (s)	9.3	0.5	0.0				
Approach LOS	9.3 A	0.0	0.0				
Intersection Summary							
Average Delay			2.3				
Intersection Capacity Utiliza	tion		2.3	10	CU Level o	fSonvice	A
Analysis Period (min)	uuri		10.0%	IC	O LEVELO	U GELVICE	M

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Synchro 11 Report Page 11

Paradigm Transportation Solutions Limited

Lanes, Volumes, Timings 7: McClellan Rd & Agnes St

Base Year (2022) AM Peak Hour (220188) - 14 Agnes Street

	≯	+	+	*	1	4	
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		ર્સ	¢Î		Y		
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 Utiliza	ition 16.1%			IC	CU Level o	of Service A	A
Analysis Period (min) 15							

HCM Unsignalized 7: McClellan Rd & /			араси	y Anai	ysis		Base Year (2022) AM Peak Hou (220188) - 14 Agnes Stree
	۴.	-	-	*	1	4	
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
ane Configurations		ę	¢Î		Y		
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		
ane 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)		Homo	110110				
Upstream signal (m)							
oX, platoon unblocked							
/C, conflicting volume	21				44	22	
VC1, stage 1 conf vol							
VC2, stage 2 conf vol							
/Cu, unblocked vol	21				44	22	
C, single (s)	4.1				6.4	6.7	
C, 2 stage (s)	4.1				0.1	0.1	
:F (s)	2.2				3.5	3.8	
0 queue free %	100				99	100	
cM capacity (veh/h)	1600				966	924	
1 3 ()					500	524	
Direction, Lane #	EB 1	WB 1	SB 1				
Volume Total	25	15	14				
/olume Left	0	0	12				
/olume Right	0	3	2				
SH	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				
ane LOS			А				
Approach Delay (s)	0.0	0.0	8.8				
Approach LOS			А				
ntersection Summary							
Average Delay			2.3				
Intersection Capacity Utiliza	tion		16.1%	IC	U Level o	of Service	А
Analysis Period (min)			15				

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Queuing and Blocking Report

Base Year (2022) AM Peak Hour (220188) - 14 Agnes Street

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)				

	≯	-	$\mathbf{\hat{v}}$	1	+	*	1	1	1	1	÷.	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
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	(
Flt Permitted		0.990			0.971			0.995			0.988	
Satd. Flow (perm)	0	1734	0	0	1726	0	0	1610	0	0	1648	(
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	(
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignalized												
Intersection Capacity Utiliza	tion 27.7%			IC	U Level o	of Service	A					

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HCM Unsignalized Intersection Capacity Analysis 1: Main St & Queen St W/Queen St E

	≯	-	\mathbf{F}	4	+	*	1	1	1	1	Ļ	~
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	А	А	А	А								
Intersection Summary												
Delay			8.3									
Level of Service			А									
Intersection Capacity Utilization	on		27.7%	IC	U Level o	of Service			А			
Analysis Period (min)			15									

	≯	-	\mathbf{F}	4	+	*	1	1	1	1	÷.	~
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBI
Lane Configurations		÷			÷			÷			÷	
Traffic Volume (vph)	1	1	3	2	2	6	5	109	2	10	88	
Future Volume (vph)	1	1	3	2	2	6	5	109	2	10	88	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	190
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	1.0
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	
Flt Permitted		0.992			0.991			0.998			0.995	
Satd. Flow (perm)	0	1406	0	0	1721	0	0	1731	0	0	1720	
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	0.8
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	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	6	0	0	11	0	0	136	0	0	118	
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignalized												
Intersection Capacity Utiliza	tion 18.9%			IC	U Level o	of Service	A					

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HCM Unsignalized Intersection Capacity Analysis 2: Main St & King St/Edmund St

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			4			4	
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								
	0.01	0.01	0.00	0.01								
Queue Length 95th (m)	9.7	0.3 9.6	0.1	0.2								
Control Delay (s) Lane LOS	9.7 A	9.0 A	0.4 A	0.0 A								
	9.7	9.6	0.4	A 0.8								
Approach Delay (s) Approach LOS	9.7 A	9.6 A	0.4	0.0								
	~	~										
Intersection Summary			4.0									
Average Delay	£		1.2									
Intersection Capacity Utiliza	ition		18.9%	IC	U Level (of Service			A			
Analysis Period (min)			15									

3: Agnes St & Que							(,)
	-	\mathbf{r}	1	-	A	1	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	f,			ન	Y		
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							
	Other						
Control Type: Unsignalized							

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HCM Unsignalized Intersection Capacity Analysis 3: Agnes St & Queen St W Base Year (2022) PM Peak Hour (220188) - 14 Agnes Street

	-	\mathbf{i}	1	+	1	1
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	f,			र्स	Y	
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 Lotal	73	75 17	12			
Volume Left Volume Right	1	0	5			
cSH	1700	1529	884			
Volume to Capacity	0.04	0.01	884 0.01			
	0.04	0.01	0.01			
Queue Length 95th (m)						
Control Delay (s) Lane LOS	0.0	1.7 A	9.1			
	0.0		A			
Approach Delay (s)	0.0	1.7	9.1			
Approach LOS			A			
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utiliza	ation		19.9%	IC	CU Level o	of Service
Analysis Period (min)			15			

Lanes, Volumes, 7 4: Agnes St & King	0						Base Year (2022) PM Peak Ho (220188) - 14 Agnes Stre
	4	•	1	1	1	Ŧ	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	Y		ĥ			÷.	
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 Utiliz	ation 13.3%			IC	U Level	of Service A	
Analysis Period (min) 15							

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HCM Unsignalized Intersection Capacity Analysis 4: Agnes St & King St Base Year (2022) PM Peak Hour (220188) - 14 Agnes Street

	4		1	1	1	Ļ	
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	Y		ĥ			ą	
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			19				
Volume Lotal Volume Left	14 10	14 0	19				
Volume Left Volume Right	4	4	0				
	957	4	1617				
cSH Volume te Conceitu	957 0.01	0.01	0.00				
Volume to Capacity							
Queue Length 95th (m)	0.4	0.0	0.0				
Control Delay (s)	8.8	0.0	0.4				
Lane LOS	A	0.0	A				
Approach Delay (s)	8.8	0.0	0.4	_		_	
Approach LOS	A						
Intersection Summary							
Average Delay			2.8				
Intersection Capacity Utilization	on		13.3%	IC	CU Level o	of Service	
Analysis Period (min)			15				

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		\$			\$			\$			\$	
Traffic Volume (vph)	0	52	4	8	42	0	9	0	9	1	0	(
Future Volume (vph)	0	52	4	8	42	0	9	0	9	1	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	(
Flt Permitted					0.992			0.976			0.950	
Satd. Flow (perm)	0	1815	0	0	1774	0	0	1557	0	0	1805	(
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	(
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	72	0	0	64	0	0	24	0	0	1	(
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignalized												
Intersection Capacity Utilization	tion 19.0%			IC	U Level o	of Service	A					

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HCM Unsignalized Intersection Capacity Analysis 5: Emeline St/Driveway & Queen St W

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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	0.0	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 Utiliza	ation		19.0%	10	CU Level o	of Service			А			
Analysis Period (min)			15									

Lanes, Volumes, 6: Main St & McC							Base Year (2022) PM Peak H (220188) - 14 Agnes
	۶	\mathbf{F}	•	†	Ļ	1	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	Y			ę	¢Î		
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: Unsignalize	ed						
Intersection Capacity Utili	zation 23.1%			IC	CU Level o	of Service A	
Analysis Period (min) 15							

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HCM Unsignalized Intersection Capacity Analysis 6: Main St & McClellan Rd Base Year (2022) PM Peak Hour (220188) - 14 Agnes Street

	≯	\mathbf{r}	1	1	÷.	1
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			ų	¢Î,	
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			
	0.02	0.02	0.05			
Queue Length 95th (m)	0.5 9.4		0.0			
Control Delay (s) Lane LOS	9.4 A	1.8 A	0.0			
	9.4	A 1.8	0.0			
Approach Delay (s)		1.8	0.0			
Approach LOS	А					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utiliza	ation		23.1%	IC	CU Level o	of Service
Analysis Period (min)			15			
/						

Lanes, Volumes, 7: McClellan Rd &		St					Base Year (2022) PM Peak Hot (220188) - 14 Agnes Stre
	۶	-	+	*	1	1	
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		ę	eî		Y		
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: Unsignalize							
Intersection Capacity Utili	zation 13.3%			IC	CU Level of	of Service A	
Analysis Period (min) 15							

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HCM Unsignalized Intersection Capacity Analysis 7: McClellan Rd & Agnes St Base Year (2022) PM Peak Hour (220188) - 14 Agnes Street

	≯	-	+		1	1	
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		ę	4Î		Y		
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			1002	
Volume Total	15	37	6				
	2	37	4				
Volume Left	2	17	4				
Volume Right							
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	0.0	A				
Approach Delay (s)	1.0	0.0	8.6				
Approach LOS			A				
Intersection Summary							
Average Delay			1.1				
Intersection Capacity Utiliza	ation		13.3%	IC	CU Level o	of Service	А
Analysis Period (min)			15				

Queuing and Blocking Report

Base Year (2022) PM Peak Hour (220188) - 14 Agnes Street

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)				

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Appendix D

2027 Background Traffic Operations Report



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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
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	(
Flt Permitted		0.995			0.966			0.995			0.993	
Satd. Flow (perm)	0	1759	0	0	1752	0	0	1503	0	0	1669	C
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	C
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignalized												

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SB
Lane Configurations		4			4			4			4	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	5	30	9	67	24	3	9	25	69	4	21	
Future Volume (vph)	5	30	9	67	24	3	9	25	69	4	21	
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	0.9
Hourly flow rate (vph)	5	32	10	71	26	3	10	27	73	4	22	
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	А	А								
Intersection Summary												
Delay			7.8									
Level of Service			А									
Intersection Capacity Utiliza	tion		25.7%	IC	U Level o	of Service			А			
Analysis Period (min)			15									

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
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	(
Flt Permitted		0.980			0.978							
Satd. Flow (perm)	0	1229	0	0	1721	0	0	1669	0	0	1775	(
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	(
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignalized												

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SB
Lane Configurations		4			\$			\$			4	
Traffic Volume (veh/h)	4	0	6	4	0	5	1	91	2	1	91	
Future Volume (Veh/h)	4	0	6	4	0	5	1	91	2	1	91	
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	0.8
Hourly flow rate (vph)	5	0	7	5	0	6	1	106	2	1	106	
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)												
X, platoon unblocked												
C, conflicting volume	226	227	109	231	227	113	110			114		
/C1, stage 1 conf vol												
/C2, stage 2 conf vol												
/Cu, unblocked vol	226	227	109	231	227	113	110			114		
C, single (s)	7.3	6.5	6.7	7.1	6.5	6.2	4.1			4.1		
C, 2 stage (s)												
F (s)	3.7	4.0	3.8	3.5	4.0	3.3	2.2			2.2		
00 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								
SH	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	А	A	А								
Approach Delay (s)	9.8	9.4	0.1	0.1								
Approach LOS	A	A										
ntersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization	n		16.9% 15	IC	U Level o	t Service			A			

Lanes, Volumes, Timings 3: Agnes St & Queen St W 2027 Background AM Peak Hour (220188) - 14 Agnes Street

	-	\mathbf{r}	4	-	1	1	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	f,			ę	Y		
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 Utiliz	zation 15.1%			IC	CU Level of	of Service	А
Analysis Period (min) 15							

HCM Unsignalized Intersection Capacity Analysis 3: Agnes St & Queen St W 2027 Background AM Peak Hour (220188) - 14 Agnes Street

Movement EBT EBR WBL WBT NBL NBR Lane Configurations 1 4 4 33 0 9 Traffic Volume (veh/h) 31 4 4 33 0 9 Future Volume (veh/h) 31 4 4 33 0 9 Sign Control Free Free Free Stop 7% 9% Grade 0% 0% 0% 0% 9% 98 104 0.94 0
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% Grade 0% 0% 0% 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 4 35 0 10
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% Grade 0% 0% 0% 0% 0% 0% Peak Hour Factor 0.94 0.94 0.94 0.94 0.94 0.94 Hourly flow rate (vph) 33 4 35 0 10 Pedestrians 4 4 35 0 10
Sign Control Free Free Stop Grade 0% 0% 0% Peak Hour Factor 0.94 0.94 0.94 0.94 0.94 Hourly flow rate (vph) 33 4 35 0 10 Pedestrians 4 4 4 4 4 4
Grade 0% 0% 0% Peak Hour Factor 0.94 0.94 0.94 0.94 0.94 Hourly flow rate (vph) 33 4 35 0 10 Pedestrians 4 4 4 4 4 4
Peak Hour Factor 0.94
Hourly flow rate (vph) 33 4 4 35 0 10 Pedestrians 4
Pedestrians 4
1 147.10 ()
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
Analysis Period (min) 15

Paradigm Transportation Solutions Limited

Lanes, Volu	ımes, T	imings
4: Agnes St	& King	St

2027 Background AM Peak Hour (220188) - 14 Agnes Street

	4	*	Ť	1	1	Ļ	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	Y		eî 🕺			ę	
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	d						
Intersection Capacity Utiliz	zation 13.3%			IC	U Level	of Service	еA
Analysis Period (min) 15							

Vovement Lane Configurations Fraffic Volume (veh/h) Sign Control Grade Peak Hour Factor Jourly flow rate (vph)	WBL WBL 0 0 Stop	WBR 1	T NBT	NBR			
ane Configurations Fraffic Volume (veh/h) Future Volume (Veh/h) Sign Control Grade Peak Hour Factor	0 0 Stop	1		NDD		•	
Fraffic Volume (veh/h) Future Volume (Veh/h) Sign Control Grade Peak Hour Factor	0 0 Stop		î.	NDR	SBL	SBT	
Future Volume (Veh/h) Sign Control Grade Peak Hour Factor	0 Stop					÷f	
Sign Control Grade Peak Hour Factor	Stop		10	5	3	4	
Grade Peak Hour Factor		1	10	5	3	4	
Peak Hour Factor			Free			Free	
	0%		0%			0%	
Hourly flow rate (vph)	0.64	0.64	0.64	0.64	0.64	0.64	
	0	2	16	8	5	6	
Pedestrians							
_ane Width (m)							
Nalking Speed (m/s)							
Percent Blockage							
Right turn flare (veh)							
Vledian type			None			None	
Median storage veh)							
Jpstream signal (m)							
X, platoon unblocked							
/C, conflicting volume	36	20			24		
/C1, stage 1 conf vol							
/C2, stage 2 conf vol							
/Cu, unblocked vol	36	20			24		
C, single (s)	6.4	6.2			4.1		
C, 2 stage (s)							
F (s)	3.5	3.3			2.2		
0 queue free %	100	100			100		
M capacity (veh/h)	979	1064			1604		
Direction, Lane #	WB 1	NB 1	SB 1				
/olume Total	2	24	11				
/olume Left	0	0	5				
/olume Right	2	8	0				
SH	1064	1700	1604				
/olume 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				
ane LOS	A	0.0	A				
Approach Delay (s)	8.4	0.0	3.3				
Approach LOS	A	0.0	0.0				
ntersection Summary							
Average Delay			1.4				
ntersection Capacity Utilizati	on		13.3%	IC	U Level o	of Service	A

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ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
ane Configurations		\$			\$			\$			\$	
Fraffic Volume (vph)	0	21	1	3	36	0	6	0	6	0	0	(
Future Volume (vph)	0	21	1	3	36	0	6	0	6	0	0	(
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
ane 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				
It Protected					0.997			0.976				
Satd. Flow (prot)	0	1677	0	0	1809	0	0	1728	0	0	1900	(
It Permitted					0.997			0.976				
Satd. Flow (perm)	0	1677	0	0	1809	0	0	1728	0	0	1900	(
ink Speed (k/h)		40			40			40			50	
ink 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	(
Shared Lane Traffic (%)												
ane Group Flow (vph)	0	32	0	0	57	0	0	18	0	0	0	(
Sign Control		Free			Free			Stop			Stop	
ntersection Summary												
Area Type: 0	Other											
Area Type: C Control Type: Unsignalized	Other											

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SB
Lane Configurations		÷			÷			÷			÷	
Traffic Volume (veh/h)	0	21	1	3	36	0	6	0	6	0	0	
Future Volume (Veh/h)	0	21	1	3	36	0	6	0	6	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	0.6
Hourly flow rate (vph)	0	31	1	4	53	0	9	0	9	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	5
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	53			32			92	92	32	102	93	5
tC, single (s)	4.1			4.8			7.1	6.5	6.2	7.1	6.5	6
tC, 2 stage (s)												
tF (s)	2.2			2.8			3.5	4.0	3.3	3.5	4.0	3.
p0 queue free %	100			100			99	100	99	100	100	10
cM capacity (veh/h)	1566			1246			894	799	1048	874	798	102
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		А	А	А								
Approach Delay (s)	0.0	0.6	8.8	0.0								
Approach LOS			А	А								
Intersection Summary												
Average Delay			1.8									
Intersection Capacity Utilization	on		14.4%	IC	CU Level o	of Service			A			

Lanes, Volumes, Timings 6: Main St & McClellan Rd

2027 Background AM Peak Hour (220188) - 14 Agnes Street

	≯	$\mathbf{\hat{v}}$	•	Ť	Ŧ	1	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	Y			ę	eî.		
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	d						
Intersection Capacity Utiliz	zation 16.7%			IC	CU Level o	of Service	A
Analysis Period (min) 15							

	llan Rd						(220188) - 14 Agnes Stre
	≯	\mathbf{r}	1	†	.↓	∢	
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	M			ર્સ	4Î		
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 Utilizat Analysis Period (min)	tion		16.7% 15	IC	CU Level of	Service	A

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Synchro 11 Report Page 11

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Lanes, Volumes, Timings 7: McClellan Rd & Agnes St

2027 Background AM Peak Hour (220188) - 14 Agnes Street

	≯	-	+	•	1	4	
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		ę	ĥ		Y		
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	tion 16.1%			IC	CU Level o	of Service	A
Analysis Period (min) 15							

	≯		+		1	1	
Novement	EBL	EBT	WBT	WBR	SBL	SBR	
ane Configurations	EDL	् दी	100 Te	WDR	<u>→</u>	ODR	
Traffic Volume (veh/h)	0	4 23	₽ 11	3	T	2	
Future Volume (Veh/h)	0	23	11	3	11	2	
Sign Control	0	Free	Free	5	Stop	2	
Grade		0%	0%		0%		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	
Hourly flow rate (vph)	0.00	26	12	3	12	2	
Pedestrians	0	3	12	5	6	2	
ane Width (m)		3.6			3.6		
Walking Speed (m/s)		1.2			1.2		
Percent Blockage		0			1.2		
Right turn flare (veh)		5					
Median type		None	None				
Median storage veh)		Nono	None				
Jpstream signal (m)							
X, platoon unblocked							
C, conflicting volume	21				46	22	
C1, stage 1 conf vol					10		
C2, stage 2 conf vol							
Cu, unblocked vol	21				46	22	
C, single (s)	4.1				6.4	6.7	
C, 2 stage (s)							
F (s)	2.2				3.5	3.8	
0 queue free %	100				99	100	
M capacity (veh/h)	1600				965	924	
Direction, Lane #	EB 1	WB 1	SB 1				
/olume Total	26	15	14				
/olume Left	0	0	12				
/olume Right	0	3	2				
SH	1600	1700	959				
/olume 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				
ane LOS			А				
Approach Delay (s) Approach LOS	0.0	0.0	8.8 A				
ntersection Summary							
Average Delay			2.2				
ntersection Capacity Utilizatio	n		16.1%	IC	U Level c	of Service	A

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Synchro 11 Report Page 13

Paradigm Transportation Solutions Limited

Queuing and Blocking Report

2027 Background AM Peak Hour (220188) - 14 Agnes Street

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)				

	≯	-	\mathbf{r}	*	-	*	1	1	1	1	+	~
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		÷			÷			\$			\$	
Traffic Volume (vph)	14	45	14	77	49	3	12	32	75	8	14	1
Future Volume (vph)	14	45	14	77	49	3	12	32	75	8	14	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
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	(
Flt Permitted		0.990			0.971			0.995			0.988	
Satd. Flow (perm)	0	1734	0	0	1728	0	0	1609	0	0	1648	(
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	1:
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	88	0	0	156	0	0	143	0	0	40	(
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type: 0	Other											
Control Type: Unsignalized												
Intersection Capacity Utilizat	ion 28.1%			IC	U Level o	of Service	A					

Paradigm Transportation Solutions Limited

HCM Unsignalized Intersection Capacity Analysis 1: Main St & Queen St W/Queen St E

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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	А	A	А	А								
Intersection Summary												
Delay			8.4									
Level of Service			А									
Intersection Capacity Utilization	n		28.1%	IC	U Level o	of Service			А			
Analysis Period (min)			15									

Lanes, Volumes, T 2: Main St & King S	0	ind St					20	27 Bao	0		I Peak 14 Agne	
	≯	-	\mathbf{F}	4	+	*	1	1	1	1	Ŧ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		÷			\$			÷			\$	
Traffic Volume (vph)	1	1	3	2	2	6	5	112	2	10	90	
Future Volume (vph)	1	1	3	2	2	6	5	112	2	10	90	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	190
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	1.0
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	(
Flt Permitted		0.992			0.991			0.998			0.995	
Satd. Flow (perm)	0	1406	0	0	1721	0	0	1732	0	0	1720	(
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	(
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignalized												
Intersection Capacity Utiliza	tion 19.1%			IC	U Level o	of Service	A					
Analysis Period (min) 15												

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HCM Unsignalized Intersection Capacity Analysis 2: Main St & King St/Edmund St

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			4			4	
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	Α	A	А	A								
Approach Delay (s)	9.7	9.6	0.4	0.8								
Approach LOS	А	А										
Intersection Summary												
Average Delay			1.1									
Intersection Capacity Utilizatio	n		19.1%	IC	U Level	of Service			А			
Analysis Period (min)			15									

Lanes, Volumes, 7 3: Agnes St & Que							2027 Background PM Peak Hot (220188) - 14 Agnes Stre
	-	$\mathbf{\hat{z}}$	4	+	1	1	() 5
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	ĥ			ę	Y		
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	1						
Intersection Capacity Utiliz	ation 20.0%			IC	CU Level o	of Service A	
Analysis Period (min) 15							

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HCM Unsignalized Intersection Capacity Analysis 3: Agnes St & Queen St W 2027 Background PM Peak Hour (220188) - 14 Agnes Street

	-	$\mathbf{\hat{v}}$	4	-	1	1
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	ţ,			र्भ	Y	
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)					5.1	
tF (s)			2.2		3.5	3.5
p0 queue free %			99		99	99
cM capacity (veh/h)			1528		812	940
Direction. Lane #					0.2	0.0
	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		А	А			
Approach Delay (s)	0.0	1.7	9.1			
Approach LOS			А			
Intersection Summary						
Average Delay			1.5			
Intersection Capacity Utilizat	tion		20.0%	IC	U Level o	of Service
Analysis Period (min)			15			

Lanes, Volumes, 4: Agnes St & Kin							2027 Background PM Peak Hou (220188) - 14 Agnes Stre
	4	*	1	1	1	Ļ	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	Y		ef 🗧			با	
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: Unsignalize							
Intersection Capacity Utiliz	zation 13.3%			IC	U Level	of Service A	
Analysis Period (min) 15							

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HCM Unsignalized Intersection Capacity Analysis 4: Agnes St & King St 2027 Background PM Peak Hour (220188) - 14 Agnes Street

	1		Ť	1	1	÷.	
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	Υ		4Î			é.	
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							
ane Width (m)							
Walking Speed (m/s)							
Percent Blockage							
Right turn flare (veh)							
Vedian type			None			None	
Median storage veh)							
Upstream signal (m)							
oX, platoon unblocked							
/C, conflicting volume	32	12			14		
C1, stage 1 conf vol	02						
/C2, stage 2 conf vol							
Cu, unblocked vol	32	12			14		
C, single (s)	6.7	6.2			4.1		
C, 2 stage (s)	0.1	0.2					
:F (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		1011		
folume Total	14	14	19				
/olume Total /olume Left	14	14	19				
	4	4	0				
/olume Right	4 957		1617				
SH /olume to Capacity	957	1700 0.01	1617				
Queue Length 95th (m)	0.4 8.8	0.0	0.0				
Control Delay (s) ane LOS	8.8 A	0.0	0.4 A				
	A 8.8	0.0	A 0.4				
Approach Delay (s)		0.0	0.4				
Approach LOS	A						
ntersection Summary							
verage Delay			2.8				
Intersection Capacity Utiliza	tion		13.3%	IC	CU Level o	of Service	A
Analysis Period (min)			15				

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SB
Lane Configurations		\$			\$			\$			\$	
Traffic Volume (vph)	0	53	4	8	43	0	9	0	9	1	0	
Future Volume (vph)	0	53	4	8	43	0	9	0	9	1	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	190
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	1.0
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	(
Flt Permitted					0.992			0.976			0.950	
Satd. Flow (perm)	0	1815	0	0	1774	0	0	1557	0	0	1805	(
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	(
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	73	0	0	65	0	0	24	0	0	1	(
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignalized												
Intersection Capacity Utiliza	tion 19.1%			10	U Level o	of Service	А					

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HCM Unsignalized Intersection Capacity Analysis 5: Emeline St/Driveway & Queen St W 2027 Background PM Peak Hour (220188) - 14 Agnes Street

	≯	-	\mathbf{i}	*	+	*	1	1	1	1	Ļ	1
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)	0.00	0.01	0.03	0.0								
Control Delay (s)	0.0	1.2	9.3	9.5								
Lane LOS	0.0	1.Z A	9.3 A	9.5 A								
Approach Delay (s)	0.0	1.2	9.3	9.5								
Approach LOS	0.0	1.2	9.3 A	9.5 A					_			
Intersection Summary												
			1.9									
Average Delay Intersection Capacity Utiliza	tion		19.1%	10	CU Level o	of Convice			А			
	10011	_		IC		I Service			A	_	_	
Analysis Period (min)			15									

Lanes, Volumes, 6: Main St & McC							2027 Background PM Peak H (220188) - 14 Agnes S
	۶	\mathbf{F}	•	†	Ļ	1	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	Y			ę	4Î		
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: Unsignalize							
Intersection Capacity Utili	zation 23.3%			IC	CU Level o	of Service A	
Analysis Period (min) 15							

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HCM Unsignalized Intersection Capacity Analysis 6: Main St & McClellan Rd 2027 Background PM Peak Hour (220188) - 14 Agnes Street

	≯	\mathbf{v}	1	1	Ŧ	.∢
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			ب ا	4Î	
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)					110110	
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	020	0.02	0.05			
Queue Length 95th (m)	0.02	0.02	0.05			
Control Delay (s)	9.4	1.9	0.0			
Lane LOS	9.4 A	1.9 A	0.0			
Approach Delay (s)	9.4	1.9	0.0			
Approach LOS	9.4 A	1.9	0.0			
	A					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utiliza	ation		23.3%	IC	CU Level o	of Service
Analysis Period (min)			15			

Lanes, Volumes, 7: McClellan Rd &	0	St					2027 Background PM Peak Hot (220188) - 14 Agnes Stre
	≯	+	Ļ	*	1	1	
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		ę	eî Î		Y		
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: Unsignalize							
Intersection Capacity Utili	zation 13.3%			IC	CU Level of	of Service A	
Analysis Period (min) 15							

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HCM Unsignalized Intersection Capacity Analysis 7: McClellan Rd & Agnes St 2027 Background PM Peak Hour (220188) - 14 Agnes Street

	≯	-	+	×	1	1	
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		۰	4Î		Y		
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)		110110					
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			1002	
Volume Total	15	37	6				
Volume Left	2	0	4				
Volume Right	2	17	4				
cSH	1587	1700	995				
		0.02	0.01				
Volume to Capacity Queue Length 95th (m)	0.00	0.02	0.01			_	
	0.0		0.1 8.6				
Control Delay (s)	1.0	0.0				_	
Lane LOS	A	0.0	A				
Approach Delay (s)	1.0	0.0	8.6				
Approach LOS			A				
Intersection Summary							
Average Delay			1.1				
Intersection Capacity Utiliza	ation		13.3%	IC	CU Level o	of Service	A
Analysis Period (min)			15				

Queuing and Blocking Report

2027 Background PM Peak Hour (220188) - 14 Agnes Street

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)				

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Appendix E

2027 Total Traffic Operations Report



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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		\$			\$			\$			\$	
Traffic Volume (vph)	19	32	9	67	25	3	9	25	69	4	21	Ę
Future Volume (vph)	19	32	9	67	25	3	9	25	69	4	21	ę
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
ane 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	
Fit Protected		0.985			0.966			0.995			0.994	
Satd. Flow (prot)	0	1773	0	0	1750	0	0	1503	0	0	1669	(
Flt Permitted		0.985			0.966			0.995			0.994	
Satd. Flow (perm)	0	1773	0	0	1750	0	0	1503	0	0	1669	(
_ink Speed (k/h)		40			40			40			40	
ink 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 (%)												
ane Group Flow (vph)	0	64	0	0	101	0	0	110	0	0	31	(
Sign Control		Stop			Stop			Stop			Stop	
ntersection Summary												
	Other											
Control Type: Unsignalized												

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			\$			\$			\$	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	19	32	9	67	25	3	9	25	69	4	21	Ę
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	А	А	A								
Intersection Summary												
Delay			7.9									
Level of Service			А									
Intersection Capacity Utilizat	ion		24.5%	IC	U Level o	of Service			A			
Analysis Period (min)			15									

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
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	(
Flt Permitted		0.992			0.978			0.996				
Satd. Flow (perm)	0	1143	0	0	1721	0	0	1676	0	0	1775	(
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	(
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignalized												

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations	202	4	LBIX		4			4		002	4	
Traffic Volume (veh/h)	4	0	23	4	0	5	8	91	2	1	91	1
Future Volume (Veh/h)	4	0	23	4	0	5	8	91	2	1	91	
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	0.8
Hourly flow rate (vph)	5	0	27	5	0	6	9	106	2	1	106	:
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)												
Jpstream 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)	0.7	4.0	0.0	0.5	4.0	0.0	0.0			0.0		
tF (s)	3.7	4.0	3.8	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100 653	97	99	100	99	99			100		
cM capacity (veh/h)	654		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 Utiliza	ation		20.6%	IC	U Level o	of Service			А			
Analysis Period (min)			15									

Lanes, Volumes, Timings 3: Agnes St & Queen St W 2027 Total AM Peak Hour (220188) - 14 Agnes Street

	-	\mathbf{r}	4	+	1	1	
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	el A			ę	Y		
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: Unsignalize							
Intersection Capacity Utiliz	zation 17.7%			IC	CU Level of	of Service	A
Analysis Period (min) 15							

Novement EBT EBR WBL WBT NBR Lane Configurations 1 6 7 33 0 26 Traffic Volume (veh/h) 31 6 7 33 0 26 Sign Control Free Free Slop 0% 0% 0% Peak Hour Factor 0.94		_	~	1	+	•	1	
Lane Configurations Traffic Volume (veh/h) 31 6 7 33 0 26 Traffic Volume (veh/h) 31 6 7 33 0 26 Sign Control Free Free Stop Grade 0% 0% 0% 0% Peak Hour Factor 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94		-	•	•		1	•	
Traffic Volume (veh/h) 31 6 7 33 0 26 Future Volume (veh/h) 31 6 7 33 0 26 Grade 0% 0% 0% 0% 0% Peak Hour Factor 0.94 0.94 0.94 0.94 0.94 Houry Row rate (vph) 33 6 7 35 0 28 Pedestrians 4 4 4 4 4 4 Lare Width (m) 3.6 7 35 0 28 Pedestrians 4 4 4 4 4 Lare Width (m) 3.6 None Median storage veh/h 1.2 Vereant Biockage 0 0 43 89 40 VC2, stage 1 conf vol			EBR	WBL			NBR	
Future Volume (Veh/h) 31 6 7 33 0 26 Sign Control Free Stop			_	_				
Sign Control Free Free Stop Grade 0% <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
Grade 0% 0% 0% 0% Peak Hour Factor 0.94 0.94 0.94 0.94 0.94 Pedestrians 4 4 4 4 Lane Width (m) 3.6 7 35 0 28 Pedestrians 4 4 4 4 Lane Width (m) 3.6 4 4 Malking Speed (m/s) 1.2 Percent Blockage 0 Right turn flare (veh) 5 0 28 Vector signal (m) 0X 12 Percent Blockage 0 OX, platoon unblocked 43 89 40 40 VC1, stage 1 conf vol 43 89 40 40 VC2, stage 2 conf vol 43 89 40 40 VC3, stage 1 conf vol 90 90 90 90 90 VC2, stage 2 conf vol 43 89 40 40 16.4 6.2 2.5 16.5 16.5 16.5 16.5			6	7		-	26	
Peak Hour Factor 0.94 0.94 0.94 0.94 0.94 0.94 Houry flow rate (vph) 33 6 7 35 0 28 Pedestrians 4 1 1 1 1 1 Lane Width (m) 3.6 1.2 1<								
Hourly flow rate (vph) 33 6 7 35 0 28 Pedestrians 4 Lane Width (m) 3.6 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) poX, platoon unblocked VC2, conflicting volume 43 89 40 VC1, stage 1 conf vol VC2, stage 2 conf vol VC2, stage 3 89 40 VC3, stage 1 conf vol VC4, unblocked vol 43 89 40 VC2, stage 2 conf vol VC2, stage 2 conf vol VC2, stage 2 conf vol VC2, stage 5 EF (s) 2.2 3.5 3.3 D0 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 LOS A A Verage Delay EX					• • •			
Pedestrians 4 Lane Width (m) 3.6 Walking Speed (m/s) 1.2 Percent Blockage 0 Right tum flare (veh) None Median storage veh) Upstream signal (m) pX, platoon unblocked vC, conflicting volume vC1, stage 1 conf vol 43 vC2, stage 2 conf vol vC2, stage 2 conf vol vC4, stage 2 conf vol vC2, stage 2 conf vol vC2, stage 2 conf vol vC2, stage 2 conf vol vC2, stage 1 conf vol 43 89 40 vC2, stage 2 conf vol vC4, 1 6.4 6.2 vC3, stage 1 conf vol vC3 89 40 vC4, stage 2 conf vol vC4, 1 6.4 6.2 vC4, stage (s) 1.1 6.4 6.2 U5, stage (s) 1573 909 1034 Direction, Lane # EB 1 WB 1 NB 1 Volume Total 39 42 28 vSH 1700 1573 1034 Volume Right 6 0 28 cSH 1700 1573								
Lane Wildh (m) 3.6 Walking Speed (m/s) 1.2 Percent Blockage 0 Right tum flare (veh) 0 Median type None None Median storage veh) 0 Upstream signal (m) XX, platoon unblocked VC, conflicting volume VC2, stage 1 conf vol VC2 VC3, stage 1 conf vol VC3 VC3, stage 1 conf vol VC3 VC4, stage 1 conf vol VC3 VC2, stage 1 conf vol VC3 VC3, stage 1 conf vol VC3 VC4, stage 1 conf vol VC3 VC4, stage 1 conf vol VC3 V		33	6	7	35		28	
Walking Speed (m/s) 1.2 Percent Blockage 0 Right turn flare (veh) Median storage veh) Median storage veh) None Motion unblocked VC, conflicting volume 43 VC, stage 1 conf vol VC, stage 2 conf vol VCQ, stage 2 conf vol VCQ, stage 2 conf vol VCQ, stage 2 conf vol VCQ, unblocked vol VCQ, stage 2 conf vol VCQ, stage 2 conf vol VCQ, unblocked vol 43 89 40 VCQ, stage 2 conf vol VCQ, unblocked vol 43 89 40 VCQ, unblocked vol 43 89 40 40 40 VC2, stage 2 conf vol VCQ, unblocked vol 43 89 40 VC2, stage 2 conf vol VCQ, unblocked vol 90 90 90 90 VG2, stage 2 conf vol VCQ, stage 2 3.5 3.3 90 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>								
Percent Blockage 0 Right tum flare (veh) None Median storage veh) None Upstream signal (m) None pX, platon unblocked VC, conflicting volume VC2, stage 1 conf vol VC2, stage 2 conf vol VC2, stage 2 conf vol VC2, stage 2 conf vol VC2, stage 1 conf vol VC2, stage 2 conf vol VC2, stage 2 conf vol VC2 VD queue free % 100 100 Volume Total 39 42 28 Volume Right								
Right turn flare (veh) None None Median storage veh) Upstream signal (m) PX, platoon unblocked VC, ordificting volume 43 89 40 VC1, stage 1 conf vol VC2, stage 2 conf vol VC2, stage 2 conf vol VC2, stage 2 conf vol VC2, unblocked vol 43 89 40 VC2, stage 2 conf vol VC2, unblocked vol 43 89 40 VC2, stage 2 conf vol VC2, unblocked vol 43 89 40 VC2, stage 2 conf vol VC2 VC2 0 VC2 VC3 V								
Median type None None Median storage veh) Upstream signal (m) XX Vicy, platoon unblocked VC, conflicting volume 43 89 40 VC1, stage 1 conf vol VC2, stage 2 conf vol VC2 VC2, stage 2 conf vol VC2 VC2, stage 2 conf vol VC2, stage 2 conf vol VC2 VC1 VC1 VC3, stage 1 conf vol VC2 S3 3.3 PO VC2, stage (s) - - - - Ff (s) 2.2 3.5 3.3 - PO Of queue free % 100 100 97 - - Direction, Lane # EB 1 WB 1 NB 1 -						0		
Median storage veh) Upstream signal (m) pX, platoon unblocked VC2, conflicting volume 43 89 40 VC2, stage 1 conf vol VC2, stage 2 conf vol VG1, molecked vol VC2, stage 2 conf vol VG1, molecked vol Velume Kree % 100 100 Volume Right 6 0 7 Volume Right 6 Control Delay (s) 0.0 0.0 1.2 8.6 Lane LO								
Upstream signal (m) pX, platoon unblocked vC1, stage 1 conf vol VC2, stage 2 conf vol VC2, stage (s) IF (s) 4.1 6.4 6.2 C, Stage (s) IF (s) 2.2 3.5 3.3 p0 queue free % 100 100 97 Mc 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 Lane LOS A A Approach Delay (s) 0.0 2.2 New Yolume Total X A A Approach Delay (s) 0.0 1.2 8.6 Lane LOS A A Approach Delay (s) 0.0 1.2 8.6 Lane LOS A A Approach Delay (s) 0.0 1.2 8.6 Approach Delay (s) 0.0 2.2 New Yolume X A A Approach Delay (s) 0.0 1.2 8.6 Approach Delay (s) 0.0 1		None			None			
pX, platoon unblocked 43 89 40 vC, conflicting volume 43 89 40 vC1, stage 1 conf vol vC2, stage 2 conf vol vC2, stage 2 conf vol vCu, unblocked vol 43 89 40 C, stage 1 conf vol vC1, stage 1 conf vol vC2, stage 2 conf vol vC2, stage (s) 4.1 6.4 6.2 IF (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 Right 6 0 28 cSH 1700 1573 1034 Volume Left 0 7 0 Volume Right 6 0 28 cSH 1700 1573 1034 Volume Left 0.7 0 Queue Length 95th (m) 0.0 1.2 Ro A A Approach Delay (s) 0.0 1.2 Approach LOS A A Approach LOS A A Appreace Delay 2.7								
vC, conflicting volume 43 89 40 vC1, stage 1 conf vol vC2, stage 1 conf vol vC2, stage 2 conf vol vC2, stage 2 conf vol 43 89 40 CC, single (s) 4.1 6.4 6.2 C, stage (s)								
vC1, stage 1 conf vol vC2, stage 2 conf vol vGu, unblocked vol 43 89 40 (C, single (s) 4.1 6.4 6.2 (C, stage 2 conf vol 100 100 97 (C, stage (s) 2.2 3.5 3.3 Df 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 Total 39 42 28 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 A Average Delay 2.7 2.7								
vC2, stage 2 conf vol vCu, unblocked vol 43 89 40 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 dk 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 A Average Delay 2.7 2.7				43		89	40	
vCu, unblocked vol 43 89 40 C, single (s) 4.1 6.4 6.2 C, 2 stage (s) - - - If (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 Right 6 0 28 cSH 1700 1573 1034 Volume Right 6 0 28 cSH 1700 1573 1034 Volume Left 0 7 0 Control Delay (s) 0.0 0.1 0.7 Control Delay (s) 0.0 1.2 8.6 Lane LOS A A Approach LOS A A Appreach LOS A A Appreach LOS A A Average	vC1, stage 1 conf vol							
IC, single (s) 4.1 6.4 6.2 IC, 2 stage (s)								
C) 2 stage (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 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 Lane LOS A A Approach Delay (s) 0.0 1.2 8.6 Lane LOS A A Approach Delay (s) 0.0 1.2 8.6 Lane LOS A A	vCu, unblocked vol							
If (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 Right 6 0 28 CSH 1700 1573 1034 Volume Right 6 0 28 CSH 1700 1573 1034 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 LOS A A Intersection Summary A Average Delay 2.7				4.1		6.4	6.2	
Direction Lane # EB 1 WB 1 NB 1 Volume Total 39 42 28 Volume Total 39 42 28 Volume Right 6 0 28 cSH 1700 1573 1034 Volume Right 6 0 28 cSH 1700 1573 1034 Volume Right 0 0 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 A Aperoach Delay (s) 0.0 1.2 8.6 Approach LOS A A A	tC, 2 stage (s)							
M capacity (veh/h) 1573 909 1034 Direction, Lane # EB 1 WB 1 NB 1 Volume Total 39 42 28 Volume Total 39 42 28 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 A Aperoach Delay (s) 0.0 1.2 8.6 Approach Delay (s) 0.0 2.7 4.7								
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 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 LOS A A Approach LOS A A Average Delay 2.7						100		
Volume Total 39 42 28 Volume Left 0 7 0 Volume Right 6 0 28 SH 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 Intersection Summary A A Average Delay 2.7 2.7	cM capacity (veh/h)			1573		909	1034	
Volume Left 0 7 0 Volume Right 6 0 28 cSH 1700 1573 1034 Volume 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 Approach Delay (s) 0.0 1.2 8.6 Approach LOS A A Intersection Summary 2.7 2.7	Direction, Lane #	EB 1	WB 1	NB 1				
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 A Aperoach LOS A A	Volume Total	39	42	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 A Aperoach Delay (s) 0.0 1.2 8.6 Approach LOS A A A Verage Delay 2.7 2.7	Volume Left	0	7	0				
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 Delay (s) 0.0 2.7 7	Volume Right	6	0	28				
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 A A		1700	1573	1034				
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 A A	Volume to Capacity	0.02	0.00	0.03				
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 A Intersection Summary A A Average Delay 2.7 A		0.0	0.1	0.7				
Lane LOS A A Approach Delay (s) 0.0 1.2 8.6 Approach LOS A 1.1 1.2 Intersection Summary A 1.2 1.2 Verage Delay 2.7 1.2 1.2		0.0	1.2	8.6				
Approach LOS A Intersection Summary Average Delay 2.7			А	А				
Approach LOS A Intersection Summary Average Delay 2.7	Approach Delay (s)	0.0	1.2	8.6				
Average Delay 2.7				А				
	Intersection Summary							
Intersection Capacity Utilization 17.7% ICUL evel of Service A								
Analysis Period (min) 15	Intersection Capacity Utiliza	tion		17.7%	IC	U Level o	of Service	A

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4: Agnes St & King	g St						(220188) - 14 Agnes Stree
	4	*	Ť	1	1	Ŧ	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	Y		ĥ			ę	
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	ł						
Intersection Capacity Utiliz	ation 18.0%			IC	U Level	of Service A	4
Analysis Period (min) 15							

HCM Unsignalized 4: Agnes St & King			apaon	,	,		(220188) - 14 Agnes Str
	(*	†	~	1	Ļ	(
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	Y		1		002	4 4	
Traffic Volume (veh/h)	0	8	10	5	20	4	
Future Volume (Veh/h)	0	8	10	5	20	4	
Sign Control	Stop	Ű	Free		20	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 Utiliza	ation		18.0%	IC	U Level o	of Service	A
Analysis Period (min)			15				

Paradigm Transportation Solutions Limited

Lanes, Volumes, Timings

Synchro 11 Report Page 7

2027 Total AM Peak Hour

Paradigm Transportation Solutions Limited

	≯	-	\mathbf{r}	4	+	*	1	1	1	1	+	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		\$			\$			÷			÷	
Traffic Volume (vph)	0	22	1	3	36	0	6	0	6	0	0	(
Future Volume (vph)	0	22	1	3	36	0	6	0	6	0	0	(
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
ane 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	(
Flt Permitted					0.997			0.976				
Satd. Flow (perm)	0	1679	0	0	1809	0	0	1728	0	0	1900	(
_ink 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	(
Shared Lane Traffic (%)												
ane Group Flow (vph)	0	33	0	0	57	0	0	18	0	0	0	(
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											

	≯	-	\mathbf{r}	1	-	۰.	•	1	1	1	÷.	~
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										100		=0
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)	0.0			0.0			0.5	4.0	0.0	0.5	4.0	
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			А	А								
Intersection Summary												
Average Delay			1.8									
Intersection Capacity Utiliza	ition		14.4%	IC	U Level o	f Service			A			
Analysis Period (min)			15									

Paradigm Transportation Solutions Limited

Lanes, Volumes, Timings
6: Main St & McClellan Rd

2027 Total AM Peak Hour (220188) - 14 Agnes Street

	≯	$\mathbf{\hat{v}}$	1	Ť	÷.	-
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			ર્સ	¢Î	
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: Unsignalize	d					
Intersection Capacity Utiliz	zation 17.1%			IC	CU Level of	of Service A
Analysis Period (min) 15						

	≯	\rightarrow	1	†	Ŧ	<	
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	Y			ર્સ	4Î		
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) Pedestrians	22	28	5	91	96	9	
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	000	400	405				
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)	0.5	0.5	4.5				
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	А					
Approach Delay (s)	9.5	0.4	0.0				
Approach LOS	А						
Intersection Summary							
Average Delay			2.0				
Intersection Capacity Utilization	on		17.1%	IC	U Level of	Service	А

Paradigm Transportation Solutions Limited

Lanes, Volumes, Timings 7: McClellan Rd & Agnes St 2027 Total AM Peak Hour (220188) - 14 Agnes Street

	≯	-	+	*	1	1	
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		ę	ĥ		Y		
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	ation 16.1%			IC	CU Level o	of Service	λe
Analysis Period (min) 15							

HCM Unsignalized I 7: McClellan Rd & A	anes S	St					(220188) - 14 Agnes Stre
	<u>ب</u>		+	×	1	1	, , ,
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		ų	4		Y	-	
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		
_ane Width (m)		3.6			3.6		
Walking Speed (m/s)		1.2			1.2		
Percent Blockage		0			1		
Right turn flare (veh)							
Vledian type		None	None				
Median storage veh)							
Jpstream signal (m)							
oX, platoon unblocked							
VC, conflicting volume	21				46	22	
VC1, stage 1 conf vol							
VC2, stage 2 conf vol							
vCu, unblocked vol	21				46	22	
C, single (s)	4.1				6.4	6.7	
C, 2 stage (s)							
:F (s)	2.2				3.5	3.8	
00 queue free %	100				99	100	
cM capacity (veh/h)	1600				965	924	
Direction, Lane #	EB 1	WB 1	SB 1				
/olume Total	26	15	14				
/olume Left	0	0	12				
/olume Right	0	3	2 959				
SH	1600 0.00	1700 0.01	959 0.01				
/olume to Capacity Queue Length 95th (m)	0.00	0.01	0.01				
Control Delay (s)	0.0	0.0	0.4 8.8				
ane LOS	0.0	0.0	0.0 A				
Approach Delay (s)	0.0	0.0	8.8				
Approach LOS	0.0	0.0	0.0 A				
ntersection Summary							
Average Delay			2.2				
Intersection Capacity Utilizati	on		16.1%	IC	U Level o	f Service	Α
Analysis Period (min)	2 C		15				••

Paradigm Transportation Solutions Limited

Lanes, Volumes, Timings
8: Agnes St & Site Driveway

2027 Total AM Peak Hour (220188) - 14 Agnes Street

	≯	\mathbf{r}	•	Ť	Ļ	1	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	Y			ę	¢Î		
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: Unsignalize							
Intersection Capacity Utiliz	zation 16.8%			IC	CU Level of	of Service A	A
Analysis Period (min) 15							

8: Agnes St & Site	DIIVCWC	iy .					(220188) - 14 Agnes Str
	≯	\mathbf{F}	1	1	Ļ	1	
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	M			र्भ	ţ,	-	
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) Pedestrians	18	18	8	12	9	5	
Lane Width (m)							
Walking Speed (m/s) Percent Blockage							
Right turn flare (veh)							
Median type				None	None		
Median storage veh)				NONG	NUTIC		
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) Lane LOS	8.7 A	2.9 A	0.0				
	8.7	A 2.9	0.0				
Approach Delay (s) Approach LOS	8.7 A	2.9	0.0				
Intersection Summary							
Average Delay			5.3				
Intersection Capacity Utilization	tion		16.8%	IC	U Level of	Service	A

Paradigm Transportation Solutions Limited

Queuing and Blocking Report

2027 Total AM Peak Hour (220188) - 14 Agnes Street

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 Lane Configurations		÷	-
Traffic Volume (vph) 21 47 14 77 51 3 12 32 75 Future Volume (vph) 21 47 14 77 51 3 12 32 75 Future Volume (vph) 190 1900 100 1.00 <td< th=""><th>SBL</th><th>SBT</th><th>SB</th></td<>	SBL	SBT	SB
Traffic Volume (vph) 21 47 14 77 51 3 12 32 75 Future Volume (vph) 21 47 14 77 51 3 12 32 75 Future Volume (vph) 190 1900 100 1.00 <td< td=""><td></td><td>\$</td><td></td></td<>		\$	
Ideal Flow (vphpl) 1900 <td>8</td> <td>14</td> <td>2</td>	8	14	2
Lane Util. Factor 1.00 <td>8</td> <td>14</td> <td>2</td>	8	14	2
Ped Bike Factor 0.977 0.997 0.915 Fit 0.978 0.971 0.995 Satd. Flow (port) 0 1743 0 0 1728 0 0 1609 0 Fit Permitted 0.988 0.971 0.995 Satd. Flow (port) 0 1743 0 0 1728 0 0 1609 0 Link Speed (k/h) 40 40 40 Link Distance (m) 238.5 352.8 153.9 1739 Confl. Peds. (#hr) 2 3 2 2 Peak Hour Factor 0.83 0	1900	1900 1	190
Prit 0.977 0.997 0.915 FIt Protected 0.988 0.971 0.995 Satd. Flow (prot) 0 1743 0 0 1728 0 0 1609 0 FIt Permitted 0.988 0.971 0.995 5 352. 1609 0 1609 0 1609 0 1609 0 Link Speed (k/h) 40 40 40 40 1609 0 Link Speed (k/h) 238.5 352.8 153.9 Travel Time (s) 21.5 31.8 13.9 Confl. Peds. (#/hr) 2 3 3 2 2 Peak Hour Factor 0.83 0.84	1.00	1.00	1.0
Fit Protected 0.988 0.971 0.995 Satd. Flow (prot) 0 1743 0 0 1728 0 0 1609 0 Fit Permitted 0.988 0.971 0.995 0 1609 0 Satd. Flow (perm) 0 1743 0 0 1728 0 0 1609 0 Link Speed (k/h) 40 40 40 40 100 143 0 143 0 143 0 143 0 143 0 143 0 143 0 143 0 143 0 143 0			
Satd. Flow (prot) 0 1743 0 0 1728 0 0 1609 0 FIP Permitted 0.988 0.971 0.995 0 1609 0 Satd. Flow (perm) 0 1743 0 0 1728 0 0 1609 0 Link Speed (k/h) 40 40 40 40 40 40 13.9 173.9 153.9 173.9 153.9 173.9 160.9 0 160.9 0 160.9 0 160.9 0 160.9 0 160.9 0 173.9 174.9 173.9 173.9 174.9 173.9 174.9 173.9 174.9 173.9 173.9 173.9 173.9 173.9 174.9 173.9 173.9		0.932	
Fit Permitted 0.988 0.971 0.995 Sati. Flow (perm) 0 1743 0 0 1728 0 0 1609 0 Link Speed (k/h) 40 40 40 40 Link Distance (m) 238.5 352.8 153.9 Travel Time (s) 21.5 31.8 13.9 Confl. Peds. (#hr) 2 3 2 2 Peak Hour Factor 0.83 0.84 13% 5% Adj. Flow		0.991	
Satd. Flow (perm) 0 1743 0 0 1728 0 0 1609 0 Link Speed (k/h) 40 53.9 53.9 535.8 50.53.9 50.66 53.9 50.66 53.9 50.66 50.66 50.66 50.66 50.66 50.66 50.66 50.66 56 56 56 56 56 56 56 56 56 56 56 56 57 17 93 61 4 14 39 90 55 56 56 56 56 56 56 56 56 56 56 56	0	1646	
Link Speed (k/h) 40 40 40 40 Link Distance (m) 238.5 352.8 153.9 Travel Time (s) 21.5 31.8 13.9 Confl. Peds. (#/hr) 2 3 3 2 Peak Hour Factor 0.83		0.991	
Link Distance (m) 238.5 352.8 153.9 Travel Time (s) 21.5 31.8 13.9 Confl. Peds. (#hr) 2 3 2 2 Peak Hour Factor 0.83	0	1646	
Travel Time (s) 21.5 31.8 13.9 Confl. Peds. (#/hr) 2 3 3 2 2 Peak Hour Factor 0.83		40	
Confl. Peds. (#/hr) 2 3 3 2 2 Peak Hour Factor 0.83		161.8	
Peak Hour Factor 0.83		14.6	
Heavy Vehicles (%) 0% 7% 7% 7% 6% 0% 8% 13% 5% Adj. Flow (vph) 25 57 17 93 61 4 14 39 90 Shared Lane Traffic (%) Lane Group Flow (vph) 0 99 0 158 0 143 0			
Adj. Flow (vph) 25 57 17 93 61 4 14 39 90 Shared Lane Traffic (%)	0.83	0.83	0.8
Shared Lane Traffic (%) Lane Group Flow (vph) 0 99 0 158 0 143 0	0%	21%	0
Lane Group Flow (vph) 0 99 0 0 158 0 0 143 0	10	17	2
	0	54	
Sign Control Stop Stop Stop		Stop	
Intersection Summary			
Area Type: Other			
Control Type: Unsignalized			

Paradigm Transportation Solutions Limited

HCM Unsignalized Intersection Capacity Analysis 1: Main St & Queen St W/Queen St E 2027 Total PM Peak Hour (220188) - 14 Agnes Street

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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	А	Α	А	А								
Intersection Summary												
Delay			8.4									
Level of Service			Α									
Intersection Capacity Utilizati	ion		28.6%	IC	U Level o	of Service			А			
Analysis Period (min)			15									

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		\$			\$			\$			\$	
Traffic Volume (vph)	1	1	13	2	2	6	20	112	2	10	90	
Future Volume (vph)	1	1	13	2	2	6	20	112	2	10	90	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	190
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	1.0
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	
Flt Permitted		0.997			0.991			0.992			0.995	
Satd. Flow (perm)	0	1293	0	0	1721	0	0	1668	0	0	1720	(
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	0.8
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	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	17	0	0	11	0	0	158	0	0	120	
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignalized												
Intersection Capacity Utilization	tion 21.6%			IC	U Level o	f Service	Α					

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HCM Unsignalized Intersection Capacity Analysis 2: Main St & King St/Edmund St 2027 Total PM Peak Hour (220188) - 14 Agnes Street

	≯	-	$\mathbf{\hat{z}}$	4	-	*	1	1	1	1	Ļ	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			4			4	
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	А	А										
Intersection Summary												
Average Delay			1.9									
Intersection Capacity Utiliza	ition		21.6%	IC	U Level	of Service			А			
Analysis Period (min)			15									
			10									

Lanes, Volumes, 7 3: Agnes St & Que							2027 Total PM Peak Hou (220188) - 14 Agnes Stre
	-	\mathbf{r}	4	+	•	1	(22000)
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	ĥ			ę	Y		
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	I						
Intersection Capacity Utiliz	ation 20.7%			IC	CU Level o	of Service A	· · · · · · · · · · · · · · · · · · ·
Analysis Period (min) 15							

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HCM Unsignalized Intersection Capacity Analysis 3: Agnes St & Queen St W 2027 Total PM Peak Hour (220188) - 14 Agnes Street

	-	\mathbf{i}	4	-	1	1
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	ĥ			र्भ	Y	
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	_		02		204	50
vC2, stage 2 conf vol						
vCu, unblocked vol	_		82		204	80
tC, single (s)			4.1		6.4	6.4
tC, 2 stage (s)	_		-1.1		V7	0.4
tF (s)			2.2		3.5	3.5
p0 queue free %			98		99	98
cM capacity (veh/h)			1523		769	938
					103	550
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			А			
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utiliza	ation		20.7%	IC	U Level o	of Service
Analysis Period (min)			15			

Lanes, Volumes, ⁻ 4: Agnes St & King							2027 Total PM Peak Hou (220188) - 14 Agnes Stre
		•	Ť	1	1	Ļ	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	Y		¢Î			ę	
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 Utiliz	ation 18.0%			IC	U Level	of Service	A
Analysis Period (min) 15							

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HCM Unsignalized Intersection Capacity Analysis 4: Agnes St & King St

2027 Total PM Peak Hour (220188) - 14 Agnes Street

	1	*	1	1	1	÷.	
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	Y		ĥ			ę	
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)	0.03	0.01	0.01				
Control Delay (s)	8.7	0.0	3.3				
Lane LOS	0.7 A	0.0	3.3 A				
Approach Delay (s)	8.7	0.0	3.3				
Approach LOS	0.7 A	0.0	0.0				
ntersection Summary Average Delay			5.1				
Average Delay Intersection Capacity Utilizat	tion		5.1 18.0%	10		of Service	
Analysis Period (min)	uon		10.0%	IC	O LEVEL	JI GEI VICE	 A
analysis Penou (min)			10				

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		÷			÷			÷			÷	
Traffic Volume (vph)	0	56	4	8	43	0	9	0	9	1	0	(
Future Volume (vph)	0	56	4	8	43	0	9	0	9	1	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	(
Flt Permitted					0.992			0.976			0.950	
Satd. Flow (perm)	0	1815	0	0	1774	0	0	1557	0	0	1805	(
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	(
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	0	0	65	0	0	24	0	0	1	(
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignalized												
Intersection Capacity Utiliza	tion 19.1%			IC	U Level o	of Service	A					

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HCM Unsignalized Intersection Capacity Analysis 5: Emeline St/Driveway & Queen St W

Lane Configurations 4 4 9 9 1 0 0 Traffic Volume (veh/h) 0 56 4 8 43 0 9 0 9 1 0 0 Sign Control Free Free Stop Stop Stop O/% 0/% <t< th=""><th></th><th>≯</th><th>-</th><th>$\mathbf{\hat{v}}$</th><th>4</th><th>+</th><th>•</th><th>٠</th><th>1</th><th>1</th><th>1</th><th>ŧ.</th><th>~</th></t<>		≯	-	$\mathbf{\hat{v}}$	4	+	•	٠	1	1	1	ŧ.	~
Traffic Volume (veh/h) 0 56 4 8 43 0 9 0 9 1 0 0 Fruture Volume (Veh/h) 0 56 4 8 43 0 9 0 9 1 0 0 Sign Control Free Free Stop Stop Stop Stop 0.78 <th>Movement</th> <th>EBL</th> <th>EBT</th> <th>EBR</th> <th>WBL</th> <th>WBT</th> <th>WBR</th> <th>NBL</th> <th>NBT</th> <th>NBR</th> <th>SBL</th> <th>SBT</th> <th>SBR</th>	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Future Volume (Veh/h) 0 56 4 8 43 0 9 0 9 1 0 0 Sign Control Free Free Stop Stop Stop Stop Stop Peak Hour Factor 0.78 <td< td=""><td>Lane Configurations</td><td></td><td>\$</td><td></td><td></td><td>\$</td><td></td><td></td><td>\$</td><td></td><td></td><td>\$</td><td></td></td<>	Lane Configurations		\$			\$			\$			\$	
Sign Control Free Free Stop Stop Grade 0%<	Traffic Volume (veh/h)	0	56	4	8		0	9	0	9	1		0
Grade 0%	Future Volume (Veh/h)	0	56	4	8	43	0	9	0	9	1	0	0
Peak Hour Factor 0.78 0.7	Sign Control		Free			Free			Stop			Stop	
Hourly flow rate (vph) 0 72 5 10 55 0 12 0 12 1 0 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 None Median storage veh) Upstream signal (m) Dys, platoon unblocked vC, conflicting volume 55 82 154 154 80 162 157 55 VC1, stage 1 conf vol vC2, stage 3 conf vol vC2, stage 1 conf vol vC2, stage 1 conf vol vC2, stage 3 conf vol vC2, stage 1 conf vol vC2, stage 3 conf vol vC2, stage 1 conf vol vC2, stage 3 conf vol vC2, stage 3 conf vol vC3, stage 1 conf vol vC4, unblocked vol 55 82 154 154 80 162 157 55 C, single (s) 4.1 4.2 7.3 6.5 6.2 7.1 6.5 6.2 T, 1 6.5 6.2 T, 2 5 T, 2	Grade		0%			0%			0%			0%	
Pedestrians 5 Lane Width (m) 3.6 Walking Speed (m/s) 1.2 Percent Blockage 0 Right tum flare (veh) 0 Median storage veh) 0 Upstream signal (m) 5 pX, platoon unblocked VC, conflicting volume VC, conflicting volume 55 82 154 154 80 162 157 55 VC2, stage 1 conf vol VC2, stage 2 conf vol VC2, stage 2 conf vol VC2, unblocked vol 5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 10.0 10.0 1	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
Lane Width (m) 3.6 Walking Speed (m/s) 1.2 Percent Blockage R0 Regint um flare (veh) 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 VC2, stage 2 conf vol VC2, 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 6.5 tC, single (s) 4.1 4.2 7.3 6.5 6.2 7.1 6.5 5.5 tC, stage (s) tF (s) 2.2 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 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 Approach Delay (s) 0.0 1.2 9.7 Hore section Cappacity	Hourly flow rate (vph)	0	72	5	10	55	0	12	0	12	1	0	0
Walking Speed (m/s) 1.2 Percent Blockage 0 Right turn flare (veh) 0 Median type None Median storage veh) 0 Lysteam signal (m) pX, platoon unblocked VC2, conflicting volume 55 KC2, stage 1 conf vol VC2, stage 2 conf vol VC2, unblocked vol 55 VC2, stage 2 conf vol VC2, stage 2 VC2, unblocked vol 55 VC2, stage 2 conf vol VC2, unblocked vol VC2, unblocked vol 55 VC2, stage 2 conf vol VC2, unblocked vol VC2, stage (s)	Pedestrians								5				
Percent Blockage 0 Right tum flare (veh) None None Median type None None Median type graph None None Workins torage veh) Upstream signal (m) y yX, platoon unblocked vC, conflicting volume 55 82 154 154 80 162 157 55 vC1, stage 1 conf vol vC2, stage 2 154 154 80 162 157 55 VC2, stage 2 conf vol vC2 2.3 3.7 4.0 3.3 3.5 4.0 3.3 VG1, unblocked vol 55 82 154 103 3.3 5 4.0 3.3 VG2, stage 2 conf vol vc2 2.3 3.7 4.0 3.3 3.5 4.0 3.3 VG1, unblocked vol 100 199 98 100 99 100 100	Lane Width (m)								3.6				
Right turn flare (veh) None None None Median storage veh) Upstream signal (m)	Walking Speed (m/s)								1.2				
Median type None None Median storage veh) Upstream signal (m) PX PX, platoon unblocked VC, conflicting volume 55 82 154 154 80 162 157 55 VC1, stage 1 conf vol VC2, stage 2 conf vol VC2, stage (s) T 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 10.0 100 100 100 100 100 100 100 100 <td>Percent Blockage</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0</td> <td></td> <td></td> <td></td> <td></td>	Percent Blockage								0				
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 vC2, stage 2 conf vol vC2, stage 2 7.3 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.3 9.0 9.0 9.0 9.0 9.0 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 <td>Right turn flare (veh)</td> <td></td>	Right turn flare (veh)												
Upstream signal (m) pX, platoon unblocked vC, conflicting volume 55 82 154 154 80 162 157 55 vC2, stage 1 conf vol vC2, stage 2 conf vol vC2, stage 2 conf vol vC2, stage 2 conf vol vC2, stage 2 conf vol vC2, unblocked vol 55 82 154 154 80 162 157 55 (C, single (s) 4.1 4.2 7.3 6.5 6.2 7.1 6.5 6.2 r, 1 6.5 6.2 7.1 6.5 6.2 r, 2 stage (s) rection, Lane # EB 1 WB 1 NB 1 SB 1 Volume Total 77 65 24 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 Approach Delay (s) 0.0 1.2 9.3 9.6 Approach LOS A A A Approach LOS A A Aptroach LOS A A Aptroach LOS A A Aptroach Capacity Utilization 19.1% ICU Level of Service A	Median type		None			None							
pX, platoon unblocked VC, conflicting volume 55 82 154 154 80 162 157 55 VC2, stage 1 conf vol VC2, stage 2 conf vol VC2, unblocked vol 55 82 154 154 80 162 157 55 C2, stage (s) - - - - - - - - - 55 52 2.2 2.3 3.7 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 Vol 0.0 100 100 <td>Median storage veh)</td> <td></td>	Median storage veh)												
CC, conflicting volume 55 82 154 154 80 162 157 55 VC1, stage 1 conf vol vC2, stage (s) vC3, stag	Upstream signal (m)												
VC1, stage 1 conf vol VC2, stage 2 conf vol VC2, stage 2 conf vol VC2, unblocked vol 55 82 154 154 80 162 157 55 VC2, stage 2 conf vol VC3, stage 2 7.3 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.1 6.5 6.2 7.3 9.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 3.5 4.0 3.3 5.5 6.2 7.3 100 100 100 100 100 100 100 100<	pX, platoon unblocked												
vC2, stage 2 conf vol vC2, unblocked vol 55 82 154 154 80 162 157 55 C, single (s) 4.1 4.2 7.3 6.5 6.2 7.1 6.5 6.2 C, 2 stage (s) p0 queue free % 100 99 98 100 99 100 100 100 100 Cd capacity (veh/h) 1563 1443 759 733 982 792 731 1018 Volume fore % 100 10 12 1	vC, conflicting volume	55			82			154	154	80	162	157	55
VCU, unblocked vol 55 82 154 154 80 162 157 55 C, single (s) 4.1 4.2 7.3 6.5 6.2 7.1 10.0 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 101	vC1, stage 1 conf vol												
CC, single (s) 4.1 4.2 7.3 6.5 6.2 7.1 6.5 6.2 CC, 2 stage (s) 1 4.2 7.3 6.5 6.2 7.1 6.5 6.2 TF (s) 2.2 2.3 3.7 4.0 3.3 3.5 4.0 3.3 Do queue free % 100 99 98 100 90 100 100 100 Cx 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 Right 5 0 12 0 SSH S	vC2, stage 2 conf vol												
IC, 2 stage (s) III IIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	vCu, unblocked vol	55			82			154	154	80	162	157	55
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 Right 5 0 112 1 Volume Right 5 0 12 0 58H Volume 106 20 0 58H Volume 106 20 0 000 20 0 000 20 0 000 20 0 000 20 0 000 20 0 000 20 0 000 20 0 000 20 0 000 20 0 000 20 0 000 20 0 000 20 0 000 20 000 20 20 0 20 20 20 20 20	tC, single (s)	4.1			4.2			7.3	6.5	6.2	7.1	6.5	6.2
D0 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 Right 5 0 12 0 cSH 1563 1443 857 792 Volume Left 0 0.0 0.00 <td>tC, 2 stage (s)</td> <td></td>	tC, 2 stage (s)												
cM capacity (veh/h) 1563 1443 759 733 982 792 731 1018 Direction, Lane # EB 1 WB 1 NB 1 SB 1 <	tF (s)	2.2			2.3			3.7	4.0	3.3	3.5	4.0	3.3
Direction, Lane # EB 1 WB 1 NB 1 SB 1 Volume Total 77 65 24 1 Volume Total 77 65 24 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 A A Arerage Delay (s) 0.0 1.2 9.3 9.6 Intersection Summary A A A A	p0 queue free %	100			99			98	100	99	100	100	100
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 Lane LOS A A A A Approach LOS A A A Intersection Summary A A A Average Delay 1.9 ICU Level of Service A	cM capacity (veh/h)	1563			1443			759	733	982	792	731	1018
Volume Left 0 10 12 1 Volume Right 5 0 12 0 SH 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 Lane LOS A A A A Approach Delay (s) 0.0 1.2 9.3 9.6 Approach LOS A A A Average Delay 1.9 Intersection Summary Average Delay 1.9 ICU Level of Service A	Direction, Lane #	EB 1	WB 1	NB 1	SB 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 Lane LOS A A A Approach Delay (s) 0.0 1.2 9.3 9.6 Lane LOS A A A Approach LOS A A A Intersection Summary J Y ICU Level of Service A	Volume Total	77	65	24	1								
SSH 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 Lane LOS A A A Approach Delay (s) 0.0 1.2 9.3 9.6 Approach LOS A A A A Aperoach LOS A A A A Intersection Summary 1.9 Intersection Capacity Utilization 19.1% ICU Level of Service A	Volume Left	0	10	12	1								
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 Intersection Summary A A A Average Delay 1.9 Intersection Capacity Utilization 19.1%	Volume Right	5	0	12	0								
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 Delay (s) 0.0 1.2 9.3 9.6 Approach LOS A A A Average Delay 1.2 9.3 9.6 Average Delay 1.9 Intersection Capacity Utilization 19.1%	cSH	1563	1443	857	792								
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 Delay (s) 0.0 1.2 9.3 9.6 Approach Delay (s) 0.0 1.2 9.3 9.6 Approach LOS A A A Average Delay A A Intersection Capacity Utilization 19.1% ICU Level of Service A	Volume to Capacity	0.00	0.01	0.03	0.00								
Lane LOS A A A Approach Delay (s) 0.0 1.2 9.3 9.6 Approach LOS A A A Intersection Summary A A Average Delay 1.9 Intersection Capacity Utilization 19.1%	Queue Length 95th (m)	0.0	0.2	0.7	0.0								
Approach Delay (s) 0.0 1.2 9.3 9.6 Approach LOS A A A Intersection Summary Intersection Capacity Utilization 1.9 ICU Level of Service A	Control Delay (s)	0.0	1.2	9.3	9.6								
Approach LOS A A A Intersection Summary Average Delay 1.9 Intersection Capacity Utilization 19.1% ICU Level of Service A	Lane LOS		А	А	А								
Approach LOS A A Intersection Summary Average Delay 1.9 Intersection Capacity Utilization 19.1% ICU Level of Service A	Approach Delay (s)	0.0	1.2	9.3	9.6								
Average Delay 1.9 Intersection Capacity Utilization 19.1% ICU Level of Service A	Approach LOS			А	Α								
Intersection Capacity Utilization 19.1% ICU Level of Service A	Intersection Summary												
Intersection Capacity Utilization 19.1% ICU Level of Service A	Average Delay			1.9									
		ation		19.1%	IC	CU Level of	of Service			А			
	Analysis Period (min)			15									

Lanes, Volumes, 7 6: Main St & McCl							2027 Total PM Peak Ho (220188) - 14 Agnes Sti
	≯	$\mathbf{\hat{v}}$	•	1	Ļ	4	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	Y			ę	¢Î		
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	1						
Intersection Capacity Utiliz	ation 24.1%			IC	CU Level o	of Service A	1
Analysis Period (min) 15							

Paradigm Transportation Solutions Limited

HCM Unsignalized Intersection Capacity Analysis 6: Main St & McClellan Rd 2027 Total PM Peak Hour (220188) - 14 Agnes Street

Lane Configurations Y Image: Configuration (veh/h) Tradfic Volume (veh/h) 8 8 29 110 74 10 Future Volume (Veh/h) 8 8 29 110 74 10 Sign Control Stop Free Free Free Free Grade 0% 0% 0% 0% 0% Peak Hour Factor 0.91 0.91 0.91 0.91 0.91 Hour Factor 0.91 0.91 0.91 0.91 0.91 Hour Factor 0.91 0.91 0.91 0.91 0.91 Hour Stop 1 2 2 2 11 Precent Blockage 0 0 2 2 2 Valking Speed (m/s) 1.2 3 2 2 3 2 2 3 2 3 <th></th> <th>≯</th> <th>\mathbf{r}</th> <th>1</th> <th>Ť</th> <th>÷.</th> <th>1</th> <th></th>		≯	\mathbf{r}	1	Ť	÷.	1	
Lane Configurations Y Image: Configurations Tradfic Volume (veh/h) 8 8 29 110 74 10 Future Volume (Veh/h) 8 8 29 110 74 10 Sign Control Stop Free Free Free Free Grade 0% 0% 0% 0% 0% Peak Hour Factor 0.91 0.91 0.91 0.91 0.91 Houry flow rate (vph) 9 9 32 121 81 11 Pedestrians 1	Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Traffic Volume (veh/h) 8 8 29 110 74 10 'uture Volume (Veh/h) 8 8 29 110 74 10 Sign Control Stop Free Free 57 <t< td=""><td></td><td></td><td>2011</td><td></td><td></td><td></td><td>0011</td><td></td></t<>			2011				0011	
Sign Control Stop Free Free Free Grade 0%<	Traffic Volume (veh/h)		8	29			10	
Grade 0% 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 -	Future Volume (Veh/h)	8	8	29	110	74	10	
Peak Hour Factor 0.91 <th0.91< th=""> 0.91 0.91</th0.91<>	Sign Control	Stop			Free	Free		
Houry flow rate (vph) 9 9 32 121 81 11 Pedestrians 1	Grade	0%			0%	0%		
Pedestrians 1 .ane Width (m) 3.6 Walking Speed (m/s) 1.2 Percent Blockage 0 Right turn flare (veh) Valking Speed (m/s) Wedian storage veh) Jpstream signal (m) XX, platoon unblocked VC, conflicting volume XC, conflicting volume 272 88 93 CC1, stage 1 conf vol VC2, stage 2 conf vol VC2, stage 2 conf vol CQ, unblocked vol 272 88 93 C, single (s) 6.4 6.3 4.1 C, sigge (s) F(s) 3.5 3.4 2.2 vol queue free % 99 99 98 Mc capacity (veh/h) 705 941 1513 Direction, Lane # EB 1 NB 1 SB 1 Volume Total 18 153 92 Volume Total 18 153 92 0 11 SH SH SH SG 13 1700 Volume to Capacity 0.02 0.02 0.05 20 20 20 20 20 20 20 20 20 20	Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	
Lane Width (m) 3.6 Valking Speed (m/s) 1.2 Percent Blockage 0 Vight run flare (veh) None Vedian type None Vedian type None Vedian type None Vedian type None Vedian storage veh) Jpstream signal (m) DX, platoon unblocked C. C2, stage 1 conf vol C/C2, stage 2 conf vol C2, stage 2 conf vol C/C2, stage (s) F (s) 3.5 3.4 2.2 Og que free % 99 99 98 M capacity (veh/h) 705 941 1513 Direction, Lane # EB 1 NB 1 SB 1 Volume Total 18 153 92 Volume Right 9 0 11 SH 806 1513 1700 Volume to Capacity 0.02 0.02 0.05 Queue teney (s) 9.6 1.7 0.0 Approach Delay (s) 9.6 1.7	Hourly flow rate (vph)	9	9	32	121	81	11	
Naking Speed (m/s) 1.2 Percent Blockage 0 Right turn flare (veh) None Wedian type None Wedian storage veh) Dysteam signal (m) Jpstream signal (m) DX, platoon unblocked CC, conflicting volume 272 88 93 /C1, stage 1 conf vol C/C, stage 2 conf vol C/Cu, unblocked vol 272 88 93 /C2, stage 2 conf vol C/Cu, unblocked vol 272 88 93 C, conflicting volume 272 88 93 C3, single (s) 6.4 6.3 4.1 C.2 stage 2 convol C4, unblocked vol 272 88 93 Direction, Lane # EB NB SB Volume free % 99 99 98 Direction, Lane # EB NB SB Volume Total 18 153 92 O Volume Total SB SH Volume Right 9 0 11 SSH SSH SSH SSH SSH SSH SSH SA A A Approach Delay (s)<	Pedestrians	1						
Dercent Blockage 0 Right turn flare (veh) None Wedian storage veh) None Jpstream signal (m) None X, platon unblocked C, conflicting volume C/C, stage 1 conf vol C/C, stage 2 conf vol C/C, stage 1 conf vol C/C, stage 2 conf vol C/C, stage 2 conf vol C/C, stage 3 C/C, stage 3 conf vol C/C C, stage 4 (s) 5 F (s) 3.5 3.4 C, stage (s) F F (s) 3.5 3.4 Mc capacity (veh/h) 705 941 Volume free % 99 98 Mc capacity (veh/h) 705 941 Volume Total 18 153 92 Volume Total 18 153 92 Volume Right 9 0 11 SH 806 1513 1700 Volume to Capacity 0.02 0.02 0.05 Queue to Gapacity 9.6 1.7 0.0 <	Lane Width (m)	3.6						
Right turn flare (veh) None None None Vedian storage veh) Jpstream signal (m) Jpstream signal (m) Jpstream signal (m) DX, platoon unblocked C, conflicting volume 272 88 93 C/C1, stage 1 conf vol Image: Signal (m) Jpstream signal (m) Jpstream signal (m) C2, stage 2 conf vol Image: Signal (m) Jpstream signal (m) Jpstream signal (m) C2, stage 2 conf vol Image: Signal (m) Jpstream signal (m) Jpstream signal (m) C2, stage 2 conf vol Image: Signal (m) Image: Signal (m) Jpstream signal (m) C2, stage 2 conf vol Image: Signal (m) Image: Signal (m) Jpstream signal (m) C2, stage 2 conf vol Image: Signal (m) Image: Signal (m) Jpstream signal (m) Jpstream signal (m) C, single (s) S Image: Signal (m) Image: Signal (m) Jpstream signal (m) F (s) 3.5 3.4 2.2 Jpstream signal (m) Jpstream signal (m) Outpute free % 9 9 9 9 Jpstream signal (m) Jpstream signal (m)	Walking Speed (m/s)	1.2						
Wedian type None None Wedian storage veh) Jpstream signal (m) XX, platoon unblocked XX, platoon unblocked <td>Percent Blockage</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Percent Blockage	0						
Median storage veh) Jpstream signal (m) DX, platoon unblocked CC, conflicting volume 272 88 93 /C1, stage 1 conf vol /C2, stage 2 conf vol /C2, unblocked vol 272 88 93 /C1, stage 1 conf vol /C2, stage 2 conf vol /C2, unblocked vol 272 88 93 C, single (s) 6.4 6.3 4.1 C, 2 stage (s)	Right turn flare (veh)							
Jpstream signal (m) XX, platoon unblocked CG, conflicting volume 272 88 93 CC1, stage 1 conf vol CC2, stage 2 conf vol CC2, stage 2 conf vol CQ, unblocked vol 272 88 93 CC, single (s) 6.4 6.3 4.1 C, 2 stage (s) F (s) 3.5 3.4 2.2 500 queue free % 99 99 98 Mc 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 SH 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 Control Delay (s) 9.6 1.7 0.0 Approach Delay (s) 9.6 1.7 0.0 Approach LOS A Verage Delay 16 Intersection Capacity Utilization 24.1% ICU Level of Service	Median type				None	None		
X, platoon unblocked C, conflicting volume 272 88 93 VC1, stage 1 conf vol VC2, stage 2 conf vol VC2, stage 2 conf vol VC2, stage 2 conf vol VC2, who was a stage of the sta								
IC, conflicting volume 272 88 93 IC1, stage 1 conf vol IC2, stage 2 conf vol IC2, stage 2 conf vol IC2, stage 2 conf vol IC2, stage 2 conf vol IC2, stage 3 C, single (s) 6.4 6.3 4.1 C, 2 stage (s) IC3, stage (s) IC4, stage (s) IC4, stage (s) F(s) 3.5 3.4 2.2 D0 queue free % 99 99 98 Incapacity (veh/h) 705 941 1513 Direction, Lane # EB 1 NB 1 SB 1 Volume Total 18 153 92 Volume Right 9 0 11 SSH 806 1513 1700 Volume Right 9.0 0.1 10 SH 806 1513 1700 Volume Left 9.6 1.7 0.0 Lane LOS A A Approach Delay (s) 9.6 1.7 0.0 Lane LOS A A Approach LOS								
xC1, stage 1 conf vol xC2, stage 2 conf vol xGu, unblocked vol 272 88 93 xGu, unblocked vol 272 88 93 C, single (s) 6.4 6.3 4.1 C, 2 stage (s) F (s) 3.5 3.4 2.2 D0 queue free % 99 99 98 Mc capacity (veh/h) 705 941 1513 Direction, Lane # EB 1 NB 1 SB 1 /olume Total 18 153 92 /olume teft 9 32 0 /olume to Capacity 0.02 0.02 0.05 /olume to Capacity 0.02 0.02 0.05 /oure to Capacity 9.6 1.7 0.0 .ane LOS A A Approach LOS A Approach LOS A A Approach LOS A Nerage Delay 1.6 1.6 1CU Level of Service								
VC2, stage 2 conf vol VC2, unblocked vol 272 88 93 C, single (s) 6.4 6.3 4.1 C, 2 stage (s)		272	88	93				
VCu, unblocked vol 272 88 93 C, single (s) 6.4 6.3 4.1 C, 2 stage (s)								
C, single (s) 6.4 6.3 4.1 C, 2 stage (s) F (s) 3.5 3.4 2.2 D0 queue Free % 99 99 98 SM capacity (veh/h) 705 941 1513 Direction, Lane # EB 1 NB 1 SB 1 Volume Total 18 153 92 Volume Total 18 153 92 Volume Right 9 0 11 SSH 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 Average Delay Nersection Capacity Utilization 24.1% ICU Level of Service								
A 2 stage (s) A A F (s) 3.5 3.4 2.2 >00 queue free % 99 99 98 Mc capacity (veh/h) 705 941 1513 Direction, Lane # EB 1 NB 1 SB 1 /olume Total 18 153 92 /olume Left 9 3.2 0 /olume Left 9 0.11								
F(s) 3.5 3.4 2.2 D0 queue free % 99 99 98 Mcapacity (ve/h) 705 941 1513 Direction, Lane # EB 1 NB 1 SB 1 Volume Total 18 153 92 Volume Right 9 0 11 SH 806 1513 1700 Volume to Capacity 0.02 0.05 0.02 Queue Length 95th (m) 0.5 0.0 Control Delay (s) 9.6 1.7 0.0 ane LOS A A A Approach LOS A A Apergae Delay 1.6 Intersection Capacity Utilization 24.1% ICU Level of Service		6.4	6.3	4.1				
Do queue free % 99 99 98 M capacity (veh/h) 705 941 1513 Direction, Lane # EB 1 NB 1 SB 1 /olume Total 18 153 92 /olume Left 9 32 0 /olume Right 9 0 11 SSH 806 1513 1700 /olume to Capacity 0.02 0.02 0.05 Queue Length 95th (m) 0.5 0.0 0.0 Control Delay (s) 9.6 1.7 0.0 _ane LOS A A Approach Delay (s) 9.6 Approach LOS A A Approach LOS A Average Delay 1.6 1 1CU Level of Service								
CM capacity (veh/h) 705 941 1513 Direction, Lane # EB 1 NB 1 SB 1 Volume Total 18 153 92 Volume Total 18 153 92 Volume Right 9 32 0 Volume Right 9 0 11 SSH 806 1513 1700 Volume to Capacity 0.02 0.02 0.05 Queue Length 95th (m) 0.5 0.0 Control Delay (s) 9.6 1.7 0.0 Lane LOS A A A Approach Delay (s) 9.6 1.7 0.0 Approach LOS A A A Approach LOS A A Average Delay 1.6 1.6 102 Level of Service								
Direction, Lane # EB 1 NB 1 SB 1 Volume Total 18 153 92 Volume Left 9 32 0 Volume Right 9 0 11 SBH 806 1513 1700 Volume to Capacity 0.02 0.02 0.05 Queue Length 95th (m) 0.5 0.0 0.0 Control Delay (s) 9.6 1.7 0.0 Approach Delay (s) 9.6 1.7 0.0 Approach LOS A A Average Delay 1.6 1.6 Intersection Capacity Utilization 24.1% ICU Level of Service								
Volume Total 18 153 92 Volume Left 9 32 0 Volume Right 9 0 11 SH 806 1513 1700 Volume to Capacity 0.02 0.02 0.05 Queue Length 95th (m) 0.5 0.0 0.02 Control Delay (s) 9.6 1.7 0.0 Anne LOS A A Approach Delay (s) 9.6 1.7 0.0 Approach LOS A A Average Delay 1.6 1.6 Intersection Capacity Utilization 24.1% ICU Level of Service	, , ,	705		1513				
Volume Left 9 32 0 Volume Right 9 0 11 SH 806 1513 1700 Volume to Capacity 0.02 0.02 0.05 Queue Length 95th (m) 0.5 0.0 Control Delay (s) 9.6 1.7 0.0 .ane LOS A A Approach Delay (s) 9.6 1.7 0.0 Approach LOS A A Average Delay 1.6 1.6 Intersection Capacity Utilization 24.1% ICU Level of Service		:						
Volume Right 9 0 11 SH 806 1513 1700 Volume to Capacity 0.02 0.02 0.05 Queue Length 95th (m) 0.5 0.0 Control Delay (s) 9.6 1.7 0.0 .ane LOS A A Approach Delay (s) 9.6 1.7 0.0 Approach LOS A A Average Delay 1.6 1.6 Intersection Capacity Utilization 24.1% ICU Level of Service								
SH 806 1513 1700 /olume to Capacity 0.02 0.02 0.05 Queue Length 95th (m) 0.5 0.0 0.02 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 A Average Delay 1.6 Intersection Capacity Utilization 16 ICU Level of Service								
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 ane LOS A A Approach Delay (s) 9.6 1.7 0.0 Approach LOS A A Average Delay 1.6 1.6 Intersection Capacity Utilization 24.1% ICU Level of Service		-	-					
Queue Length 95th (m) 0.5 0.5 0.0 Control Delay (s) 9.6 1.7 0.0 .ane LOS A A Approach Delay (s) 9.6 1.7 0.0 Approach Delay (s) 9.6 1.7 0.0 Approach LOS A A Average Delay 1.6 ntersection Capacity Utilization 24.1% ICU Level of Service	cSH							
Control Delay (s) 9.6 1.7 0.0 .ane LOS A A Approach Delay (s) 9.6 1.7 0.0 Approach LOS A A Approach LOS A A Average Delay 1.6 Intersection Capacity Utilization 24.1% ICU Level of Service								
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								
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		••		0.0				
Approach LOS A Intersection Summary Average Delay Intersection Capacity Utilization 24.1% ICU Level of Service				0.0				
ntersection Summary Average Delay 1.6 Intersection Capacity Utilization 24.1% ICU Level of Service			1.7	0.0				
Average Delay 1.6 ntersection Capacity Utilization 24.1% ICU Level of Service		A						
ntersection Capacity Utilization 24.1% ICU Level of Service	Intersection Summary							
	Average Delay							
Analysis Period (min) 15		ation			IC	CU Level o	of Service	
	Analysis Period (min)			15				

Lanes, Volumes, 7: McClellan Rd &		St					2027 Total PM Peak Hou (220188) - 14 Agnes Stre
	<u>ب</u>	-	-	*	1	4	
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		ę	eî		Y		
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: Unsignalize							
Intersection Capacity Utili	ization 13.3%			IC	CU Level (of Service A	A
Analysis Period (min) 15							

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HCM Unsignalized Intersection Capacity Analysis 7: McClellan Rd & Agnes St 2027 Total PM Peak Hour (220188) - 14 Agnes Street

	≯	-	-	*	1	1	
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		ę	4Î		Y		
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							
ane Width (m)							
Nalking Speed (m/s)							
Percent Blockage							
Right turn flare (veh)							
Median type		None	None				
Median storage veh)		110110					
Jpstream signal (m)							
pX, platoon unblocked							
vC, conflicting volume	37				46	28	
/C1, stage 1 conf vol						20	
/C2, stage 2 conf vol							
vCu, unblocked vol	37				46	28	
tC, single (s)	4.1				6.4	6.2	
tC, 2 stage (s)					0.1	0.2	
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		000	1002	
/olume Total	15	37	6				
/olume Left	2	0	4				
/olume Right	0	17	2				
SH	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			А				
Intersection Summary							
Average Delay			1.1				
Intersection Capacity Utiliza	ation		13.3%	IC	CU Level o	of Service	А
Analysis Period (min)			15				

8: Agnes St & Sit	e Drivewa	ay					(220188) - 14 Agnes Si
	۶	\mathbf{i}	1	1	÷.	1	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	Y			ર્સ	¢Î		
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: Unsignalize							
Intersection Capacity Utili Analysis Period (min) 15	zation 18.0%			10	CU Level of	of Service A	1

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HCM Unsignalized Intersection Capacity Analysis 8: Agnes St & Site Driveway 2027 Total PM Peak Hour (220188) - 14 Agnes Street

	۶	\mathbf{r}	1	1	÷.	1
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			र्स	ţ,	
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)	0.1	5.2				
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	А	A				
Approach Delay (s)	8.7	4.4	0.0			
Approach LOS	А					
Intersection Summary						
Average Delay			3.6			
Intersection Capacity Utilization	ation		18.0%	IC	CU Level o	of Service
Analysis Period (min)			15			
/						

Queuing and Blocking Report

2027 Total PM Peak Hour (220188) - 14 Agnes Street

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)				

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SimTraffic Report Page 1

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ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
ane Configurations		\$			\$			\$			\$	
Traffic Volume (vph)	19	32	9	67	25	3	9	25	69	4	21	Ę
Future Volume (vph)	19	32	9	67	25	3	9	25	69	4	21	ę
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
ane 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												
rt		0.979			0.996			0.910			0.978	
Fit Protected		0.985			0.966			0.995			0.994	
Satd. Flow (prot)	0	1773	0	0	1750	0	0	1503	0	0	1669	(
It Permitted		0.985			0.966			0.995			0.994	
Satd. Flow (perm)	0	1773	0	0	1750	0	0	1503	0	0	1669	(
.ink Speed (k/h)		40			40			40			40	
ink 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
leavy 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	Ę
Shared Lane Traffic (%)												
ane Group Flow (vph)	0	64	0	0	101	0	0	110	0	0	31	(
Sign Control		Stop			Stop			Stop			Stop	
ntersection Summary												
rea Type:	Other											
Control Type: Unsignalized												

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SB	
Lane Configurations		\$			÷			\$			\$		
Sign Control		Stop			Stop			Stop			Stop		
Traffic Volume (vph)	19	32	9	67	25	3	9	25	69	4	21		
Future Volume (vph)	19	32	9	67	25	3	9	25	69	4	21		
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	0.9	
Hourly flow rate (vph)	20	34	10	71	27	3	10	27	73	4	22		
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	А	A	А	А									
Intersection Summary													
Delay			7.9										
Level of Service			А										
Intersection Capacity Utiliza	tion		24.5%	IC	U Level	of Service			А				
Analysis Period (min)			15										

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
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	(
Flt Permitted		0.980			0.978							
Satd. Flow (perm)	0	1229	0	0	1721	0	0	1669	0	0	1775	(
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	(
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type: Unsignalized												

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
Lane Configurations		4			4			\$			\$	
Traffic Volume (veh/h)	4	0	6	4	0	5	1	91	2	1	91	
Future Volume (Veh/h)	4	0	6	4	0	5	1	91	2	1	91	
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	0.8
Hourly flow rate (vph)	5	0	7	5	0	6	1	106	2	1	106	
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	А	А	А	A								
Approach Delay (s)	9.8	9.4	0.1	0.1								
Approach LOS	А	А										
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization	on		16.9% 15	IC	U Level o	of Service			A			

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Lanes, Volumes, Timings 3: Agnes St & Queen St W

2027 Total AM Peak Hour - Sensitivity (220188) - 14 Agnes Street

	-	$\mathbf{\hat{z}}$	4	+	1	1
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	4Î			ب ا	Y	
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: Unsignalize						
Intersection Capacity Utiliz	zation 17.7%			IC	CU Level of	of Service
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis 3: Agnes St & Queen St W 2027 Total AM Peak Hour - Sensitivity (220188) - 14 Agnes Street

	-	\mathbf{r}	-	-	1	1
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	ţ,			र्भ	Y	
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	39	42	28			
Volume Right	6	0	28			
cSH	1700	1573	1034			
Volume to Capacity	0.02	0.00	0.03			
	0.02	0.00	0.03			
Queue Length 95th (m)	0.0	1.2	8.6			
Control Delay (s) Lane LOS	0.0	1.Z	8.6 A			
	0.0	1.2	A 8.6			
Approach Delay (s)	0.0	1.Z	8.6 A			
Approach LOS			A			
Intersection Summary						
Average Delay			2.7			
Intersection Capacity Utiliz	zation		17.7%	IC	CU Level of	of Service
Analysis Period (min)			15			

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Lanes, Volumes,	, Timings
4: Agnes St & Ki	ng St

	4	*	Ť	1	1	Ļ	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	Y		ţ,			۰	
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	d						
Intersection Capacity Utiliz	zation 13.6%			IC	U Level	of Service	e A
Analysis Period (min) 15							

HCM Unsignalized Intersection Capacity Analysis	
4: Agnes St & King St	

2027 Total AM Peak Hour - Sensitivity (220188) - 14 Agnes Street

	1	*	1	1	5	ŧ
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		4Î			Ą
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		01				
vC2, stage 2 conf vol						
vCu, unblocked vol	74	31			35	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	0.1	0.2				
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		1000	
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	А		A			
Approach Delay (s)	8.4	0.0	1.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utiliz	zation		13.6%	IC	U Level of	Service
Analysis Period (min)			15			
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	≯	-	\mathbf{r}	4	+	*	1	1	1	1	÷.	-
ane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBF
ane Configurations		4			\$			4			4	
Traffic Volume (vph)	0	22	1	3	36	0	6	0	6	0	0	(
Future Volume (vph)	0	22	1	3	36	0	6	0	6	0	0	(
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
ane 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				
Fit Protected					0.997			0.976				
Satd. Flow (prot)	0	1679	0	0	1809	0	0	1728	0	0	1900	(
Flt Permitted					0.997			0.976				
Satd. Flow (perm)	0	1679	0	0	1809	0	0	1728	0	0	1900	(
_ink Speed (k/h)		40			40			40			50	
_ink 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	(
Shared Lane Traffic (%)												
ane Group Flow (vph)	0	33	0	0	57	0	0	18	0	0	0	(
Sign Control		Free			Free			Stop			Stop	
ntersection Summary												
Area Type: (Other											
Control Type: Unsignalized												

	٠		~	~	-		•	+	-	1	T	
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SE
Lane Configurations	EDL		EDK	VVDL		WDK	INDL		INDR	ODL		30
Traffic Volume (veh/h)	0	↔ 22	1	3	↔ 36	0	6	4) 0	6	0	4	
Future Volume (Veh/h)	0	22	1	3	36	0	6	0	6	0	0	
Sian Control	0	Free	1	3	Free	0	0	Stop	0	0	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.
Hourly flow rate (vph)	0.00	32	0.00	4	53	0.00	9	0.00	9	0.00	0.00	0.
Pedestrians	0	52		- T	55	0	5	0	5	0	0	
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)		None			Nono							
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	53			33			94	94	32	102	94	
vC1, stage 1 conf vol				00			0.	0.	02	102		
vC2, stage 2 conf vol												
vCu, unblocked vol	53			33			94	94	32	102	94	
tC, single (s)	4.1			4.8			7.1	6.5	6.2	7.1	6.5	(
tC, 2 stage (s)												
tF (s)	2.2			2.8			3.5	4.0	3.3	3.5	4.0	;
p0 queue free %	100			100			99	100	99	100	100	1
cM capacity (veh/h)	1566			1245			893	798	1047	873	797	10
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		А	А	А								
Approach Delay (s)	0.0	0.6	8.8	0.0								
Approach LOS			А	А								
Intersection Summary												
Average Delay			1.8									
Intersection Capacity Utiliza	tion		14.4%	IC	U Level o	of Service			А			

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Lanes, Volumes, Timings	
6: Main St & McClellan Rd	

2027 Total AM Peak Hour - Sensitivity (220188) - 14 Agnes Street

	۶	\mathbf{F}	٠	Ť	÷.	-	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	Y			ę	¢Î		
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	d						
Intersection Capacity Utiliz	ation 20.8%			IC	CU Level of	of Service /	A
Analysis Period (min) 15							

Movement Lane Configurations Traffic Volume (veh/h) Future Volume (Veh/h) Sign Control Grade Peak Hour Factor	EBL 18 18 18 18 Stop 0% 0.80	EBR 39 39	NBL 11 11	T NBT 4 66	SBT	SBR	
Lane Configurations Traffic Volume (veh/h) Future Volume (Veh/h) Sign Control : Grade Peak Hour Factor	18 18 18 Stop 0%	39	11	€ 66		SBR	
Traffic Volume (veh/h) Future Volume (Veh/h) Sign Control Grade Peak Hour Factor	18 18 Stop 0%			66	Ta		
Future Volume (Veh/h) Sign Control Grade Peak Hour Factor	18 Stop 0%					-	
Sign Control Grade Peak Hour Factor	Stop 0%	39	11		60	7	
Grade Peak Hour Factor	0%			66	60	7	
Peak Hour Factor				Free 0%	Free 0%		
	0.00	0.80	0.80	0.80	0.80	0.80	
	22	0.00 49	0.60	82	0.60	9	
Hourly flow rate (vph) Pedestrians	22	49	14	02	75	9	
Lane Width (m)							
Walking Speed (m/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				None	None		
Median storage veh)				Nono	None		
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				
	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				
	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	0.0				
Approach Delay (s)	9.4	1.2	0.0				
Approach LOS	A						
Intersection Summary					_		
Average Delay			3.1				
Intersection Capacity Utilization Analysis Period (min)			20.8%	IC	CU Level o	of Service A	

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Lanes, Volumes, Timings 7: McClellan Rd & Agnes St

	≯	-	+	×	1	1	
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		ę	eî Î		Y		
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: Unsignalize	d						
Intersection Capacity Utiliz	zation 16.1%			IC	CU Level of	of Service	eΑ
Analysis Period (min) 15							

HCM Unsignalized Intersection Capacity Analysis 7: McClellan Rd & Agnes St 2027 Total AM Peak Hour - Sensitivity (220188) - 14 Agnes Street

	≯	-	-		1	1		
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations		ę	ĥ		Y			
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	0.0	0.0	0.5 A					
Approach Delay (s)	0.0	0.0	8.9					
Approach LOS	0.0	0.0	A					
Intersection Summary								
Average Delay			3.6					
Intersection Capacity Utilizat	tion		16.1%	IC	U Level o	of Service	A	
Analysis Period (min)			15					

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Lanes, Volumes, Timings 8: Agnes St & Site Driveway

	≯	$\mathbf{\hat{v}}$	•	1	÷.	1	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	Y			ę	4Î		
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	d						
Intersection Capacity Utiliz	zation 16.8%			IC	CU Level of	of Service A	A
Analysis Period (min) 15							

HCM Unsignalized Intersection Capacity Analysis 8: Agnes St & Site Driveway 2027 Total AM Peak Hour - Sensitivity (220188) - 14 Agnes Street

	≯	\mathbf{F}	•	†	Ļ	∢_
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			ર્શ	¢.	
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)				140110	Nono	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	40	12	14			
vC1, stage 1 conf vol	-10	12	14			
vC2, stage 2 conf vol						
vCu, unblocked vol	40	12	14			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)	0.4	0.2	4.1			
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	А				
Approach Delay (s)	8.7	2.9	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			5.3			
Intersection Capacity Utiliz	zation		16.8%	IC	CU Level of	Service
Analysis Period (min)			15			

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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 TblG:	9)(1600-1859)							
	Filters: 2006 GTA zon	e of origin - gta	a06_orig In 310	5					
	Trip 2016								
	Table:								
	A	M PM				ound			
		1	2		AM %	PM %			
king	2652	21		via Queen Street	8%	0%	etobicok		
caledon	3012	17		n via Main Street	6%	0%	markhar		
caledon	3152	10		n via Main Street	4%	0%	king		
caledon	3194	10 17		n via Main Street n via Main Street	4% 6%	0% 0%	caledon caledon		
brampton	3325 3377	0		n via Main Street	0%	10%	caledon		
brampton	3377	10		n via Main Street	4%	0%	caledon		
brampton	3381	8		n via Main Street	4%	0%	caledon		
brampton brampton	3419	0 17		i via Main Street	5% 6%	0%	brampto		
brampton	3467	0		i via Main Street	0%	17%	brampto		
misssissauga	3603	10		via Main Street	4%	0%	brampto		
misssissauga		6		via Main Street	2%	0%	brampto		
misssissauga	3625	19		via Main Street	7%	0%	brampto		
misssissauga	3674	0	25 South	n via Main Street	0%	11%	brampto		
halton hills	4163	0	24 South	n via Main Street	0%	10%	brampto		
guelph	8121	13	0 South	n via Main Street	5%	0%	mississa		
wellington	8366	0	14 South	n via Main Street	0%	6%	mississa		
orangeville	8401	0		via Main Street	0%	13%	guelph		
orangeville	8402	29		via Main Street	11%	11%	orangevi		
orangeville	8403	13		via Main Street	5%	11%	orangev		
orangeville	8404	7		via Main Street	3%	0%	orangevi		
orangeville	8405 8415	32		via Main Street	12%	0%	barrie		
mono essa	8415	32 0		via Main Street	12% 0%	6% 5%	essa		
6559	Total	271	237	via Queen Slieel	• · · ·	TAL 5%			
	, Jtai	211	201	South via Main		53%			
				North via Main		41%			
				East via Que		5%			
				West via Queen		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

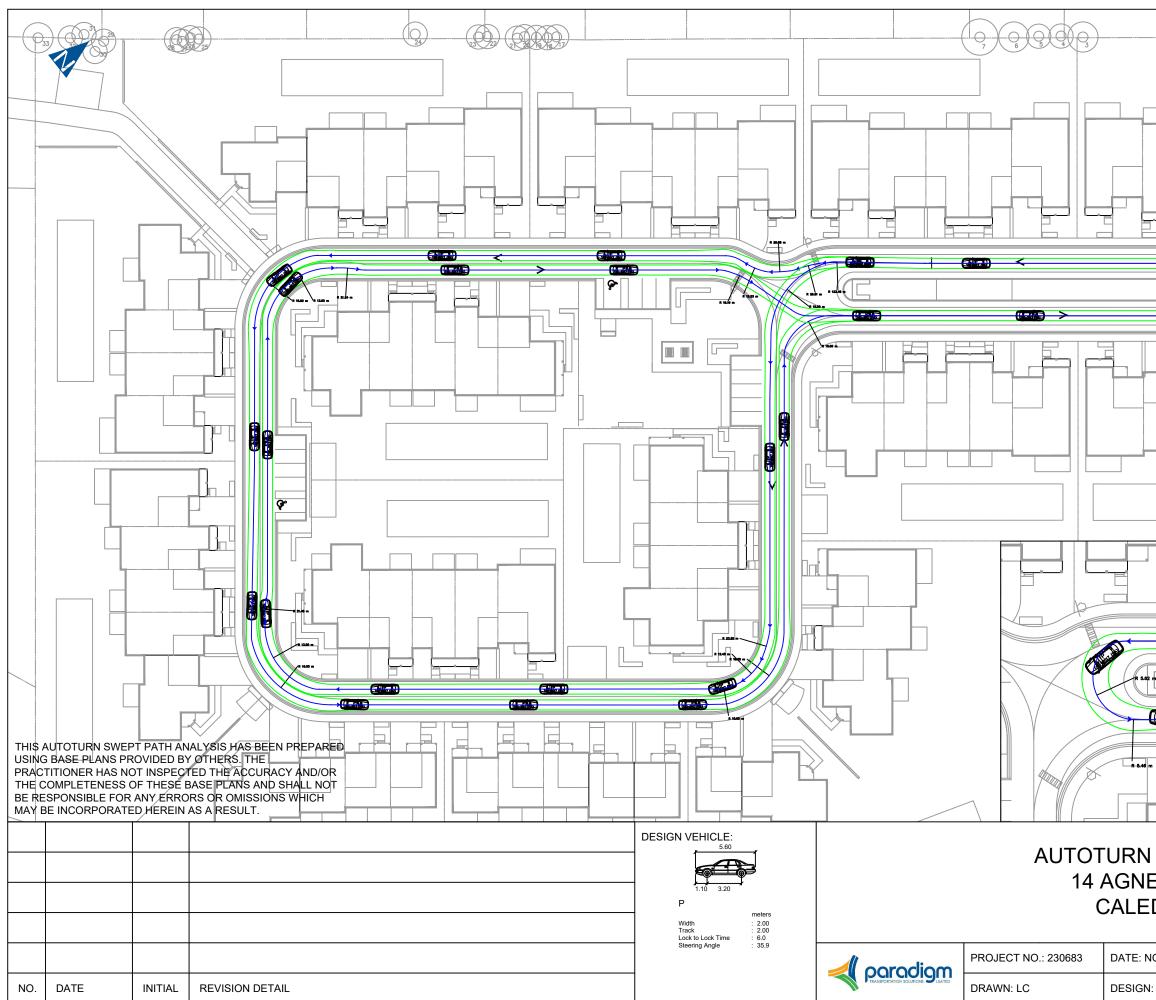
Trip 2016 Table

	Table:					
		AM	PM		Inbe	ound
		1	1 2		AM %	PM %
tobicoke	37	в () 6	South via Main Street	0%	2%
narkham	236	5 () 8	South via Main Street	0%	3%
ing	265	2 () 21	East via King Street	0%	8%
aledon	310	3 21	I 0	South via Main Street	10%	0%
aledon	310	7 36	6 0	West via Queen Stree	et 17%	0%
aledon	315	2 () 10	South via Main Street	0%	4%
aledon	319	4 () 10	South via Main Street	0%	4%
aledon	319	6 () 26	West via Queen Stree	et 0%	9%
rampton	332	в () 10	South via Main Street	0%	4%
rampton	337	7 23	3 0	South via Main Street	11%	0%
rampton	338	1 () 10	South via Main Street	0%	4%
rampton	346	1 17	7 0	South via Main Street	8%	0%
rampton				South via Main Street		
rampton	349			South via Main Street	• · ·	
rampton	351	5 7	-	South via Main Street		
nississau				South via Main Street		
nississau				South via Main Street		
uelph	812	-		South via Main Street		
rangevill				North via Main Street		
rangevill				North via Main Street		
rangevill				North via Main Street		
arrie	850		-	East via King Street	10%	
ssa	856			East via King Street	6%	0%
	Total	216	3 276			
						TAL
				South via M		
				North via M		
					Queen St 16%	
				West via Que	en Street 17%	9%

Appendix G

AutoTURN Vehicle Turning Diagrams





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ASSESS ES STREE DON, ON		
OVEMBER 2023	SCALE: 1:750	DRAWING NO.:
: LC	CHECK: SC	01

