## Square One Drive Extension Municipal Class Environmental Assessment Environmental Study Report

Appendix B Transportation and Traffic Analysis Report

# Appendix B TRANSPORTATION AND TRAFFIC ANALYSIS REPORT



## FINAL DRAFT Transportation and Traffic Analysis Report

Square One Drive Extension Class EA



Prepared for: City of Mississauga

Prepared by: Stantec Consulting Ltd.

Figure 8: 2041 Future Traffic – With Extension of Square One Drive

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## 1.0 INTRODUCTION

The City of Mississauga (the City) is undertaking a Class Environmental Assessment (EA) for the extension of Square One Drive from Confederation Parkway westerly to Rathburn Road. The Study Area is shown in **Figure 1**.

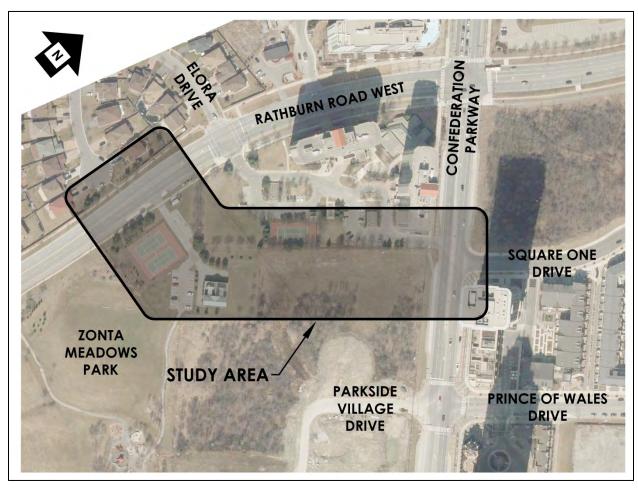


Figure 1 - Study Area

To properly assess the traffic impacts of a potential extension, an expanded Study Area was considered for the traffic analysis. This included the following intersections:

- Rathburn Road at Elora Drive (east);
- Rathburn Road at Elora Drive (west);
- Rathburn Road at Confederation Parkway;
- Rathburn Road at Living Arts Drive;



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- Rathburn Road at Duke of York Boulevard:
- Square One Drive at Living Arts Drive; and
- Square One Drive at Duke of York Boulevard.

This report focuses on the transportation and traffic conditions that contribute to the need and justification for the extension of Square One Drive. It describes the various tasks and methodology for the review and assessment of existing conditions, traffic forecasts, and operational performance of the Study Area intersections. The key components of the transportation and traffic analysis include:

- Detailed description of the existing roadway, intersections, transit routes, and facilities for active transportation;
- Traffic operations assessment for existing conditions at key intersections;
- Determination of growth trends within the Study Area based on the City's travel demand model forecasts. The resultant growth indicators assist in the development of forecasts for the 2021, 2031 and 2041 horizon years;
- Traffic operations assessment for future conditions; and
- Summary of transportation deficiencies and mitigation measures, which have been considered in the development of alternative solutions and alternative designs for improvements to Square One Drive.

A separate **Safety Performance Report** has also been conducted, which includes an examination of the collision history as well as a field view to identify where geometric or physical roadway conditions may contribute to safety issues or concerns.



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## 2.0 EXISTING CONDITIONS

## 2.1 ROADS AND TRAFFIC CONTROL

All of the Study Area roads operate under the jurisdiction of the City. Using the City's Official Plan (OP) Schedule 5 – Long Term Road Network map as a reference, the characteristics of the roads and intersections within the Study Area are described below:

- Square One Drive is a two-lane east-west minor collector road. Within the Study Area, it has a posted speed limit of 30 km/h.
  - An unsignalized intersection is formed with Confederation Parkway, with the westbound approach operating under stop control. It is noted that movements at this unsignalized intersection are limited to right-in/right-out as Confederation Parkway is divided by a median;
  - o A signalized intersection is formed with Living Arts Drive, with auxiliary left turn lanes provided on all approaches. Pedestrian signals and delineated crosswalks are provided on all approaches of the intersection; and
  - o A single-lane roundabout is formed with Duke of York Boulevard. The northbound, southbound, and eastbound intersection approaches are all single lane approaches, whereas the westbound approach has an auxiliary right turn lane. Delineated pedestrian crosswalks are provided on all approaches of the intersection.
- Rathburn Road is a four-lane east-west road with two travel lanes in each direction. It is classified as a major collector with a posted maximum speed limit of 50 km/h.
- Elora Drive is a two-lane local road with one travel lane in each direction. It forms a crescent with Rathburn Road forming two signalized intersections, Elora Drive (west) and Elora Drive (east) approximately 425 m apart. For the section of Elora Drive north of Rathburn Road, there is no posted speed limit and it is assumed that the statutory 50 km/h speed limit governs. South of Rathburn, the posted maximum speed limit on Elora Drive is 40 km/h as there is a school located nearby. At Elora Drive (west), auxiliary left turn lanes are provided on all intersection approaches. Additionally, auxiliary right turn lanes are provided on the eastbound, westbound, and northbound approaches. At Elora Drive (east) auxiliary left turn lanes are provided on the eastbound and westbound approaches. The northbound intersection approach provides access for a residential condominium development. Pedestrian signals and delineated crosswalks are provided on all approaches at both of the intersections;
- Confederation Parkway is a four-lane north-south road with two travel lanes in each direction. It is classified as a major collector with a posted maximum speed limit of 50 km/h.



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A signalized intersection is formed with Rathburn Road, with auxiliary left turn lanes provided on all intersection approaches. Pedestrian signals and delineated crosswalks are provided on all approaches of the intersection;

- Living Arts Drive is a two-lane north-south road with one travel lane in each direction. Within our Study Area no maximum speed limit signage is evident. Therefore, it is assumed that the statutory 50 km/h governs. A signalized intersection is formed with Rathburn Road, with auxiliary left turn lanes provided on all intersection approaches. An auxiliary right turn lane is also provided on the northbound approach. Pedestrian signals and delineated crosswalks are provided on all approaches at both of the intersections;
- Duke of York Boulevard is a north-south road. South of Square One Drive to Prince of Wales Drive it is a four-lane road with one travel lane in each direction, where on-street parking is permitted in the curbside lane. North of Square One Drive, Duke of York Boulevard transitions to two travel lanes in each direction. No posted maximum speed limit signage is evident within the Study Area. Therefore, it is assumed that the statutory 50 km/h governs. A signalized intersection is formed with Rathburn Road, with auxiliary left turn lanes provided on all approaches. Auxiliary right turn lanes are also provided on the eastbound and southbound intersection approaches. Pedestrian signals and delineated crosswalks are provided on all approaches at both of the intersections;

## 2.2 TRANSIT

The Study Area roads are served by several Mississauga MiWay transit routes and several GO Transit routes. Reference to the MiWay website was made at the time of writing.

The City Centre Transit Terminal is located on Rathburn Road east of Duke of York Boulevard at Station Gate Road. This bus terminal is a connection point for accessing various routes and access to various GO stations.

The transit routes serving the Study Area road network include the following:

- 6 Credit Woodlands;
- 8 Cawthra;
- 9 Rathburn-Millers Grove;
- 20 Rathburn;
- 26 Burnhamthorpe;
- 28 Confederation;
- 61/61A Mavis:



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- 66 McLaughlin; and
- 91 Hillcrest-Cooksville GO.

School buses were observed on Rathburn Road West, Elora Drive and Confederation Parkway. Bus stops and shelters are located along the boulevards of the Study Area roads.

## 2.3 ACTIVE TRANSPORTATION

## 2.3.1 Overall Active Transportation Summary

Active Transportation conditions within the Study Area were observed during a walking site visit on Thursday, January 21, 2016 between the hours of 8:00 a.m. and 10:00 a.m. Observations were recorded at locations throughout the Study Area using Pedestrian and Bicycle Road Safety Audit prompt lists to record existing conditions for active transportation.

Low levels of pedestrian activity were observed within the Study Area. One cyclist was observed riding eastbound in the curb lane on Rathburn Road West. Low volumes of motor vehicle traffic were observed on Square One Drive and moderate to low levels of motor vehicle traffic throughout other roadways in the Study Area. Occasional midblock crossings by pedestrians occurred between Duke of York Boulevard and Living Arts Drive along delineated (concrete) pathways through the median. The posted speed limit in this location is 30 km/h and motor vehicles were observed to be travelling at slow speeds. Some motorists using the roundabout at Duke of York Boulevard appeared to demonstrate confusion around pedestrian priority at crossings but yielded at the last minute. Obstructions were observed on boulevard bicycle paths due to snow storage, construction activities and one permanent installation.

## 2.3.2 General Observations

#### 2.3.2.1 Pedestrian Facilities

Sidewalks are present on all roadway corridors throughout the Study Area and provide a clearway width that is comfortable for two people passing in opposite directions. Sidewalk clear widths range from 1.5 m to 2.6 m. However, there is one exception with a short stretch of narrow sidewalk (1.42 m) on the north side of Rathburn Road West and Elora Drive (east). For the most part, furniture zones are clearly defined along corridors with exceptions at intersections along Rathburn Road West. Sidewalks along Square One Drive between Duke of York Boulevard and Living Arts Drive are at the same level as the roadway and this location is intended to function as a semi-shared facility with delineated sidewalks and roadways designed for low traffic speeds and frequent midblock pedestrian crossings (indicated by a change in surface material and texture). Motor vehicles were observed encroaching on the sidewalk area at the Sheridan College building on the south-west corner of Duke of York Boulevard and Square One Drive, for short-term parking and pick-up / drop-off activity.



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## 2.3.2.2 Bicycle Facilities

Painted bicycle lanes (1.7 m wide) are present on Confederation Parkway within the Study Area. These lanes pass through the Study Area and terminate at Queensway West to the south (where they connect to an east-west boulevard multi-use trail), and Eglinton Avenue West to the north. Bicycle lane markings include painted outer lines and symbols (white) along corridors. There are no markings indicating the location of the bicycle lane through intersections. There are no other dedicated bicycle-only facilities in the Study Area.

Bicycle parking was observed adjacent to the Sheridan College building along Square One Drive. No bicycles were parked at this location during the time of the site visit.

## 2.3.2.3 Shared Use Facilities (Multi-Use Trails)

A shared boulevard multi-use trail (MUT) is present in the Study Area along the South / South-East boulevard of Rathburn Road West. Shared pathway signage is present indicating that trails are intended for the use of bicycles and pedestrians although the trail is adjacent to a sidewalk (sidewalks are intended for pedestrians and only permit children's size bicycles (wheels 50 cm/20 inches or less in diameter). The MUT varies in width from 3.0 to 3.3 m wide with a solid yellow directional dividing line at intersection approaches. The MUT is not integrated with intersection crossings and merges with the sidewalk at intersection approaches. Signage that indicates cyclists must dismount and walk across intersections are located on traffic signal poles located at or near to the centre of trail approaches to intersections. Signage at Rathburn Road West and Duke of York Boulevard indicates that the MUT continues south along the west boulevard to access Sheridan College campus. This section of MUT is not integrated with the roundabout and merges with the sidewalk north of the intersection with Square One Drive.

## 2.3.2.4 Pedestrian Activity

Low to moderate pedestrian activity was observed on all corridors with the highest concentration of pedestrians observed entering and exiting the Sheridan College building at the south-west corner of Square One Drive and Duke of York Boulevard. The majority of these pedestrians were observed travelling to/from the east along Square One Drive and the south along Duke of York Boulevard.

## 2.3.2.5 Bicycle Activity

One bicycle was observed riding in the curb lane along Rathburn Road West. Obstructions observed in the boulevard multi-use trail may explain the cyclist's preference for using the curb lane.



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#### 2.3.3 Detailed Observations

Detailed observations were recorded at locations throughout the Study Area using the Pedestrian and Bicycle Road Safety Audit prompt lists to analyze existing conditions for active transportation. The detailed findings and observations are attached in **Appendix A**.

## 2.3.4 Pedestrian Delay Analysis

The calculation of average pedestrian delay was based on the effective green time provided for the pedestrian phase and the intersection cycle length. The equation below was utilized to calculate the average pedestrian delay based upon literature contained within the 2000 Highway Capacity Manual.

$$d_p = \frac{(c - g_{walk})^2}{2 * c}$$

Where:

d<sub>p</sub> = average pedestrian delay (seconds/person);

gwalk = effective walk time provided during pedestrian phase (seconds); and

c = cycle length (seconds)

Guidance for calculating the effective walk time is based upon research that shows pedestrians will typically continue to enter the intersection during the first few seconds of the pedestrian flashing do no walk interval which increases the effective walk time for pedestrians. A conservative estimate for this extra time is provided (4.0 seconds).

Field observations did not indicate unusual or illegal pedestrian behaviour, nor that a larger effective walk time would be required to indicate actual pedestrian behavior. Therefore, 4.0 seconds was understood to be an appropriate estimate.

The 2000 Highway Capacity Manual provides level-of-service (LOS) criteria based on pedestrian delay for pedestrians at signalized intersections. Letter grades are provided and the likelihood of non-compliance that is estimated based on the amount of delay incurred by pedestrians. **Table 1** shows the LOS criteria for pedestrian delay at signalized intersections.



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Table 1  LOS Criteria for Pedestrians at Signalized Intersections							
Level of Service (LOS)	Pedestrian Delay (seconds / person)						
A	0 – 10 seconds						
В	> 10 - 20 seconds						
С	> 20 - 30 seconds						
D	> 30 - 40 seconds						
E	> 40 - 60 seconds						
F	> 60 seconds						

Based upon signal timing plans provided by the City, pedestrian delay was calculated at each signalized Study Area intersection. The results are summarized in **Table 2**.

Table 2 Pedestrian Delay at Signalized Study Area Intersections											
		AM Pea	ak Hour	Mid-Da Ho	ıy Peak our	PM Peak Hour					
Intersection	Approach	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS				
Elora Drive (west) /	N-S	54	LOS E	18	LOS B	20	LOS B				
Rathburn Road	E-W	59	LOS E	22	LOS C	24	LOS C				
Elora Drive (east) /	N-S	56	LOS E	19	LOS B	22	LOS C				
Rathburn Road	E-W	59	LOS E	22	LOS C	24	LOS C				
Living Arts Drive /	N-S	59	LOS E	46	LOS E	59	LOS E				
Rathburn Road	E-W	59	LOS E	46	LOS E	59	LOS E				
Duke of York Boulevard /	N-S	43	LOS E	43	LOS E	56	LOS E				
Rathburn Road	E-W	43	LOS E	43	LOS E	56	LOS E				
Living Arts Drive /	N-S	29	LOS C	29	LOS C	29	LOS C				
Square One Drive	E-W	29	LOS C	29	LOS C	29	LOS C				

During the peak hours, pedestrians will typically experience 30 seconds to less than one minute of delay, waiting to cross at signalized intersections within the Study Area.

## 2.4 TRAFFIC VOLUMES

The majority of traffic data within the Study Area was provided by the City of Mississauga. Traffic Survey Analysis (TSA) Inc. was contracted to update a turning movement count at the intersection of Elora Drive (east) at Rathburn Road, in addition to performing a GPS travel time survey along Rathburn Road.

The traffic data consisted of intersection turning movement counts at the eight Study Area intersections for the a.m., mid-day and p.m. peak periods including volume, vehicle classification,



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and crossing pedestrians. In addition, signal timing plans and collision data were provided by City staff.

The existing base year a.m. and p.m. peak hour traffic volumes for the Study Area were adjusted and balanced between adjacent intersections and is shown in **Figure 2**. All traffic data has been included for reference in **Appendix B**.



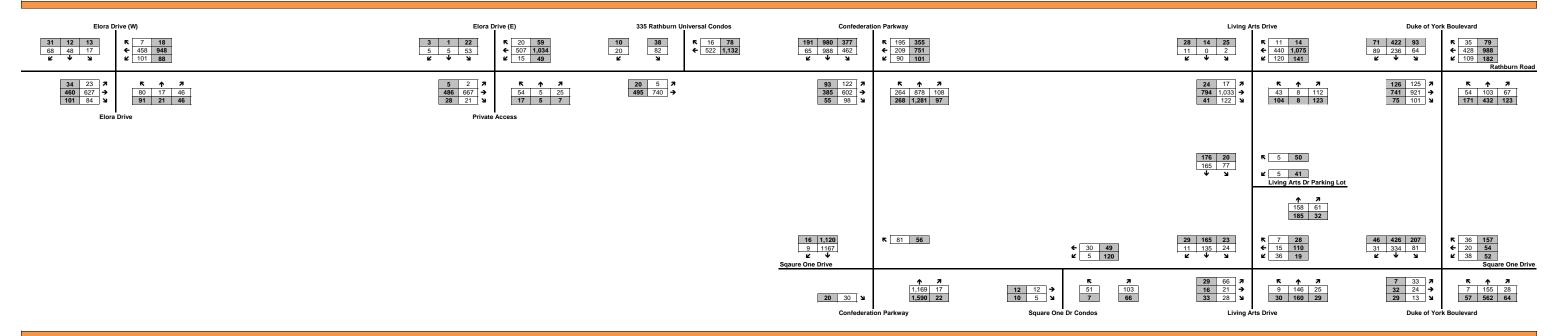


Figure 2 Existing Base Year Traffic

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## 2.5 ANALYSIS

An analysis of existing conditions was undertaken for the Study Area. To assess the operations a micro-simulation model was developed using PTV's VISSIM 8.00. A detailed calibration/validation report documenting the development of the model is provided for reference in **Appendix C**.

The quality of intersection operations is typically measured in terms of level of service (LOS) during the peak hour periods as defined by the *Highway Capacity Manual (HCM)*. The LOS is evaluated on the basis of average delay per vehicle and includes deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections, the LOS ranges from LOS A for 10 second average delay or less to LOS F for delays greater than 80 seconds as shown in **Table 3**.

Table 3  LOS Criteria for Signalized Intersections							
Level of Service (LOS)	Delay (seconds / vehicle)						
A	0 – 10 seconds						
В	> 10 - 20 seconds						
С	> 20 - 35 seconds						
D	> 35 - 55 seconds						
E	> 55 - 80 seconds						
F	> 80 seconds						

The LOS criteria for unsignalized and roundabout intersections are somewhat different from the criteria for signalized intersections primarily because different transportation facilities result in different driver expectations. The expectation is that a signalized intersection is designed to carry higher traffic volumes and therefore drivers would expect to experience greater delay than at an unsignalized intersection. The delay values for unsignalized/roundabout intersections range from 10 seconds or less for LOS A to greater than 50 seconds for LOS F as shown in Table 4.

	Table 4						
LOS Criteria for Unsignalized/Roundabout Intersections							
Level of Service (LOS)	Delay (seconds / vehicle)						
A	0 - 10 seconds						
В	> 10 - 15 seconds						
С	> 15 – 25 seconds						
D	> 25 - 35 seconds						
E	> 35 – 50 seconds						
F	> 50 seconds						

Acceptable intersection operations are generally considered to be LOS D or better, and for left turn movements, a LOS E is acceptable during peak hours.



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The results of the analysis for the intersections overall are presented in **Table 5**. Detailed analysis results at the individual movement level for existing conditions are provided for reference in **Appendix D**.

Table 5 Existing Base Year Conditions Intersection Peak Hour Level of Service Analysis									
		ak Hour	PM Pea	ak Hour					
Intersection	LOS	Delay (s)	LOS	Delay (s)					
Elora Drive (west) / Rathburn Road Signalized	В	12.6	В	15.1					
Elora Drive (east) / Rathburn Road Signalized	А	9.1	В	18.6					
Confederation Parkway / Rathburn Road Signalized	D	43.9	E	56.7					
Living Arts Drive / Rathburn Road Signalized	В	17.1	С	30.4					
Duke of York Boulevard / Rathburn Road Signalized	С	24.9	D	35.5					
Confederation Parkway / Square One Drive Unsignalized – Critical WBR movement	А	8.9	F	163.9					
Living Arts Drive / Square One Drive  Signalized	В	12.3	В	12.5					
Duke of York Boulevard / Square One Drive Roundabout	А	6.2	В	11.4					

For existing conditions in the a.m. peak hour, the Study Area intersections operate at acceptable levels of service. However, the Confederation Parkway at Rathburn Road intersection southbound left turn movement is approaching capacity as it operates at LOS E. In the p.m. peak hour, a number of movements operate with long delays:

- At the Confederation Parkway at Rathburn Road intersection, the westbound through and southbound left turn movements operate at LOS E and LOS F, respectively;
- At the Confederation Parkway at Square One Drive intersection, the westbound right turn
  movement operates at LOS F, primarily due to queue blockages from the Confederation
  Parkway at Rathburn Road intersection; and
- At the Duke of York Boulevard at Rathburn Road intersection, the eastbound left-turn movement operates at LOS F.

A site visit was completed on Tuesday March 22<sup>nd</sup>, 2016 to observe traffic operations during the a.m. and p.m. peak hours. Unfortunately, Square One Drive was closed between Duke of York Boulevard and Living Arts Drive for construction at Sheridan College during the site visit. However,



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this would likely result in marginally higher traffic volumes and worse operations on Rathburn Road during this time. The traffic observations were generally consistent with the analysis results and the model animations.

A substantial number of vehicles are processed through the intersection of Confederation Parkway at Rathburn Road, approximately 4,100 and 4,950 vehicles during the a.m. and p.m. peak hour, respectively. A large portion of the vehicular traffic is northbound and southbound on Confederation Parkway, in addition to moderate peak hour directional flows along Rathburn Road. It was observed during the a.m. peak hour that vehicles would be processed through this intersection with all movements operating well. The only exception would be that the southbound left-turn movement would often generate a queue that would extend beyond the available storage. While this occurred repeatedly in the a.m. peak hour, this queue would clear within the cycle.

During the p.m. peak hours, this intersection appeared to be approaching capacity. The southbound left-turn movement was observed to occasionally extend beyond the available storage. In some instances, vehicles queuing for the southbound left-turn movement would occasionally block the inner through lane. There appears to be little room for signal optimization as this movement competes for green time with the westbound through movement along Rathburn Road.

At the Duke of York Boulevard at Rathburn Road intersection it was observed during the p.m. peak hour that the eastbound left-turn movement operates with long delays. This is a result of a combination of a high left-turning volume and a limited number of gaps in the westbound through traffic.

South of Rathburn Road on Confederation Parkway and Living Arts Drive, as well as on the open portion of Square One Drive, drivers generally experienced minimal delays. No operational issues were observed in this area although a small number of drivers were observed to circulate a number of times looking for parking.

## 3.0 FUTURE TRAVEL DEMAND FORECASTING

In order to develop traffic forecasts for the future 2021, 2031, and 2041 horizon years, model outputs were obtained from the City's EMME travel demand forecasting model. The City uses the "Simplified GTA Model" which was developed by Peter Dalton Inc. The model is calibrated based on the 2011 Transportation Tomorrow Survey (TTS) and validated by several data sources including the TTS, cordon and automatic traffic recorder traffic data.

Over the next 25 years, there are a number of changes proposed to the transportation network both within and around the Study Area captured in the model. Through discussions with the City of Mississauga, the following transportation changes and their associated horizon years were identified:



Future Travel Demand Forecasting June 2017

## 1. 2021 horizon year

- Extension of Living Arts Drive to Centre View Drive;
- Hurontario LRT with associated lane reductions on Hurontario Street, Duke of York Boulevard, Burnhamthorpe Road, and changes to intersection control and operations; and
- New roadways associated with the Amacon, Rogers, and other developments.

## 2. 2031 horizon year

New roadways associated with new development south of Burnhamthorpe Road.

## 3. 2041 horizon year

- New north service road on the north side of Highway 403;
- Extension of Duke of York Boulevard and City Centre Drive over Highway 403;
- Removal of the loop ramp from eastbound Rathburn Road to northbound Hurontario Street;
- Extension of Centre View Drive to Hurontario Street:
- Extension of Square One Drive east of Hurontario Street;
- Lane additions on Burnhamthorpe Road east of Hurontario Street;
- Removal of Highway 403 EB off-ramp at Hurontario Street; and
- Reconfiguration of Highway 403 WB off-ramp at Mavis Road to connect to the new north service road.

Substantial development is expected within and adjacent to the Study Area in the downtown area. A summary of the model population and employment values for the 2011, 2021, 2031, and 2041 scenarios are shown in **Table 6**.



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Table 6  Model Population and Employment Values								
Scenario Population Employment								
2011	31,860	21,250						
2021	49,080 (4.4% p.a. from 2011)	26,910 (2.4% p.a. from 2011)						
2031	65,430 (2.9% p.a. from 2021)	32,210 (1.8% p.a. from 2021)						
2041	74,760 (2.3% p.a. from 2031)	37,570 (1.6% p.a. from 2031)						

Using volume plots from the City's model, traffic volumes were compared at a screenline level. As might be expected based on the increase of population and employment values in the model, traffic volumes across each of the screenlines generally exhibited robust growth ranging from 1% to 2% per annum (p.a.) between each of the horizon years. The growth rates applied to the existing a.m. and p.m. peak hour traffic volumes follow:

- From 2011 to 2021, 1.5% p.a. for east-west and north-south traffic;
- From 2021 to 2031, 1.25% p.a. for east-west and north-south traffic; and
- From 2031 to 2041, 1.5% p.a. for east-west and north-south traffic.

Additional traffic expected to be generated by Sheridan College Phase 2 and the Amacon lands (but not captured in the model) were manually added to the traffic forecasts. Collectively, these network changes along with the future changes in population and employment, and Sheridan College and Amacon developments, represent the Do Nothing scenario.

For the scenarios with the extension of Square One Drive to Rathburn Road, traffic was manually reassigned to the extension in a logical fashion. The full details of the forecasting methodology have been detailed in a technical memorandum attached in **Appendix E**.

The resulting future traffic forecasts, including traffic associated with the Amacon lands and Sheridan College are shown in the following figures:

- Figure 3 2021 Future Traffic No Extension of Square One Drive;
- Figure 4 2021 Future Traffic With Extension of Square One Drive;
- Figure 5 2031 Future Traffic No Extension of Square One Drive;
- Figure 6 2031 Future Traffic With Extension of Square One Drive;
- Figure 7 2041 Future Traffic No Extension of Square One Drive; and
- Figure 8 2041 Future Traffic With Extension of Square One Drive.



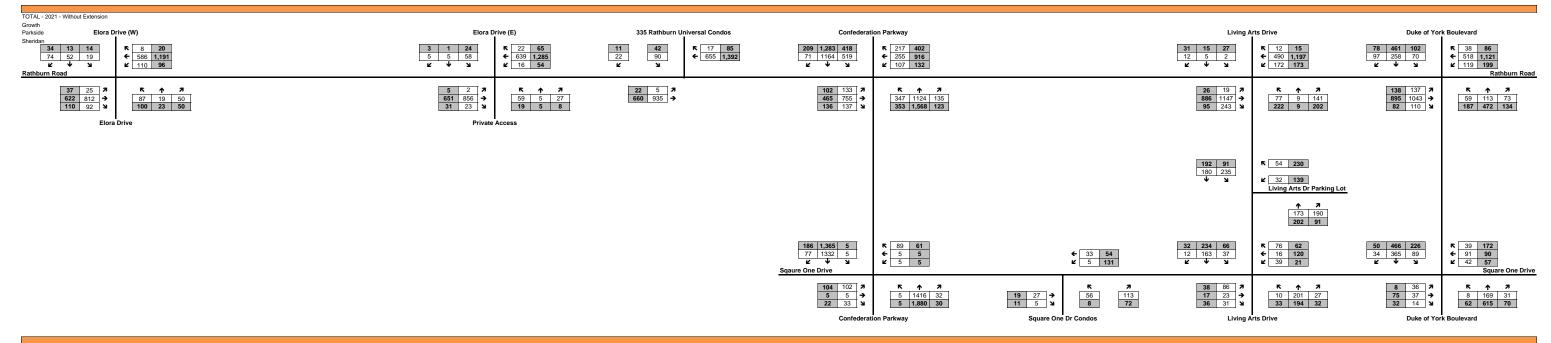


Figure 3 2021 Future Traffic - No Extension of Square One Drive

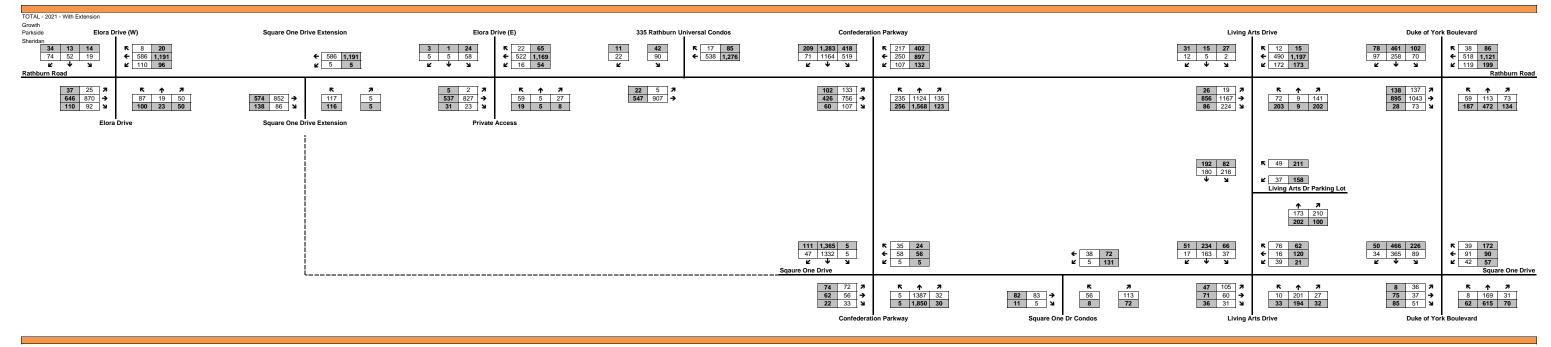


Figure 4 2021 Future Traffic - With Extension of Square One Drive

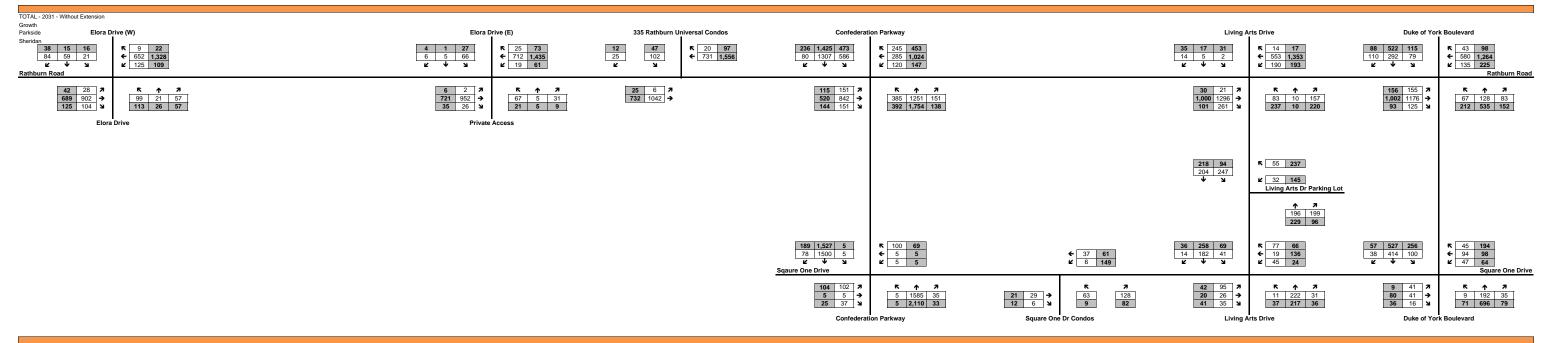


Figure 5 2031 Future Traffic - No Extension of Square One Drive

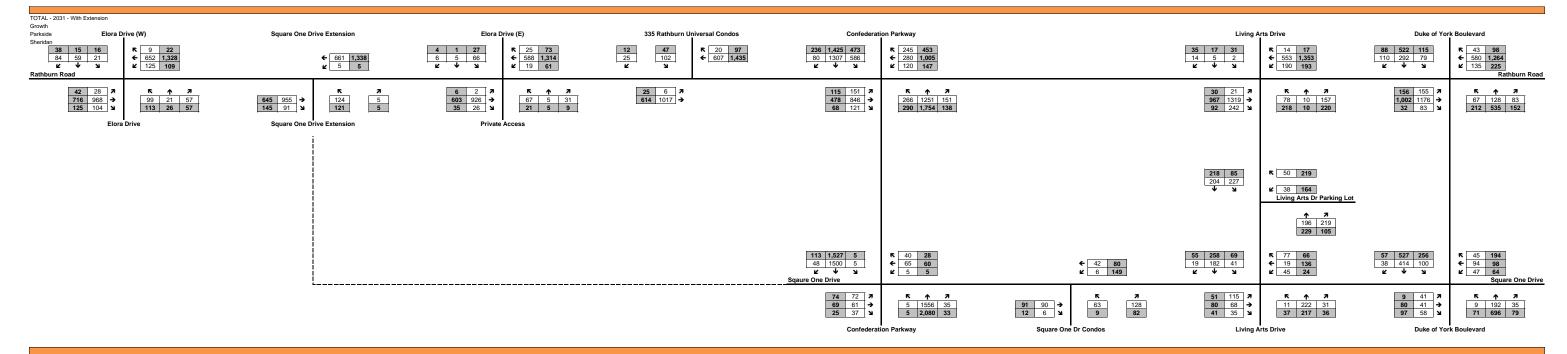


Figure 6 2031 Future Traffic - With Extension of Square One Drive

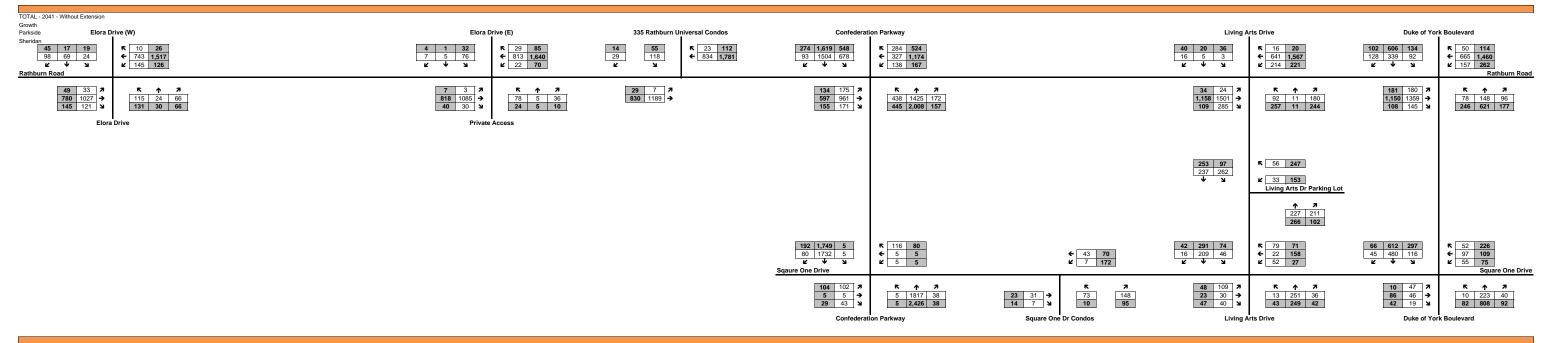


Figure 7 2041 Future Traffic - No Extension of Square One Drive

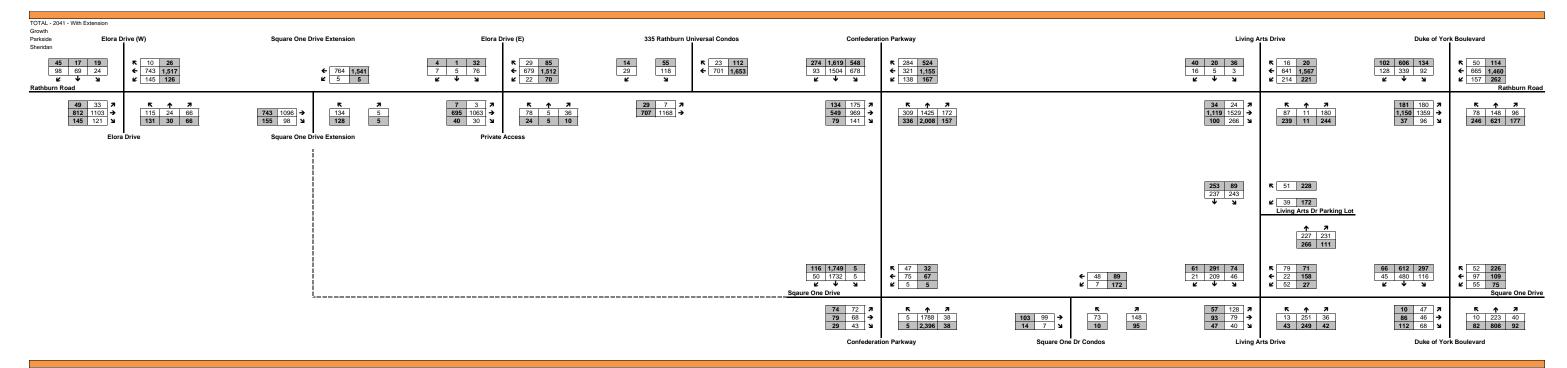


Figure 8 2041 Future Traffic - With Extension of Square One Drive

Future Scenario Analysis June 2017

## 4.0 FUTURE SCENARIO ANALYSIS

## 4.1 DO NOTHING SCENARIO

The Do Nothing scenario (Scenario 1) comprises all the planned transportation network improvements expected to be in place by each the respective horizon years as detailed in Section 3.0. It also assumes:

- The partial extension of Square One Drive as an access road to the Amacon development, but not to Rathburn Road;
- Converting the unsignalized intersection of Confederation Parkway at Square One Drive to signal control; and
- Reassigning the traffic from the 330/350 Rathburn condominium access on Confederation Parkway to use the extension of Square One Drive.

The VISSIM analysis results are presented in **Table 7**. Detailed intersection results are attached in **Appendix F**.



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Table 7												
Do Nothing Future Conditions  Intersection Peak Hour Level of Service Analysis												
	IIILE	20		HOUI L	evel oi	20		ysis		20	41	
Intersection	AM Peak Hour			PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		Peak our
	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)
Elora Drive (west) / Rathburn Road Signalized	В	12.5	В	12.6	В	13.8	В	13.3	В	13.8	В	13.7
Elora Drive (east) / Rathburn Road Signalized	А	8.3	В	17.8	А	8.5	В	12.7	А	9.5	В	10.2
Confederation Parkway / Rathburn Road Signalized	D	52.4	E	61.5	E	55.1	E	61.9	E	62.7	E	62.0
Living Arts Drive / Rathburn Road Signalized	С	20.2	D	46.5	С	25.5	E	59.8	С	31.5	E	62.5
Duke of York Boulevard / Rathburn Road Signalized	С	28.7	E	59.7	С	29.1	F	87.5	С	29.4	F	89.9
Confederation Parkway / Square One Drive Signalized	D	35.9	D	45.9	D	45.9	D	47.0	D	47.6	D	48.3
Living Arts Drive / Square One Drive Signalized	В	13.2	В	12.5	В	13.2	В	12.5	В	13.4	В	14.2
Duke of York Boulevard / Square One Drive Signalized	В	16.5	С	25.2	В	17.0	D	49.3	В	16.8	E	64.2

For the 2021 horizon year, long delays are experienced at the Confederation Parkway at Rathburn Road and Duke of York Boulevard at Rathburn Road intersections in the p.m. peak hour.

For the 2031 horizon year, the delays at these intersections are exacerbated. Furthermore, the Confederation Parkway at Rathburn Road intersection operates at LOS E during the a.m. peak hour and the Living Arts Drive at Rathburn Road intersection operates at LOS E during the p.m. peak hour.

For the 2041 horizon year, the delays at these intersections are further exacerbated. Additionally, the Duke of York Boulevard at Square One Drive intersection operates at LOS E during the p.m. peak hour.



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## 4.1.1 Model Reliability

Within the VISSIM model, it was observed that long delays and resulting queues begin to form at the Confederation Parkway at Rathburn Road intersection. In the 2021 horizon year, these queues generally do not extend to the adjacent intersections. In the 2031 and 2041 horizon years, these queues lengthen and negatively impact traffic operations at the intersections of Confederation Parkway at Square One Drive, Living Arts Drive at Rathburn Road, and Duke of York Boulevard at Rathburn Road.

However, in the 2031 and 2041 horizon years, the model results become unreliable and incomparable due to the increased forecast demands in these horizon years exceeding the transportation network's capacity. The vehicles which do not enter the network are not processed along each of the intersections on their route are described as the latent vehicle demand. As a result, the analysis results falsely suggest fewer delays are experienced and better traffic operations would be realized than what would actually occur. A summary of the network performance measures is shown in **Table 8**.

Table 8  Do Nothing Scenario  Network Performance Measures										
2021 2031 2041										
Measure of Effectiveness	AM	PM	AM	PM	AM	PM				
Total System Delay (Hours)	220.8	437.0	305.4	571.9	358.1	632.2				
Total System Travel Time (Hours)	342.2	602.9	431.9	739.6	498.1	803.7				
Average Vehicle Delay (sec/veh)	120.6	197.7	159.2	255.7	177.1	275.5				
Vehicles Processed	6,589	7,958	6,906	8,051	7,281	8,262				
Latent Vehicle Demand	58	543	838	1,420	1,164	2,641				
% Overcapacity	0.9%	6.8%	12.1%	17.6%	16.0%	32.0%				

In the 2021 horizon year, virtually all of the vehicle demand is loaded onto the network, while in the 2031 and 2041 horizon years, a substantial portion of the traffic is not able to enter the network. As an example of the unreliability of the data, looking at the total delay between the 2031 and 2041 horizon years in the p.m. peak hour, it would be incorrect to assume that the total delay merely increases by 10%. Not only does the total delay increase by 10%, but an additional 1,221 vehicles are not able to enter the network. Assuming that all of the latent vehicle demand was able to enter the model network, the delays would be substantially larger.

Another cause of the unreliability of these model results is the exponential relationship between volume and delay when working at the above-capacity conditions, particularly in the 2031 and 2041 horizon years. This exponential relationship results in dramatic changes in the vehicle delay experienced even when changes in the number of vehicles are minimal between model runs and scenarios. This can create a false impression that one particular scenario will result in substantially improved traffic operations when the reality is that the change is negligible.



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As a result, discussion of the analysis results for the various scenarios will focus on the 2021 horizon year although the results of the 2031 and 2041 horizon years will continue to be presented for completeness. A separate analysis to assess the capacity of the Square One Drive at Rathburn Road and Confederation Parkway intersections for the longer term horizon years is documented in **Section 4.6**.

## 4.2 EXTENSION WITH SIGNAL

The Extension with Signal scenario (Scenario 2) comprises all the planned transportation network improvements expected to be in place by each the respective horizon years as detailed in Section 3.0. It also assumes:

- The extension of Square One Drive to Rathburn Road with the new intersection under signal control;
- Converting the unsignalized intersection of Confederation Parkway at Square One Drive to signal control; and
- Reassigning the traffic from the 330/350 Rathburn condominium access on Confederation Parkway to use the extension of Square One Drive.

The analysis results are presented in **Table 9**. Detailed intersection results are attached in **Appendix F**.



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Table 9													
	Extension With Signal Scenario												
	Intersection Peak Hour Level of Service Analysis												
		20	21			20	31			20	41		
	AM I	Peak	PM F	Peak	AM I	Peak	PM F	Peak	AM I	Peak	PM F	PM Peak	
Intersection	Но	our	Но	Hour		Hour		our	Но	our	Hour		
	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	
Elora Drive (west) /													
Rathburn Road	В	12.5	В	15.6	В	15.1	В	14.7	В	15.0	В	13.5	
Signalized													
Elora Drive (east) /													
Rathburn Road	В	11.3	В	16.3	Α	9.9	В	13.6	В	10.6	В	10.9	
Signalized													
Square One Drive Ext. /													
Rathburn Road	В	14.2	В	11.0	В	14.2	В	10.7	С	15.1	Α	9.0	
Signalized													
Confederation Parkway /													
Rathburn Road	D	50.9	Е	61.5	D	54.0	Е	59.8	Е	56.8	Ε	61.1	
Signalized													
Living Arts Drive /													
Rathburn Road	С	20.2	D	50.1	С	25.2	Ε	56.5	С	26.6	Ε	60.5	
Signalized													
Duke of York Boulevard /													
Rathburn Road	С	29.1	Е	66.2	С	29.3	F	80.7	С	29.3	F	89.2	
Signalized													
Confederation Parkway /													
Square One Drive	С	31.2	D	44.5	D	43.5	D	44.1	D	47.1	D	45.3	
Signalized													
Living Arts Drive /													
Square One Drive	В	14.2	В	13.7	В	13.6	В	14.5	В	14.2	В	15.0	
Signalized													
Duke of York Boulevard /													
Square One Drive	В	16.5	С	22.7	В	17.3	D	39.4	В	17.4	E	55.5	
Signalized													

For the 2021 horizon year in the a.m. peak hour, all of the intersections generally operate at acceptable levels of service. In the p.m. peak hour, the Confederation Parkway at Rathburn Road and the Duke of York at Rathburn Road intersections operate with longer delays.

The network performance measures for this scenario are summarized in **Table 10**.



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Table 10 Extension With Signal Scenario Network Performance Measures											
2021 2031 2041											
Measure of Effectiveness	AM PM		AM	PM	AM	PM					
Total System Delay (Hours)	215.6	438.3	300.0	548.9	348.6	618.2					
Total System Travel Time (Hours)	336.9	603.6	427.0	718.9	482.1	790.5					
Average Vehicle Delay (sec/veh)	117.9	198.9	155.2	242.0	169.8	266.9					
Vehicles Processed	6,585	7,937	6,959	8,166	7,389	8,337					
Latent Vehicle Demand	45	548	451	1,300	1,108	2,581					
% Overcapacity	0.7%	6.9%	6.5%	15.9%	15.0%	31.0%					

Similar to the Do Nothing scenario, virtually all of the traffic demand is loaded onto the network in the 2021 horizon year, but the latent vehicle demand begins to dramatically increase in the 2031 and 2041 horizon years which results in the issues detailed in Section 4.1.1.

## 4.3 EXTENSION WITH ROUNDABOUT

The Extension with Roundabout scenario (Scenario 3) comprises all the planned transportation network improvements expected to be in place by each of the respective horizon years as detailed in Section 3.0. It also assumes:

- The extension of Square One Drive to Rathburn Road with the new intersection as a roundabout;
- Converting the unsignalized intersection of Confederation Parkway at Square One Drive to signal control; and
- Reassigning the traffic from the 330/350 Rathburn condominium access on Confederation Parkway to use the extension of Square One Drive.

The analysis results are presented in **Table 11**. Detailed intersection results are attached in **Appendix F**.



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				Table	e 11								
	Extension With Roundabout Scenario												
	Inte	rsectio	n Peak	Hour L	evel of	Servic	e Analy	/sis					
		20	21			20	31			20	41		
	AM I	Peak	PM F	M Peak AM Peak		PM Peak		AM Peak		PM Peak			
Intersection	Но	Hour		Hour		Hour		Hour		Hour		Hour	
	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	
Elora Drive (west) /				, ,								1	
Rathburn Road	В	12.8	В	16.9	В	14.0	В	13.8	В	14.0	В	14.0	
Signalized													
Elora Drive (east) /													
Rathburn Road	Α	9.5	В	13.9	Α	9.1	В	12.4	Α	9.9	В	10.2	
Signalized													
Square One Drive Ext. /													
Rathburn Road	Α	3.5	Α	4.0	Α	4.2	Α	4.1	Α	4.7	Α	4.3	
Roundabout													
Confederation Parkway /													
Rathburn Road	D	51.5	Е	61.0	D	54.0	Ε	62.6	Ε	57.1	Ε	61.1	
Signalized													
Living Arts Drive /													
Rathburn Road	В	19.1	D	50.3	С	25.5	Ε	68.6	С	26.4	Ε	61.9	
Signalized													
Duke of York Boulevard /													
Rathburn Road	С	26.1	Е	67.8	С	26.4	F	88.1	С	26.6	F	88.5	
Signalized													
Confederation Parkway /													
Square One Drive	С	32.4	D	42.9	D	43.4	D	45.6	D	46.6	D	45.7	
Signalized													
Living Arts Drive /													
Square One Drive	В	14.1	В	13.8	В	13.6	В	18.3	В	14.3	В	14.6	
Signalized													
Duke of York Boulevard /													
Square One Drive	В	16.4	С	24.2	В	17.4	D	44.1	В	17.5	D	51.6	
Signalized													

For the 2021 horizon year in the a.m. peak hour, all of the intersections generally operate at acceptable levels of service. In the p.m. peak hour, the Confederation Parkway at Rathburn Road and the Duke of York at Rathburn Road intersections operate with longer delays.

The network performance measures for this scenario are summarized in **Table 12**.



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1	Extension Wi	Table 12 th Roundabo erformance								
2021 2031 2041										
Measure of Effectiveness	AM PM		AM	PM	AM	PM				
Total System Delay (Hours)	204.4	448.6	292.3	577.8	340.2	613.7				
Total System Travel Time (Hours)	328.4	616.8	423.3	746.0	477.5	787.7				
Average Vehicle Delay (sec/veh)	111.5	202.8	150.9	264.0	165.4	266.2				
Vehicles Processed	6,597	7,965	6,972	7,878	7,406	8,300				
Latent Vehicle Demand	24	527	415	1,605	1,072	2,619				
% Overcapacity	0.4%	6.6%	6.0%	20.4%	14.5%	31.6%				

Similar to the previous scenarios, virtually all of the traffic demand is loaded onto the network in the 2021 horizon year, but the latent vehicle demand begins to dramatically increase in the 2031 and 2041 horizon years which results in the issues detailed in Section 4.1.1.

## 4.4 EXTENSION WITH SIGNAL AND RIGHT IN/RIGHT OUT

The previous scenarios with Square One Drive extended to Rathburn Road would result in the creation of a new signalized intersection at Square One Drive and Rathburn Road in close proximity (approximately 50 m) to the existing intersection of Rathburn Road and Elora Drive (east). Based on the analysis completed, it should be noted that the maximum queues for the westbound left-turn movement at the proposed Square One Drive and Rathburn Road intersection (particularly in the p.m. peak hour) have the potential to extend to the adjacent intersection at Rathburn Road and Elora Drive (east). Furthermore, there are a number of other operational and safety issues that these closely spaced intersections create, including:

- Clarity and conspicuity of signal heads at each of the intersections referring to a driver's
  ability to identify which signal heads apply to which intersection creating a safety issue.
  While this can be partially addressed with optically programmable signal heads, this in itself
  creates an ongoing maintenance issue;
- Limited potential to coordinate signal timings along the Rathburn Road corridor;
- Increased potential for queue blockages;
- Increased potential for collisions; and
- Reduced speed and capacity along Rathburn Road.

Therefore, the extension scenarios were considered with the additional modification of converting the Elora Drive (east) intersection to an unsignalized right in/right out. Left turn movements from Elora Drive (east) would divert to the Elora Drive (west) intersection, and left turn movements from 330/350 Rathburn Road would divert to a new mid-block access to the proposed Square One Drive extension.



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The results of the analysis for the Extension with Signal and Right In/Right Out scenario (Scenario 4) are presented in **Table 13**. The results for intersections whose traffic volumes are unchanged are not shown. Detailed intersection results are attached in **Appendix F**.

Table 13  Extension With Signal and Right In/Right Out Scenario  Intersection Peak Hour Level of Service Analysis  2021 2031 2041												
Intersection				PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		Peak our
	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)
Elora Drive (west) / Rathburn Road Signalized	В	12.9	В	16.2	В	14.0	В	14.6	В	14.0	В	13.4
Elora Drive (east) / Rathburn Road Unsignalized - NBR	А	0.6	А	1.4	А	0.7	А	1.5	А	1.0	А	1.5
Square One Drive Ext. / Rathburn Road Signalized	В	14.4	В	11.1	В	14.7	В	11.0	С	15.1	А	9.3
Confederation Parkway / Rathburn Road Signalized	D	49.8	E	60.0	D	53.2	Е	63.6	Е	55.5	Е	61.4

For the 2021 horizon year in the a.m. peak hour, all of the intersections generally operate at acceptable levels of service. In the p.m. peak hour, the Confederation Parkway at Rathburn Road intersection operates with longer delays. Even with the additional traffic diverted to the Elora Drive (west) and Square One Drive intersections with Rathburn Road, these intersections operate at good levels of service.

The network performance measures for this scenario are summarized in Table 14.



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Extension	_	Table 14 and Right Ir erformance	_	cenario					
2021 2031 2041									
Measure of Effectiveness	AM	PM	AM	PM	AM	PM			
Total System Delay (Hours)	199.3	422.5	296.4	554.1	338.9	614.3			
Total System Travel Time (Hours)	321.5	589.9	424.6	721.2	474.7	786.4			
Average Vehicle Delay (sec/veh)	108.4	190.0	152.8	247.6	163.3	264.9			
Vehicles Processed	6,616	8,009	6,983	8,056	7,470	8,348			
Latent Vehicle Demand	29	490	434	1,420	1,038	2,586			
% Overcapacity	0.4%	6.1%	6.2%	17.6%	13.9%	31.0%			

Similar to the previous scenarios, virtually all of the traffic demand is loaded onto the network in the 2021 horizon year, but the latent vehicle demand begins to dramatically increase in the 2031 and 2041 horizon years which results in the issues detailed in Section 4.1.1.

## 4.5 EXTENSION WITH ROUNDABOUT AND RIGHT IN/RIGHT OUT

The results of the analysis for the Extension with Roundabout and Right In/Right Out scenario (Scenario 5) are presented in **Table 15**. The results for intersections whose traffic volumes are unchanged are not shown. Detailed intersection results are attached in **Appendix F**.

Table 15												
Ext	Extension With Roundabout and Right In/Right Out Scenario											
Intersection Peak Hour Level of Service Analysis												
		20	21			20	31			20	41	
	AM I	Peak	PM F	PM Peak		AM Peak		PM Peak		Peak	PM Peak	
Intersection	Но	our	Hour		Hour		Hour		Hour		Hour	
		Delay			Delay		Delay		Delay			
	LOS	(s)	LOS	(s)	LOS	(s)	LOS	(s)	LOS	(s)	LOS	(s)
Elora Drive (west) /												
Rathburn Road	В	12.9	В	16.2	В	14.0	В	14.6	В	14.0	В	13.5
Signalized												
Elora Drive (east) /												
Rathburn Road	Α	8.0	Α	1.1	Α	0.9	Α	1.2	Α	1.1	Α	1.1
Unsignalized – NBR												
Square One Drive Ext. /												
Rathburn Road	Α	4.4	Α	4.0	Α	5.4	Α	4.5	Α	6.9	Α	4.5
Roundabout												
Confederation Parkway /												
Rathburn Road	D	51.7	Е	59.7	D	54.0	Ε	60.0	Е	56.2	Е	60.4
Signalized												



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For the 2021 horizon year in the a.m. peak hour, all of the intersections generally operate at acceptable levels of service. In the p.m. peak hour, the Confederation Parkway at Rathburn Road intersection operates with longer delays. Even with the additional traffic diverted to the Elora Drive (west) and Square One Drive intersections with Rathburn Road, these intersections operate at good levels of service.

The network performance measures for this scenario are summarized in Table 16.

Table 16 Extension With Roundabout and Right In/Right Out Scenario Network Performance Measures								
NA	20	21	20	31	20	41		
Measure of Effectiveness	AM	PM	AM	PM	AM	PM		
Total System Delay (Hours)	205.6	423.7	289.1	538.4	334.0	607.4		
Total System Travel Time (Hours)	330.3	593.9	420.6	711.9	473.0	782.1		
Average Vehicle Delay (sec/veh)	112.3	189.9	149.2	235.2	161.6	262.5		
Vehicles Processed	6,591	8,034	6,976	8,242	7,441	8,330		
Latent Vehicle Demand 23 468 405 1,277 1,039 2,603								
% Overcapacity	0.3%	5.8%	5.8%	15.5%	14.0%	31.2%		

Similar to the previous scenarios, virtually all of the traffic demand is loaded onto the network in the 2021 horizon year, but the latent vehicle demand begins to dramatically increase in the 2031 and 2041 horizon years which results in the issues detailed in Section 4.1.1.

#### 4.6 SUPPLEMENTARY INTERSECTION ANALYSIS

In order to more reliably assess the capacity of the signalized and roundabout intersection options at the intersection of Square One Drive at Rathburn Road and the required lane configuration of the Square One Drive at Confederation Parkway intersection, particularly for the longer term horizon years, a level of service analysis was undertaken using Synchro for the signalized intersections and Sidra Intersection for the roundabout. These analyses examine this intersection individually and therefore would not be impacted by the traffic operations at the adjacent intersections.

The results of the Synchro analysis are shown in **Table 17**, **Table 18**, and **Table 19**, for the horizon years 2021, 2031, and 2041, respectively. Detailed Synchro outputs are attached in **Appendix G**.

A level-of-service (LOS) analysis was undertaken for the projected 2021, 2031, and 2041 total traffic volumes using Trafficeware Synchro 9.1 software. This software implements the methods of the 2000/2010 Highway Capacity Manual. The key parameters of the analysis include:

- Assumed future lane configurations;
- Assumed 2.0% heavy vehicle percentage;



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- Peak hour factor (PHF) of 1.0; and
- Synchro default values for all other inputs.

	Table 17 2021 Future Traffic Peak Hour Level of Service Analysis									
AM Peak Hour PM Peak Hour										
Intersection Approach/Movement LOS Delay <sup>1</sup> v/c <sup>2</sup> Q <sup>3</sup> LOS Delay <sup>1</sup> v/c <sup>2</sup> O							Q <sup>3</sup>			
		Dual Thru	В	16	0.42	82	А	9	0.25	40
6 0	EB	Right	В	12	0.08	13	А	8	0.10	10
Square One	VA/D	Left	В	12	0.04	6	А	9	0.11	11
Drive/	WB	Dual Thru	В	14	0.27	49	В	12	0.50	94
Rathburn Road	NB	Left/Right	D	40	0.34	60	D	47	0.34	52
	Overall Intersection		В	17	0.39	-	В	13	0.46	-
	ED	Left	D	52	0.30	33	Е	59	0.37	35
	EB	Thru/Right	D	50	0.22	33	Е	55	0.28	34
	VA/D	Left	D	47	0.02	5	D	51	0.03	5
Square One	WB	Thru/Right	D	50	0.23	34	D	55	0.26	33
Drive/	NID	Left	А	6	0.02	2	А	5	0.02	2
Confederation Parkway	NB	Thru-Thru/Right	В	10	0.56	104	В	11	0.70	150
	CD	Left	А	6	0.03	2	А	5	0.05	2
	SB	Thru-Thru/Right	В	10	0.54	100	Α	8	0.51	85
	Ov	erall Intersection	В	14	0.50	-	В	13	0.65	-
<sup>1</sup> Delay in seconds;	Delay in seconds; 2 v/c greater than 0.85 and LOS E/F is highlighted (if any); 3 95th percentile queue length in metres;									

	Table 18 2031 Future Traffic Peak Hour Level of Service Analysis									
Intersection Approach/Movement AM Peak Hour PM Peak Hour										
intersection	App	roach/wovernent	LOS	Delay <sup>1</sup>	v/c²	$Q^3$	LOS	Delay <sup>1</sup>	v/c²	$Q^3$
	ED	Dual Thru	В	16	0.47	93	А	8	0.27	42
	EB	Right	В	12	0.08	14	А	7	0.10	10
Square One	WB	Left	В	12	0.09	7	А	8	0.13	11
Drive/		Dual Thru	В	14	0.30	55	В	11	0.54	104
Rathburn Road	NB	Left/Right	D	41	0.37	66	D	51	0.40	56
	Ov	erall Intersection	В	17	0.44	ı	В	13	0.51	ı
		Left	D	55	0.33	33	Е	62	0.42	35
Square One	EB	Thru/Right	D	53	0.27	37	Е	59	0.34	39
Drive/ Confederation	\.\/D	Left	D	48	0.02	5	D	53	0.03	5
	WB	Thru/Right	D	53	0.29	39	Е	58	0.31	36
Parkway	NB	Left	А	6	0.03	2	А	4	0.03	1



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		Thru-Thru/Right	В	10	0.61	119	В	12	0.77	181
	CD	Left	А	6	0.03	2	А	6	0.07	2
	SB	Thru-Thru/Right	В	10	0.60	114	Α	8	0.60	106
	Ove	erall Intersection	В	14	0.56	-	В	13	0.72	-
<sup>1</sup> Delay in seconds; <sup>2</sup> v/c greater than 0.85 and LOS E/F is highlighted (if any); <sup>3</sup> 95th percentile queue length in metres;										

	Table 19 2041 Future Traffic									
Peak Hour Level of Service Analysis  AM Peak Hour PM Peak Hour										
Intersection	Intersection Approach/Movement LOS Delay¹ v/c² Q³ LOS Delay¹ v/c² Q³							Q <sup>3</sup>		
		Dual Thru	С	26	0.64	143	А	9	0.31	50
	EB	Right	В	18	0.10	20	А	7	0.11	12
Square One	\A/D	Left	С	21	0.19	11	А	8	0.17	13
Drive/	WB	Dual Thru	С	22	0.42	82	В	13	0.62	130
Rathburn Road	NB	Left/Right	D	37	0.57	112	D	52	0.42	60
	Overall Intersection		С	26	0.61	-	В	14	0.58	-
	- FD	Left	E	59	0.39	34	Е	65	0.45	36
	EB	Thru/Right	E	56	0.34	42	Е	62	0.42	45
	) A / D	Left	D	50	0.03	5	D	54	0.03	6
Square One	WB	Thru/Right	E	57	0.38	46	Е	61	0.38	40
Drive/	ND	Left	Α	5	0.04	2	Α	4	0.04	1
Confederation	NB	Thru-Thru/Right	В	11	0.69	145	В	16	0.88	262
Parkway	CD	Left	А	6	0.04	2	А	7	0.09	2
	SB	Thru-Thru/Right	В	11	0.67	138	А	9	0.68	132
Overall Intersection         B         14         0.64         -         B         16         0.82							0.82	-		
<sup>1</sup> Delay in seconds;	² v/c gre	eater than 0.85 and LOS	S E/F is hig	ghlighted (i	f any); 3 9	5 <sup>th</sup> percer	ntile que	ue length ir	n metres;	

The Synchro capacity analysis results indicate and provide confirmation that in event that the projected total traffic volumes are fully realized on the Study Area road network and 100% of the projected volumes enter the noted intersections, resulting traffic operations would be acceptable and function within capacity. The only exception would be that under the 2041 horizon year the northbound through movement at Square One Drive at Confederation Parkway would be approaching capacity during the p.m. peak hour.

Due to the close proximity of the Elora Drive (east) at Rathburn Road intersection the eastbound and westbound queues generated at the intersection of Square One Drive at Rathburn Road were investigated further. It is noted that the largest eastbound queues are generated during the a.m. peak hour and the conversely the largest westbound queues are generated during the p.m. peak hour. The 2041 eastbound queue is recorded as 143 m. This would not encroach or block the driveway entrance to Corpus Christi School. The westbound queues are recorded to be 94 m, 104 m and, 130 m under the 2021, 2031, and 2041 horizon, respectively. The



Future Scenario Analysis June 2017

approximate spacing distance between Square One Drive at Rathburn Road and Elora Drive (east) at Rathburn Road is 50 m. Therefore, it can be concluded that the westbound queue would encroach and possibly extend through the Elora Drive (east) intersection. The potential implications that may result due to the queue blockage would include delaying outbound vehicle movements from Elora Drive (east) and from the opposite condominium driveway.

A LOS analysis was similarly undertaken for the projected 2021, 2031, and 2041 traffic volumes at the intersection of Square One Drive at Rathburn Road to determine the operations under a roundabout configuration using Sidra Solutions Intersections 6.1 software. The key parameters of the analysis include:

- Two-lane roundabout with two approach lanes on the eastbound and westbound Rathburn Road approaches. Square One Drive would be a single lane approach;
- Assumed 2.0% heavy vehicle percentage;
- Peak hour factor (PHF) of 1.0;
- The environmental factor represents a calibration factor for capacity. The default value
  of 1.2 was adjusted to 1.0 under future conditions. This adjustment represents drivers
  becoming comfortable and familiar with the usage and function of a roundabout; and
- Sidra default values for all other inputs.

The results of the Sidra analysis are shown in **Table 20** for the horizon years 2021, 2031, and 2041. Detailed Sidra outputs are attached in **Appendix G**.

	Table 20									
		Square One	Drive/Ra	athburn Ro	ad - Roi	undabou	ıt			
	Peak Hour Level of Service Analysis									
Year	Δ.,	unroach /Mayamant		AM Pea	k Hour			PM Pea	k Hour	
Year	Ар	Approach/Movement		Delay <sup>1</sup>	v/c²	Q <sup>3</sup>	LOS	Delay <sup>1</sup>	v/c²	$Q_3$
	EB	Thru-Thru/Right	А	3.0	0.31	13	А	3.1	0.24	9
2021	WB	Left/Thru-Thru	А	3.3	0.22	10	А	3.4	0.42	23
2021	NB	Left/Right	В	11.8	0.20	6	В	11.0	0.14	4
	Overall Intersection		Α	4.0	0.31	-	Α	3.8	0.42	-
	EB	Thru-Thru/Right	А	3.0	0.35	16	А	3.2	0.27	11
2021	WB	Left/Thru-Thru	А	3.5	0.25	12	А	3.5	0.47	28
2031	NB	Left/Right	В	12.1	0.23	7	В	11.2	0.16	4
	C	verall Intersection	Α	4.1	0.35	-	Α	3.9	0.47	-
	EB	Thru-Thru/Right	А	3.0	0.40	19	А	3.2	0.31	14
2041	WB	Left/Thru-Thru	А	3.5	0.29	14	А	3.6	0.55	36
2041	NB	Left/Right	В	12.6	0.27	8	В	11.5	0.17	5
	C	Overall Intersection	Α	4.1	0.40	-	Α	4.0	0.55	-
<sup>1</sup> Delay in seco	nds: 2 v/c	c greater than 0.85 and LO	S E/F is hid	ahliahted (i	f anv): 3 9	5 <sup>th</sup> percer	ntile auei	ue lenath ir	metres:	



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The Sidra roundabout analysis results indicate that the intersection of Square One Drive at Rathburn Road as a roundabout will function and operate well with the anticipated projected future total traffic volumes.

As the eastbound and westbound directions are not metered by traffic signal control this results in shorter queues recorded on Rathburn Road at the intersection with Square One Drive. The largest westbound queue recorded was 36 m during the p.m. peak hour under the 2041 horizon year.

An additional point in regards to the roundabout configuration worth noting is that the roundabout provides an opportunity for drivers destined to the east to continue using the Elora Drive (east) intersection facilitated by U-turn movements rather than being rerouted to the Elora Drive (west) intersection.

#### 4.6.1 Queue Interaction

Subsequently, additional analysis was undertaken to determine whether the intersection of Square One Drive and Rathburn Road should be a signalized intersection or a roundabout. The additional analysis also provides indication whether the adjacent intersection of Elora Drive (east) and Rathburn Road should remain as a full moves signalized intersection or be converted to a right-in/right-out only if the intersection of Square One Drive and Rathburn Road is either signalized or a roundabout.

The analysis was conducted using Synchro SimTraffic which models the flows and interactions of the adjacent intersections. For the SimTraffic simulations, a 15-minute seeding interval and a one-hour analysis period were defined. The results generated represent an average of five simulation runs.

The 95<sup>th</sup> percentile queue results are summarized below in **Tables 21 - 23** for the adjacent intersections along Rathburn Road. It is noted that the results for the 2041 horizon are less reliable than the 2021 and 2031 horizon years as the intersection of Confederation Parkway at Rathburn Road in the SimTraffic model becomes overcapacity and does not accurately report operational conditions. It is also worth noting that with such significant delays along Confederation Parkway, drivers would find alternate routes to reduce their travel time.



Future Scenario Analysis June 2017

Table 21  Confederation Parkway/Rathburn Road  95 <sup>th</sup> Percentile Queues (EB Approach)								
Carania	20	21	20	31	20	41		
Scenario	AM	PM	AM	PM	AM	PM		
Signal at Square One Drive and Signal at Elora Drive(east)	101 m	49 m	100 m	59 m	98 m	163 m		
Signal at Square One Drive and RI/RO at Elora Drive(east)	88 m	53 m	96 m	55 m	100 m	95 m		
Roundabout at Square One Drive and Signal at Elora Drive (east)	82 m	54 m	84 m	57 m	101 m	110 m		
Roundabout at Square One Drive and RI/RO at Elora Drive (east)	108 m	64 m	111 m	64 m	129 m	102 m		

Table 22 Elora Drive (east)/Rathburn Road 95 <sup>th</sup> Percentile Queues (EB Approach)								
	20	21	20	31	20	41		
Scenario	AM	PM	AM	PM	AM	PM		
Signal at Square One Drive and Signal at Elora Drive(east)	18 m	39 m	8 m	40 m	38 m	72 m		
Signal at Square One Drive and RI/RO at Elora Drive(east)	1	-	1	-	1	-		
Roundabout at Square One Drive and Signal at Elora Drive (east)	80 m	44 m	83 m	44 m	83 m	52 m		
Roundabout at Square One Drive and RI/RO at Elora Drive (east)	-	-	-	-	-	-		

Table 23 Square One Drive Extension/Rathburn Road 95th Percentile Queues (WB Approach)								
C	20	21	20	31	20	41		
Scenario	AM	PM	AM	PM	AM	PM		
Signal at Square One Drive and Signal at Elora Drive(east)	31 m	53 m	40 m	43 m	46 m	51 m		
Signal at Square One Drive and RI/RO at Elora Drive(east)	39 m	31 m	42 m	17 m	37 m	92 m		
Roundabout at Square One Drive and Signal at Elora Drive (east)  11 m 27 m 12 m 31 m 11 m 26 m								
Roundabout at Square One Drive and RI/RO at Elora Drive (east)	12 m	18 m	13 m	19 m	12 m	21 m		



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The 95<sup>th</sup> percentile queue length summaries above indicate that queuing deficiencies are anticipated in the 2041 p.m. peak hour of the "Signal at Square One Drive and Signal at Elora Drive(east)" scenario and during the a.m. peak hour at all horizon years in the "Roundabout at Square One Drive and Signal at Elora Drive (east)" scenario. For the scenario of "Roundabout at Square One Drive and Signal at Elora Drive (east)", eastbound queues from the signalized intersection of Elora Drive (east) will reach back to the roundabout during the a.m. peak hour. No queues are recorded along the EB approach to Elora Drive (east) and Rathburn Road intersection with a right-in/right-out constructed at Elora Drive (east) due to free movement conditions along the eastbound and westbound approaches.

#### 5.0 SCENARIO EVALUATION

The various scenarios were evaluated on the results of the 2021 horizon year analysis. The results have been summarized within **Table 24**. A summary of the comparison between scenarios is shown in **Table 25**.

	Table 24 2021 Scenario Summary								
No	No Scenario Peak Hour Total Delay (Hours) Total Tra								
1	De Nethier	AM	220.8	342.2					
1	Do Nothing	PM	437.0	602.9					
	Extension with Signalized	AM	215.6	336.9					
2	Intersection	PM	438.3	603.6					
2	Extension with Roundabout	AM	204.4	328.4					
3	Intersection	PM	448.6	616.8					
1	Extension with Signalized	AM	199.3	321.5					
4	Intersection & Right In/Right Out	PM	422.5	589.9					
	Extension with Roundabout	AM	205.6	330.3					
5	Intersection & Right In/Right Out	PM	423.7	593.9					

	Table 25 2021 Scenario Comparison								
No	No Scenario Peak Hour Total System Delay (Hours) Total System Travel Time (Hours)								
	Do Nothing vs. Extension	AM	-5.2 -2%	-5.3 -2%					
1	with Signalized Intersection (2-1)	PM	1.3 0%	0.7 0%					
2		AM	-16.4 -7%	-13.8 -4%					



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Scenario Evaluation June 2017

	Do Nothing vs. Extension with Roundabout Intersection (3-1)	PM	11.6 3%	13.9 2%
3	Do Nothing vs. Ext with Signalized Intersection & RIRO	AM	-21.5 -10% -14.5	-20.7 -6% -13.0
	(4-1)	PM	-3%	-2%
4	Do Nothing vs. Ext. with	AM	-15.2 -7%	-11.9 -3%
4	Roundabout & RIRO (5-1)	PM	-13.3 -3%	-9 -1%

When comparing the 2021 extension of Square One Drive to Rathburn Road scenarios (signal and roundabout) with the Do Nothing scenario, the total delay and travel time show minimal differences, generally a change less than 5%. In general, any reductions in delay and travel time seem to be somewhat offset by the presence of a second intersection control (whether it be signal or roundabout) on Rathburn Road.

Comparing the 2021 extension of Square One Drive to Rathburn Road scenarios (signal and roundabout) with the right in/right out conversion to the Do Nothing scenarios, a modest decrease in delay in the a.m. peak hour is observed. However, in the p.m. peak hour, and for the travel time in the a.m. and p.m. peak hours, the difference, while negative, is minimal.

It might be expected that the traffic diversions would result in more pronounced reductions in the travel time and delay comparisons. However, differences due to the random nature of vehicle arrivals between model runs, the variability in delay due to the at-capacity operations and the number of other intersections within the Study Area tend to obfuscate the impact of the extension.

The extension of Square One Drive to Rathburn Road would assist in shifting some traffic away from the busiest intersection in the Study Area, Confederation Parkway at Rathburn Road and would create a modest reduction in vehicle delays. While the extension is not intended to serve as either a major thoroughfare or a primary east-west route for downtown Mississauga, it could provide network redundancy in emergency situations. The extension would also assist in creating a finer street grid and transportation network at a human scale while providing additional pedestrian and cyclist network connections.



Conclusions
June 2017

#### 6.0 CONCLUSIONS

The conclusions of the Transportation and Traffic Analysis Report are as follows:

- a) existing conditions are generally characterized by good levels of service at the Study Area intersections although the Confederation Parkway at Rathburn Road intersection is approaching capacity;
- b) in the 2021 horizon year in the p.m. peak hour, a number of intersections are operating with longer delays and approaching capacity;
- c) in the 2031 horizon year, the forecast traffic demands exceed the transportation network capacity by 5% and 15% in the a.m. and p.m. peak hours, respectively, which results in unreliable results in the microsimulation model;
- d) in the 2041 horizon year, the forecast traffic demands exceed the transportation network capacity by 15% and 30% in the a.m. and p.m. peak hours, respectively, which results in unreliable results in the microsimulation model:
- e) with the extension of Square One Drive, total system delay and travel time would generally experience a minimal reduction;
  - a. it should be noted that the extension of Square One Drive (including creation of a new intersection at Rathburn Road and conversion of the existing unsignalized intersection with Confederation Parkway to signal control) would fulfill multiple City planning objectives for the Study Area, including the Strategic Plan, Mississauga Official Plan, Downtown Core Area Local Plan/MOPA8, Downtown 21 Master Plan, Mississauga Cycling Plan, and Public Art Master Plan, through the creation of both an urban-scale street network within, and a gateway to, downtown Mississauga.
- f) with the extension of Square One Drive and the conversion of the Elora Drive (east) at Rathburn Road intersection to an unsignalized right in/right out only, an increased reduction in total system delay and travel time would be experienced;
- g) even with the additional traffic diverted to Square One Drive and Elora Drive (west) with the conversion of the Elora Drive (east) at Rathburn Road intersection to an unsignalized right in/right out only intersection, the intersections of Square One Drive and Elora Drive (west) with Rathburn Road would operate at acceptable levels of service; and
- h) it is recommended that the proposed Square One Drive and Rathburn Road intersection be constructed as a roundabout.



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# APPENDIX A ACTIVE TRANSPORTATION MEMORANDUM





To: File: 165011005 From: Pauline Craig

Markham ON Office

File: 165011005 Date: January 25, 2016

Reference: Square One Drive Extension EA, City of Mississauga - Site Visit to Observe Active

**Transportation Conditions** 

Active Transportation conditions within the Square One Drive Extension study area were observed during a walking site visit on Thursday, January 21, 2016; between 8:00 am and 10:00 am Observations were recorded at locations throughout the study area using Pedestrian and Bicycle Road Safety Audit prompt lists to record existing conditions for active transportation.

#### 1.0 **Summary:**

Low levels of pedestrian activity were observed within the study area. One cyclist was observed riding northbound in the curb lane on Rathburn Road West. Low volumes of motor vehicle traffic were observed on Square One Drive and moderate to low levels of motor vehicle traffic throughout the study area. Occasional midblock crossings by pedestrians occurred between Duke of York Boulevard and Living Arts Drive along delineated (concrete) pathways through the median. The posted speed limit in this location is 30km/hr and motor vehicles were observed to be travelling at slow speeds. Some motorists using the roundabout at Duke of York Boulevard appeared to demonstrate confusion around pedestrian priority at crossings but yielded at the last minute. Obstructions were observed on boulevard bicycle paths due to snow storage, construction activities and one permanent installation.

#### 2.0 General Observations:

#### 2.1 Weather:

Conditions were cloudy, little to no wind, minus 4 degrees Celsius.

#### 2.2 Pedestrian Facilities

#### Sidewalks

Sidewalks are present on all roadway corridors throughout the study area and provide a clearway width that is comfortable for two people passing in opposite directions. Sidewalk clear widths range from 1.5m to 2.6m, however there is one exception with a short stretch of narrow sidewalk (1.42m) on the north side of Rathburn Road West and Elora Drive / 300-350 Rathburn Road West Driveway. For the most part, furniture zones are clearly defined along corridors with exceptions at intersections along Rathburn Road West. Sidewalks along Square One Drive between Duke of York Boulevard and Living Arts Drive are at the same level as the roadway and this location is intended to function as a semi-shared facility with delineated sidewalks and roadways designed for low traffic speeds and frequent midblock pedestrian crossings (indicated by a change in surface material and texture). Motor vehicles were observed encroaching on the sidewalk area at the Sheridan College building on the south-west corner of Duke of York Boulevard and Square One Drive, for short-term parking and pick-up / drop-off activity. One vehicle was observed driving onto the sidewalk and across the front entrance of the building to access Duke of York Boulevard south without driving through the roundabout.



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Reference: Square One Drive Extension EA, City of Mississauga - Site Visit to Observe Active

**Transportation Conditions** 

Figure 1 shows typical sidewalk cross sections along Square One Drive between Duke of York Boulevard and Living Arts Drive; and east of Confederation Parkway;

Figure 1A: Typical cross section of Square One Drive between Duke of York Boulevard and Living Arts Drive showing rolled curbs, sidewalks at road level, and mid-block pedestrian crossing activity





Figure 1B: Typical cross section of Square One Drive between Living Arts Drive and Confederation Parkway



#### 2.3 Bicycle Facilities:

Painted bicycle lanes (1.7 m wide) are present on Confederation Parkway within the study area. These lanes pass through the study area and terminate at Queensway West to the south (where they connect to an east-west boulevard multi-use trail), and Eglinton Avenue West to the north. Bicycle lane markings include painted outer lines and symbols (white) along corridors. There are no markings indicating the location of the bicycle lane through intersections. There are no other dedicated bicycle-only facilities in the study area.

Bicycle parking was observed adjacent to the Sheridan College building along Square One Drive. No bicycles were parked at this location during the time of the site visit.



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Reference: Square One Drive Extension EA, City of Mississauga - Site Visit to Observe Active

**Transportation Conditions** 

A shared boulevard multi-use path (MUP) is present in the study area along the South / South-East boulevard of Rathburn Road West. Shared pathway signage is present indicating that trails are intended for the use of bicycles and pedestrians although the trail is adjacent to a sidewalk (sidewalks are intended for pedestrians and only permit children's size bicycles (wheels 50 cm (20 inches) or less in diameter). The MUP varies in width from 3.0 to 3.3 m wide with a solid yellow directional dividing line at intersection approaches. The MUP is not integrated with intersection crossings and merges with the sidewalk at intersection approachesTraffic signal poles are located at or near to the centre of trail approaches to intersections bearing signage that indicates cyclists must dismount and walk across intersections. Signage at Rathburn Road West and Duke of York Boulevard indicates that the MUP continues south along the west boulevard to access Sheridan College campus. This section of MUP is not integrated with the roundabout and merges with the sidewalk north of the intersection with Square One Drive.

#### 2.5 Transit Facilities

Mississauga Transit MiWay bus routes pass through the study area along Rathburn Road West (Routes 61, 9 & 20), Living Arts Drive (Route 6), Duke of York Boulevard (several routes converge) and Confederation Parkway (Route 28). City Centre Transit terminal is located immediately east of the study area providing connections to 26 weekday bus routes and to GO Transit's inter-regional service. School buses were observed on Rathburn Road West, Elora Drive and Confederation Parkway. Bus stops and shelters are located along the boulevard

#### 2.6 Pedestrian Activity

Low pedestrian activity was observed on all corridors with the highest concentration of pedestrians observed entering and exiting the Sheridan College building at the SW corner of Square One Drive and Duke of York Boulevard. The majority of these pedestrians were observed travelling to-from the east along Square One Drive and the south along Duke of York Boulevard.

#### 2.7 Bicycle Activity

As illustrated in Figure 2, one bicycle was observed riding in the curb lane on Rathburn Road West. Obstructions observed in the boulevard multi-use path may explain the cyclist's preference for using the curb lane (see detailed observations in In Table 1).



Figure 2: Cyclist riding in the curb lane on Rathburn Road West



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Reference: Square One Drive Extension EA, City of Mississauga - Site Visit to Observe Active

**Transportation Conditions** 

#### 3.0 <u>Detailed Observations:</u>

The following detailed observations were recorded at locations throughout the study area using Pedestrian and Bicycle Road Safety Audit prompt lists to analyze existing conditions for active transportation. Table 1 summarizes the detailed observations of the active transportation environment and conditions paying close attention to the intersection locations of reported pedestrian collisions between 2009 and 2013.

#### **TABLE 1 Detailed Observations of Existing AT Facilities**

#### **INTERSECTION / SEGMENT**

#### Duke of York and Square One Drive



Although signage and pavement markings are present two instances of driver confusion with pedestrian priority observed



Vehicles observed parking on sidewalk at Sheridan College building and driving across sidewalk to access Duke of York Boulevard (southbound) – (google image)

- <u>Pedestrian Crossings:</u> high visibility pavement markings and pedestrian priority signage is present at all pedestrian crossings.
- <u>Curb Ramps:</u> channelized ramps are present at all pedestrian crossings oriented along the crossing. No tactile walking surface indicators (TWSIs) are not present at pedestrian crossings. Guide lines are present at all curb ramps.
- Crossing control: Pedestrian priority is clearly indicated with signage and high visibility pavement markings (zebra markings) clearly show pedestrian crossing locations however, some driver confusion observed with regard to pedestrian priority at roundabout crossing.
  - Sidewalk encroachment: Vehicles observed parking and driving on sidewalks and boulevard area at SW corner of Duke of York and Square One Drive.



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Reference: Square One Drive Extension EA, City of Mississauga - Site Visit to Observe Active

**Transportation Conditions** 

#### **INTERSECTION / SEGMENT**

#### Living Arts Drive and Square One Drive



No tactile pavers or guide lines



Guide lines on NW corner are not aligned with the direction of pedestrian crossing

- <u>Pedestrian Crossings</u>: High visibility pavement markings (zebra) are present on 3 legs of the intersection. Contrast paving (concrete) is present on east leg of intersection; pedestrian signals and push buttons on all corners.
- <u>Curb Ramps:</u> channelized ramps are present on SE and NE corners, depressed curbs on NW and SW corners. No TWSIs present. Guide lines on curb ramps are present at NW and SW corners and in E-W direction only on NE corner. Guide lines at NW corner are not in line with the direction of travel.
- <u>Lighting:</u> Light standards are present on all corners
- <u>Bicycle facilities:</u> no bicycle facilities are present along Square One Drive between Duke of York Boulevard and Confederation Boulevard. Conditions range from shared lane (single file) between Duke of York and Living Arts Drive, to wide shared curb lane between Living Arts Drive and Confederation Parkway.



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Reference: Square One Drive Extension EA, City of Mississauga - Site Visit to Observe Active

**Transportation Conditions** 

#### **INTERSECTION / SEGMENT**

#### Confederation Parkway and Square One Drive



No tactile pavers / guide lines no pedestrian crossing markings



Uneven asphalt surface and ice patches along east sidewalk

- <u>Pedestrian Crossings</u>: No pavement markings are present across Square One Drive at this intersection
- <u>Curb Ramps:</u> channelized ramps are present on SE and NE corners. No TWSIs or guide lines present.
- <u>Lighting:</u> Light standards are present on NE and SE corners and on west side of Confederation Parkway
- Median: Median provides refuge for crossing pedestrians
- <u>Sidewalks:</u> north-bound sidewalk (east boulevard) has uneven asphalt surface with ice build-up in some locations.
- <u>Bike Lanes:</u> on Confederation Parkway are adjacent to on-street parking lay-bys in this area increasing risk of cyclists riding in parked car door zone; no bicycle lane markings (chevrons or other markings) indicate the presence of a bicycle lane crossing the intersection.



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Reference: Square One Drive Extension EA, City of Mississauga - Site Visit to Observe Active

**Transportation Conditions** 

#### **INTERSECTION / SEGMENT**

Rathburn Road West and Elora Drive / 300-350 Rathburn Road West Driveway Access



No high visibility pavement markings, no tactile pavers or guide lines, traffic light pole in trail pathway with sign indicating users must dismount



Permanent obstruction along MUP, north of Elora Drive / 300-350 Rathburn Road West Driveway Access



Shared pathway signage although sidewalk is adjacent to trail

- <u>Pedestrian Crossings</u>: Pavement markings at the intersection are parallel lines – no high visibility markings (zebra markings); pedestrian signals and push buttons present on all corners.
- MUP Crossings: trail merges with sidewalk, surface material change to concrete; traffic light pole is located in centre of pathway with signage indicating dismount and walk
- <u>Curb Ramps:</u> depressed curbs at NW and SW corners, channelized curb ramps at NE and SE corners. No TWSIs at crossings, guide lines are present at NW and NE corners only
- <u>Curb Radii:</u> wide curb radii allow turning vehicles to travel at higher speeds. School bus observed encroaching onto sidewalk while making a EB to SB right turn
- MUP: no snow clearance from MUP south of intersection; obstruction (bollard) observed north of intersection creates potential crash hazard; shared pathway although sidewalk is present.
- <u>Lighting</u>: no light standard at SW corner of the intersection may impact visibility in this location in dark conditions.



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Reference: Square One Drive Extension EA, City of Mississauga - Site Visit to Observe Active

**Transportation Conditions** 

#### **INTERSECTION / SEGMENT**

#### Rathburn Road West and Confederation Parkway



Temporary obstruction observed along south sidewalk east of Confederation Parkway



Rough asphalt surface on Confederation Parkway east sidewalk (South of Rathburn Road West)



MUP narrows at intersection



Temporary obstruction caused by ice on Rathburn MUP east of Confederation Parkway.

- <u>Pedestrian Crossings</u>: High visibility pavement markings are present at all legs of the intersection; pedestrian signals and push buttons at all corners.
- <u>Sidewalks:</u> temporary obstruction (snow fence) observed encroaching on Rathburn Road West south sidewalk; rough asphalt surface on Confederation parkway East side sidewalk
- <u>Curb Ramps:</u> Depressed curb on NE corner, channelized curb ramps on all other corners. No TWSIs present. Guide lines present on all ramps.
- <u>MUP</u>: narrows to 2.3 m width at SW approach to intersection; temporary obstruction due to snow/ice storage east of intersection.
- <u>Lighting:</u> light standards at all corners of intersection situated close to curb and oriented over roadway along Confederation Parkway (trail runs behind light standards)



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Reference: Square One Drive Extension EA, City of Mississauga - Site Visit to Observe Active

**Transportation Conditions** 

#### **INTERSECTION / SEGMENT**

#### Rathburn Road West and Living Arts Drive



Uneven asphalt surface on sidewalk; pedestrian crossing pavement markings absent. Tactile pavers not present



No snow clearance on multi-use trail

- <u>Pedestrian Crossings:</u> High visibility pavement markings are present at all legs of the intersection except for the south leg (recent construction); Pedestrian Signals and push buttons at all corners.
- <u>Sidewalks:</u> temporary asphalt sidewalk on south side of Rathburn Road West east of intersection with uneven surface; sidewalk on Living Arts Drive (south of Rathburn Road West) on east side only
- <u>Curb Ramps:</u> Depressed curb on SE and SW corner, channelized ramps on NE and NW corners. TWSIs present on SW corner only. Guide lines present on NE and NW ramps.
- <u>MUP</u>: Trail terminates at intersection and merges with sidewalk, dismount and walk signage posted.
- <u>Lighting:</u> light standards at all corners of intersection situated close to curb and oriented over roadway along Confederation Parkway (trail runs behind light standards)



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Reference: Square One Drive Extension EA, City of Mississauga - Site Visit to Observe Active

**Transportation Conditions** 

#### **INTERSECTION / SEGMENT**

#### Rathburn Road West and Duke of York Boulevard



Temporary obstruction and parked vehicle observed along boulevard multi-use path



Sidewalk and MUP not delineated due to temporary asphalt resurfacing adjacent to construction



No tactile pavers or guide lines

- <u>Pedestrian Crossings</u>: high visibility pavement markings at all pedestrian crossings; pedestrian signals and push buttons at all corners. Asphalt repair partially obscuring markings on south leg of intersection.
- <u>Sidewalks:</u> west sidewalk/MUP on Duke of York Boulevard (south of intersection) is obstructed by construction (staging area).
- <u>Curb Ramps:</u> Depressed curbs on SW and SE corner, channelized ramps on NW and NE corners. TWSIs on SE corner only; guide lines on SW and NE corner, missing on NW corner.
- MUP: Temporary obstruction (fence) and parked vehicle on MUP west of Duke of York Boulevard; temporary asphalt surfacing removes delineation of sidewalk from MUP; MUP terminates at intersection and merges with sidewalk, dismount and walk signage posted
- <u>Lighting:</u> light standard at all corners of intersection situated close to curb and oriented over roadway along Confederation Parkway (trail runs behind light standards)



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Reference: Square One Drive Extension EA, City of Mississauga - Site Visit to Observe Active

**Transportation Conditions** 

#### STANTEC CONSULTING LTD.

Pauline Craig, BSc. MES Active Transportation Specialist Pauline.Craig@stantec.com

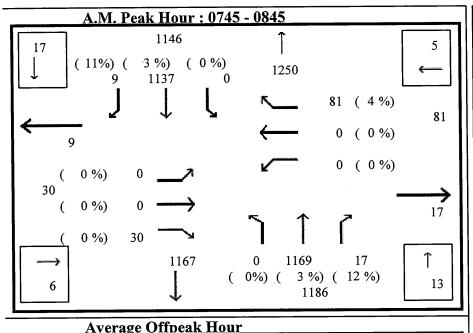


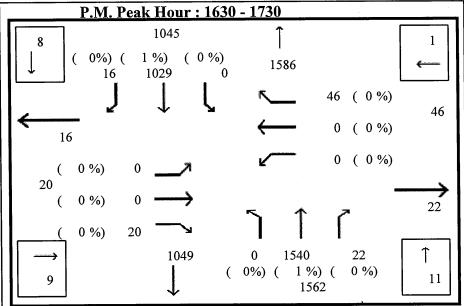
# APPENDIX B TRAFFIC DATA

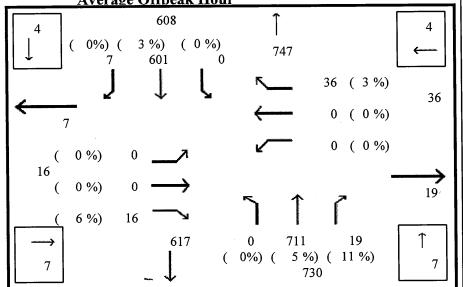
# APPENDIX B1 TURNING MOVEMENT COUNTS

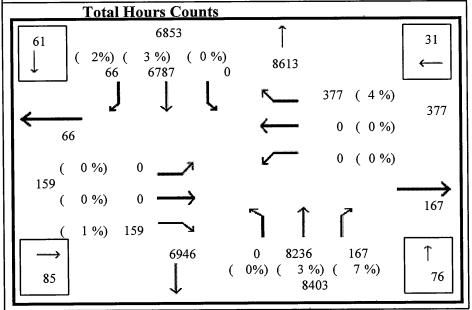


#### Leading today for tomorrow [CON-SQU-10-N] CONFEDERATION PKY/SQUARE ONE DR









Note: North is at the top of the page

Value in (parenthesis) indicates truck/heavy vehicle percentages



# MISSISSAUGA Intersection count: 15-minute interval data

#### CONFEDERATION PKY/SQUARE ONE DR

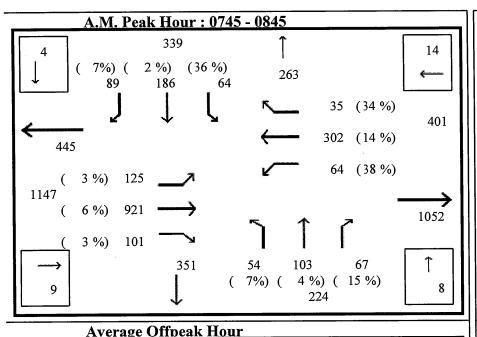
Count Date:

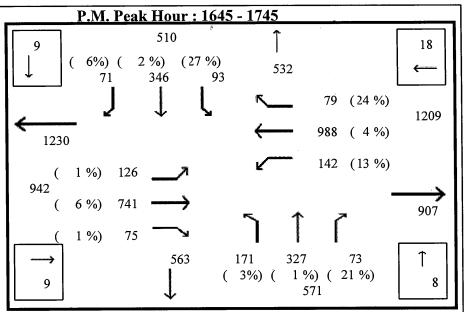
Tuesday October 20 2015

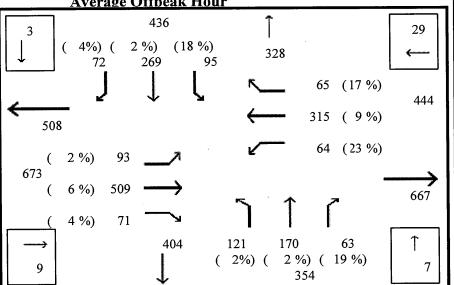
CON-SQU-10-N

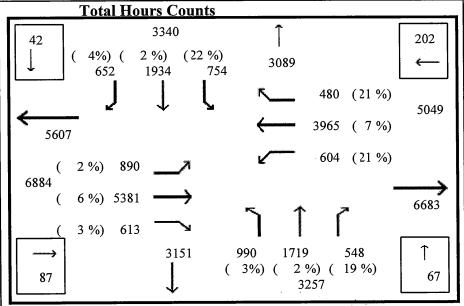
COM-200-10-M																_					
Time		NO	RTHB	OUND			SOL	JTHB(	OUND	)		EA:	STBO	UND			WE	STBO	UND		All
Ending	LT	Thru		Trk	Peds.	LT		R	Trk	Peds.	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	Vehicles
07:15	0	116	4	9	1	0	168	1	1	0	0	0	6	0	0	0	0	7	0	1	312
07:30	0	159	3	12	1	0	213	0	7	1	lő	Ö	5	0	0	0	0	12	2	0	413
07:45	0	207	1	8	2	0	235	1	6	0	Ŏ	Ö	8	Ö	Ö	0	0	15	2	3	483
08:00	0	264	2	9	0	0	280	1	10	3	lő	0	8	0	3	ŏ	0	14	2	2	590
08:15	l -	251	4	9	5	l ö	271	1	7	1	l o	0	6	0	5	Ŏ	0	20	0	3	569
08:30	0	322	2	13	0	0	288	0	10	0	lő	0	8	Ö	6	ľ	0	25	1	1	669
08:45	1 -	294	7	9	1	l o	265	6	7	1	Ö	0	8	0	3	Ö	0	19	0	7	615
09:00	0	281	5	12	2	0	254	0	6	2	l o	0	4	0	4	lŏ	Ŏ	19	0	5	581
AM Total Hr	0	1894	28	81	12	0	1974	10	54	8	ő	0	53	0	21	ő	Ö	131	7	22	
AM Peak Hour	١٠	1094	20	01	12	"	1974	10	J <del>4</del>	O	ľ	U	23	v	21	"	v	151	•		
07:45 - 08:45	_	1121	15	40	6	0	0	30	0	17	0	0	78	3	13	0	1104	8	34	5	
******	0	1131	15 ****		v ****	****	****		***	1 / ****	****	****	***	****	****	****	****	****	****	****	
11:15	i				1	0	103	2	5	1	0	0	1	0	0	0	0	11	0	2	246
11:30	0	112	4	8	1		129	4	6	1	0	0	5	0	0	l o	Ö	14	0	5	301
11:45	0	135 168	2	6	3	0	162	0	2	1		0	7	0	1	l o	0	12	0	2	363
12:00	0			9 5	5		152	1	5	1	0	0	4	0	3	ő	0	7	1	2	342
12:15	0	163	4	-	3 4	0	147	2	3	0	0	0	1	0	3		0	5	1	0	343
12:30	0	175	3 4	6 6	0	0	102	ے 1	4	2		0	3	0	0	l o	Ö	4	0	2	252
12:45	0	128	-	0 15	2	0	173	1	3	1		0	3	0	0	ő	Ŏ	11	0	1	390
13:00	0	179	5 6		1	0	160	0	4	3	0	0	8	0	0	ő	0	10	0	1	364
13:15	0	165 205	7	11 6	0	0	166	1	5	1	0	0	5	ŏ	0	ľ	0	9	Ö	1	404
13:30	0	203	7	12	0	0	151	0	5	2		0	2	Ö	1	ő	Ŏ	8	0	4	413
13:45	0	192	4	13	4	0	147	4	6	0	0	0	3	1	5	lő	Ŏ	8	0	2	378
14:00	0	184	5	9	1	0	155	5	8	0	l o	0	4	1	1	l ŏ	Ö	7	0	0	378
Offpeak Tot Vol	0	2034	54	106	22		1747	21	56	13	0	0	46	2	14	lő	0	106	2	22	
Offpeak Hr Avg	0	678	18	35	7	0	582	7	18	4	lő	Ŏ	15	0	4	Ŏ	0	35	0	7	
******	****	****			, ****	****	****		* ***	****	****	****		****	****	****	****	****	****	****	,
15:15	0	305	3	19	8	0	169	0	8	0	0	0	7	0	5	0	0	7	0	0	518
15:30	0	249	9	8	4	0	164	2	6	3	lő	Ö	7	0	0	0	0	11	1	0	457
15:45		328	3	12	14	l ŏ	353	1	4	1	lő	Ŏ	5	Ö	0	0	0	15	0	0	721
16:00	0	226	11	16	5	l o	224	1	9	1	lő	Ö	6	0	1	0	0	9	2	2	504
16:15		377	9	13	4	lŏ	236	1	8	0	l o	0	2	0	8	10	0	5	0	4	651
16:30	ő	312	9	11	1	0	233	2	4	2	0	0	2	0	2	0	0	6	0	4	579
16:45	Ö	397	6	8	3	lő	241	10	6	0	0	0	3	0	0	0	0	15	0	2	686
17:00	lő	417	5	7	2	lŏ	263	2	3	0	0	0	4	0	2	0	0	6	0	1	707
17:15	lő	363	6	2	2	ŏ	268	1	3	1		Ō	8	0	3	0	0	12	0	4	663
17:30	0	344	5	2	2		243	3	2	0	l o	0	5	0	3	0	0	13	0	4	617
17:45	0	359	4	2	3	0	257	3	8	0	l ŏ	ő	5	Ö	0	0	0	16	1	2	655
18:00	0	353	4	2	3		242	8	3	2	Ö	0	4	ő	2	ő	Õ	11	1	9	628
PM Total Hr	0	4030		102	5 51		2893		64	10	l o	0	58	ő	26	lő	Ö	126		32	
PM Peak Hour	ľ	4030	/ <del>-1</del>	102	<i>J</i> 1	"	2073	57	U-T	10	١	v	20	~		1	-	_,	1		
16:30 - 17:30	0	1521	22	19	9	0	0	20	0	8	0	0	46	0	11	0	1015	16	14	1	
****	****			* ****			****		-	-	****	_		***		****			****	****	

#### Leading lodgy for tamorrow [DUK-RAT-01-S] DUKE OF YORK BLVD/RATHBURN RD W









Note: North is at the top of the page

Value in (parenthesis) indicates truck/heavy vehicle percentages



## Intersection count: 15-minute interval data

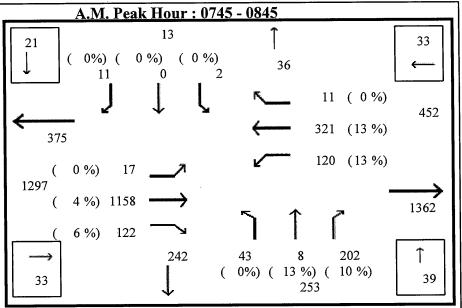
DUKE OF YORK BLVD/RATHBURN RD W

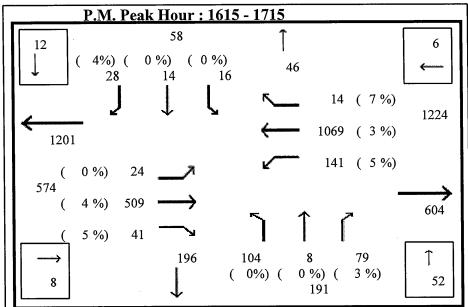
Count Date:

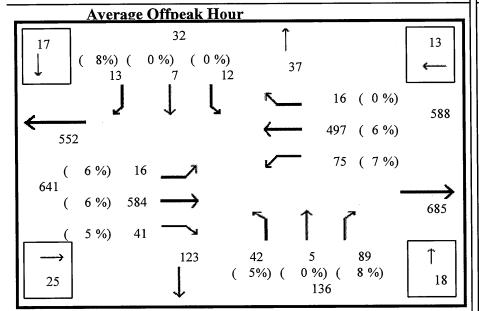
Thursday October 22 2015

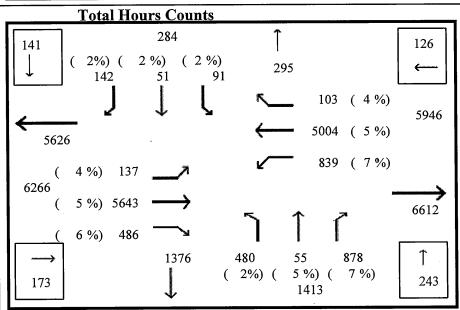
DUK-RAT-01-S		DUKE	. OF 1	OKK D		TIDOR	IN IND	VV						Count	Date 1						
Time		NΟ	DTHR	OUND		1	SOI	JTHB	ОПИГ	)	Į.	FA	STBO	UND			WE	STBC	UND		All
Ending	LT	Thru	RT	Trk	Peds.	LT		R	Trk	Peds.	LT	Thru		Trk	Peds.	LT	Thru	RT	Trk	Peds.	Vehicles
07:15	5	10	5	2	5	8	28	18	8	1	27	175	8	10	0	7	66	8	12	1	397
07:30	3	31	5	3	0	10	20	29	10	1	34	230	7	11	0	1	87	3	13	1	497
07:45	16	31	10	6	0	22	47	17	4	3	39	179	15	20	1	11	56	2	16	3	491
08:00	17	23	12	3	1	14	39	29	9	3	43	238	15	17	0	6	88	6	21	4	580
08:15	12	31	16	5	1	9	54	19	6	4	20	203	27	16	0	8	44	3	18	1	491
08:30	12	18	11	8	6	6	41	12	9	3	25	212	29	14	2	15	60	8	17	2	497
08:45	9	27	18	2	1	12	48	23	9	4	33	213	27	15	2	11	68	6	22	1	543
09:00	24	22	7	9	4	7	46	16	7	4	37	214	31	11	3	7	68	5	18	3	529
AM Total Hr	98	193	84	38	18	88	323	163	62	23	258	1664	159	114	8	66	537	41	137	16	
AM Peak Hour											1.0	2.60		70	•	4.1	1.00	02	22	1.4	
07:45 - 08:45 ******	50	99	57	18	9	121	866 ****	98 ****	62 ***	4 ****	40	260 ****	23 ***	78 ****	8 ****	41	182 ****	83 ****	33 ****	14 ****	
	****	****		****	****	****			_		1				1	7	37	11	11	2	342
11:15 11:30	12	20	10	l	2	17	38	17	6	3	24	119 144	10 20	2 13	0	15	78	10	17	1	513
11:45	18	43	16	4	2	26	61 84	22 14	5 7	1 11	21 37	102	20	10	1	4	68	14	15	3	474
12:00	29	43	9	5 5	3 3	13 19	100	13	6	6	19	139	17	2	0	12	76	14	11	0	505
12:15	26 37	31 43	15 20	3	3 1	12	73	30	5	2	27	155	10	15	0	18	90	13	10	0	561
12:30	27	43 49	20 12	<i>5</i>	1	13	7 <i>3</i> 39	18	6	6	20	117	27	10	0	12	59	26	13	1	453
12:45	31	49 49	16	4	2	42	95	14	9	5	24	103	5	12	2	12	87	13	13	2	529
13:00	28	35	9	4	5	28	54	24	8	12	11	102	25	11	0	19	66	20	10	2	454
13:15	33	36	11	7	0	18	68	19	5	17	32	120	10.	10	0	10	83	12	12	0	486
13:30	39	53	12	3	Ö	14	55	12	9	5	18	96	13	9	1	10	64	7	13	4	427
13:45	35	45	14	6	3	20	65	11	7	10	15	110	21	7	3	16	75	12	15	3	474
14:00	44	53	11	5	5	12	57	14	7	11	25	127	29	9	3	14	82	12	19	3	520
Offpeak Tot Vol	359	500	155	52	27	234	789	208	80	89	273	1434	207	110	11	149	865	164	159	21	
Offpeak Hr Avg	119	166	51	17	9	78	263	69	26	29	91	478	69	36	3	49	288	54	53	7	
*****	****	****	***	* ****	****	****	****		* ***	****	****	****	***	****	****	****	****	****		****	
15:15	23	58	24	9	8	15	33	28	8	15	21	111	21	10	1	10	95	12	11	8	489
15:30	30	56	16	6	5	30	54	16	5	9	26	143	12	12	0	6	120	13	11	0	556
15:45	67	116	22	6	0	54	58	36	12	8	44	250	18	6	0	16	187	15	26	2	933
16:00	45	99	21	6	6	23	47	32	5	11	24	189	21	8	2	22	124	15	13	3	694
16:15	52	101	17	6	3	26	51	18	12	9	30	185	19	- 11	0	22	201	15	19	2	785 671
16:30	45	79	13	4	6	18	58	22	3	8	26	134	22	10	0	20	188	15	14 17	3	623
16:45	42	85	19	2	2	10	57	18	6	9	15	105	27	6	6	13	185 238	16 16	21	2	810
17:00	42	69	13	8	2	20	91	19	11	4	29	176	15	9	1	1 '		10	15	2	813
17:15 17:30	47	93	11	5	2	15	95 74	15	9 8	4	38	170 175	18 26	10 15	2 2	33	236 227	21	20	3	818
17:45	43	88	18	5	3	16	74 70	17	-	3	26	175	15	12	4	32	245	13	23	3	791
18:00	34	73	16	6	2	17	78 85	16 17	9 7	2	27	165	14	11	5	29	238	12	22	2	784
18:15	38	81	15	0	0	19	0	0	0	0	$\begin{bmatrix} 2 \\ 0 \end{bmatrix}$	0	0	0	0	$\begin{bmatrix} 2 \\ 0 \end{bmatrix}$	0	0	0	0	0
PM Total Hr	508	0 998	0 205	•	0 42	263	781	254	•	90	338	•	228	-	23	262	2284	-	212	30	ľ
PM Peak Hour	308	フプロ	203	07	42	203	/01	4ر∠	),	70	330	1717	0	. 120							
16:45 - 17:45	166	323	58	24	9	125	697	74	46	9	124	946	60	79	8	68	338	67	37	18	

#### [LIV-RAT-UNN-12-N] LIVING ARTS DR/RATHBURN RD W/UNNAMED UCOM



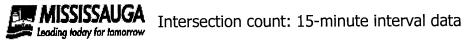






Note: North is at the top of the page

Value in (parenthesis) indicates truck/heavy vehicle percentages



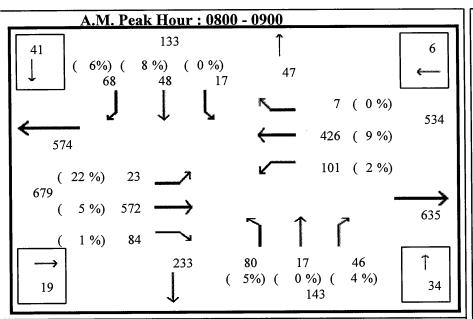
#### LIVING ARTS DR/RATHBURN RD W/UNNAMED UCOM

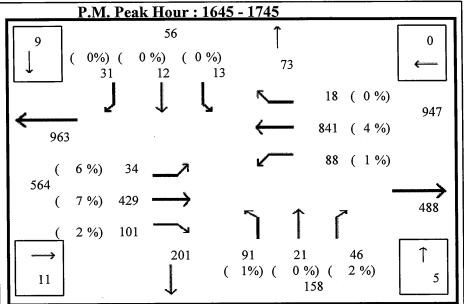
I TV-RAT-I INN-12-N

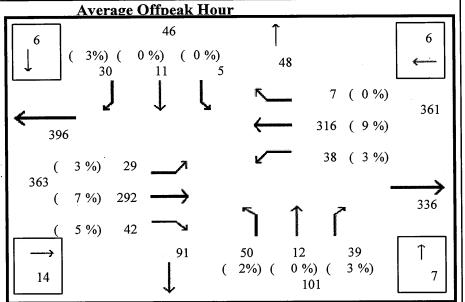
Thursday October 15 2015 Count Date:

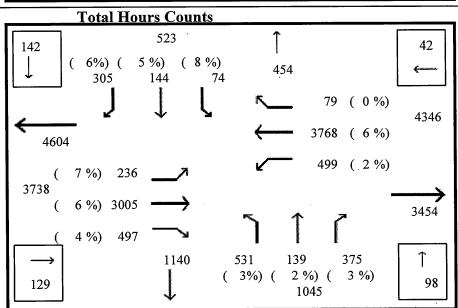
LIV-RAT-UNN-12-	-N																				
Time	ļ	NO	RTHB	OUND		l	SOL	JTHB	OUNE	)	1	EAS	<b>STBO</b>	UND			WE	STBO	UND		All
Ending	LT	Thru	RT	Trk	Peds.	LT	Thru	R	Trk	Peds.	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	Vehicles
07:15	5	2	29	1	5	0	0	2	0	0	4	196	15	12	3	11	83	3	10	5	373
07:30	8	2	31	3	6	0	0	1	0	6	4	269	22	14	7	19	78	3	11	7	465
07:45	9	3	37	3	7	l 1	0	3	0	8	3	251	38	14	5	21	86	2	14	10	485
08:00	11	2	45	7	6	1	0	4	0	6	5	268	35	14	4	24	78	4	13	11	511
08:15	10	1	42	5	7	0	0	2	0	7	3	299	31	11	5	29	76	3	13	8	525
08:30	10	2	48	5	11	0	0	3	0	9	4	271	27	16	7	25	58	2	16	11	487
08:45	12	2	47	4	9	1	0	2	0	11	5	271	22	15	5	27	66	2	16	9	492
09:00	14	2	49	5	9	1	0	2	0	13	3	251	25	14	9	31	71	3	18	11	489
AM Total Hr	79	16	328	33	60	4	0	19	0	60	31	2076	215	110	45	187	596	22	111	72	
AM Peak Hour						-															
07:45 - 08:45	43	7	182	21	33	17	1109	115	56	21	105	278	11	58	39	2	0	11	0	33	
*****	****	****	****	****	****	****	****	****	* ***	****	****	****	***	****	****	****	****	****	****	****	
11:15	8	2	18	3	7	4	1	1	1	1	0	134	9	3	6	25	82	1	6	4	298
11:30	7	0	16	4	5	1	1	1	0	4	4	123	10	8	5	15	85	1	7	8	283
11:45	6	1	15	2	10	6	1	5	1	5	3	125	7	9	7	13	90	4	10	5	298
12:00	14	0	25	1	12	2	1	3	0	4	4	144	10	13	10	25	131	4	10	8	387
12:15	15	2	32	3	9	1	4	2	0	2	4	126	5	8	6	22	112	2	5	6	343
12:30	10	1 .	18	1	6	1	0	2	0	2	4	118	13	12	3	14	114	5	10	5	323
12:45	12	1	25	3	12	2	0	5	1	1	4	139	18	6	2	13	105	5	6	4	345
13:00	8	2	22	2	1	2	7	1	1	6	6	142	10	14	3	33	120	6	11	3	387
13:15	8	1	16	7	8	1	0	5	0	2	3	132	6	10	2	14	124	4	8	1	339
13:30	9	2	22	0	3	4	2	4	0	4	1	151	10	10	3	13	141	3	17	4	389
13:45	11	1	18	0	2	4	0	2	0	4	8	156	11	8	2	11	141	8	13	4	392
14:00	13	2	22	0	2	9	3	8	0	4	4	163	9	7	3	11	151	6	11	3	419
Offpeak Tot Vol	121	15	249	26	77	37	20	39	4	39	45	1653		108	52	209	1396	49	114	55	
Offpeak Hr Avg	40	5	83	8	25	12	6	13	1	13	15	551	39	36	17	69	465	16	38	18	
****	****	****	****	****	****	****	****	***	* ***	****	****	****	***	****	****	****	****	****		****	
15:15	14	2	12	2	3	0	2	7	0	2	4	153	8	11	1	18	185	0	7	2	425
15:30	35	6	29	2	5	9	4	14	0	0	7	218	13	10	1	25	206	2 .	8	21	588
15:45	14	2	18	2	3	6	3	5	1	6	1	125	18	5	5	18	151	1	9	14	379
16:00	8	0	28	5	3	1	0 -	9	0	0	8	157	12	5	6	41	244	2	9	6	529
16:15	25	0	20	2	4	3	5	6	0	5	1	145	10	11	1	31	188	4	14	6	465
16:30	24	1	7	1	3	4	5	5	0	1	9	140	11	8	2	30	297	1	13	10	556
16:45	14	3	25	0	3	5	5	8	0	1	3	117	10	6	4	29	228	6	10	23	469
17:00	35	2	26	1	0	5	3	8	1	2	8	121	10	6	4	42	267	3	11	11	549
17:15	31	2	19	0	2	2	1	6	0	2	4	111	8	2	2	33	243	3	8	.8	473
17:30	28	1	15	1	3	3	1	4	0	1	3	110	9	10	16.	55	233	1	10	2	484
17:45	24	2	22	0	5	7	1	5	0	0	5	121	9	13	1	33	232	3	9	9	486
18:00	18	0	16	2	2	3	0	4	0	7	3	115	7	9	1	26	263	2	8	4	476
PM Total Hr	270	21	237	18	36	48	30	81	2	27	56	1633	125	96	44	381	2737	28	116	116	
PM Peak Hour																					
16:15 - 17:15	104	8	77	2	8	24	489	39	22	12	134	1035		42	52	16	14		1	6	
*****	****	****	***	* ****	****	****	****	***	* ***	****	****	****	***	****	****	****	****	****	****	****	

Leading today for tomorrow [ELO-RAT-10-S] ELORA DR/RATHBURN RD W









Note: North is at the top of the page

Value in (parenthesis) indicates truck/heavy vehicle percentages

## Intersection count: 15-minute interval data

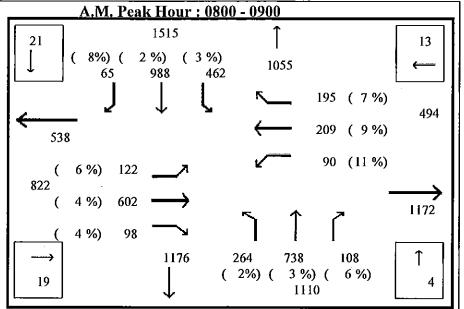
#### ELORA DR/RATHBURN RD W

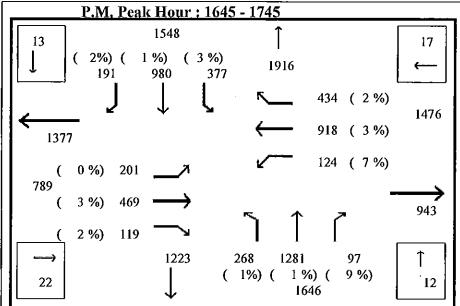
ELO-RAT-10-S

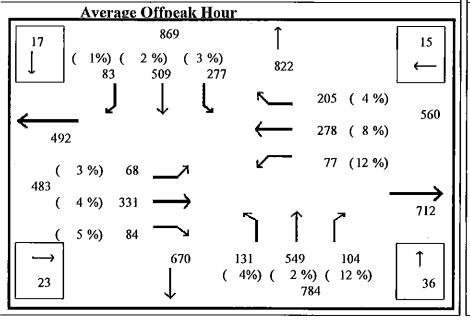
Tuesday October 27 2015 Count Date:

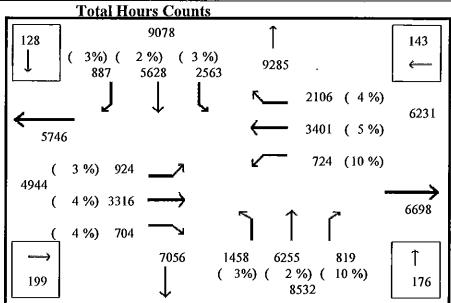
ELO-RAT-10-S																					
Time	I	NO	RTHB	OUND		I	SOL	UTHB	OUNE	).	1	EA	STBO	UND		l	WE	STBO	UND		All
Ending	LT	Thru	RT	Trk	Peds.	LT	Thru	R	Trk	Peds.	LT	Thru		Trk	Peds.	LT	Thru	RT	Trk	Peds.	Vehicles
07:15	8	4	9	0	1	0	2	7	0	0	4	47	4	2	3	4	26	0	3	0	120
07:30	10	3	15	1	0	1	4	20	1	2	3	82	5	4	1	<del>'</del> 7	48	0	6	1	210
07:45	22	0	19	2	7	2	4	13	0	2	5	108	6	16	2	5	64	0	6	2	272
08:00	24	2	13	0	5	3	7	15	0	0	9	151	8	10	6	6	109	2	5	1	364
08:15	25	∠ 1	10	0	4	2	16	17	2	3	2	111	14	6	7	7	88	2	3	3	306
08:30	19	7	15	3	3	5	12	15	2	1	6	148	30	15	21	42	106	2	14	16	441
08:45	16	4	12	2	11	6	7	14	1	0	6	137	20	9	12	23	102	2	11	11	372
09:00	16	5	7	1	1	4	9	18	3	2	4	145	19	7	1	27	93	1	11	4	370
AM Total Hr	140	3 26	100	9	32	23	61	119	9	10	39	929	106	69	53	121	636	9	59	38	370
AM Peak Hour	140	26	100	9	32	23	01	119	9	10	1 39	929	100	09	33	121	030	9	39	30	
08:00 - 09:00	7.0	17	4.4	_	10	10	<i>5 1</i> 1	02	27	41	99	389	7	39	34	17	44	64	8	6	
******	76 ****	17 ****	44 ****	6 ****	19 ****	18	541 ****	83 ****	37 * ***	41 ****	99   ****	309 ****	/ ***	39 ****	34 ****	****	<del>44</del> ****	-	o ****	****	
11:15			_			1					1 .				_			0		1	103
11:30	4	0	6	0	3	2	3	4	0	2		33 75	9	2	0 4	6	33 57	4	0 8	1	200
11:45	14	5	10	1	3		2 6	5	0	1 0	5 3	75 52	3 11	<i>5</i>	4 1	13	57 53	<del>1</del> 1	8 7	1	184
12:00	10	4	10	0	4	0	-	9		-	1			-	0	111	33 72	1	5	0	231
12:15	14	5	11	1	0	1	5	6	0	0	6	76 59	13 11	4 11	1	13	70	3	3 7	1	217
12:30	13	3	8	1	2	2	4	8 8	0	1	4		12	4	1	20	80	2	10	3	263
12:45	11	2	15	0	3	1	2	-	2	4	11	83	11	3	7	6	84	2	6	0	228
13:00	16	3	9	0	4		0 3	10	1	0 0	9	70 69	8	_	0	10	80	1	7	2	234
13:15	11	5	11	1	2 5	2	3	11 4	0	6	10	70	9	6 10	0	6	79	3	9	4	235
13:30	18	3	9	1	-	1	<i>3</i>	-	0	2	10	70	12	7	3	9	83	2	7	2	241
13:45	16	3	11 7	0	6	1 2	2	6 7	0	1	12	70 74	12	7	1	9	84	1 .	8	3	239
14:00	11	3	•	-	7 5	2		•		1	8	85	9	8	2	4	95	2	9	3	250
Offpeak Tot Vol	11	1	8	0	_	1	1	8 86	0	1 10	85		120	70	20	113	93 870	22	83	21	230
Offpeak Hr Avg	149	37	115	5	44	15	35		4	18	28	816 272	40	23	6	37	290	22 7	27	7	
********	49 ****	12 ****	38 ****	1 : ****	14 ****	5	11 ****	28 ***	1 * ***	6 ****	20 ****	∠/∠ ****	40 ***	23 ****	****	****	∠9U ****	/ ****		/ ****	
15:15						1				0		70	15	8	28	35	117	5	5	14	296
15:30	12	5 1	7	0	3 1	$\begin{bmatrix} 0 \\ 2 \end{bmatrix}$	2 3	4 4	0 1	1	11 6	76	19	6	2 <b>0</b> 7	18	145	ر 1	4	0	323
15:45	13	4	17	4	_	4	<i>3</i>	5	1	5	6	69	19	4	2	9	119	1	5	2	264
16:00	6	6	11	0	3	0	4	8	1	0	8	89	17	8	1	14	127	4	11	2	325
16:15		4	10	5	11	0	1	7	5	5	6	103	17	7	9	22	173	7	7	6	405
16:30	25	3	17 19	_	14 3	4	9	9	5	0	10	82	29	8	3	29	181	4	8	4	435
16:45	22	14		2	-		3	8	<i>3</i>	2	6	92	21	4	3 7	25	174	5	9	0	402
17:00	25	8	14	2	6 2	$\frac{1}{2}$	2	6 4	0	0	1 4	103	22	11	1	23	183	3	8	1	408
17:15	26	0	14	2 0		2 3	3	-	0	0		105	26	6	5	23	202	5	9	1	448
17:30	22	8	12		2	1 .	_	12	-	•	11			-	0	16	202	J A	6	0	417
17:45	18	6	9	0	2	4	5	9	0	0	9	93	26	5 11			216	4	0 11	3	452
18:00	24	6	10	0	5	4	2	6	0	0	8	98	25	11	3	25		6		_	
PM Total Hr	16	-8	7	0	1	5	3	7	0	1	10	89	22	8	3	14	200	3	5	6 .	397
PM lotal Hr PM Peak Hour	228	73	147	16	53	30	41	83	17	14	95	1070	253	86	69	253	2044	48	88	39	
		•	4 -	_			400	0.0		0	1 05	000	10	2.4		1,,	10	2.1	^	0	
16:45 - 17:45 *****	90	21	45	2	11	32	400	99	33	9	87	808	18	34 ****	5	13	12 ****	31	0 * ****	0 ****	
	****	****	****	* ***	****	****	****	***	* ***	****	****	****	***	***	****	****	<b>ጥጥ</b>	ጥጥጥ	•	ጥጥጥ	1

### Leading lodgy for tomorrow [CON-RAT-10-S] CONFEDERATION PKY/RATHBURN RD W









Note: North is at the top of the page

Value in (parenthesis) indicates truck/heavy vehicle percentages

## Intersection count: 15-minute interval data

#### CONFEDERATION PKY/RATHBURN RD W

Count Date :

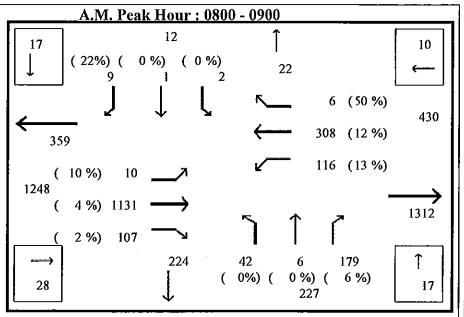
Wednesday October 1 2014

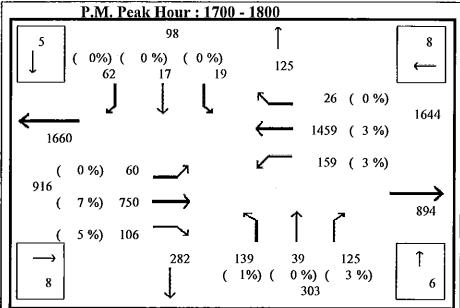
CON-RAT-10-S

COM-1041-10-2	_					_					_										
Time		NC	RTHE	BOUND	)		SO	UTHE	BOUN	D		EΑ	STBC	DUND			W	ESTB(	DUND		All
Ending	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	LT ,	Thru	RT	Trk	Peds.	Vehicles
07:15	12	139	19	6	4	19	125	8	5	2	15	91	14	7	0	7	60	10	7	0	544
07:30	29	105	33	9	6	68	100	26	7	7	76	132	13	9	1	34	61	46	7	5	755
07:45	35	167	22	10	10	90	218	14	10	2	33	121	8	6	0	12	41	24	8	2	819
08:00	36	174	32	8	6	88	204	17	9	4	35	151	15	10	1	12	57	45	11	1	904
08:15	69	178	27	7	3	114	201	15	7	0	17	131	16	7	4	31	32	42	8	0	902
08:30	72	197	24	7	4	98	259	15	13	3	50	166	20	13	1	16	52	42	8	1	1052
08:45	63	168	27	5	8	135	260	16	6	5	19	128	41	5	13	15	50	56	13	Ō	1007
09:00	54	176	23	13	4	99	249	14	14	5	29	153	17	10	3	18	57	42	12	3	980
AM Total Hr	370	1304	207	65	45	711	1616		71	28	274	1073	144	67	23	145	410	307	74	12	
AM Peak Hour	""	1501	201	05	15	1	1010	123	, ,	20	[ ~ ' '	10,5		0,	23	'   '	110	507		12	
08:00 - 09:00	258	719	101	32	19	115	578	94	35	21	80	191	182	41	4	446	969	60	40	13	i
***	****			****	****	****		* ***		****	*****	****			* ****	****			*****		
11:15	25	104	21	2	2	44	107	15	1	1	18	72	19	3	2	15	52	46	3	3	547
11:30	27	114	17	10	6	44	109	15	7	3	15	71	19	4	3	16	57	48	11	7	584
11:45	27	120	22	9	7	58	115	16	9	4	17	77	16	9	7	16	61	53	10	5	635
12:00	28	116	30	4	3	71	117	17	3	6	10	74	15	2	5	12	72	30	7	13	608
12:15	40	123	18	7	13	56	120	21	4	0	8	67	24	1	15	20	60	60	9	25	638
12:30	32	120	24	8	11	97	132	31	4	3	16	82	20	8	13	26	61	36	10	17	707
12:45	35	144	33	4	2	70	125	20	3	7	14	88	22	4	3	15	55	37	18	11	687
13:00	31	127	23	11	9	68	130	27	6	ó	23	89	21	7	7	21	82	42	15	7	723
13:15	38	163	20	3	5	75	132	29	5	7	20	85	22	4	Ó	18	65	52	12	6	743
13:30	34	159	24	7	4	74	131	19	5	2	21	84	19	7	4	16	67	61	6	5	734
13:45	29	159	21	13	4	71	144	17	8	7	15	78	26	4	2	14	68	59	11	7	737
14:00	33	163	24	12	5	77	139	18	4	7	21	85	19	7	4	16	67	67	8	4	760
Offpeak Tot Vol	379	1612	277	90	71	805	1501			47	198	952	242	60	53	205	767	591	120	110	1.00
Offpeak Hr Avg	126	537	92	30	23	268	500	81	19	15	66	317	80	20	17	68	255	197		36	
*****	****				****	****				****	****	****		****		****			****	****	i
15:15	38	170	20	9	5	66	151	21	9	6	13	82	23	5	4	15	78	83	11	4	794
15:30	41	191	20	15	12	72	155	21	11	12	31	76	25	6	11	18	84	77	9	12	852
15:45	31	213	17	4	3	55	146	40	7	9	20	59	11	3	3	18	145	61	12	9	842
16:00	49	232	32	6	13	51	197	39	5	9	18	77	18	7	6	21	153	88	9	7	1002
16:15	62	230	25	4	6	97	192	61	6	4	25	82	15	7	2	24	166	95	8	0	1099
16:30	66	306	22	11	3	99	196	43	3	6	52	105	26	7	3	30	138	99	10	0	1213
16:45	67	295	16	4	7	76	177	37	2	1	27	118	33	11	5	37	179	111	20	3	1210
17:00	75	328	10	3	11	119	229	50	3	i	42	100	29	2	4	26	229	112	4	4	1361
17:15	77	314	26	2	8	92	271	45	3	2	55	110	29	3	1	31	208	93	13	8	1372
17:30	53	317	23	9	3	82	227	38	8	5	50	135	28	7	4	31	236	113		Õ	1371
17:45	61	312	29	7	0	74	244	55	8	9	53	109	31	6	4	27	218	106		Ŏ	1355
18:00	48	315	17	6	12	84	230	43	5	4	41	97	19	6	5	23	207		14	7	1248
PM Total Hr	668	3223	257		83	967	2415			68	427	1150		_	52	301	2041		139	54	`~ `~
PM Peak Hour								.,,	. •		'-'	1100		. ~		~~.	, .			٠.	
16:45 - 17:45	266	1271	88	21	22	200	454	117	18	13	115	891	424	46	12	367	971	188	22	17	
***		****								****	*****				****				*****		

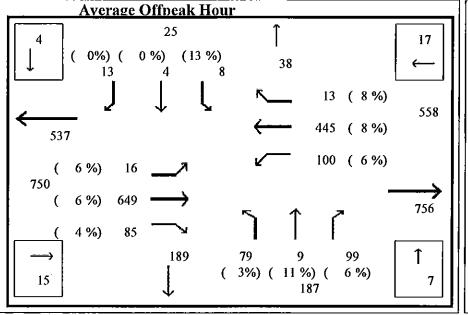


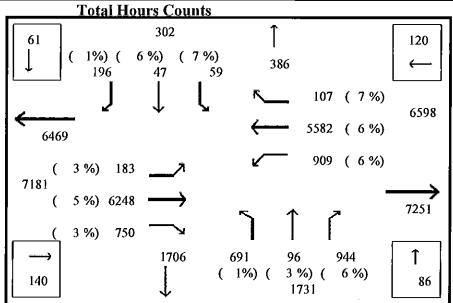
### Leading loday for lamorrow [LIV-RAT-UNN-12-S] LIVING ARTS DR/RATHBURN RD W/UNNAMED UCOM





Count Date:





Note: North is at the top of the page

Value in (parenthesis) indicates truck/heavy vehicle percentages

#### LIVING ARTS DR/RATHBURN RD W/UNNAMED UCOM

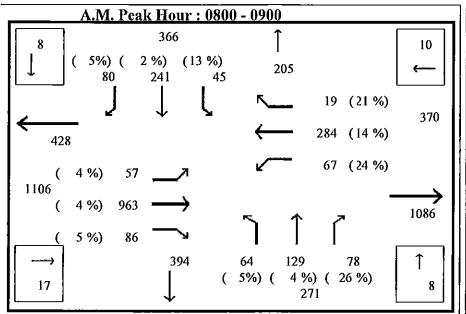
Count Date:

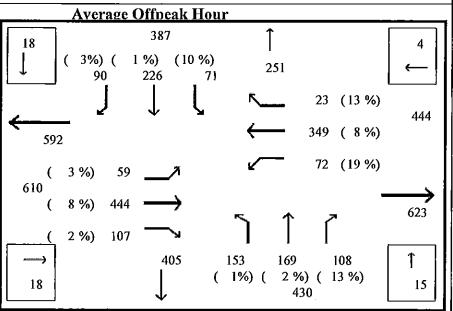
Wednesday November 6

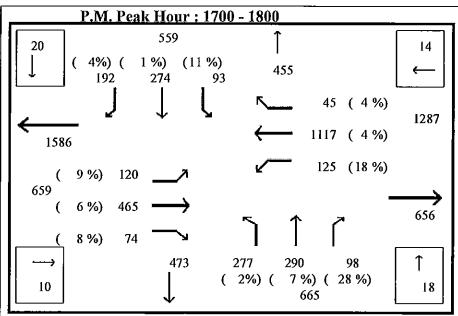
11	V۰	RA	T-l	IN	N.	-12	)-S
		101		/ 1			

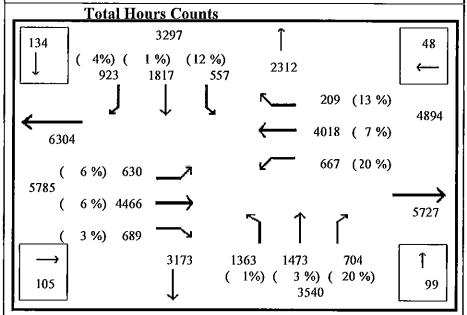
LIV"NAT-ONN-12	-3																				
Time		NC	RTHE	BOUND	)		SO	UTHE	BOUN	D		EA	STBC	UND			W	ESTB(	DUND		All
Ending	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	Vehicles
07:15	4	0	25	0	4	0	0	2	1	0	3	185	12	10	2	9	77	2	10	1	340
07:30	6	0	24	2	3	0	1	11	0	5	2	275	13	12	5	18	71	2	7	2	444
07:45	2	0	38	1	6	0	0	5	0	4	2	239	35	14	4	16	82	1	8	8	443
08:00	8	0	39	6	2	li	0	3	Ô	0	3	258	27	13	2	14	71	3	12	4	458
08:15	9	2	34	2	5	0	Ō	1	Õ	0	2	285	28	10	3	32	80	0	9	1	494
08:30	111	ō	46	ī	12	ľŏ	Ŏ	2	1	6	2	285	25	15	4	23	62	Ŏ	14	7	487
08:45	10	3	42	3	8	ľĭ	ŏ	3	Ô	2	4	263	28	14	3	22	63	1	12	4	469
09:00	12	1	47	4	3	l i	ĺ	1	ì	2	l i	248	24	14	7	24	66	2	20	5	467
AM Total Hr	62	6	295	19	43	3	2	28	3	19	19	2038	192	102	30	158	572	11	92	32	407
AM Peak Hour	1 02	v	273	17	45		L	20	J	17	17	2030	172	102	50	130	312	11	92	32	
08:00 - 09:00	42	6	169	10	28	9	1081	105	52	17	101	271	3	55	17	2	1	7	2	10	
****	****				20 ****	****				1 / *****	****	2/1 ****		****		*****	1 ****	•		****	
11:15	1	_				1	1								1						201
11:30	16 13	0	21 24	0	0	0	1 1	2	0	8	0	149	19	7	1	18	64	0	4	3	301
11:45		2		3	10	0	1	4	1	7	$\frac{3}{4}$	155	27	3	2	23	68	1	9	2	337
12:00	18	1	22	1	3	1	0	2	1	2	4	139	24	8	0	21	87	1	5	0	335
12:15	22	1	23	5	4		0	l	0	4	2	166	30	12	2	39	87	3	9	5	401
12:30	21	4	36	3	6	0	0	3	0	3	1 1	172	18	8	1	32	127	5	9	4	439
12:45	21	4	17	ì	7	3	3	6	0	5	8	147	23	17	0	26	111	5	15	1	407
	24	4	22	3	4	5	3	4	0	7	5	165	22	18	3	22	116	4	16	3	433
13:00	21	4	19	3	0	5	2	4	0	0	4	139	19	17	3	24	118	4	16	1	399
13:15	19	2	18	0	2	2	1	4	0	1	5	115	16	7	0	19	93	1	8	0	310
13:30	22	1	21	1	4	0	0	3	0	2	3	191	18	7	1	21	136	7	13	0	444
13:45	19	2	27	2	3	3	0	7	1	10	5	150	13	13	1	17	112	3	11	0	385
14:00	16	1	29	3	3	2	1	0	0	2	6	143	16	13	0	20	115	5	6	3	376
Offpeak Tot Vol	232	26	279	25	46	22	12	40	3	51	46	1831	245	130	14	282	1234	39	121	22	
Offpeak Hr Avg	77	8	93	8	15	7	4	13	1	17	15	610	81	43	4	94	411	13	40	7	
****	*****	****	****	****	****	*****	* ****	* ****	***	****	****	****	***	****	****	****	****	****	*****	****	i
15:15	24	1	19	2	4	0	1	14	1	6	1	151	19	11	2	21	161	1	9	0	436
15:30	29	3	36	4	7	1	0	3	0	3	6	174	10	13	0	30	213	8	12	3	542
15:45	21	0	20	2	2	3	0	6	0	6	4	205	18	8	2	24	259	1	20	6	591
16:00	25	5	22	3	6	0	3	9	0	5	6	188	24	9	4	40	208	1	15	3	558
16:15	39	0	23	2	2	2	0	3	0	9	4	161	22	17	0	33	265	1 .	7	6	579
16:30	22	3	21	3	11	1	3	9	0	4	9	171	27	13	0	44	309	6	16	2	657
16:45	41	2	26	1	4	2	3	11	0	8	11	152	20	10	1	39	316	4	14	5	652
17:00	49	8	27	1	7	2	3	9	2	1	12	135	46	5	3	31	322	1	14	1	667
17:15	30	3	21	2	Ô	1 1	3	21	Õ	0	10	186	28	18	0	43	370	4	12	3	752
17:30	39	16	34	2	4	4	7	18	ő	2	15	184	23	15	0	38	366	9	12	2	782
17:45	33	12	35	ĩ	2	8	5	12	Õ	3	17	167	26	11	3	35	343	8	13	1	726
18:00	35	8	31	1	2	6	2	11	Ö	3	18	163	24	11	2	38	334	5	14	0	701
PM Total Hr	387	61	315	24	51	30	30	126		50	113	2037			2 17	416	3466	3 49	158		'01
PM Peak Hour	30/	01	213	<b>∠</b> ⊶	<i>3</i> 1	30	30	120	د.	30	113	2037	201	141	1 /	410	3400	4 <b>7</b>	130	32	l
17:00 - 18:00	127	39	121	6	0	60	700	101	55	5	154	1412	26	<b>5</b> 1	6	10	17	62	Λ	0	
*****	137	3Y *****			8 ****	60	700	101		5 ****	154	1413		51	6 ****	19	17	62	() :*****	8	]
	*****	*****	****	****	****	] *** <b>*</b> *	* *****	****	***	****	*****	***	***	****	ጥጥጥጥጥ	*****	****	<b>ጥጥ</b> ሞ	*****	****	

### Leading loday for tomorrow [DUK-RAT-01-S] DUKE OF YORK BLVD/RATHBURN RD W









Note: North is at the top of the page

Value in (parenthesis) indicates truck/heavy vehicle percentages

## Intersection count: 15-minute interval data

### DUKE OF YORK BLVD/RATHBURN RD W

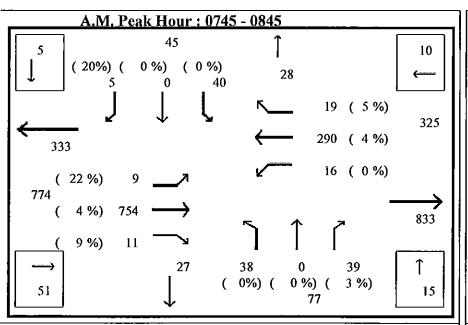
Count Date:

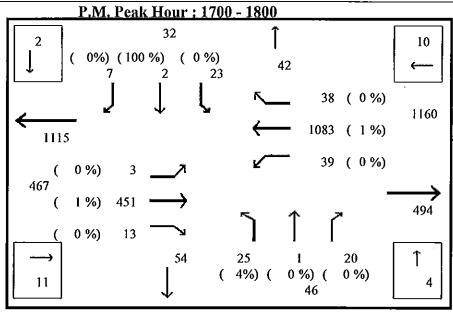
Wednesday February 22

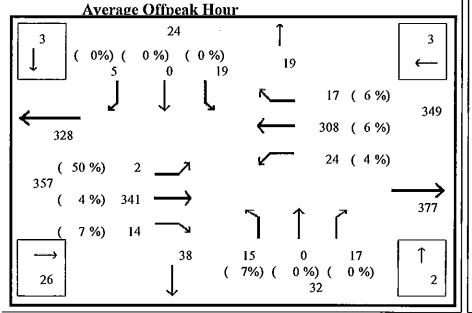
DUK-RAT-01-S

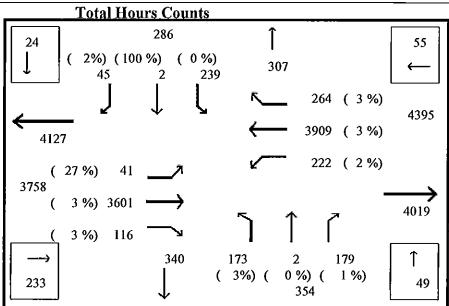
Time	Ī	NO	ртна	OUND		ı	SO	ITHE	OUNI	ח	1	FΛ	STBC	כואו וע		i	14/1	ESTBO	או ואור)		All
Ending	LT	Thru	RT	Trk	Peds.	LT		RT	Trk	Peds.	LT	Thru		Trk	Peds.	LT	Thru		Trk	Peds.	Vehicles
07:15	7	12	5	3	6	6	24	27	8	0	36	110	16	7	2	3	49	7	11		331
07:30	8	22	3 11	5	0	13	23	19	7	2	43	170	9	11	1	16	39	3	12	0	411
07:45	9	15	8	3	3	7	34	14	4	2	22	200	30	15	4	6	39	2	14	5	422
08:00	18	21	13	13	6	ģ	61	22	5	0	23	215	23	10	0	15	59 57	L	19	0	525
08:15	18	21	14	5	0	5	52	17	8	1	14	241	21	14	1	12	53	2	16	0	513
08:30	6	19	19	7	3	7	66	22	5	1	13	238	22	8	I	9	65	4	10	0	520
08:45	19	21	11	14	6	11	61	18	1	3	12	224	16	10	3	19	62	2	17	3	518
09:00	18	63	14	2	8	16	57	19	1	5	16	223	23	11	3	11	65	7	16	5	562
AM Total Hr	103	194	95	52	32	74	378	158	39	14	179	1621	160	86	15	91	429	28	115	13	302
AM Peak Hour	103	124	93	32	32	′₹	376	150	33	14	119	1021	100	80	13	"	427	20	113	13	!
08:00 - 09:00	61	124	58	28	17	55	926	82	43	8	51	245	15	59	8	39	236	76	15	10	ļ
****	****	****		20 ****	****	*****				****	*****	****		****		39   *****	*****		*****		1
11:15	24			3	5	7	37			0								1	_	1	200
11:30	21	19 36	18 23	2	3 7	8	31 49	12 15	2 2	0	13 16	62 68	19 44	5 6	2 4	11   24	59 50	6	6 9	5	298 379
11:45	29	33	25 15	5	5	12	49 49	28	2	0	17	82	33	7	4	14	73	6 2	9	3 10	410
12:00	33	53	23	5	9	21	55	24	4	2	10	107	24	15	5	9	79	6	-	2	479
12:15	35	43	23 22	3	0	15	53	21	5	1	22	80	21	10	3 4	14	107		11 8	0	469
12:30	35	43 47	26	4	2	11	55 66	17	3	2	13	93	26	6	•			10		-	
12:45	47	49	36	3	5	14	57	22	-	0	8	93 87	26		2 5	15	68 76	5 7	13	4	448
13:00	37	57	25	3	5	24	68	17	6 3	0	7	142	20 29	11 8	3	15 21	76 94	7	9	6	473 556
13:15	43	43	32	4	4	19	45	22	2	3	13	118	21	o 15	8	11	88	7	14	0 5	496
13:30	58	43	23	7	3	17	59	28	5	2	15	115	27	12	3.	15	00 77	2	13 13	3	516
13:45	40	33	17	4	6	22	70	27	1	0	20	127	18	12	8	13	97	2		4	515
14:00	54	45	24	10	4	25	64	27	2	2	18	145	26	12	9	13	98	8	11 15	5	586
Offpeak Tot Vol	456	501	284	53	55	195	672	260	37	12	172		314	119	54	176	966	63	131	45	360
Offpeak Hr Avg	152	167	94	17	18	65	224	86	12	4	57	408	104	39	18	58	322	21	43	15	
****	****	****			****	1	*****			****	****	****		<i></i> *****		****	****				
15:15	59	58	5	4	0	15	55	18	5	0	19	125	10	4	2	14	73	1	11	0	476
15:30	56	61	12	6	1	13	46	31	2	0	8	109	21	5	16	21	104	4	16	0	515
15:45	43	48	19	10	5	15	63	34	6	3	10	115	17	9	6	14	98	2	14	0	517
16:00	44	53	17	3	0	14	66	34	4	2	14	90	10	11	5	24	130	5	13	10	532
16:15	94	65	21	7	2	12	72	44	i	0	17	105	12	5	3	24	138	6	19	4	642
16:30	84	65	12	7	0	31	51	41	7	1	21	111	19	6	3	24	237	7	16	1	739
16:45	104	65	9	6	ŏ	16	66	44	3	2	18	144	19	10	2	16	230	12	15	5	777
17:00	30	46	20	4	ŏ	20	54	37	5	0	27	137	17	4	8	28	259	11	22	3	721
17:15	70	77	14	3	1	14	69	57	5	1	22	128	3	9	5	21	268	16	11	3	787
17:30	79	50	11	8	2	22	74	42	4	4	27	109	19	6	5	14	282	3	13	3	763
17:45	63	66	24	22	4	23	63	42	8	4	33	104	27	18	5	35	267	11	21	9	827
18:00	60	77	22	19	3	24	64	44	4	5	27	94	19	14	5	33	256	13	23	3	793
PM Total Hr	786	731	186	99	18	219	743	468		22	243	1371		101	65	268			194	41	'
PM Peak Hour	'00		130	,,	10	2.7	, 15	.00	υT	LL	[ 273	13/1	1/3	101	00	200	LJTL	71	177	71	
17:00 - 18:00	272	270	71	52	10	109	435	68	47	20	103	1073	43	68	18	83	270	185	21	14	
*****		-		****	****					****	****			-	****				∠ı *****		1

Count Date: Thursday June 3 2010









Note: North is at the top of the page

Value in (parenthesis) indicates truck/heavy vehicle percentages

# Intersection count: 15-minute interval data

ELORA DR/RATHBURN RD W [E.inf.]

Count Date:

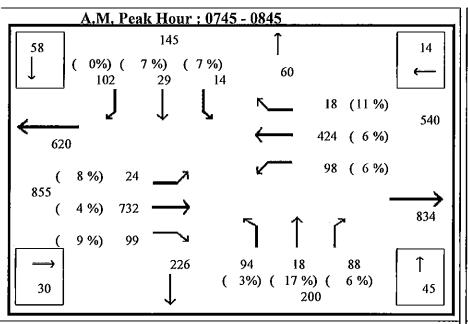
Thursday June 3 2010

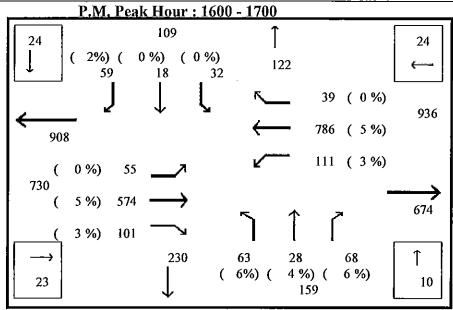
ELO-	RAT-	·01-S
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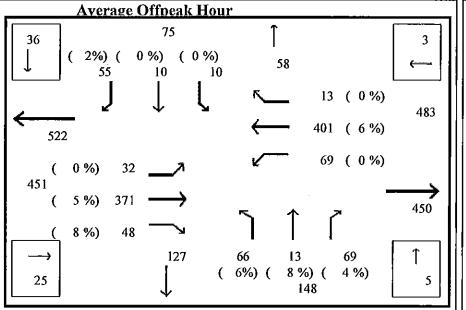
Time		NO	RTHB	OUND			SO	UTHE	BOUNI	)		EA	STBC	UND			W	ESTBO	DUND		All
Ending	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	Vehicles
07:15	5	0	9	0	9	9	0	1	0	4	0	82	6	5	0	3	36	1	5	0	162
07:30	7	0	17	0	19	8	0	1	0	4	0	112	0	5	2	1	54	4	4	1	213
07:45	9	0	6	0	5	26	0	3	0	1	0	167	0	8	2	1	68	5	2	3	295
08:00	8	0	12	0	2	12	0	1	1	0	1	190	1	6	0	6	75	7	5	0	325
08:15	14	0	7	1	11	12	0	2	0	0	3	172	5	3	1	6	68	1	3	3	297
08:30	11	0	11	0	16	10	0	0	0	1	2	204	1	9	4	2	71	4	5	4	330
08:45	5	0	8	0	22	6	0	1	0	9	1	161	3	12	0	2	63	6	1	8	269
09:00	7	0	9	0	7	7	0	3	0	0	1	155	4	4	0	4	54	5	3	6	256
AM Total Hr	66	0	79	1	91	90	0	12	1	19	8		20	52	9	25	489	33	28	25	
AM Peak Hour	ľ					1					Ì					-					İ
07:45 - 08:45	38	0	38	1	51	7	727	10	30	5	16	277	18	14	15	40	0	4	1	10	
****	1	****		****	****	****	* ****		* ***	****	****	****		****		****	****		****		İ
11:15	3	0	1	0	16	9	0	1	0	0	1	69	1	2	4	4	52	1	5	0	149
L1:30	3	1	5	1	16	0	0	2	0	3	Ō	76	3	2	0	5	68	3	2	2	171
L1:45	8	Ô	8	ō	9	Š	Ö	3	ŏ	3	Ŏ	75	7	1	5	] š	64	2	3	ĩ	177
L2:00	4	0	4	0	10	6	0	4	Ŏ	0	ī	85	5	9	0	6	80	4	3	0	211
12:15	7	0	5	0	2	4	0	1	0	0	l ī	79	5	3	0	4	76	10	3	1	198
.2:30	3	0	3	1	2	4	Ŏ	î	Ŏ	1	l i	90	3	2	Õ	3	86	5	10	ò	212
.2:45	5	Ö	3	Ō	8	4	0	1	Ŏ	1	l ô	99	5	7	0	8	67	4	3	3	206
3:00	3	0	7	1	4	9	Ō	i	Ö	0	lo	115	2	7	0	8	82	7	11	1	253
3:15	ī	0	3	0	4	5	0	1	0	0	Ιŏ	76	6	3	0	12	82	4	5	Ô	198
13:30	0	0	4	0	4	5	0	0	0	0	0	79	1	4	0	6	81	6	4	Ŏ	190
13:45	3	0	4	1	3	10	0	1	0	1	i	79	0	3	0	10	71	2	4	0	189
L4:00	3	0	4	0	0	lo	0	0	0	0	10	63	1	1	0	2	66	3	3	0	146
Offpeak Tot Vol	43	1	51	4	78	59	0	16	0	9	5	985	39	44	9	71	875	51	56	8	' '
Offpeak Hr Avg	14	0	17	1	26	19	0	5	0	3	1	328	13	14	3	23	291	17	18	2	
****		****		****	****		* ****	***		****	****	****		****	-	****			*****	<del>-</del>	1
L5:15	5	0	2	1	0	7	0	0	0	0	5	92	6	4	0	7	107	11	12	0	259
15:30	9	0	4	0	4	12	0	1	0	2	4	89	5	1	0	10	120	20	8	Ö	283
5:45	2	0	2	0	7	10	0	3	0	6	0	85	6	6	2	11	109	21	6	2	261
.6:00	5	0	5	0	13	7	0	2	0	1	0	110	3	4	0	16	154	17	5	8	328
6:15	7	0	4	0	20	6	Ó	0	Ô	3	3	93	8	6	0	9	166	14	5	1	321
.6:30	1	0	4	0	0	8	0	0	0	2	0	119	4	2	2	12	176	15	7	1	348
L6:45	4	0	3	0	3	10	0	2	Ö	2	o	116	5	3	0	7	249	24	1	Ô	424
L7:00	2	0	3	0	6	7	0	1	Ŏ	1	2	106	3	5	Ö	11	262	12	3	0	417
.7:15	3	0	4	1	3	5	Ö	1	Ŏ	1	2	96	1	2	Ö	8	287	9	0	Ö	419
17:30	6	Ö	5	0	1	5	Õ	1	ŏ	Ô	l ī	118	5	1	0	14	258	12	6	0	432
L7:45	6	Ö	5	Ŏ	4	7	0	2	2	3	Ιô	116	3	ī	1	10	266	10	Ĭ	0	429
L8:00	و ا	1	6	0	3	6	ő	3	0	6	ő	115	4	2	î	7	259	7	6	4	425
M Total Hr	59	î	47	2	64	90	0	16	2	27	17	1255	-	37	6	122	2413	172	-	16	72.5
PM Peak Hour		•	.,	-	<b>-</b> 1	1	Ü	10		21	''	1233	,,,	٠,	J	122	LTIJ	112	OU.	10	
17:00 - 18:00	24	1	20	1	11	3	445	13	6	2	39	1070	38	13	4	23	0	7	2	10	
			~~				110		•	_		10.0	20	1.0	-	20	v	,	_	10	

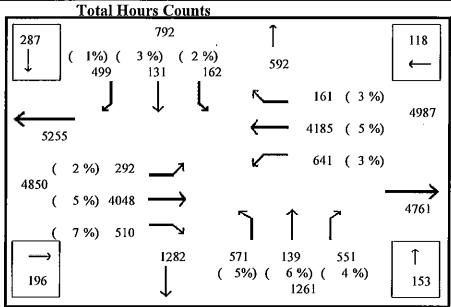
2015/09/29

Leading loday for lamorrow [ELO-RAT-10-S] ELORA DR/RATHBURN RD W [W. 54]









Note: North is at the top of the page

Value in (parenthesis) indicates truck/heavy vehicle percentages

# Intersection count: 15-minute interval data

ELORA DR/RATHBURN RD W [₩ 📈 📈]

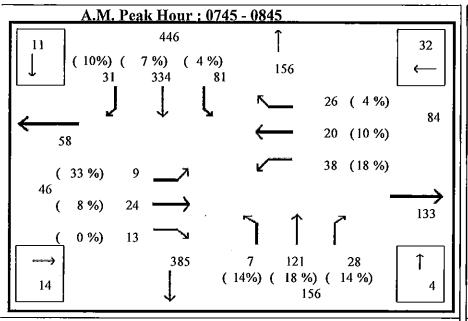
Count Date:

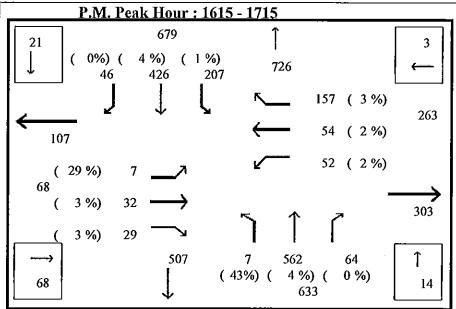
Thursday September 26 2013

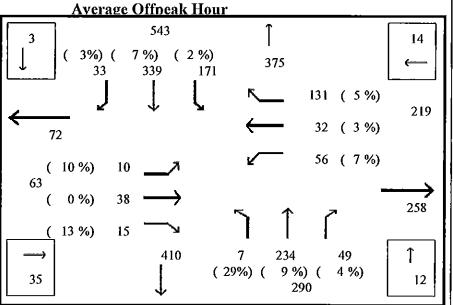
EL	O-R	AT-	-10	-S
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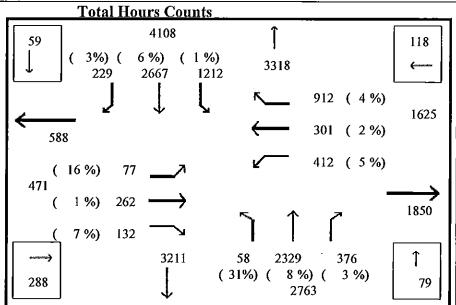
Time	I ·	NO	RTHE	BOUND		ı	SO	UTHE	OUNI	D		EΑ	STBC	UND		I	WE	STBC	DUND		All
Ending	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	Vehicles
07:15	11	0	8	0	0	7	0	11	0	0	1	160	1	5	0	0	61	5	5	0	275
07:30	27	7	24	1	0	5	7	16	0	3	2	153	9	8	6	13	87	1	6	3	366
07:45	20	1	19	0	2	3	9	31	0	5	5	167	5	8	17	9	93	0	8	9	378
08:00	19	1	20	1	9	7	9	32	1	2	4	181	18	9	15	12	91	4	10	6	419
08:15	20	4	21	4	9	2	7	29	1	3	7	161	18	8	11	18	101	7	8	6	416
08:30	25	6	26	2	9	1	8	17	1	7	5	189	36	11	25	37	94	3	7	33	468
08:45	27	4	16	4	3	3	3	24	0	2	6	173	18	11	7	25	112	2	9	0	437
09:00	19	1	11	1	0	2	2	15	0	0	7	159	11	7	0	14	105	3	9	0	366
AM Total Hr	168	24	145	13	32	30	45	175	3	22	37	1343	116	67	81	128	744	25	62	57	}
AM Peak Hour						1					1										
07:45 - 08:45	91	15	83	11	30	22	704	90	39	58	92	398	16	34	45	13	27	102	3	14	1
***	****	****	****	****	****	****	* ****	****		****	****	****	***	****	****	****	****		*****	****	
11:15	16	1	6	0	5	0	0	8	1	1	6	63	6	2	4	6	69	0	3	3	187
11:30	9	2	9	1	6	5	3	16	0	0	8	84	11	5	12	15	58	1	8	2	235
11:45	22	1	31	6	11	0	4	26	2	1	11	76	9	5	17	23	102	0	4	2	322
12:00	26	3	17	1	7	3	3	15	1	3	6	86	17	7	15	17	98	4	6	2	310
12:15	11	5	28	5	10	5	2	20	0	0	5	87	9	4	29	20	103	4	6	7	314
12:30	12	4	21	2	8	0	1	13	0	2	11	68	10	7	7	21	78	3	12	0	263
12:45	21	3	19	1	15	1	5	9	0	2	5	106	12	5	11	28	97	7	4	0	323
13:00	12	7	17	2	8	1	2	14	0	0	5	97	9	8	8	14	93	2	1 <b>0</b>	0	293
13:15	14	3	15	0	0	3	2	14	0	0	7	101	12	8	0	25	105	7	6	0	322
13:30	15	4	13	2	0	4	2	9	0	0	10	94	14	12	4	12	117	7	8	0	323
13:45	11	2	9	0	6	5	0	6	0	0	10	92	12	4	3	11	108	2	6	0	278
14:00	18	3	14	2	0	4	5	14	0	0	11	103	11	5	0	16	98	2	6	0	312
Offpeak Tot Vol	187	38	199	22	76	31	29	164	4	9	95	1057	132	72	110	208	1126	39	79	16	]
Offpeak Hr Avg	62	12	66	7	25	10	9	54	1	3	31	352	44	24	36	69	375	13	26	5	
****	****	****	****	****	****	****	* ****	****	***	****	****	****	***	****	****	****	****	****	*****	****	}
15:15	22	6	0	2	16	5	8	14	1	8	15	106	23	7	10	24	128	6	10	5	377
15:30	18	9	27	4	10	14	3	11	2	17	14	124	12	9	24	26	154	10	11	19	448
15:45	15	0	22	3	9	6	4	11	0	17	18	115	17	7	12	26	151	4	12	11	411
16:00	15	10	15	0	6	5	3	13	0	7	17	124	16	7	9	19	159	3	13	14	419
16:15	15	6	19	3	12	6	7	20	0	15	20	135	34	10	12	31	175	11	13	6	505
16:30	16	5	10	1	0	6	3	10	0	0	20	131	20	9	0	29	166	8	8	0	442
16:45	15	8	16	3	11	9	5	14	0	9	8	135	23	10	12	25	192	11	10	4	484
17:00	13	8	19	2	0	11	3	14	1	0	7	147	21	0	0	23	216	9	9	0	503
17:15	23	4	9	3	0	7	5	14	0	0	4 .	122	12	5	0	19	172	9	9	0	417
17:30	14	4	11	2	10	15	8	15	0	5	15	103	23	8	6	22	207	9	7	15	463
17:45	17	3	16	0	7	9	2	9	2	5	3	126	12	8	5	14	183	7	3	4	414
18:00	7	6	19	0	7	5	2	9	0	4	14	95	12	8	6	28	184	5	6	2	400
PM Total Hr	190	69	183	23	88	98	53	154		87	155			88	96	286	2087	92	111	80	
PM Peak Hour											1										
16:00 - 17:00	59	27	64	9	23	55	548	98	29	24	108	749	39	40	10	32	18	58	1	24	
****	1	****		****	****					****	****			****					*****		

### [DUK-SQU-UNN-10-S] DUKE OF YORK BLVD @ SQUARE ONE DR









Note: North is at the top of the page

Value in (parenthesis) indicates truck/heavy vehicle percentages

### Intersection count: 15-minute interval data

DUKE OF YORK BLVD @ SQUARE ONE DR

Count Date:

Wednesday June 25 2014

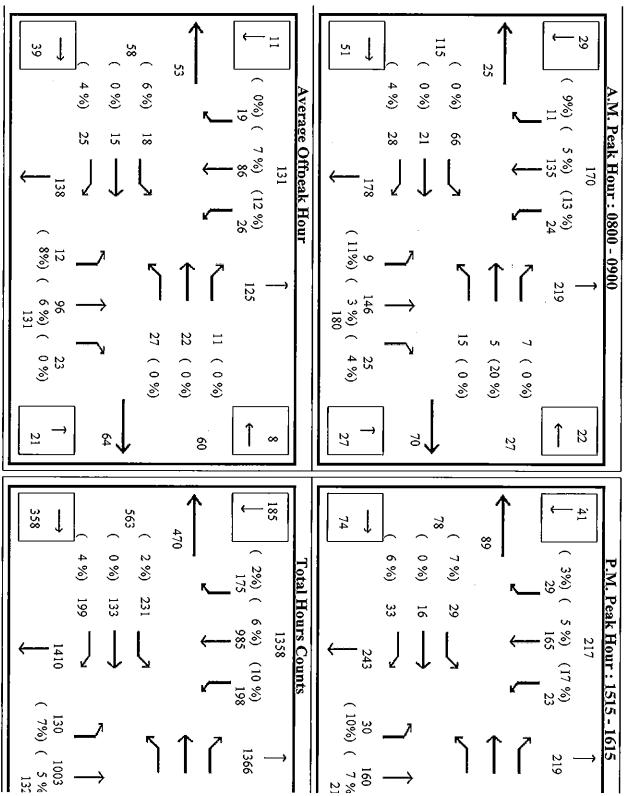
DUK-SQU-UNN-10-S

Time		NO		OUND					OUNI				STBC				WE		DUND		All
Ending	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	Vehicle
07:15	0	16	5	2	2	9	36	1	7	4	1	3	3	0	0	5	3	5	0	0	96
07:30	0	27	4	8	1	6	39	0	5	2 .	1	3	0	1	0	3	3	3	1	0	104
7:45	0	26	2	10	2	11	53	0	6	2	4	4	0	4	1	2	1	5	0	1	128
8:00	lo	33	6	9	5	20	73	15	10	10	1	3	3	1	3	6	1	5	1	1	187
8:15	li	22	5	7	4	15	52	7	6	10	l ī	2	4	1	5	5	4	5	8	0	145
8:30	4	22	4	4	2	28	111	5	5	5	2	9	3	Ô	2	9	6	8	0	1	220
8:45	li	22	9	7	3	15	76	1	7	7	2	8	3	3	ī	111	7	7	1	2	180
9:00	i	20	7	6	2	19	70	2	5	4	2	5	2	Õ	1	9	5	5	Ô	1	158
M Total Hr	7	188	42	53	21	123	510	31	51	44	14	37	18	10	13	50	30	43	11	6	150
м Peak Hour	l	100	12	23	2.	123	510	J.	01	• • •	* '	3.	10	10	15	"	50	15		•	
7:45 - 08:45	6	99	24	27	14	6	22	13	5	11	31	18	25	10	4	78	312	28	28	32	
****	****	****	****		****	****	****		***	****	*****	****		****		****	****		~*****	****	
1:15	6	11	15	3	8	33	39	10	1	2	0	4	2	1	2	18	3	20	1	3	167
1:30	l ĭ	51	17	6	7	32	67	8	5	3	0	7	2	2	3	9	6	21	1	0	235
1:45	Ö	49	10	6	5	46	78	9	14	5	3	4	1	1	2	15	6	26	12	3	280
2:00	l 1	55	17	5	9	46	100	4	11	0	2	7	3	ó	0	12	5	34	2	2	304
2:15	[ ]	72	13	10	6	43	79	5	8	10	1 1	9	2	0	0	13	8	23	3	0	290
2:30	5	49	13	8	6	36	67	3	12	2	1 1	6	1	2	0	18	4	30	2	16	257
2:45	0	61	9	o 7	9	44	59	4	7	5	0	12	3	1	0	13	5	21	<u>ک</u> ا	4	247
3:00	0	48	14	4	20	49	85	8	3	8	1	16	7	0	0	17	8	53	1	7	314
3:15	ő	71	7	8	33	38	81	18	4	2	$\begin{vmatrix} 1 \\ 3 \end{vmatrix}$	17	4	0	0	13	17	29	1	ó	314
3:30	1	62	9	4	0	47	109	12	7	0	6	13	5	1	0	9	13	39	7	0	344
3:45	1	53	6	3	0	47	94	9	3	0	7	9	4	0	0	8	10	36	1		291
4:00	1	61	14	6	4	44	9 <del>4</del> 92	8	6	6	5	10	6	0	2	11	9	41	1	0	315
ffpeak Tot Vol	17	643	144	70	107	505	950	98	81	43	29	114	40	8	9	1	9 94	373	36	37	313
ffpeak Hr Avg	5	214	48	23	35	168	316	32	27	43 14	9	38	13	2	3	156 52	31	124	30 12	12	ļ
*****	) *****	∠14 *****			33 ****	100 ****		<i>3</i> ∠ ****		14 *****	****	30 ****		۷ *****	-	) 32   *****			12 *****	1 <i>Z</i> *****	i
5:15	1	80	7	7		37			5	1	1			0	0						297
5:30	1		-	-	11		64	6	_	7	1 1	8	3	-	_	13	16	49	0	5	1
5:45	2	77 88	23 23	6	15 7	40 59	64	4	2 8	1	4	14	5	0	4	19   9	15	50	3	0	328
6:00	1	88 97	23 19	8 8	23		75 98	4 10	2	1	1 1	14 9	4	2	2	I -	9 5	35	2 0	0	342
6:15	ן ן	97 101	15	8 12	9	65 49	98 96		7	3	$\frac{1}{2}$	5	10	0	2	19	3 11	41 40	U 1	2	385 376
6:30	2 2	93		7	14			7 9	4	2		_	1	0	_	19		48	1	0	1
6:45			19		20	66	85 06				$\begin{bmatrix} 0 \\ 2 \end{bmatrix}$	8	2	-	7	16	11	42	1	12	365
7:00	0	144	22	3		47	96	16	5	0	3	4	10	2	10	12	12	41	1	1	418
7:15	1	129	15	5	19	39	117	7	5	1	0	7	10	1	4	18	11	33	1 .	0	399
7:30	I	173	8	11	15	52	110	14	′	0	2	12	6	1	0	5	19	37	3	1	461
7:45	<u> </u>	109	8	7	18	41	77 76	7	7	1	3	10	5	0	0	18	21	29	0	7	343
8:00	1	116	9	5	5	38	76	5	6	3	2	8	4	0	6	19	18	28	U	l	335
Total Hr	3	114	11	4	4	33	78	4	6	11	3	9	5	0	2	17	23	31	1	7	342
M Peak Hour	16	1321	179	83	160	566	1036	93	64	31	22	108	65	6	37	184	171	464	13	36	
A FEAR HOUL	I										1					1					
6:15 - 17:15	4	539	64	26	68	5	31	28	4	21	51	53	153	_	14	204	408	46	21	3	1

[LIV-SQU-10-S] LIVING ARTS DR/SQUARE ONE DR

Count Date:

Tuesday October 7 2014



Note: North is at the top of the page

Value in (parenthesis) indicates truck/heavy vehicle percentages

## Intersection count: 15-minute interval data

### LIVING ARTS DR/SQUARE ONE DR

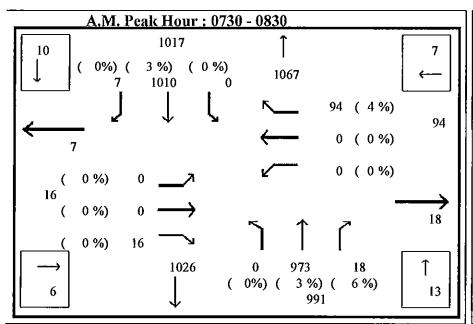
Count Date:

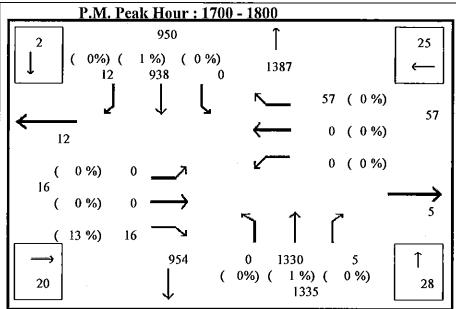
Tuesday October 7 2014

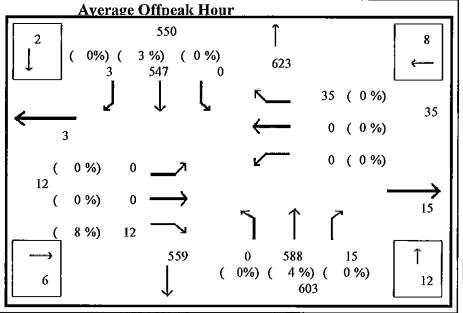
LIV-SQU-10-S

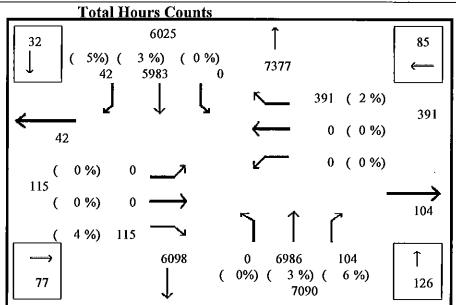
Time				BOUND			SO		BOUNI				STBC			1			DUND		All
Ending	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	Vehicles
07:15	0	13	2	1	2	2	13	2	1	6	4	3	5	0	4	0	0	1	0	1	47
07:30	0	22	6	1	4	2	11	0	4	7	5	4	0	0	5	3	3	2	0	5	63
07:45	1	23	4	2	9	4	14	3	1	7	15	3	1	0	9	1	2	3	0	4	77
08:00	1	34	4	1	13	3	32	1	3	7	11	5	4	1	5	4	2	2	0	5	108
08:15	1	36	4	0	9	7	40	3	3	9	20	5	4	0	5	5	1	1	1	11	131
08:30	0	34	8	2	9	5	21	0	3	4	15	7	5	0	8	2	0	2	0	4	104
08:45	3	36	5	4	16	4	33	3	1	4	16	4	9	i	8	4	i	1	0	7	125
09:00	4	35	7	i	17	5	34	4	4	5	15	5	9	Ô	8	4	2	3	Ŏ	5	132
AM Total Hr	10	233	40	12	79	32	198	16	20	49	101	36	37	2	52	23	11	15	1	42	132
AM Peak Hour	1 10	233	10	12	,,	32	170	10	LU	17	101	50	,	-	JL	23	**	13	1	72	1
08:00 - 09:00	8	141	24	7	51	66	21	27	1	29	15	4	7	1	27	21	128	10	11	22	İ
****	****	****		****	****		∠ I *****		! * ***	4****	****	****	-	****		*****			11 *****	****	1
11:15	0	_		1	10	0	7	0	1	0	1	4	3		1	5		1			25
11:30	'	6	2 4	1		2			5	1	1 0			0	1	0	4	1	0	3	35
11:45		16	-	1	11		12	2	) 1	1	0	3	4	1	2	7	2	1	0	3	54
12:00	4	21	7	0	5	8	18	4	l	l f	3	6	7	0	3	1 '	4	3	0	3	93
12:15	4	21	5	3	10	9	16	7	5	1	5	2	7	0	3	10	4	2	0	5	100
12:30	1	28	7	2	4	7	20	6	0	3	3	4	4	0	l	7	7	4	0	7	100
12:45	2	21	6	3	10	3	24	2	3	l	6	3	9	0	0	7	6	2	0	9	97
	3	26	7	1	23	10	23	6	l	3	8	4	4	0	2	12	10	5	1	6	121
13:00	2	20	7	1	11	5	25	4	1	l	6	2	8	1	5	3	6	2	0	0	93
13:15	6	22	5	2	7	4	23	7	2	6	5	5	7	0	8	6	4	2	0	14	100
13:30	4	35	8	1	0	8	23	8	2	0	6	4	6	0	0	10	5	3	0	0	123
13:45	3	25	5	4	12	9	26	6	3	4	4	7	5	1	0	7	9	7	0	5	121
14:00	5	29	7	2	14	6	24	7	2	5	7	3	9	2	9	7	5	2	0	8	117
Offpeak Tot Vol	35	270	70	21	117	71	241	59	26	26	54	47	73	5	34	81	66	34	1	63	
Offpeak Hr Avg	11	90	23	7	39	23	80	19	8	8	18	15	24	1	11	27	22	11	0	21	
****	****	****	****	****	****	****	****	****	***	****	*****	****	* ***	****	****	****	****	***	*****	****	
15:15	7	31	5	4	17	9	29	9	6	10	8	5	11	0	9	12	8	9	0	0	153
15:30	7	38	9	2	23	4	51	5	0	14	5	4	11	0	8	15	9	7	0	14	167
15:45	8	37	10	4	23	0	41	8	5	10	10	5	10	0	15	14	10	11	2	17	175
16:00	4	32	5	4	16	6	29	7	4	12	7	4	6	2	11	8	5	4	1	15	128
16:15	8	42	4	4	12	9	35	8	5	14	5	3	4	2	7	8	4	7	0	14	148
16:30	6	32	9	0	21	5	45	10	2	4	8	5	5	1	10	12	12	4	0	6	156
16:45	9	57	5	4	0	7	57	8	3	0	7	6	10	0	0	14	10	6	2	0	205
17:00	8	49	9	4	0	9	58	9	3	0	8	4	5	0	0	9	6	7	0	0	188
17:15	3	44	4	0	11	11	58	14	2	14	5	2	4	0	19	7	8	6	Ö	11	168
17:30	5	32	7	3	12	9	38	8	$\tilde{2}$	10	4	7	5	Õ	10	9	5	8	ŏ	15	142
17:45	7	27	4	3	15	3	24	4	2	11	3	2	3	ŏ	7	10	3	5	Õ	5	100
18:00	4	24	4	2	12	3	23	6	2	11	2	3	7	Ö	3	3	4	7	Õ	12	94
PM Total Hr	76	445	<b>7</b> 5	34	162	75	488	96	36	110	72	50	<b>8</b> 1	5	99	121	84	81	5	109	177
PM Peak Hour	′ັ	170	1.5	<i>J</i> ¬	102	,,,	700	70	50	110	12	50	OΙ	J	77	121	UT	01	5	109	1
	I					I					1					ı					1
15:15 - 16:15	27	149	28	14	74	27	16	31	4	41	45	28	29	3	60	19	156	28	14	50	

2015/09/29









Note: North is at the top of the page

Value in (parenthesis) indicates truck/heavy vehicle percentages



CON-SQU-10-N

### Intersection count: 15-minute interval data

### CONFEDERATION PKY/SQUARE ONE DR

Count Date:

Wednesday September 25

Time		NC	RTHE	OUND	)		SO	UTHE	BOUN	D	1	EA	STBC	UND		1	W	ESTB	DUND		All
Ending	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	LT	Thru	RT	Trk	Peds.	Vehicles
07:15	0	145	1	2	0	0	202	0	1	0	0	0	2	0	0	0	0	9	0	2	362
07:30	0	167	1	11	0	0	212	0	8	1	0	0	5	0	2	0	0	18	0	ī	422
07:45	0	229	4	13	0	lò	326	1	12	2	0	0	3	Õ	1	Ŏ	Ŏ	25	Ŏ	2	613
08:00	ŏ	242	i	10	Ŏ	Ŏ	235	1	9	0	ő	Ŏ	3	ŏ	2	Ŏ.	ŏ	29	Ĭ	4	531
08:15	0	237	7	1	0	0	223	0	5	2	lo	0	5	0	1	ľŏ	Ŏ	13	2	5	493
08:30	lo	236	5	6	6	0	193	5	7	3	o	Ŏ	5	Ô	6	Ŏ	Õ	23	1	2	481
08:45	Ιŏ	237	5	ĭ	0	Ŏ	194	0	2	2	Ŏ	ŏ	5	ŏ	Ö	lő	Õ	16	Ô	ī	460
09:00	lŏ	227	3	Ô	Ŏ	lő	187	ŏ	ō	Õ	ľ	ŏ	3	Õ	ì	ľŏ	ŏ	9	Õ	0	429
AM Total Hr	ŏ	1720	27	44	6	ŏ	1772		44	10	lő	0	31	Õ	13	lő	Ô	142		17	172)
AM Peak Hour	ľ	1720	~ '	••	Ū	້	1772	'	• •	10	*	v	31	v	13	"	U	172	7	1,	i
07:30 - 08:30	0	944	17	30	6	0	0	16	0	10	0	0	90	4	13	0	977	7	33	7	Ţ
****	****	****		****	****	_	* ****		* ***	****	*****	****		****		****		•	JJ ******	****	
11:15	0	95	2	1	4	0	103	0	0	0	0	0	4	0	0	0	0	4	0	2	209
11:30	ő	114	1	7	1	ő	109	2	3	2	ő	0	4	0	1	0	0	9	0	7	249
11:45	0	135	3	7	1	ő	126	0	7	ے 1	0	0	5	1	1	0	0	7	0	0	291
12:00	0	172	j	5	1	ő	138	1	4	6	0	0	3	0	0	0				1	
12:15	0	171	3	6	0	0	156	1	5	5	1	0	) 1	0	0	1 '	0	6	0	1	330
12:30	0	157	2		1	0	121	-	_	1	0	_	1	•	1	0	0	4	0	3	347
12:45	lő			6	1	0		2	4	1	0	0	2	0	1	0	0	9	0	1	303
13:00	0	184 164	3	3	0	0	127 187	1	6	1	0	0	5	1	0	0	0	19	0	1	349
13:15	0	158	11	11	2		151	0 1	9	2	0	0	1	0	0	0	0	13	0	5	396
13:30	0	113	2	11 4	5	0	115	1	5 3	2 4	$\begin{bmatrix} 0 \\ 0 \end{bmatrix}$	0 0	2	0	0	0	0	13	0	6	343 259
13:45	l ŏ	113	0	3	0	0	121	0	3 7	0	0	0	1	0	0	0	0	16 3	0	6 0	239
14:00	0	127	15	0	2	0	135	1	ó	2	0	0	1	0	5	0	0	.) 1	0	6	280
Offpeak Tot Vol	lő	1703	44	64	20	ŏ	1589	•	53	26	0	0	34	2	8	0	0	104		38	280
Offpeak Hr Avg	0	567	14	21	6	0	529	3	17	8	0	0	34 11	0	2	0	0	34	1 0	12	
****	****	****			****	V   ****				O ****	****	-	1! * ***	****		****	-		U *****	1 <i>L</i> ****	1
15:15	0	214	3	7	7	0	168	1	14	5	0	0	5	0	3	0	0	13			425
15:30	ő	248	2	10	5	0	171	0	5	2	0	0	) 1	0	0	0			0	2	1
15:45	0	223	3	11	3	0	171	ĺ	4	5	0	0	4	0	0	0	0 0	11	0	7	448
16:00	0	227	2		4	0	195	_	-	-	1 -		7			1 -		10	0	•	435
16:15	١٥	245		13	-		181	0	3 4	2	0	0	1	0	0	0	0	16	0	6	463
16:30	1 -		2	6	2	0		2		5	0	0	1	1	2	0	0	7	1	5	450
16:45	0	257	3	6	1	0	201	2	9	1	0	0	4	0	2	0	0	6	0	10	488
17:00	0	342	5	4	9	0	216	2	7	3	0	0	3	0	2	0	0	7	1	6	587
17:15	0	313	2	5	0	0	229	3	3	1	0	0	6	0	0	0	0	11	0	3	572
17:13 17:30	0	318	1	5	2	0	221	0	1	2	0	0	2	1	0	0	0	15	0	9	564
17:45	0	323	4	6	5	0	243	4	2	11	0	0	4	1	I	0	0	17	0	8	604
18:00	0	344	0	5	9	0	231	4	4	10	0	0	3	0	0	0	0	12	0	8	603
PM Total Hr	0	329	0	0	[	0	235	4	1	2	0	0	5	0	1	0	0	13	0	3	587
PM Peak Hour	0	3383	27	78	51	0	2470	23	57	49	0	0	45	3	11	0	0	138	2	71	1
17:00 - 18:00	1		_		20						1					_			_		
17:00 - 10:00	0	1314		16	20	0	0	14	2	2	0	0	57	0	28	0	930		8	25	1
	****	****	***	***	****	****	* ****	****	***	****	****	****	***	****	****	****	****	****	*****	****	1

# Rathburn Road & Elora Drive (East) Morning Peak Diagram Specified Period From: 6:00:00 One Hour Peak From: 8:00:00

To:

Municipality: Mississauga Weather conditions: Site #: 0000000012 Clear

**Intersection:** Rathburn Road & Elora Drive (East)

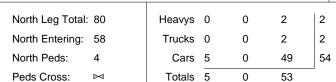
TFR File #: 1

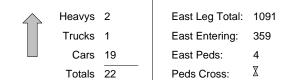
Count date: 23-Feb-2016

### Person(s) who counted:

9:00:00

### \*\* Signalized Intersection \*\*





Rathburn Road

712

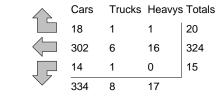
Major Road: Rathburn Road runs W/E

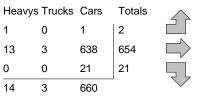
To:

9:00:00









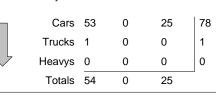


Elora Drive (East)

Cars	Trucks	Heavys Totals	

Peds Cross:	$\mathbb{X}$
West Peds:	7
West Entering:	677
West Leg Total:	1060

Cars	35
Trucks	1
Heavys	0
Totals	36



Peds Cross: 
South Peds: 39

South Entering: 79

South Leg Total: 115

732

### **Comments**

#### Rathburn Road & Elora Drive (East) Mid-day Peak Diagram **Specified Period One Hour Peak** From: 11:30:00 From: 11:30:00 To: 13:30:00 To: 12:30:00 Weather conditions: Municipality: Mississauga Clear Site #: 000000012 Intersection: Person(s) who counted: Rathburn Road & Elora Drive (East) TFR File #: Count date: 23-Feb-2016 \*\* Signalized Intersection \*\* Major Road: Rathburn Road runs W/E North Leg Total: 50 Heavys 0 0 0 Heavys 1 East Leg Total: 792 0 North Entering: 26 Trucks 0 0 Trucks 1 East Entering: 385 Cars 22 North Peds: Cars 2 24 26 East Peds: 4 $\mathbb{X}$ Totals 2 Totals 24 Peds Cross: 24 Peds Cross: ⋈ Elora Drive (East) Trucks Heavys Totals Heavys Trucks Cars Totals Cars 19 5 336 360 23 339 315 5 19 21 0 23 Rathburn Road 357 Heavys Trucks Cars Totals Rathburn Road 0 1 1 352 364 18 Trucks Heavys Totals 0 0 18 Cars 9 371 395 407 Driveway $\mathbb{X}$ Peds Cross: $\bowtie$ Peds Cross: Cars 39 Cars 19 19 38 West Peds: 2 Trucks 2 Trucks 0 0 0 South Peds: 9 0 West Entering: 383 Heavys 0 Heavys 0 0 South Entering: 38 West Leg Total: 743 Totals 19 South Leg Total: 79 Totals 41 **Comments**

#### Rathburn Road & Elora Drive (East) **Afternoon Peak Diagram Specified Period One Hour Peak** From: 15:00:00 From: 17:00:00 To: 18:00:00 To: 18:00:00 Weather conditions: Municipality: Mississauga Clear Site #: 000000012 Intersection: Person(s) who counted: Rathburn Road & Elora Drive (East) TFR File #: Count date: 23-Feb-2016 \*\* Signalized Intersection \*\* Major Road: Rathburn Road runs W/E North Leg Total: 90 Heavys 0 0 0 Heavys 0 East Leg Total: 1433 Trucks 0 0 North Entering: 26 0 Trucks 0 East Entering: 906 Cars 64 North Peds: Cars 3 22 26 East Peds: 4 $\mathbb{X}$ Peds Cross: Totals 3 22 Totals 64 Peds Cross: ⋈ Elora Drive (East) Trucks Heavys Totals Heavys Trucks Cars Totals Cars 796 818 0 59 798 777 18 48 49 Rathburn Road 884 18 Heavys Trucks Cars **Totals** Rathburn Road 0 0 5 5 12 485 498 28 28 Trucks Heavys Totals 0 0 Cars 518 514 527 Driveway $\mathbb{X}$ 7 23 Peds Cross: $\bowtie$ Peds Cross: Cars 77 Cars 16 West Peds: 7 Trucks 1 Trucks 1 0 1 South Peds: 12 0 West Entering: 531 Heavys 0 Heavys 0 South Entering: 24 West Leg Total: 1349 Totals 17 South Leg Total: 102 Totals 78

### **Comments**

# Rathburn Road & Elora Drive (East)

# **Total Count Diagram**

Municipality: Mississauga

Site #: 000000012

Intersection: Rathburn Road & Elora Drive (East)

TFR File #:

North Leg Total: 511

North Entering: 236

North Peds:

Peds Cross:

Peds Cross:

West Peds:

West Entering: 3510

West Leg Total: 7170

Count date: 23-Feb-2016 Weather conditions:

Clear

Person(s) who counted:

### \*\* Signalized Intersection \*\*

20

Heavys 0 6 6 4 4 Trucks 0 Cars 32 193 226

Totals 32 203 Major Road: Rathburn Road runs W/E

Heavys 12

Trucks 9 Cars 254

Totals 275

East Leg Total: 7548 East Entering: 3873 East Peds: 33  $\mathbb{X}$ Peds Cross:

Heavys Trucks Cars Totals 134 40 3486 3660



Rathburn Road

Heavys Trucks Cars Totals 0 26 30 112 12 3201 3325 0 154 155 3381

 $\mathbb{X}$ 

29



Cars 334

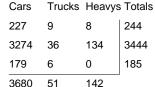
Trucks 6

Heavys 1

Totals 341







Rathburn Road



Elora Drive (East)

Driveway	Î	

Cars	180	1	144	325
Trucks	4	0	3	7
Heavys	0	0	0	0
Totals	184	1	147	_

Trucks Heavys Totals Cars 3538 3675

> Peds Cross:  $\bowtie$ South Peds: 147 South Entering: 332 South Leg Total: 673

### Comments

# Rathburn Road & Elora Drive (East) Traffic Count Summary

Intersection:	Rathburi	n Road	& Elora [	Drive (Ea	asi Count C	Date: 23-Feb-20	)16	Munic	cipality: Mis	ssissaug	ja		
	North	Appro	ach Tot	als					South	Appro	ach Tot	als	
			rucks, & H			North/South					rucks, & H		
Hour Ending	Left	Thru	Right	Grand Total	Total Peds	Total Approaches	Hou Endi		Left	Thru	Right	Grand Total	Total Peds
6:00:00	0	0	0	0	0	0	6:00	0:00	0	0	0	0	0
7:00:00	15	0	5	20	0	52	7:00		18	0	14	32	4
8:00:00	32	0	7	39	1	91	8:00		24	0	28	52	6
9:00:00	53	0	5	58	4	137	9:00		54	0	25	79	39
12:00:00	13	0	1	14	0	36	12:00		8	0	14	22	1
13:00:00 15:00:00	24 6	0	4 0	28 6	2 5	59 28	13:00 15:00		18 10	0	13 12	31 22	12 8
16:00:00	16	0	4	20	1	57	16:00		18	1	18	37	30
17:00:00	22	0	3	25	3		17:00		17	ó	16	33	35
18:00:00	22	1	3	26	4		18:00		17	Ö	7	24	12
Totals:	203	1	32	236	20	568			184	1	147	332	147
	East Include	Approa	rucks, & H	als eavys		_			West Include	: Approa	ach Tota rucks, & H	als eavys	
Hour Ending	Left	Thru	Right	Grand Total	Total Peds	East/West Total Approaches	Hou Endi	ur ng	Left	Thru	Right	Grand Total	Total Peds
6:00:00	0	0	0	0	0	0	6:00	0:00	0	0	0	0	0
7:00:00	1	107	2	110	2	339	7:00		0	225	4	229	1
8:00:00	4	257	18	279	1	802	8:00		4	511	8	523	1
9:00:00	15	324	20	359	4	1036	9:00		2	654	21	677	7
12:00:00 13:00:00	14 19	169 338	13 23	196 380	0	421	12:00 13:00		0	216 324	9 19	225 348	1
15:00:00	19	336 166	7	185	4 2		15:00		5 1	161	6	168	1 4
16:00:00	24	543	41	608	14		16:00		7	353	31	391	0
17:00:00	47	742	61	850	2		17:00		6	383	29	418	7
18:00:00	49	798	59	906	4		18:00		5	498	28	531	7 7
Totals:	185	3444	244	3873	33	7383	ooo!r	a RA	30	3325	155	3510	29
Цо Г	din ~·	7.00				or Traffic Cr		_	•		40.00		
Hours En	ding: Values:	7:00 36	8:00 58	9:00 118	12:00 22		13	3:00 47	16:00 49	17:00 48	18:00 51		

# APPENDIX B2 SIGNAL TIMING PLANS

08:12 USER 12/3 PRINT DAILY INT REP, INT 48 96 206 213 334 703, AS 1-3 DAILY INTERSECTION REPORT FOR ACT SCH  $\,$  1 ( MON TUE WED THU FRI )

DATE		RSECTIO					MOM )				1 )		
INT	TIME	11000			PLANS	IN U				NATES	anr m	CDEC	DHD
		MODE	CYC	OFF	SPLT	SPEC	DUP	MODE		OFF		SPEC	
40	00 00	,	LEN	NO.	NO.	FUNC	ISEC	т О	LEN	NO.	NO.	FUNC	ISEC
	00:00	/	/,	/	/,	/	/,	LO	101	2	2	4	1000
	07:00	1/1	/	/	/	1/1	/	CC	80	1	1	1	1082
	09:00	1/1	/	/	/	1/1	/	CC	80	2	2	2	1082
	16:00	1/1	/	/	/	1/1	/	CC	80	3	3	3	1082
	18:30	1/1	/	/	/	1/1	/	CC	80	2	2	2	1082
	00:00	/	/	/	/	/	/	LO	101	2	2	2	
	07:00	1/1	/	/	/	1/1	/	CC	140	1	1	1	
	09:00	1/1	/	/	/	1/1	/	CC	130	2	2	2	
	16:00	1/1	/	/	/	1/1	/	CC	140	3	3	3	
	18:30	1/1	/	/	/	1/1	/	CC	130	2	2	2	
	00:00	/	/	/	/	/	/	LO	101	2	2	2	
	07:00	1/1	/	/	/	1/1	/	CC	140	1	1	1	
206	07:45	1/1	/	/	/	1/1	/	CC	140	1	1	4	
206	09:00	1/1	/	/	/	1/1	/	CC	65	2	2	2	
206	16:00	1/1	/	/	/	1/1	/	CC	70	3	3	3	
206	18:30	1/1	/	/	/	1/1	/	CC	65	2	2	2	
213	00:00	/	/	/	/	/	/	LO	101	2	2	2	
213	07:00	1/1	/	/	/	1/1	/	CC	115	1	1	1	1055
213	09:00	1/1	/	/	/	1/1	/	CC	115	2	2	2	1055
213	16:00	1/1	/	/	/	1/1	/	CC	140	3	3	3	1055
213	18:30	1/1	/	/	/	1/1	/	CC	115	2	2	3	1055
334	00:00	/	/	/	/	1	/	LO	101	2	2	2	
334	07:00	1/1	/	/	/	1/1	/	CC	140	1	1	1	
	07:45	1/1	/	/	/	1/1	/	CC	140	1	1	4	
334	09:00	1/1	/	/	/	1/1	/	CC	65	2	2	2	
334	16:00	1/1	/	/	/	1/1	/	CC	70	3	3	3	
	18:30	1/1	/	/	/	1/1	/	CC	65	2	2	2	
	00:00	/	/	/	/	1	/	$_{ m LO}$	101	2	2	4	
	07:00	1/1	1	/	1	1/1	/	CC	140	1	1	1	
	09:00	1/1	,	7	1	1/1	1	CC	115	2	2	2	1055
	16:00	$\frac{1}{1}$	,	,	7	1/1	,	CC	140	3	3	3	1055
	18:30	1/1	1	,	1	1/1	/	CC	115	2	2	2	1055
		RSECTIO	N REPO	RT FOI	R ACT		( SAT						
	00:00	/	/	/	1	1	· /	LO	101	2	2	4	
	09:00	1/1	,	,	,	1/1	,	CC	80	2	2	2	
	00:00	/	,	,	,	-, -	,	LO	101	2	2	2	
	09:00	1/1	,	,	,	, 1/1	,	CC	130	2	2	2	
	00:00	/	,	,	,	/	,	LO	101	2	2	2	
	09:00	1/1	,	<i>'</i> ,	,	1/1	,	CC	65	2	2	2	
	00:00	/	,	<i>'</i> ,	,	/	<i>'</i> ,	LO	101	2	2	2	
	09:00	1/1	,	΄,	,	1/1	<i>',</i>	CC	115	2	2	3	1055
	00:00	/	,	΄,	,	/	΄,	LO	101	2	2	2	
	09:00	1/1	',	,	,	1/1	<i>'</i> ,	CC	65	2	2	2	
	00:00	/	,	,	,	/	,	LO	101	2	2	4	
	00:00		′,	,	/	1/1	/	CC	115	2	2	2	1055
/03	09:00	1/1	/	1	/	т/т	/	CC	TID	4	4	4	TODD

DAILY INT	Y INTER	RSECTIO		RT FOR	R ACT :	SCH 3	•	HOL	) ALTER	NATES			
T11 T	1 1110	MODE	CYC	OFF	SPLT	SPEC	DUP	MODE		OFF	SPLT	SPEC	DUP
			LEN	NO.	NO.	FUNC	ISEC		LEN	NO.	NO.	FUNC	ISEC
48	00:00	1	/	7	/	/	/	LO	101	2	2	2	
	10:00	1/1	,	,	/	1/1	/	CC	80	2	2	2	
	23:00	1	/	/	1	/	/	LO	101	2	2	2	
	00:00	7	/	/	/	/	/	$_{ m LO}$	101	2	2	. 2	
96	10:00	1/1	/	/	/	1/1	1	CC	130	2	2	2	
206	00:00	/	/	/	/	/	/	LO	101	2	2	2	
206	10:00	1/1	/	/	/	1/1	/	CC	65	2	2	2	
206	23:00	/	/	/	/	/	/	LO	101	2	2	2	
213	00:00	/	/	/	/	/	/	LO	101	2	2	2	
213	10:00	1/1	/	/	/	1/1	/	CC	115	2	2	3	1055
213	23:00	/	/	/	/	/	/	LO	101	2	2	2	
334	00:00	/	/	/	/	/	/	LO	101	2	2	2	
334	10:00	1/1	/	/	/	1/1	/	CC	65	2	2	2	
334	23:00	/	/	/	/	/	/	LO	101	2	2	2	
703	00:00	/	/	1	1	/	/	$_{ m LO}$	101	2	2	4	
703	10:00	1/1	/	/	/	1/1	/	CC	115	2	2	2	1055
703	23:00	/	/	/	/	/	/	LO	101	2	2	4	

08:14 USER 12/3 PRINT CDT 48 96 206 213 334 703 CYCLE DEFINITION TABLE: 48 STREET PHASE DIR VEH PED PED AMBER ALLCOMM SPECIAL MIN MIN CLEAR RED DELAY FEATURE NAME 1 1 4 3 1 C LIVING ARTS 2 8 11 NS 1 3 4 1 SQUARE ONE DR 4 EW8 12 4 1 5 6 1 7 1 1 VALID SPECIAL FUNCTIONS (Y/N) 2 3 1&2 1&3 2&3 ALL 1 Υ Υ Y Υ Υ Υ Υ CYCLE DEFINITION TABLE: 96 VEH PED PED AMBER ALLCOMM SPECIAL STREET PHASE DIR CLEAR RED DELAY FEATURE NAME MIN MIN 1 1 1 C RATHBURN RD 2 11 17 4 EB4 1 CONFEDERATION 3 3 SBL 5 1 4 NB 10 14 4 4 CONFEDERATION 5 3 1 RATHBURN RD EBL5 6 11 17 4 1 C RATHBURN RD WB 7 1 CONFEDERATION 5 3 NBL 1 CONFEDERATION 10 14 4 8 SB VALID SPECIAL FUNCTIONS (Y/N) 2 3 1&2 1&3 2&3 ALL 1 Y Y Y Υ Y Y CYCLE DEFINITION TABLE: 206 PED COMM SPECIAL STREET PED AMBER ALLPHASE DIR VEH DELAY FEATURE MIN CLEAR RED NAME MIN 1 1 С 8 3 1 RATHBURN ROAD 2 EW 11 4 3 1 3 1 ELORA DRIVE 4 NS 11 16 4 5 1 6 1 7 1 1 VALID SPECIAL FUNCTIONS (Y/N) 1 2 3 1&2 1&3 2&3 ALL Y Y Υ Y Υ Y Υ CYCLE DEFINITION TABLE: 213 COMM SPECIAL STREET PED AMBER ALLDIR VEH PED PHASE DELAY FEATURE CLEAR NAME MIN MIN RED RATHBURN 1 WBL 5 3 1 1 4 C RATHBURN 2 EB11 16 4 1 DUKE OF YORK 3 SBL 5 3 DUKE OF YORK 4 4 1 NB 11 16 4 1 5 1 C RATHBURN 4 4 6 WB 11 16 1 DUKE OF YORK 7 5 3 NBL

CYCLE I									
PHASE	DIR	VEH	PED	PED	AMBER	ALL		SPECIAL	STREET
0	<b>AD</b>	MIN	MIN	CLEAR	4	RED		FEATURE	NAME DIVE OF VORV
8	SB	рпата	11	16	4	4	1		DUKE OF YORK
				CTIONS (					
1	=	3		£3 2£3					
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	_	Y	_	Y Y	Y				
CYCLE I					AMDED	3 T T	COM	CDECTAL	¢mp.ppm
PHASE	DIR	VEH	PED	PED	AMBER	ALL	COMM	SPECIAL	STREET
1		MIN	MIN	CLEAR		RED		FEATURE	NAME
1	T37.7		0	1.0	4	2	1	a	DAMIDUDAL DD
2	EW		8	10	4	2	1	С	RATHBURN RD
3	NG		1.2	1.0	4	2	1		ELODA DD
4	NS		13	18	4	2	1 1		ELORA DR
5							1		
6 7							1		
8							1		
	TTD C	DECT?	T ENTER	CTIONS (	v/m)		Τ.		
1		3		&3 2&3	-				
ı. Y		Y		αυ	Y				
CYCLE D		_	TABLE		1				
PHASE	DIR	VEH	PED	PED	AMBER	ALL	COMM	SPECIAL	STREET
		MIN	MIN	CLEAR		RED		FEATURE	NAME
1	$\mathtt{WBL}$	5			3		1		RATHBURN RD
2	EW		0	^		2		С	RATHBURN RD
~	1.744		8	9	4	3	1	C	KATUDUKN KD
3	17944		8	9	4	3	1	C	KAINDUKN KD
	NS		8	9 12	4	3		C	LIVING ARTS DR
3					_		1	C	
3 4 5 6					_		1 1	C	
3 4 5					_		1 1 1	C	
3 4 5 6					_		1 1 1 1	C	
3 4 5 6 7 8	NS	PEC1 <i>1</i>	8		4		1 1 1 1	C	
3 4 5 6 7 8	NS LID S	PEC1 <i>1</i> 3	8 AL FUN	12	4 Y/N)		1 1 1 1		

```
08:15 USER 12/3 PRINT SPF 1-4, INT 48 96 206 213 334 703
 SPECIAL FUNCTIONS
                     LIVING ARTS@ SQ ONE
  INTERSECTION 48
            IN(Y)/OUT(N)
  SPECIAL
  FUNCTION # 1 2
                     3
              NA
                 PED CAL PHASE OMIT SPF2 Y=ON
    1
               Y
                   Y
                      N
    2
               Y
                   Y
                      N
    3
                  Y
                      N
               Y
               Y
                  N
    4
                      N
                 96
  INTERSECTION
                     RATHBURN @ CONFED
              NA
                  EBL CAL
                          PHASE OMIT BUT SPF2 Y=ON
    1
               Y
                  Y
                      N
    2
               Υ
                   Y
                      N
               Y
                   Ν
                      N
    3
    4
                   N
                      N
               N
  INTERSECTION 206
                     RATHBURN@ELORA/CONDO
              NA PED CAL PHASE OMIT BUT SPF2 Y=ON
                  N
                      N
    1
               Υ
    2
               Υ
                   N
                      N
    3
               Y
                  N
                     N
               Y
                  Y
                     N
  INTERSECTION 213
                     RATHBURN@DUKEOFYORK
              WBL PED CFT PHASE OMIT
               N
                  N
                     N
    1
    2
               N
                   N
                      N
    3
               N
                   N
                      Y
                  N
                      N
               Ν
  INTERSECTION 334
                      RATHBURN @ ELORA
                          PHASE OMIT BUT SPF2 Y=ON
              NA
                 PED CAL
    1
                  N
                      N
               Υ
    2
               Y
                   Ν
                      N
                  N
                      N
    3
               Υ
               Y
                   Y
                      N
  INTERSECTION 703
                     RATHBURN@LIVING ARTS
              WBL PED CFT PHASE OMIT BUT SPF2 Y=ON
    1
               Ν
                  N
                      Y
    2
               N
                   N
                      Y
    3
                  N
                      Y
               Ν
```

Ν

N

N

08:16 USER 12/3 PRINT SPLIT 1-3, INT 48 96 206 213 334 703 SPLIT TABLE

INT	ERSECT	ION	48			L	IVIN	3 A)	RTS	:e	SQ O	NE						
TAB	LE	(SF	LIT)	PHA	SE N	JMBE	R				(MA)	X S	PLI	T)	PHASE	NUI	MBER	
NO.	1	2	3	4	5	6	7	8		1	2		3	4	5	6	7	8
		NS		EW														
1		61		39							0			0				
2		61		39							0			0				
3		61		39							0			0				
INT	ERSECT	ION	96			R	ATHBU	JRN	@	COI	NFED							
		EB	$\mathtt{SBL}$	NB	EBL	WB	NBL	SB										
1		45	18	37	0	45	18	37			0		0	0	0	0	0	0
2		44	13	43	0	44	13	43			0		0	0	0	0	0	0
3		48	12	40	12	36	12	40			0		0	0	19	0	0	0
INT	ERSECT	ION	206			R	АТНВІ	JRNO	3EI	OR	A/CO	NDO	)					
		EW		NS														
1		73		27							0			0				
2		43		57							0			0				
3		47		53							0			0				
INT	ERSECT	ION	213			R	АТНВ	JRN(	a DU	KE	OFYO	RK						
	$\mathtt{WBL}$	$\mathbf{E}\mathbf{B}$	$\mathtt{SBL}$	NB		WB	NBL	SB										
1	11	45	10	34		56	10	34		15	0		0	0		0	0	0
2	16	35	11	38		51	14	35		21	0		0	0		0	0	0
3	11	39	11	39		50	18	32		18	0		0	0		0	0	0
INT	ERSECT	ION	334			R/	АТНВІ	JRN	@	EL	ORA							
		EW		NS														
1		71		29							0			0				
2		38		62							0			0				
3		42		58							0			0				
INT	ERSECT	ION	703			R	АТНВС	JRNO	ğΓΙ	IIV	NG A	RTS	;					
	WBL	EW		NS														
1	9	71		20						15	0			0				
2	11	64		25						15	0			0				
3	10	60		30						16	0			0				

08:16 USER 12/3 PRINT OFFSET 1-3, INT 48 96 206 213 334 703 OFFSET TABLE

INTERSECTION	48	LIVING ARTS@ SQ ONE
	FSET	
1	58	·
2	58	
3	58	
INTERSECTION	96	RATHBURN @ CONFED
1	37	
2	31	
3	2	
INTERSECTION	206	RATHBURN@ELORA/CONDO
1	0	
2	17	
3	10	
INTERSECTION	213	RATHBURN@DUKEOFYORK
1	60	
2	58	
3	81	
INTERSECTION	334	RATHBURN @ ELORA
1	79	
2	94	
3	34	
INTERSECTION	703	RATHBURN@LIVING ARTS
1	41	
2	48	
3	0	

# APPENDIX B3 COLLISION DATA

		Υe	ars						Expected		Expected						Environn	nental Condi	ion									Impact Type							Classification	n	
Location	2009	2010 20	2012 201	3 Total	I Average	PM Peak Vo	Daily Vol En	t Avg Rate/MVI	Calliaiana		A . in	Excess Collisions	Clear Clea	Rain R	ain Snow	Snow r	rg Freezing Rain	Driftin g Snow	fting Stro	Strong	Fog, Fog, Mist, Mist Smok Smok	, Other Oth	ner oach ng	pr chi Approaching	Angle An	gle Rear End	Rear S End v	Sides wipe Sideswipe	Turni ng Tu	urning S	MV- SMV- ther Other Oth	er Other	Fatal Fatal Nor	- Non- I Fatal	PDO PDO	Non- Repor t	Non- eport Other Oth
Intersection Collisions																																					-
Rathburn Drive @ Elora Drive East	4	3	2 1 7	17	3.4	1487	16522	0.6	0	2	1	14	13 76%	2 1	2% 1	6%	0 0%	0	1% 1	6%	0 0%	0 09	% 3	18%	4 24	% 6	35%	1 6%	3 1	18%	0 0% 0	0%	0 0% 2	12%	15 88%	0	0% 0 09
Rathburn Drive @ Confederation Parkway	11	20	1 15 15	72	14.4	5459	60656	0.7	3	9	19	39	55 76%		5% 6	8%	0 0%		1% 0	0%	0 0%	0 09	% 11	1 15%	11 15	% 24	33%	8 11%	15 2	21%	1 1% 2	3%	1 1% 11		58 81%		3% 0 09
Rathburn Drive @ Living Arts Drive	2	7	7 2 1	19	3.8	2047	22744	0.5	0	2	2	15	15 79%	3 1	6% 1	5%	0 0%		1% 0	0%	0 0%	0 09	% 2	! 11%	4 21	% 5	26%	4 21%	3 1	16%	0 0% 1	5%	0 0% 2	11%	17 89%		0% 0 09
Rathburn Drive @ Duke of York Boulevard	12	15	8 19 14	78	15.6	3232	35911	1.2	1	6	8	62	57 73%	17 2	2% 2	3%	1 1%	0	1% 0	0%	1 1%	0 09	% 7	9%	17 22	% 13	17%	16 21%	22 2	28%	1 1% 2	3%	0 0% 7	9%	70 90%	1	1% 0 0°
Square One Drive @ Confederation Parkway	0	0	1 1 0	2	0.4	2673	29700	0.0	0	1	1	0	2 1009	0 1	0% 0	0%	0 0%	0	1% 0	0%	0 0%	0 09	% 0	0%	1 50		50%	0 0%		0%	0 0% 0	0%	0 0% 1	50%	1 50%		0% 0 09
Square One Drive @ Duke of York Boulevard	0	0	2 4 4	10	2.0	1643	18256	0.3	0	0	2	7	8 80%	1 1	0% 0	0%	1 10%	0	% 0	0%	0 0%	0 09	% 1	10%	1 10	% 4	40%	3 30%	1 1	10%	0 0% 0	0%	0 0% 0	0%	9 90%	1 '	10% 0 0%
Mid-Block Collisions																																					=
Rathburn Drive																																					
between Elora Drive and Confederation Parkway	1	0	4 2 0	7	1.4	1800	19994	0.2					5 71%	1 1	4% 1	14%	0 0%	0	1% 0	0%	0 0%	0 09	% 0	0%	1 14	% 4	57%	1 14%	1 1	14%	0 0% 0	0%	0 0% 2	29%	5 71%	0%	0% 0 09
between Confederation Parkway and Living Arts Drive	0	2	4 1 0	7	1.4	2097	23300	0.2					6 86%	0 (	0% 1	14%	0 0%	0	1% 0	0%	0 0%	0 09	% 0	0%	2 29	% 4	57%	0 0%	0	0%	0 0% 1	14%	0 0% 2	29%	5 71%	0%	0% 0 09
between Living Arts Drive and Duke of York Boulevard	0	1	0 2 0	3	0.6	2000	22222	0.1					3 1009	0 1	0% 0	0%	0 0%	0	% 0	0%	0 0%	0 09	% 0	0%	0 09	% 2	67%	1 33%	0	0%	0 0% 0	0%	0 0% 1	33%	2 67%	0%	0% 0 0%
Confederation Parkway																																					
between Rathburn Road and Square One Drive	1	2	1 2 2	8	1.6	2750	30556	0.1					4 50%	4 5	0% 0	0%	0 0%	0	% 0	0%	0 0%	0 09	% 0	0%	1 13	% 5	63%	0 0%	2 2	25%	0 0% 0	0%	0 0% 3	38%	5 63%	0%	0% 0 09
Duke of York Boulevard																																					
between Rathburn Road and Square One Drive	3	4	1 4 4	16	3.2	1270	14106	0.6					14 88%	0	0% 1	6%	0 0%	0	1% 0	0%	0 0%	1 69	% 3	19%	5 31	% 4	25%	0 0%	3 1	19%	0 0% 1	6%	0 0% 1	6%	15 94%	0%	0% 0 0%
																							1														
* Assumed PM Peak Hour/AADT Factor = 8.0%																																					
* AADT data unavailable;														1	- 1					1	- 1							1								1	

# APPENDIX B4 TRAVEL TIME DATA

### AM Peak Hour

Direction	Road Section	1	2	3	4	5	6	Avg	Total EB T
	Elora W - Elora E	0:00:29	0:00:30	0:00:27	0:00:28	0:00:28	0:00:28	0:00:28	0:01:41
	Eloia W - Eloia E	52.68	51.64	54.65	55.20	56.69	55.13	54.33	
	Elora E - Confederation	0:00:48	0:00:18	0:00:45	0:00:48	0:00:44	0:00:49	0:00:42	
EB	Elora E - Cornederation	14.90	39.01	15.62	14.96	15.01	14.08	18.93	
L ED	Confederation - Living Arts	0:00:17	0:00:14	0:00:14	0:00:15	0:00:14	0:00:16	0:00:15	
	Confederation - Living Arts	42.00	47.92	46.83	45.85	48.35	45.50	46.08	
	Living Arts - Duke of York	0:00:16	0:00:21	0:00:20	0:00:14	0:00:13	0:00:13	0:00:16	
	Living Arts - Duke or York	42.48	33.82	33.55	47.13	55.71	52.59	44.21	
Direction	Road Section	1	2	3	4	5	6	WB Avg	Total WB T
Direction	Poad Section	1	2	3	1	5	6		Total WR T
	D. L (CV. J. 1111 A.)	0:00:21	0:00:17	0:00:32	0 0 0 1 0				
	Duke of York - Living Arts			0.00.02	0:00:16	0:00:42		0:00:26	0:01:33
	Teams or reme arming range	33.93	40.65	23.15	0:00:16 43.81	0:00:42 17.10		0:00:26 31.73	0:01:33
		33.93 0:00:18	40.65 0:00:24						0:01:33
MD	Living Arts - Confederation			23.15	43.81	17.10		31.73	0:01:33
WB	Living Arts - Confederation	0:00:18	0:00:24	23.15 0:00:14	43.81 0:00:22	17.10 0:00:14		31.73 0:00:18	0:01:33
WB		0:00:18 37.77	0:00:24 28.19	23.15 0:00:14 47.23	43.81 0:00:22 29.54	17.10 0:00:14 46.14		31.73 0:00:18 37.77	0:01:33
WB	Living Arts - Confederation	0:00:18 37.77 0:00:15	0:00:24 28.19 0:00:15	23.15 0:00:14 47.23 0:00:14	43.81 0:00:22 29.54 0:00:15	17.10 0:00:14 46.14 0:00:15		31.73 0:00:18 37.77 0:00:15	0:01:33

40.80

50.67

39.18

41.84

51.82

EΒ

44.86

### PM Peak Hour

Direction	Road Section	1 1	2	3	4	5	EB	Total EB T
Direction	Road Section	0.00.40	0:00:55	0:00:31			Avg	
	Elora W - Elora E	0:00:48			0:00:30	0:01:10	0:00:47	0:02:41
		32.45	28.01	51.11	53.23	22.18	37.40	
	Elora E - Confederation	0:00:17	0:00:15	0:00:13	0:01:33	0:00:52	0:00:38	
EB	Ziora Z Comodoration	40.21	47.43	51.87	7.31	14.64	32.29	
LD	Confederation - Living Arts	0:00:13	0:00:13	0:00:13	0:00:19	0:00:16	0:00:15	
	Confederation - Living Arts	53.51	53.94	52.65	37.51	42.25	47.97	
	Living Arts - Duke of York	0:01:15	0:00:58	0:01:08	0:00:15	0:01:33	0:01:02	
	Living Airs - Duke or Tolk	0.0=	40.00	40.00	40.00	7.50	4==0	i
	l °	9.87	12.28	10.88	46.92	7.58	17.50	
Direction	Road Section	9.87	2	3	46.92	7.58	WB	Total WB T
Direction	Road Section	9.87	1					Total WB T 0:03:47
Direction	1	1 1	2	3	4		WB Avg	
Direction	Road Section  Duke of York - Living Arts	1 0:00:27	2 0:01:07	3 0:01:07	4 0:01:12		WB Avg 0:00:58	
	Road Section	1 0:00:27 26.09	2 0:01:07 10.92	3 0:01:07 10.34	4 0:01:12 10.41		WB Avg 0:00:58 14.44	
Direction WB	Road Section  Duke of York - Living Arts  Living Arts - Confederation	1 0:00:27 26.09 0:00:44	2 0:01:07 10.92 0:01:59	3 0:01:07 10.34 0:01:35	4 0:01:12 10.41 0:01:54		WB Avg 0:00:58 14.44 0:01:33	
	Road Section  Duke of York - Living Arts	1 0:00:27 26.09 0:00:44 15.32	2 0:01:07 10.92 0:01:59 5.61	3 0:01:07 10.34 0:01:35 6.96	4 0:01:12 10.41 0:01:54 5.91		WB Avg 0:00:58 14.44 0:01:33 8.45	
	Road Section  Duke of York - Living Arts  Living Arts - Confederation	1 0:00:27 26.09 0:00:44 15.32 0:00:50	2 0:01:07 10.92 0:01:59 5.61 0:00:14	3 0:01:07 10.34 0:01:35 6.96 0:00:14	4 0:01:12 10.41 0:01:54 5.91 0:00:55		WB Avg 0:00:58 14.44 0:01:33 8.45 0:00:33	

# APPENDIX C VISSIM CALIBRATION REPORT

### VISSIM Model Development and Calibration – Technical Report

Square One Drive EA City of Mississauga



Prepared for: City of Mississauga

Prepared by: Stantec Consulting Ltd.

### VISSIM MODEL DEVELOPMENT AND CALIBRATION - TECHNICAL REPORT

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#### VISSIM MODEL DEVELOPMENT AND CALIBRATION - TECHNICAL REPORT

Project Background April 2016

## 1.0 PROJECT BACKGROUND

The purpose of this technical report is to document the development of the VISSIM microsimulation model for the Class Environmental Assessment (EA) Study for the Square One Drive Extension.

The project consists of the extension of Square One Drive from Confederation Parkway west connecting to Rathburn Road.

Using the VISSIM micro-simulation software package (Version 8.00), a model will be developed to conduct analysis on existing conditions and to assess future alternatives of the extension.



#### VISSIM MODEL DEVELOPMENT AND CALIBRATION - TECHNICAL REPORT

Model Development April 2016

### 2.0 MODEL DEVELOPMENT

The Federal Highway Administration's (FHWA) document "Traffic Analysis Toolbox Volume III: Guidelines for Applying Traffic Microsimulation Modelling Software – July 2004" was referenced as a guideline for the development of the VISSIM model. As outline and simplified by the FHWA document four important steps must be completed before calibrating and validating a VISSIM model:

- 1. Project Scope
- 2. Data Collection
- 3. Base Model Development
- 4. Error Checking

### 2.1 PROJECT SCOPE

The study area limits of the project extend from Elora Drive West at Rathburn Road easterly to Duke of York Boulevard at Rathburn Road, and extend south to Square One Drive.

Figure 1 illustrates the limits of the study area.

### 2.2 DATA COLLECTION

Data collection was required to provide input parameters and output measures of performance for calibration and validation of the micro-simulation model. A majority of the traffic data was provided by the City of Mississauga. Other data was directly collected from the field. For the development of the VISSIM model, intersection turning movement counts, posted speeds, travel time surveys, and intersection signal timing plan data was provided and/or collected.

### 2.3 BASE MODEL DEVELOPMENT

The next step in the development of a VISSIM model is the development of the base model that will be used for calibration and development of subsequent scenarios (i.e., assessment of alternatives). The base model development involved creating and coding the geometric network over a high-quality aerial image of the study area. The road network was coded with VISSIM's default "urban (motorized)" link behavior.

Once the geometric network was created, desired and reduced speeds were coded into the network. The desired speeds were based on the maximum posted speed limits in the field. Reduced speeds for turns are based on industry accepted values. The speeds coded within the model are tabulated below in **Table 1** and **Table 2**.



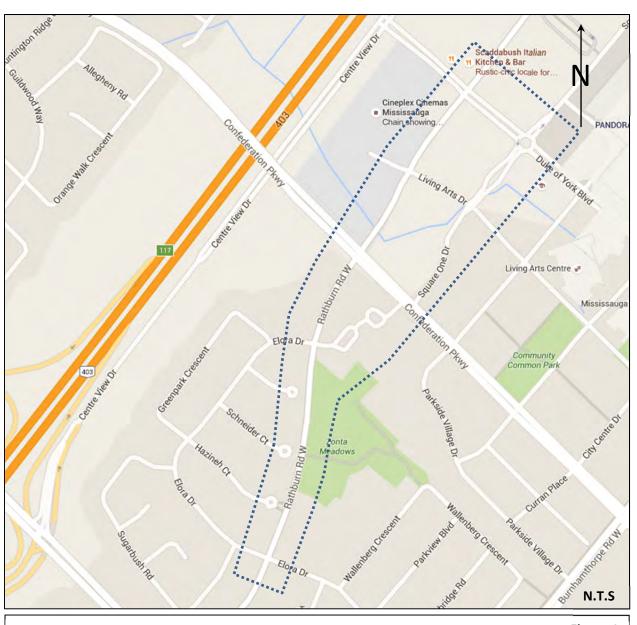


Figure 1
Study Area
Mississauga, Ontario

#### VISSIM MODEL DEVELOPMENT AND CALIBRATION – TECHNICAL REPORT

Model Development April 2016

Road	Desired Speed
Rathburn Road	Maximum posted = 50 km/h
Square One Drive	Maximum posted = 30 km/h
Confederation Parkway	Maximum posted = 50 km/h
Living Arts Drive	Maximum posted = 50 km/h
Duke of York Boulevard	Maximum posted = 50 km/h

Table 1 – Desired Speeds

Turn Direction	Reduced Speed Area Zone
Left-Turn (Passenger Vehicle)	30 km/h
Left-Turn (Heavy Vehicle/Bus)	25 km/h
Right-Turn (Passenger Vehicle)	15 km/h
Right-Turn (Heavy Vehicle/Bus)	12 km/h

Table 2 – Turn Speeds

Intersection control was then coded within the model per the signal timing plans provided. Right-turns on red were coded where allowed in the field using the software's feature.

Conflict points and priority rules were next coded into the VISSIM model. Conflict points were coded in locations where links/connectors cross and have the potential for vehicles to cross paths. The default parameters were used for conflict points. Priority rules were incorporated into the model at certain locations where a conflict point would not accurately replicate the behavior of conflicting vehicles.

From the traffic data, an origin-destination matrix was formulated for the VISSIM network to determine the model's vehicle inputs and outputs. The matrix was utilized in coding the vehicle inputs as well as vehicle routing decisions. Vehicle inputs were coded into the model by an hourly flow rate and vehicle compositions. The existing weekday a.m. and p.m. peak hour matrices have been provided for reference in **Attachment A**.

### 2.4 ERROR CHECKING

The error checking portion of the model development process is focused on fixing large coding errors before the time-consuming calibration and validation process begins. Error checking is a process that involves a detailed review of the coded data and a review of the animation.

All coded data which includes geometry, speeds, signal timing plan data, and traffic volumes were reviewed by the model developer/analyst and by a quality control reviewer.

The detailed review of the simulation animation was conducted to determine if any locations within the model where conflict points or priority rules are missing, where signal timings may not be functioning correctly, or if any other locations where general coding parameters may have been missed or coded incorrectly. Some parameters in the model were adjusted based on the analyst's judgment to accurately capture the interactions of the vehicles on the network as part



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of this review. A list of the parameter adjustments has been provided for reference in **Attachment B**.



Calibration/Validation April 2016

## 3.0 CALIBRATION/VALIDATION

## 3.1 MODEL PARAMETERS

The calibration of a model is a fundamental process as it is necessary to ensure that the model is a true representation that will successfully replicate actual traffic operations. The calibration and validation of the model also provides a level of confidence to which results can be ascertained. The calibration process involves the adjustment of model parameters, which is done iteratively until an accurate representation of the prevailing roadway network is achieved.

Calibration parameters can be separated into two categories, system calibration parameters and operational calibration parameters. System calibration involves the investigation of model input assumptions (vehicle inputs, vehicle routing, etc.) and operational calibration focuses on detailed driver behavior characteristics that affect the overall traffic operations in the model.

Within the system calibration stage, the goal is to verify and check all assumptions of inputs associated with the model. The objective is to identify where uncertainties were introduced in the base model and to determine their effect on the overall system operations. System calibration parameters includes the assumptions made on vehicle route choice, traffic demand inputs, traffic compositions, study area boundaries, and the temporal distribution of demand and routing. Additionally, the input data such as signal timings, roadway speed distributions, and roadway geometry characteristics are also checked for consistency between the other model inputs.

Within the operational calibration stage, the model parameters that affect the overall traffic operations of the network are modified. Operational calibration consists of modifying the detailed driver behavior parameters that affect the overall capacity of the transportation facilities, aggressiveness of drivers, and locations for lane changing. The adjustment of these parameters is essential for modeling freeway bottlenecks and local driving behavior that can affect the overall traffic flow, speeds, capacity, and congestion. Parameters may include car following characteristics (headway, standstill distance, safety distance), lane changing accepted deceleration rates, route lane change distances, and lane selection. The operational calibration stage requires the model time and resources to complete.

Validation is defined as the process of comparing simulated model results with field observed data to determine the accuracy of the simulation model. The goal of model validation is to identify parameter settings in the simulation model which produce outputs that match field data. Parameters are adjusted until an acceptable match is converged upon between the observed field data and the results of the modelled existing conditions. It is the final step in the iterative calibration process. Based on the calibration/validation targets set, the validation check determines how closely the model is to replicating the actual study area. Visual inspection of the simulation model is undertaken during this stage. If the calibration/validation targets are not met, the system and operational calibration process is revisited in order to make



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more modifications to the model. Data should be evaluated to determine the best parameters to modify during the next iteration.

Once a model is calibrated and validated, it can then be utilized with confidence to analyze future scenarios which may include modifications to trip distribution, travel demand, or changes in the geometry of the roadway.

## 3.2 DETERMINATION OF CALIBRATION/VALIDATION TARGETS

The measures of effectiveness (MOE's) selected include intersection turning movement volumes, travel time, and vehicle speeds.

Targets are used to determine if the calibration process has reached a level of acceptability between the simulated model and the field measures of effectiveness. Within the FHWA's document "Traffic Analysis Toolbox Volume III: Guidelines for Applying Traffic Microsimulation Modelling Software – July 2004" under section 5.6 Calibration Targets, the calibration targets detailed for travel times and visual audits as listed within Table 4 were utilized. In addition, other industry standard targets have been summarized below.

- Achieve 80% for the majority of the compared TMC (Turning Movement Count) data sets with an overall GEH value < 5;</li>
- Verify that no signification link, intersection approach or turning movement flows have a GEH value of greater than 10.0;
- An absolute variation between the modelled and observed data or not more than 25%;
- Journey times within the network are within 15% (or 1.0 minute, if higher) for greater than 85% of cases; and
- Individual link speeds, visually acceptable speed-flow relationship to the analyst's satisfaction.

## 3.3 BASE MODEL CALIBRATION RESULTS

## 3.3.1 Flow Comparisons

The calibration/validation process involved an assessment and comparison between the modelled and observed turning movement volumes at intersections. As part of the flow comparison, the GEH statistic was utilized as criteria for determining how well the results matched. The GEH statistic is a modified Chi-Square statistic that incorporates both relative and absolute differences.

The GEH statistic is computed as follows:



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$$GEH = \sqrt{\frac{(M-O)^2}{0.5 * (M+O)}}$$

Where:

M: Simulated/Modelled Flows

O: Observed Flows

GEH values provide an indication of the goodness of fit as outlined below:

GEH < 5 Flows can be considered a good fit 5 < GEH < 10 Flows may require further investigation

GEH > 10 Flows cannot be considered to be a good fit

A comparison of modelled and observed flows was conducted for individual turning movement volumes at the study area intersections. The modelled traffic volumes as well as the simulation outputs were obtained as a mean of multiple computer model runs. Averaged results provide a proper representation as this kind of micro-simulation analysis is a stochastic process in which every computer run represents a single observation. A complete experiment therefore consisted of multiple computer runs, whose outputs were averaged to obtain the final modelled results that were then compared with the observed data.

The comparison of existing observed and modelled intersection traffic volumes is summarized in **Table 3** and **Table 4**. Full intersection turning movement volume comparison tables have been provided for reference in **Attachment C**.

	AM Peak Hour								
Intersection	Observed	Modelled	% Diff	GEH					
Elora Drive W/Rathburn Road	1,576	1,578	0.1%	0.1					
Elora Drive E/Rathburn Road	1,369	1,372	0.2%	0.1					
Confederation Parkway/Rathburn Road	4,081	4,117	0.9%	0.6					
Living Arts Drive/Rathburn Road	1,919	1,951	1.7%	0.7					
Duke of York Boulevard/Rathburn Road	2,332	2,337	0.2%	0.1					
Confederation Parkway/Square One Drive	2,473	2,481	0.3%	0.2					
Living Arts Drive/Square One Drive	523	543	3.8%	0.9					
Duke of York Boulevard/Square One Drive	800	852	6.5%	1.8					
Total Intersections		3	}						
# of Intersections GEH < 5		3	3						
% of Intersections GEH < 5		100	0%	<u> </u>					

Table 3 – Comparison of Total Volumes at Study Area Intersections – AM Peak Hour



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	PM Peak Hour								
Intersection	Observed	Modelled	% Diff	GEH					
Elora Drive W/Rathburn Road	1,863	1,823	-2.1%	0.9					
Elora Drive E/Rathburn Road	1,711	1,663	-2.8%	1.2					
Confederation Parkway/Rathburn Road	4,934	4,688	-5.0%	3.5					
Living Arts Drive/Rathburn Road	2,391	2,234	-6.6%	3.3					
Duke of York Boulevard/Rathburn Road	3,503	3,459	-1.3%	0.7					
Confederation Parkway/Square One Drive	2,824	2,733	-3.2%	1.7					
Living Arts Drive/Square One Drive	671	619	-7.7%	2.0					
Duke of York Boulevard/Square One Drive	1,693	1,723	1.8%	0.7					
Total Intersections		8							
# of Intersections GEH < 5		8							
% of Intersections GEH < 5		100							

Table 4 – Comparison of Total Volumes at Study Area Intersections – PM Peak Hour

The overall intersection flows are matched acceptably well. GEH values for all intersections are below the target of 5. Additionally, all intersection approaches and turning movements register GEH values within the specified targets.

## 3.3.2 Travel Time Comparisons

Travel time survey data was collected along Rathburn Road in each direction. A travel-time study was conducted via the test vehicle method, in which the analyst performs measurements while in a moving vehicle within traffic streams. Automatic data collection equipment was utilized to aid with the collection process. A GPS unit was used to track the position and speed of the test vehicles as it travelled along the corridor. The travel-time study was conducted on Tuesday, April 5, 2016. In total, 12 test runs were conducted for the eastbound and westbound directions, respectively.

The following table excerpt from the ITE publication, "Manual of Transportation Engineering Studies 2<sup>nd</sup> Edition – 1998" was referenced to evaluate the collected travel time data. Within the document it recommends the minimum number of test runs to perform for travel-time and delay studies to achieve a specified confidence levels in the collected data.



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_	Minimum Sample Size <i>n</i> for Specified Permitted Error ε												
R		Confide	nce Level	: 99.73%		Confidence Level: 95%							
Mph (kph)	1 (1.6)	2 (3.2)	3 (4.8)	4 (6.4)	5 (8.0)	1 (1.6)	2 (3.2)	3 (4.8)	4 (6.4)	5 (8.0)			
1 (1.6)	6	5	4	4	4	4	3	3	3	3			
2 (3.2)	9	6	5	5	4	6	4	3	3	3			
3 (4.8)	13	8	6	5	5	8	5	4	4	3			
4 (6.4)	17	9	7	6	6	10	6	5	4	4			
5 (8.0)	21	11	8	7	6	12	7	5	4	4			
6 (9.7)	26	13	9	8	7	15	8	6	5	4			
7 (11.3)	32	15	10	8	7	18	9	6	5	5			
8 (12.9)	37	17	12	9	8	21	10	7	6	5			
9 (14.5)	43	19	13	10	9	21	11	8	6	5			
10 (16.1)	50	21	14	11	9	27	12	8	7	6			

Table 5 – Minimum Number of Test Runs for Travel-Time and Delay Studies

Evaluation of the data indicated that the travel-time surveys provide a reasonable level of confidence for the travel time and speed in the corridor. The data was also compared to a travel-time run spot check undertaken in the field and was found to be comparable.

In the eastbound and westbound directions 22 test runs were made respectively, for a difference in maximum and minimum running speeds of 5 mph (8.0 kph), and at a desired permitted error of ±2 mph (3.2 kph), with a resulting confidence level of 99.73% being achieved from the travel-time survey runs conducted. Alternatively, for a difference in maximum and minimum running speeds of 10 mph (16.1 kph), and at a permitted error of ±4 mph (6.4 kph), a confidence level of 99.73% is also achieved from the travel-time survey runs conducted.

The travel-time survey comparison results are summarized in **Table 6** and **Table 7** below. The calibration targets for travel times to be achieved are that journey times through the corridor should be within 15% (or 1.0 minute, if higher) for greater than 85% of cases.

<b>D</b>	D. J.C. B. D. H.L. D. J.	AM Travel Time [mm:ss]							
Direction	Road Section: Rathburn Road	Observed	Modelled	Difference					
	Elora Drive W - Elora Drive E	00:28	00:29	+00:01					
	Elora Drive E - Confederation Parkway	00:42	00:47	+00:05					
EB	Confederation Parkway – Living Arts Drive	00:15	00:39	+00:24					
	Living Arts Drive - Duke of York Boulevard	00:16	00:40	+00:24					
	Total	01:41	02:35	+00:54					
	Duke of York Boulevard – Living Arts Drive	00:26	00:26	-					
	Living Arts Drive - Confederation Parkway	00:18	00:43	+00:25					
WB	Confederation Parkway - Elora Drive E	00:15	00:23	+00:08					
	Elora Drive E – Elora Drive W	00:35	00:37	+00:02					
	Total	01:34	02:09	+00:35					

Table 6 – Comparison of Modelled and Observed Travel Times – AM Peak Hour



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Di	De red Constitute Delta la constitute de	PM Travel Time [mm:ss]							
Direction	Road Section: Rathburn Road	Observed	Modelled	Difference					
	Elora Drive W - Elora Drive E	00:47	00:51	+00:04					
	Elora Drive E - Confederation Parkway	00:38	00:42	+00:04					
EB	Confederation Parkway - Living Arts Drive	00:15	00:25	+00:10					
	Living Arts Drive - Duke of York Boulevard	01:02	00:52	-00:10					
	Total	02:42	02:50	+00:08					
	Duke of York Boulevard – Living Arts Drive	00:58	00:53	-00:05					
	Living Arts Drive - Confederation Parkway	01:33	01:16	-00:17					
WB	Confederation Parkway - Elora Drive E	00:33	00:33	-					
	Elora Drive E – Elora Drive W	00:42	00:43	+00:01					
	Total	03:46	03:25	-00:21					

Table 7 – Comparison of Modelled and Observed Travel Times – PM Peak Hour

The modelled travel times are within the target calibration criteria. The eastbound and westbound journey times through the study area are within the 15% or within 1.0 minute for all cases.

## 3.4 VALIDATION

Based on the calibration targets established and visual inspections undertaken in the field, it was determined that the VISSIM model has been successfully calibrated. The base model will be utilized as the foundation for other VISSIM models developed for this project.



# ATTACHMENT A TRIP MATRICES

## AM Matrix

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Rathburn West	1		23	84	2	21	5	75	51	2	2	5	43	10	34	50	323	4
Elora W North	2	68		48	0	0	0	5	5	0	0	0	1	1	0	0	5	0
Elora W South	3	80	17		0	0	0	20	16	0	0	1	0	1	0	1	7	0
Elora E North	4	5	0	0		0	0	8	6	0	0	0	0	2	0	2	35	0
Private Access	5	54	0	0	0		0	5	10	0	0	0	0	0	0	0	10	0
335 Rathburn Condo	6	19	0	1	0	0		9	8	0	0	0	5	2	0	0	58	0
Confederation North	7	45	0	20	0	0	0		990	0	2	0	12	63	0	15	348	20
Confederation South	8	229	0	0	5	0	0	785		0	1	6	0	0	30	0	114	16
Square One West	9	0	0	0	0	0	0	0	30		0	0	0	0	0	0	0	0
Square One Dr Condos	10	13	0	0	0	0	0	45	0	0		2	30	2	35	4	19	4
Living Arts North	11	3	0	0	0	0	0	3	5	0	0		0	0	0	1	1	0
Living Arts South	12	19	0	0	2	2	0	16	0	0	1	6		25	34	0	65	10
Living Arts Parking Lot	13	1	0	0	0	0	0	2	0	0	0	0	2		0	2	2	1
Duke of York North	14	25	1	5	0	0	0	5	45	1	0	0	13	0		180	64	50
Duke of York South	15	20	0	0	0	0	0	49	0	0	0	0	0	2	90		1	28
Rathburn East	16	25	6	70	11	11	16	163	31	6	0	11	75	20	35	92		0
Square One East	17	0	0	5	2	2	0	5	0	0	4	5	18	10	5	38	0	

Total Exiting								
•	Target							
734	734							
133	133							
143	143							
58	58							
79	79							
102	102							
1515	1515							
1186	1186							
30	30							
154	154							
13	13							
180	180							
10	10							
389	389							
190	190							
572	572							
94	94							

Total Entering 606 47 233 22 36 21 1195 1197 9 10 36 199 138 263 385 1052 133 Target 606 47 233 22 36 21 1195 1197 9 10 36 199 138 263 385 1052 133 5582 5582

PM Matrix

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Т
Rathburn West	1		34	101	5	28	20	50	25	5	5	3	5	5	55	30	204	20	595
Elora W North	2	31		12	0	0	0	5	5	0	0	1	0	0	2	0	0	0	56
Elora W South	3	91	21		0	0	0	25	5	0	0	3	3	0	3	3	4	0	158
Elora E North	4	3	0	0		1	0	3	5	0	0	0	2	0	2	2	8	0	26
Private Access	5	17	0	0	0		0	5	2	0	0	0	0	0	0	0	0	0	24
335 Rathburn Condo	6	10	0	0	0	0		5	8	0	0	5	0	0	5	5	10	0	48
Confederation North	7	161	0	10	10	10	0		969	11	0	2	30	15	33	23	239	35	1548
Confederation South	8	182	5	0	5	5	5	1277		0	10	10	2	5	1	0	100	5	1612
Square One West	9	0	0	0	0	0	0	0	20		0	0	0	0	0	0	0	0	20
Square One Dr Condos	10	3	0	0	0	0	0	4	0	0		5	22	9	11	0	7	12	73
Living Arts North	11	14	0	0	0	0	0	4	10	0	14		0	0	0	5	15	5	67
Living Arts South	12	2	3	0	0	5	5	60	0	0	30	2		5	6	0	72	29	219
Living Arts Parking Lot	13	12	2	2	0	0	0	33	0	0	5	1	20		0	11	5	0	91
Duke of York North	14	10	0	0	0	0	0	35	26	0	32	0	51	5		207	93	127	586
Duke of York South	15	39	0	0	0	0	0	43	0	0	14	0	0	0	323		200	64	683
Rathburn East	16	449	8	55	35	19	38	177	65	0	12	5	75	0	79	169		0	1186
Square One East	17	46	0	21	9	10	30	3	0	0	8	9	7	8	117	52	0		320

Total Entering 1070 73 201 64 78 98 1729 1140 16 130 46 217 52 637 507 957 297

Target 1070 73 201 64 78 98 1729 1140 16 130 46 217 52 637 507 957 303

**Total Exiting** 

Target

# ATTACHMENT B VISSIM PARAMETERS

Project: Square One Drive Extension EA

Project #: 1650-11005

Task: Coding Assumptions in VISSIM

#### Vehicle Inputs

Volumes (Truck %) Length of auto (default) Length of heavy truck (default) As calculated from TMC data - 2% Commercial - Overall Network

#### Functions

Maximum acceleration (default)
Desired acceleration (default)
Maximum decceleration (default)
Desired decceleration (default)

#### Routings

Static - Turning movements

Distribution based on developed OD Matrix

#### **Desired Speed and Reduced Speed**

Arterials/Roads Rathburn Road Posted speed limit (50 km/h)

Square One Drive Posted speed limit (30 km/h)
Confederation Parkway Posted speed limit (50 km/h)
Living Arts Drive Posted speed limit (50 km/h)
Duke of York Boulevard Posted speed limit (50 km/h)

 Reduced Speed Right Turns
 Auto:
 15 - 20 km/h (linear)

 Truck:
 12 - 15 km/hr (linear)

 Reduced Speed Left Turns
 Auto:
 25 - 30 km/h (linear)

 Truck:
 20 - 25 km/h (linear)

#### Conflict Area/Priority Rules

Priority Rule Right Turning

Min. Gap Time: 3.0 s; Min. Headway: 5.0 m; Max. Speed: 180 km/h default

Conflict Areas

#### Driving Behaviour Parameter Sets Urban (motorized)

Following

Car Following Model - Wiedemann 74

#### Look ahead distance

min.: 0.00 m default
max.: 250.00 m default
Observed vehicles = 4 default

Look back distance

min.: 0.00 m default max.: 150.00 m default

Temporary lack of attention

Duration: 0.00 s default Probability: 0.00% default

Smooth closeup behaviour Checked On Standstill distance for static obstacles Checked off default

Model Parameters:

Average standstill distance: 1.50
Additive part of safety distance 1.50
Multiplic. Part of safety distance 2.50

Lane Change Free lane selection

Necessary lane change (route)

 Own
 Trailing vehicle

 Max deceleration
 -4.00 m/s2
 -3.00 m/s2

 -1 m/s2 per distance
 100.00 m
 100.00 m

 Accepted deceleration
 -1.00 m/s2
 -1.00 m/s2

Wait time before diffusion 30.00 s min. headway (front/rear) 0.50 m Safety distance reduction factor 0.50 Max deceleration for coop braking -3.00 m/s2

Overtake reduced speed areas Checked On Advanced merging Checked On

Lateral (defaults) Signal Control (defaults)

# APPENDIX C VISSIM CALIBRATION REPORT

## VISSIM Model Development and Calibration – Technical Report

Square One Drive EA City of Mississauga



Prepared for: City of Mississauga

Prepared by: Stantec Consulting Ltd.

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Project Background April 2016

## 1.0 PROJECT BACKGROUND

The purpose of this technical report is to document the development of the VISSIM microsimulation model for the Class Environmental Assessment (EA) Study for the Square One Drive Extension.

The project consists of the extension of Square One Drive from Confederation Parkway west connecting to Rathburn Road.

Using the VISSIM micro-simulation software package (Version 8.00), a model will be developed to conduct analysis on existing conditions and to assess future alternatives of the extension.



Model Development April 2016

## 2.0 MODEL DEVELOPMENT

The Federal Highway Administration's (FHWA) document "Traffic Analysis Toolbox Volume III: Guidelines for Applying Traffic Microsimulation Modelling Software – July 2004" was referenced as a guideline for the development of the VISSIM model. As outline and simplified by the FHWA document four important steps must be completed before calibrating and validating a VISSIM model:

- 1. Project Scope
- 2. Data Collection
- 3. Base Model Development
- 4. Error Checking

## 2.1 PROJECT SCOPE

The study area limits of the project extend from Elora Drive West at Rathburn Road easterly to Duke of York Boulevard at Rathburn Road, and extend south to Square One Drive.

Figure 1 illustrates the limits of the study area.

## 2.2 DATA COLLECTION

Data collection was required to provide input parameters and output measures of performance for calibration and validation of the micro-simulation model. A majority of the traffic data was provided by the City of Mississauga. Other data was directly collected from the field. For the development of the VISSIM model, intersection turning movement counts, posted speeds, travel time surveys, and intersection signal timing plan data was provided and/or collected.

## 2.3 BASE MODEL DEVELOPMENT

The next step in the development of a VISSIM model is the development of the base model that will be used for calibration and development of subsequent scenarios (i.e., assessment of alternatives). The base model development involved creating and coding the geometric network over a high-quality aerial image of the study area. The road network was coded with VISSIM's default "urban (motorized)" link behavior.

Once the geometric network was created, desired and reduced speeds were coded into the network. The desired speeds were based on the maximum posted speed limits in the field. Reduced speeds for turns are based on industry accepted values. The speeds coded within the model are tabulated below in **Table 1** and **Table 2**.



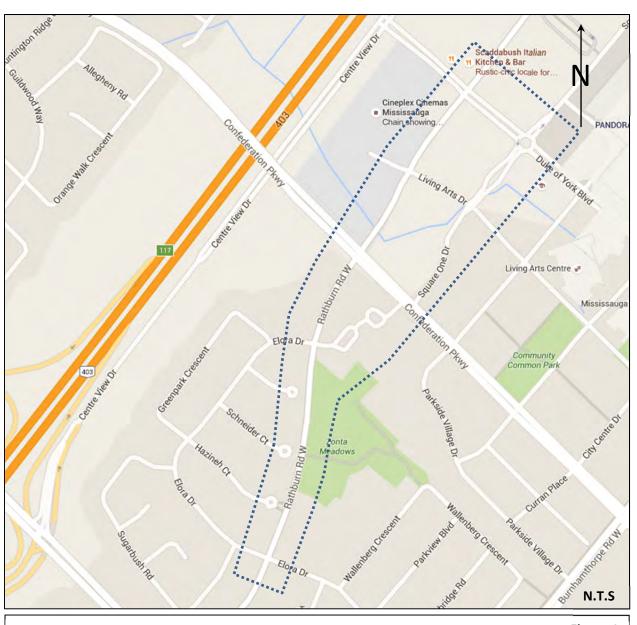


Figure 1
Study Area
Mississauga, Ontario

Model Development April 2016

Road	Desired Speed
Rathburn Road	Maximum posted = 50 km/h
Square One Drive	Maximum posted = 30 km/h
Confederation Parkway	Maximum posted = 50 km/h
Living Arts Drive	Maximum posted = 50 km/h
Duke of York Boulevard	Maximum posted = 50 km/h

Table 1 – Desired Speeds

Turn Direction	Reduced Speed Area Zone
Left-Turn (Passenger Vehicle)	30 km/h
Left-Turn (Heavy Vehicle/Bus)	25 km/h
Right-Turn (Passenger Vehicle)	15 km/h
Right-Turn (Heavy Vehicle/Bus)	12 km/h

Table 2 – Turn Speeds

Intersection control was then coded within the model per the signal timing plans provided. Right-turns on red were coded where allowed in the field using the software's feature.

Conflict points and priority rules were next coded into the VISSIM model. Conflict points were coded in locations where links/connectors cross and have the potential for vehicles to cross paths. The default parameters were used for conflict points. Priority rules were incorporated into the model at certain locations where a conflict point would not accurately replicate the behavior of conflicting vehicles.

From the traffic data, an origin-destination matrix was formulated for the VISSIM network to determine the model's vehicle inputs and outputs. The matrix was utilized in coding the vehicle inputs as well as vehicle routing decisions. Vehicle inputs were coded into the model by an hourly flow rate and vehicle compositions. The existing weekday a.m. and p.m. peak hour matrices have been provided for reference in **Attachment A**.

## 2.4 ERROR CHECKING

The error checking portion of the model development process is focused on fixing large coding errors before the time-consuming calibration and validation process begins. Error checking is a process that involves a detailed review of the coded data and a review of the animation.

All coded data which includes geometry, speeds, signal timing plan data, and traffic volumes were reviewed by the model developer/analyst and by a quality control reviewer.

The detailed review of the simulation animation was conducted to determine if any locations within the model where conflict points or priority rules are missing, where signal timings may not be functioning correctly, or if any other locations where general coding parameters may have been missed or coded incorrectly. Some parameters in the model were adjusted based on the analyst's judgment to accurately capture the interactions of the vehicles on the network as part



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of this review. A list of the parameter adjustments has been provided for reference in **Attachment B**.



Calibration/Validation April 2016

## 3.0 CALIBRATION/VALIDATION

## 3.1 MODEL PARAMETERS

The calibration of a model is a fundamental process as it is necessary to ensure that the model is a true representation that will successfully replicate actual traffic operations. The calibration and validation of the model also provides a level of confidence to which results can be ascertained. The calibration process involves the adjustment of model parameters, which is done iteratively until an accurate representation of the prevailing roadway network is achieved.

Calibration parameters can be separated into two categories, system calibration parameters and operational calibration parameters. System calibration involves the investigation of model input assumptions (vehicle inputs, vehicle routing, etc.) and operational calibration focuses on detailed driver behavior characteristics that affect the overall traffic operations in the model.

Within the system calibration stage, the goal is to verify and check all assumptions of inputs associated with the model. The objective is to identify where uncertainties were introduced in the base model and to determine their effect on the overall system operations. System calibration parameters includes the assumptions made on vehicle route choice, traffic demand inputs, traffic compositions, study area boundaries, and the temporal distribution of demand and routing. Additionally, the input data such as signal timings, roadway speed distributions, and roadway geometry characteristics are also checked for consistency between the other model inputs.

Within the operational calibration stage, the model parameters that affect the overall traffic operations of the network are modified. Operational calibration consists of modifying the detailed driver behavior parameters that affect the overall capacity of the transportation facilities, aggressiveness of drivers, and locations for lane changing. The adjustment of these parameters is essential for modeling freeway bottlenecks and local driving behavior that can affect the overall traffic flow, speeds, capacity, and congestion. Parameters may include car following characteristics (headway, standstill distance, safety distance), lane changing accepted deceleration rates, route lane change distances, and lane selection. The operational calibration stage requires the model time and resources to complete.

Validation is defined as the process of comparing simulated model results with field observed data to determine the accuracy of the simulation model. The goal of model validation is to identify parameter settings in the simulation model which produce outputs that match field data. Parameters are adjusted until an acceptable match is converged upon between the observed field data and the results of the modelled existing conditions. It is the final step in the iterative calibration process. Based on the calibration/validation targets set, the validation check determines how closely the model is to replicating the actual study area. Visual inspection of the simulation model is undertaken during this stage. If the calibration/validation targets are not met, the system and operational calibration process is revisited in order to make



Calibration/Validation April 2016

more modifications to the model. Data should be evaluated to determine the best parameters to modify during the next iteration.

Once a model is calibrated and validated, it can then be utilized with confidence to analyze future scenarios which may include modifications to trip distribution, travel demand, or changes in the geometry of the roadway.

## 3.2 DETERMINATION OF CALIBRATION/VALIDATION TARGETS

The measures of effectiveness (MOE's) selected include intersection turning movement volumes, travel time, and vehicle speeds.

Targets are used to determine if the calibration process has reached a level of acceptability between the simulated model and the field measures of effectiveness. Within the FHWA's document "Traffic Analysis Toolbox Volume III: Guidelines for Applying Traffic Microsimulation Modelling Software – July 2004" under section 5.6 Calibration Targets, the calibration targets detailed for travel times and visual audits as listed within Table 4 were utilized. In addition, other industry standard targets have been summarized below.

- Achieve 80% for the majority of the compared TMC (Turning Movement Count) data sets with an overall GEH value < 5;</li>
- Verify that no signification link, intersection approach or turning movement flows have a GEH value of greater than 10.0;
- An absolute variation between the modelled and observed data or not more than 25%;
- Journey times within the network are within 15% (or 1.0 minute, if higher) for greater than 85% of cases; and
- Individual link speeds, visually acceptable speed-flow relationship to the analyst's satisfaction.

## 3.3 BASE MODEL CALIBRATION RESULTS

## 3.3.1 Flow Comparisons

The calibration/validation process involved an assessment and comparison between the modelled and observed turning movement volumes at intersections. As part of the flow comparison, the GEH statistic was utilized as criteria for determining how well the results matched. The GEH statistic is a modified Chi-Square statistic that incorporates both relative and absolute differences.

The GEH statistic is computed as follows:



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$$GEH = \sqrt{\frac{(M-O)^2}{0.5 * (M+O)}}$$

Where:

M: Simulated/Modelled Flows

O: Observed Flows

GEH values provide an indication of the goodness of fit as outlined below:

GEH < 5 Flows can be considered a good fit 5 < GEH < 10 Flows may require further investigation

GEH > 10 Flows cannot be considered to be a good fit

A comparison of modelled and observed flows was conducted for individual turning movement volumes at the study area intersections. The modelled traffic volumes as well as the simulation outputs were obtained as a mean of multiple computer model runs. Averaged results provide a proper representation as this kind of micro-simulation analysis is a stochastic process in which every computer run represents a single observation. A complete experiment therefore consisted of multiple computer runs, whose outputs were averaged to obtain the final modelled results that were then compared with the observed data.

The comparison of existing observed and modelled intersection traffic volumes is summarized in **Table 3** and **Table 4**. Full intersection turning movement volume comparison tables have been provided for reference in **Attachment C**.

	AM Peak Hour								
Intersection	Observed	Modelled	% Diff	GEH					
Elora Drive W/Rathburn Road	1,576	1,578	0.1%	0.1					
Elora Drive E/Rathburn Road	1,369	1,372	0.2%	0.1					
Confederation Parkway/Rathburn Road	4,081	4,117	0.9%	0.6					
Living Arts Drive/Rathburn Road	1,919	1,951	1.7%	0.7					
Duke of York Boulevard/Rathburn Road	2,332	2,337	0.2%	0.1					
Confederation Parkway/Square One Drive	2,473	2,481	0.3%	0.2					
Living Arts Drive/Square One Drive	523	543	3.8%	0.9					
Duke of York Boulevard/Square One Drive	800	852	6.5%	1.8					
Total Intersections		3	}						
# of Intersections GEH < 5		3	3						
% of Intersections GEH < 5		100	0%	<u> </u>					

Table 3 – Comparison of Total Volumes at Study Area Intersections – AM Peak Hour



Calibration/Validation April 2016

		PM Pea	k Hour	
Intersection	Observed	Modelled	% Diff	GEH
Elora Drive W/Rathburn Road	1,863	1,823	-2.1%	0.9
Elora Drive E/Rathburn Road	1,711	1,663	-2.8%	1.2
Confederation Parkway/Rathburn Road	4,934	4,688	-5.0%	3.5
Living Arts Drive/Rathburn Road	2,391	2,234	-6.6%	3.3
Duke of York Boulevard/Rathburn Road	3,503	3,459	-1.3%	0.7
Confederation Parkway/Square One Drive	2,824	2,733	-3.2%	1.7
Living Arts Drive/Square One Drive	671	619	-7.7%	2.0
Duke of York Boulevard/Square One Drive	1,693	1,723	1.8%	0.7
Total Intersections		8		
# of Intersections GEH < 5		8		
% of Intersections GEH < 5		100		

Table 4 – Comparison of Total Volumes at Study Area Intersections – PM Peak Hour

The overall intersection flows are matched acceptably well. GEH values for all intersections are below the target of 5. Additionally, all intersection approaches and turning movements register GEH values within the specified targets.

## 3.3.2 Travel Time Comparisons

Travel time survey data was collected along Rathburn Road in each direction. A travel-time study was conducted via the test vehicle method, in which the analyst performs measurements while in a moving vehicle within traffic streams. Automatic data collection equipment was utilized to aid with the collection process. A GPS unit was used to track the position and speed of the test vehicles as it travelled along the corridor. The travel-time study was conducted on Tuesday, April 5, 2016. In total, 12 test runs were conducted for the eastbound and westbound directions, respectively.

The following table excerpt from the ITE publication, "Manual of Transportation Engineering Studies 2<sup>nd</sup> Edition – 1998" was referenced to evaluate the collected travel time data. Within the document it recommends the minimum number of test runs to perform for travel-time and delay studies to achieve a specified confidence levels in the collected data.



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_			Minimu	m Sample	Size n fo	r Specifie	d Permitte	d Error ε					
R		Confide	nce Level	: 99.73%		Confidence Level: 95%							
Mph (kph)	1 (1.6)	2 (3.2)	3 (4.8)	4 (6.4)	5 (8.0)	1 (1.6)	2 (3.2)	3 (4.8)	4 (6.4)	5 (8.0)			
1 (1.6)	6	5	4	4	4	4	3	3	3	3			
2 (3.2)	9	6	5	5	4	6	4	3	3	3			
3 (4.8)	13	8	6	5	5	8	5	4	4	3			
4 (6.4)	17	9	7	6	6	10	6	5	4	4			
5 (8.0)	21	11	8	7	6	12	7	5	4	4			
6 (9.7)	26	13	9	8	7	15	8	6	5	4			
7 (11.3)	32	15	10	8	7	18	9	6	5	5			
8 (12.9)	37	17	12	9	8	21	10	7	6	5			
9 (14.5)	43	19	13	10	9	21	11	8	6	5			
10 (16.1)	50	21	14	11	9	27	12	8	7	6			

Table 5 – Minimum Number of Test Runs for Travel-Time and Delay Studies

Evaluation of the data indicated that the travel-time surveys provide a reasonable level of confidence for the travel time and speed in the corridor. The data was also compared to a travel-time run spot check undertaken in the field and was found to be comparable.

In the eastbound and westbound directions 22 test runs were made respectively, for a difference in maximum and minimum running speeds of 5 mph (8.0 kph), and at a desired permitted error of ±2 mph (3.2 kph), with a resulting confidence level of 99.73% being achieved from the travel-time survey runs conducted. Alternatively, for a difference in maximum and minimum running speeds of 10 mph (16.1 kph), and at a permitted error of ±4 mph (6.4 kph), a confidence level of 99.73% is also achieved from the travel-time survey runs conducted.

The travel-time survey comparison results are summarized in **Table 6** and **Table 7** below. The calibration targets for travel times to be achieved are that journey times through the corridor should be within 15% (or 1.0 minute, if higher) for greater than 85% of cases.

<b>D</b>	D. J.C. B. D. H.L. D. J.	AM	Travel Time [mm	n:ss]
Direction	Road Section: Rathburn Road	Observed	Modelled	Difference
	Elora Drive W - Elora Drive E	00:28	00:29	+00:01
	Elora Drive E - Confederation Parkway	00:42	00:47	+00:05
EB	Confederation Parkway – Living Arts Drive	00:15	00:39	+00:24
	Living Arts Drive - Duke of York Boulevard	00:16	00:40	+00:24
	Total	01:41	02:35	+00:54
	Duke of York Boulevard – Living Arts Drive	00:26	00:26	-
	Living Arts Drive - Confederation Parkway	00:18	00:43	+00:25
WB	Confederation Parkway - Elora Drive E	00:15	00:23	+00:08
	Elora Drive E – Elora Drive W	00:35	00:37	+00:02
	Total	01:34	02:09	+00:35

Table 6 – Comparison of Modelled and Observed Travel Times – AM Peak Hour



Calibration/Validation April 2016

Di	De red Constitute Delta la constitute de	PM	PM Travel Time [mm:ss]							
Direction	Road Section: Rathburn Road	Observed	Modelled	Difference						
	Elora Drive W - Elora Drive E	00:47	00:51	+00:04						
	Elora Drive E - Confederation Parkway	00:38	00:42	+00:04						
EB	Confederation Parkway - Living Arts Drive	00:15	00:25	+00:10						
	Living Arts Drive - Duke of York Boulevard	01:02	00:52	-00:10						
	Total	02:42	02:50	+00:08						
	Duke of York Boulevard – Living Arts Drive	00:58	00:53	-00:05						
	Living Arts Drive - Confederation Parkway	01:33	01:16	-00:17						
WB	Confederation Parkway - Elora Drive E	00:33	00:33	-						
	Elora Drive E – Elora Drive W	00:42	00:43	+00:01						
	Total	03:46	03:25	-00:21						

Table 7 – Comparison of Modelled and Observed Travel Times – PM Peak Hour

The modelled travel times are within the target calibration criteria. The eastbound and westbound journey times through the study area are within the 15% or within 1.0 minute for all cases.

## 3.4 VALIDATION

Based on the calibration targets established and visual inspections undertaken in the field, it was determined that the VISSIM model has been successfully calibrated. The base model will be utilized as the foundation for other VISSIM models developed for this project.



# ATTACHMENT A TRIP MATRICES

## AM Matrix

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Rathburn West	1		23	84	2	21	5	75	51	2	2	5	43	10	34	50	323	4
Elora W North	2	68		48	0	0	0	5	5	0	0	0	1	1	0	0	5	0
Elora W South	3	80	17		0	0	0	20	16	0	0	1	0	1	0	1	7	0
Elora E North	4	5	0	0		0	0	8	6	0	0	0	0	2	0	2	35	0
Private Access	5	54	0	0	0		0	5	10	0	0	0	0	0	0	0	10	0
335 Rathburn Condo	6	19	0	1	0	0		9	8	0	0	0	5	2	0	0	58	0
Confederation North	7	45	0	20	0	0	0		990	0	2	0	12	63	0	15	348	20
Confederation South	8	229	0	0	5	0	0	785		0	1	6	0	0	30	0	114	16
Square One West	9	0	0	0	0	0	0	0	30		0	0	0	0	0	0	0	0
Square One Dr Condos	10	13	0	0	0	0	0	45	0	0		2	30	2	35	4	19	4
Living Arts North	11	3	0	0	0	0	0	3	5	0	0		0	0	0	1	1	0
Living Arts South	12	19	0	0	2	2	0	16	0	0	1	6		25	34	0	65	10
Living Arts Parking Lot	13	1	0	0	0	0	0	2	0	0	0	0	2		0	2	2	1
Duke of York North	14	25	1	5	0	0	0	5	45	1	0	0	13	0		180	64	50
Duke of York South	15	20	0	0	0	0	0	49	0	0	0	0	0	2	90		1	28
Rathburn East	16	25	6	70	11	11	16	163	31	6	0	11	75	20	35	92		0
Square One East	17	0	0	5	2	2	0	5	0	0	4	5	18	10	5	38	0	

Total Exiting	3
•	Target
734	734
133	133
143	143
58	58
79	79
102	102
1515	1515
1186	1186
30	30
154	154
13	13
180	180
10	10
389	389
190	190
572	572
94	94

Total Entering 606 47 233 22 36 21 1195 1197 9 10 36 199 138 263 385 1052 133 Target 606 47 233 22 36 21 1195 1197 9 10 36 199 138 263 385 1052 133 5582 5582

PM Matrix

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Rathburn West	1		34	101	5	28	20	50	25	5	5	3	5	5	55	30	204	20
Elora W North	2	31		12	0	0	0	5	5	0	0	1	0	0	2	0	0	0
Elora W South	3	91	21		0	0	0	25	5	0	0	3	3	0	3	3	4	0
Elora E North	4	3	0	0		1	0	3	5	0	0	0	2	0	2	2	8	0
Private Access	5	17	0	0	0		0	5	2	0	0	0	0	0	0	0	0	0
335 Rathburn Condo	6	10	0	0	0	0		5	8	0	0	5	0	0	5	5	10	0
Confederation North	7	161	0	10	10	10	0		969	11	0	2	30	15	33	23	239	35
Confederation South	8	182	5	0	5	5	5	1277		0	10	10	2	5	1	0	100	5
Square One West	9	0	0	0	0	0	0	0	20		0	0	0	0	0	0	0	0
Square One Dr Condos	10	3	0	0	0	0	0	4	0	0		5	22	9	11	0	7	12
Living Arts North	11	14	0	0	0	0	0	4	10	0	14		0	0	0	5	15	5
Living Arts South	12	2	3	0	0	5	5	60	0	0	30	2		5	6	0	72	29
Living Arts Parking Lot	13	12	2	2	0	0	0	33	0	0	5	1	20		0	11	5	0
Duke of York North	14	10	0	0	0	0	0	35	26	0	32	0	51	5		207	93	127
Duke of York South	15	39	0	0	0	0	0	43	0	0	14	0	0	0	323		200	64
Rathburn East	16	449	8	55	35	19	38	177	65	0	12	5	75	0	79	169		0
Square One East	17	46	0	21	9	10	30	3	0	0	8	9	7	8	117	52	0	

Total Entering 1070	73	201	64	78	98	1729 1140	16	130	46	217	52	637	507	957	297	7318
Target 1070	73	201	64	78	98	1729 1140	16	130	46	217	52	637	507	957	303	7318

**Total Exiting** 

Target

# ATTACHMENT B VISSIM PARAMETERS

Project: Square One Drive Extension EA

Project #: 1650-11005

Task: Coding Assumptions in VISSIM

#### Vehicle Inputs

Volumes (Truck %) Length of auto (default) Length of heavy truck (default) As calculated from TMC data - 2% Commercial - Overall Network

#### Functions

Maximum acceleration (default)
Desired acceleration (default)
Maximum decceleration (default)
Desired decceleration (default)

#### Routings

Static - Turning movements

Distribution based on developed OD Matrix

#### **Desired Speed and Reduced Speed**

Arterials/Roads Rathburn Road Posted speed limit (50 km/h)

Square One Drive Posted speed limit (30 km/h)
Confederation Parkway Posted speed limit (50 km/h)
Living Arts Drive Posted speed limit (50 km/h)
Duke of York Boulevard Posted speed limit (50 km/h)

 Reduced Speed Right Turns
 Auto:
 15 - 20 km/h (linear)

 Truck:
 12 - 15 km/hr (linear)

 Reduced Speed Left Turns
 Auto:
 25 - 30 km/h (linear)

 Truck:
 20 - 25 km/h (linear)

#### Conflict Area/Priority Rules

Priority Rule Right Turning

Min. Gap Time: 3.0 s; Min. Headway: 5.0 m; Max. Speed: 180 km/h default

Conflict Areas

#### Driving Behaviour Parameter Sets Urban (motorized)

Following

Car Following Model - Wiedemann 74

#### Look ahead distance

min.: 0.00 m default
max.: 250.00 m default
Observed vehicles = 4 default

Look back distance

min.: 0.00 m default max.: 150.00 m default

Temporary lack of attention

Duration: 0.00 s default Probability: 0.00% default

Smooth closeup behaviour Checked On Standstill distance for static obstacles Checked off default

Model Parameters:

Average standstill distance: 1.50
Additive part of safety distance 1.50
Multiplic. Part of safety distance 2.50

Lane Change Free lane selection

Necessary lane change (route)

 Own
 Trailing vehicle

 Max deceleration
 -4.00 m/s2
 -3.00 m/s2

 -1 m/s2 per distance
 100.00 m
 100.00 m

 Accepted deceleration
 -1.00 m/s2
 -1.00 m/s2

Wait time before diffusion 30.00 s min. headway (front/rear) 0.50 m Safety distance reduction factor 0.50 Max deceleration for coop braking -3.00 m/s2

Overtake reduced speed areas Checked On Advanced merging Checked On

Lateral (defaults) Signal Control (defaults)

# ATTACHMENT C FULL TMC TABLES

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS

	F1 D	
Existing conditions 7 1111		
Existing Conditions AM		
Julilliary of iliteraction	TIVICS UIT	, LOS

	Elo	a Drive West -	Rathburn Ro	ad Signaliz	ed Intersectio	n	
				AM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	23	23	0.0	11.63	В	0.2	10.9
EBT	627	636	0.4	9.09	Α	5.1	50.2
EBR	84	86	0.2	3.27	Α	5.1	50.2
WBL	101	100	0.1	17.59	В	2.0	37.7
WBT	458	454	0.2	8.81	Α	4.1	47.9
WBR	7	8	0.4	1.78	Α	4.1	47.9
NBL	80	74	0.7	41.68	D	4.4	34.4
NBT	17	16	0.2	44.56	D	1.3	23.3
NBR	46	50	0.6	8.07	Α	1.1	25.3
SBL	17	18	0.2	39.33	D	1.0	14.7
SBT	48	46	0.3	38.46	D	4.0	42.1
SBR	68	67	0.1	16.13	В	3.5	42.6
ALL	1576	1578	0.1	12.59	В	-	-

	Elo	ra Drive East -	Rathburn Ro	ad Signalize	ed Intersectio	n	
				AM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C
EBL	2	2	0.0	4.77	Α	0.0	0.0
EBT	667	674	0.3	3.86	Α	1.6	42.7
EBR	21	21	0.0	1.92	Α	1.0	43.3
WBL	15	16	0.3	17.89	В	0.2	11.1
WBT	507	507	0.0	8.36	Α	4.3	45.9
WBR	20	21	0.2	7.85	А	3.8	45.2
NBL	54	51	0.4	49.34	D	3.5	28.3
NBT	0	0	0.1	0.00	Α	3.5	28.3
NBR	25	25	0.0	6.57	Α	3.7	28.8
SBL	53	51	0.3	45.40	D	3.4	28.9
SBT	0	0	0.1	0.00	А	3.4	28.9
SBR	5	4	0.5	24.81	С	2.3	28.4
ALL	1369	1372	0.1	9.06	Α	-	-

				AM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	122	116	0.6	39.90	D	6.3	68.6
EBT	602	616	0.6	33.72	С	22.6	106.7
EBR	98	103	0.5	26.31	С	22.0	106.4
WBL	90	93	0.3	52.11	D	5.2	43.5
WBT	209	228	1.3	31.38	С	14.2	97.2
WBR	195	231	2.5	25.16	С	13.7	96.9
NBL	264	242	1.4	34.57	С	11.8	92.3
NBT	878	853	0.8	45.20	D	46.2	154.2
NBR	108	152	3.9	43.53	D	46.5	154.9
SBL	462	443	0.9	71.75	E	96.2	275.7
SBT	988	972	0.5	47.59	D	83.4	267.6
SBR	65	68	0.4	45.31	D	83.1	267.2
ALL	4081	4117	0.6	43.86	D	-	-

	Confederation Parkway - Square One Drive Unsignalized Intersection									
Movement	AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0			
EBL										
EBT										
EBR	30	33	0.5	3.41	Α	0.1	9.7			
WBL										
WBT										
WBR	81	109	2.9	8.94	Α	1.0	27.7			
NBL										
NBT	1169	1142	0.8	2.76	Α	0.2	20.5			
NBR	17	32	3.0	1.00	Α	0.2	20.5			
SBL										
SBT	1167	1155	0.4	0.26	Α	0.2	23.9			
SBR	9	10	0.3	0.93	Α	0.2	23.9			
ALL	2473	2481	0.2		Α	-	-			

Living Arts Drive - Rathburn Road Signalized Intersection										
Movement		AM								
iviovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	17	14	0.8	10.18	В	0.2	10.2			
EBT	1033	1008	0.8	17.88	В	21.3	134.9			
EBR	122	172	4.1	20.83	С	21.1	134.7			
WBL	120	77	4.3	14.13	В	1.1	28.8			
WBT	440	494	2.5	13.47	В	6.7	62.1			
WBR	11	14	0.8	9.95	Α	6.0	61.5			
NBL	43	48	0.7	50.77	D	3.6	31.0			
NBT	8	8	0.0	42.31	D	0.8	25.7			
NBR	112	101	1.1	7.61	Α	0.3	25.4			
SBL	2	2	0.0	52.18	D	0.2	6.3			
SBT	0	0	0.1	22.75	С	0.2	6.3			
SBR	11	13	0.6	6.74	Α	0.0	5.9			
ALL	1919	1951	0.7	17.10	В	-	-			

TIV	IC GEH Sumr	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
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			
1	0	0			
			1	0	0

TN	IC GEH Sumr	nary	Total Intersection GEH Summary				
	AM GEH		AM GEH				
1-5	5-10	>10	1-5	>10			
0	0	0					
1	0	0					
0	0	0					
1	0	0					
0	0	0					
1	0	0					
1	0	0					
1	0	0					
0	0	0					
1	0	0					
1	0	0					
1	0	0					
			1	0	0		

TN	1C GEH Sumn	nary	Total Inte	rsection GEH	I Summary		
	AM GEH		AM GEH				
1-5	5-10	>10	1-5 5-10 >1				
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	0	0					
·		·	1	0	0		

TIV	C GEH Sumn	nary	Total Inte	rsection GEH	Summary		
	AM GEH		AM GEH				
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					

TN	IC GEH Sumr	nary	Total Inte	Total Intersection GEH Summary				
	AM GEH			AM GEH				
1-5	5-10	>10	1-5	5-10	>10			
1	0	0						
1	0	0						
1	0	0						
1	0	0						
1	0	0						
1	0	0						
1	0	0						
0	0	0						
1	0	0						
0	0	0						
1	0	0						
1	0	0						
			1	0	0			

Living Arts Drive - Square One Drive Signalized Intersection										
		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	66	19	7.2	21.05	С	0.5	10.0			
EBT	21	68	7.0	24.27	С	2.5	30.4			
EBR	28	24	0.8	8.42	Α	2.1	29.9			
WBL	36	36	0.0	26.23	С	1.2	14.9			
WBT	15	21	1.4	25.62	С	0.8	17.0			
WBR	7	36	6.3	5.28	Α	0.3	16.3			
NBL	9	9	0.0	0.35	Α	0.0	0.0			
NBT	146	144	0.2	8.98	Α	1.7	33.0			
NBR	25	28	0.6	5.60	Α	1.2	32.6			
SBL	24	20	0.9	10.27	В	0.2	11.4			
SBT	135	134	0.1	8.19	Α	1.6	33.3			
SBR	11	4	2.6	2.83	Α	1.2	33.0			
ALL	523	543	0.9	12.32	В	-	-			

	Duke o	f York Bouleva	rd - Rathburr	n Road Sign	alized Interse	ction				
		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	125	85	3.9	26.01	С	3.0	30.4			
EBT	921	946	0.8	28.07	С	26.6	149.9			
EBR	101	71	3.2	14.36	В	26.6	149.9			
WBL	109	127	1.7	26.11	С	4.3	46.0			
WBT	428	435	0.3	17.12	В	7.1	50.5			
WBR	35	36	0.2	9.47	Α	5.8	48.6			
NBL	54	59	0.7	25.27	С	2.0	28.8			
NBT	103	139	3.3	29.56	С	5.2	42.7			
NBR	67	32	5.0	14.81	В	5.0	42.3			
SBL	64	67	0.4	21.60	С	1.9	24.0			
SBT	236	250	0.9	35.86	D	12.5	64.0			
SBR	89	90	0.1	7.79	Α	12.3	63.7			
ALL	2332	2337	0.1	24.85	С	-	-			

Du	ke of York Bou	ılevard - Squai	e One Drive	Unsignalized	Intersection	(Roundabout	:)			
Movement		AM								
iviovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	33	60	4.0	8.62	Α	0.9	27.6			
EBT	24	33	1.7	7.91	Α	0.9	27.6			
EBR	13	23	2.4	5.18	Α	0.9	27.6			
WBL	38	33	0.8	1.97	Α	0.0	6.0			
WBT	20	34	2.7	2.03	Α	0.0	6.0			
WBR	36	18	3.5	2.35	Α	0.0	5.7			
NBL	7	29	5.2	2.26	Α	0.3	22.0			
NBT	155	151	0.3	2.12	Α	0.3	22.0			
NBR	28	26	0.4	1.78	Α	0.3	22.0			
SBL	81	74	0.8	8.93	Α	3.9	70.1			
SBT	334	342	0.4	8.43	Α	3.9	70.1			
SBR	31	29	0.4	7.04	Α	3.9	70.1			
ALL	800	852	1.8	6.17	Α	-	-			

	Living Arts Drive - Parking Lot Unsignalized Intersection									
Movement	AM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max			
EBL										
EBT										
EBR										
WBL	5	4	0.5	3.68	Α	0.0				
WBT										
WBR	5	6	0.4	1.96	Α	0.0				
NBL										
NBT	158	153	0.4	0.39	Α	0.0				
NBR	61	45	2.2	1.72	Α	0.0				
SBL	77	94	1.8	0.57	Α	0.0				
SBT	165	136	2.4	1.35	Α	0.3				
SBR										
ALL	471	438	1.5	0.91	Α	-	-			

TM	C GEH Sumn	nary	Total Inter	rsection GEH	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
0	1	0				
0	1	0				
1	0	0				
0	0	0				
1	0	0				
0	1	0				
0	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
-			1	0	0	

TIV	IC GEH Sumn	nary	Total Inter	rsection GEH	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
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	0	0				
_			1	0	0	

TM	C GEH Sumn	nary	Total Inter	rsection GEH	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			1	0	0	

TM	C GEH Sumn	nary	Total Inter	rsection GEH	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			1	0	0	

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
Existing Conditions PM

Elora Drive West - Rathburn Road Signalized Intersection								
	PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C	
EBL	34	34	0.0	29.62	С	0.8	16.0	
EBT	460	465	0.2	17.76	В	7.3	44.9	
EBR	101	103	0.2	2.44	Α	7.3	44.9	
WBL	88	78	1.1	26.04	С	2.4	26.5	
WBT	948	920	0.9	15.71	В	12.6	67.4	
WBR	18	13	1.3	3.66	Α	12.6	67.4	
NBL	91	84	0.7	10.59	В	1.0	19.4	
NBT	21	20	0.2	6.64	Α	0.1	9.8	
NBR	46	50	0.6	3.18	Α	0.1	11.8	
SBL	13	15	0.5	8.46	Α	0.1	6.7	
SBT	12	11	0.3	9.82	Α	0.1	7.9	
SBR	31	30	0.2	3.88	Α	0.0	8.4	
ALL	1863	1823	0.9	15.13	В	-	-	

	Elo	ra Drive East -	Rathburn Ro	ad Signalize	ed Intersection	n			
	PM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	5	4	0.5	33.50	С	0.1	6.5		
EBT	486	490	0.2	23.59	С	9.8	61.6		
EBR	28	27	0.2	19.53	В	9.8	62.2		
WBL	49	45	0.6	20.39	С	0.8	28.5		
WBT	1034	994	1.3	16.49	В	18.8	85.8		
WBR	59	53	0.8	15.21	В	18.2	85.2		
NBL	17	19	0.5	14.98	В	0.3	10.6		
NBT	0	0	0.1	0.00	Α	0.3	10.6		
NBR	7	7	0.0	4.30	Α	0.3	11.1		
SBL	22	21	0.2	11.55	В	0.3	10.2		
SBT	1	1	0.0	0.01	Α	0.3	10.2		
SBR	3	2	0.6	11.32	В	0.1	9.8		
ALL	1711	1663	1.2	18.59	В	-	-		

	Confed	leration Parkwa	ay - Rathburi	n Road Sign	alized Interse	ction				
		PM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	93	98	0.5	34.91	С	4.2	42.8			
EBT	385	387	0.1	29.65	С	12.2	69.0			
EBR	55	53	0.3	21.95	С	11.7	68.7			
WBL	101	115	1.3	48.10	D	6.5	63.6			
WBT	751	738	0.5	60.33	E	80.3	184.4			
WBR	355	323	1.7	64.07	E	79.9	184.1			
NBL	268	245	1.4	64.82	E	29.8	138.2			
NBT	1281	1225	1.6	48.60	D	88.4	156.8			
NBR	97	110	1.3	45.66	D	88.9	157.5			
SBL	377	302	4.1	163.54	F	191.3	477.2			
SBT	980	912	2.2	45.24	D	158.9	477.2			
SBR	191	180	0.8	42.56	D	158.6	478.3			
ALL	4934	4688	3.5	56.65	E	-	-			

			- 1	e Drive Unsig	,					
Movement		PM								
WIOVCIIICIIC	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL										
EBT										
EBR	20	20	0.0	1.95	Α	0.0	6.4			
WBL										
WBT										
WBR	56	77	2.6	163.92	F	28.3	68.5			
NBL										
NBT	1590	1531	1.5	37.51	E	60.4	223.9			
NBR	22	23	0.2	22.27	С	60.4	223.9			
SBL										
SBT	1120	1067	1.6	0.35	Α	0.2	21.7			
SBR	16	15	0.3	0.58	Α	0.2	21.7			
ALL	2824	2733	1.7		Α	-	-			

Living Arts Drive - Rathburn Road Signalized Intersection									
Movement		PM							
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	24	23	0.2	38.52	D	0.7	14.3		
EBT	794	724	2.5	19.23	В	14.2	89.6		
EBR	41	53	1.8	19.20	В	13.8	89.6		
WBL	141	98	3.9	20.59	С	1.7	32.0		
WBT	1075	1074	0.0	39.07	D	45.1	188.0		
WBR	14	13	0.3	38.68	D	44.4	187.5		
NBL	104	74	3.2	50.94	D	5.1	48.0		
NBT	8	8	0.0	40.93	D	4.1	35.7		
NBR	123	94	2.8	8.61	Α	2.8	35.4		
SBL	25	27	0.4	43.11	D	2.6	20.8		
SBT	14	17	0.8	42.47	D	2.6	20.8		
SBR	28	29	0.2	25.10	С	1.4	20.2		
ALL	2391	2234	3.3	30.36	С	-	-		

TM	C GEH Sumn	nary	Total Inter	rsection GEH	l Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
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				
1	0	0				
			1	0	0	

TIV	IC GEH Sumr	nary	Total Intersection GEH Summary			
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
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	0	0				
1	0	0				
0	0	0				
1	0	0				
			1	0	0	

TN	IC GEH Sumr	nary	Total Intersection GEH Summary			
	PM GEH		PM GEH			
1-5	5-10	>10	1-5 5-10 >1			
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	0	0				
			1	0	0	

TN	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	PM GEH		PM GEH		
1-5	5-10	>10	1-5	>10	
0	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TN	IC GEH Sumr	nary	Total Intersection GEH Summary				
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
			1	0	0		

Living Arts Drive - Square One Drive Signalized Intersection										
		PM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	29	19	2.0	26.77	С	0.6	12.2			
EBT	16	17	0.2	17.65	В	0.4	14.7			
EBR	33	13	4.2	3.49	Α	0.3	14.2			
WBL	19	53	5.7	25.96	С	1.9	25.0			
WBT	110	106	0.4	23.59	С	3.5	32.5			
WBR	28	9	4.4	12.37	В	2.3	31.8			
NBL	30	28	0.4	0.99	Α	0.0	6.2			
NBT	160	164	0.3	8.83	Α	1.9	33.8			
NBR	29	23	1.2	4.12	Α	1.4	33.5			
SBL	23	11	2.9	10.23	В	0.1	7.7			
SBT	165	133	2.6	8.07	Α	1.6	36.5			
SBR	29	43	2.3	3.82	Α	1.2	36.1			
ALL	671	619	2.0	12.54	В	_	-			

	Duke of	f York Bouleva	rd - Rathburr	n Road Sign	alized Interse	ction			
		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	126	104	2.1	87.87	F	13.7	76.1		
EBT	741	625	4.4	39.12	D	23.8	117.6		
EBR	75	113	3.9	17.79	В	23.8	117.6		
WBL	182	204	1.6	30.84	С	7.8	58.2		
WBT	988	1002	0.4	31.01	С	30.8	158.6		
WBR	79	84	0.6	26.27	С	29.4	156.6		
NBL	171	127	3.6	29.00	С	4.7	43.1		
NBT	432	479	2.2	35.44	D	19.6	114.8		
NBR	123	129	0.5	26.87	С	19.4	114.4		
SBL	93	98	0.5	31.52	С	3.3	45.2		
SBT	422	406	0.8	45.49	D	27.3	96.6		
SBR	71	88	1.9	20.03	С	27.1	96.3		
ALL	3503	3459	0.7	35.45	D	-	-		

) Du	Duke of York Boulevard - Square One Drive Unsignalized Intersection (Roundabout)								
		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	7	4	1.3	4.40	Α	0.2	12.1		
EBT	32	35	0.5	5.05	Α	0.2	12.1		
EBR	29	11	4.0	3.27	Α	0.2	12.1		
WBL	52	42	1.5	4.96	Α	0.2	14.0		
WBT	54	36	2.7	5.99	Α	0.2	14.0		
WBR	157	179	1.7	12.81	В	1.6	31.5		
NBL	57	51	0.8	6.29	Α	4.6	80.0		
NBT	562	570	0.3	6.67	Α	4.6	80.0		
NBR	64	69	0.6	6.10	Α	4.6	80.0		
SBL	207	174	2.4	17.46	С	15.1	145.2		
SBT	426	469	2.0	16.44	С	15.1	145.2		
SBR	46	83	4.6	17.29	С	15.1	145.2		
ALL	1693	1723	0.7	11.42	В	-	-		

Living Arts Drive - Parking Lot Unsignalized Intersection									
Movement	PM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max		
EBL									
EBT									
EBR									
WBL	41	35	1.0	3.66	Α	0.1	30.8		
WBT									
WBR	50	57	1.0	3.09	Α	0.1	13.9		
NBL									
NBT	185	169	1.2	0.28	Α	0.0	0.0		
NBR	32	24	1.5	1.90	Α	0.0	0.0		
SBL	20	15	1.2	0.40	Α	0.0	0.0		
SBT	176	153	1.8	1.48	Α	0.3	41.9		
SBR									
ALL	504	453	2.3	1.39	Α	-	-		

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
0	1	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	

TIV	IC GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	5-10	>10		
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	0	0					
			1	0	0		

TM	C GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	5-10	>10		
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	0	0					
				0	0		

TM	C GEH Sumn	nary	Total Inter	rsection GEH	Summary		
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
			1	0	0		

### APPENDIX D DETAILED TMC RESULTS

## APPENDIX D DETAILED TMC RESULTS EXISTING

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
Existing Conditions AM

	EIO	ra Drive West -	Kathburn Ko	ad Signaliz	ea intersectio	n			
	AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	23	23	0.0	11.63	В	0.2	10.9		
EBT	627	636	0.4	9.09	Α	5.1	50.2		
EBR	84	86	0.2	3.27	Α	5.1	50.2		
WBL	101	100	0.1	17.59	В	2.0	37.7		
WBT	458	454	0.2	8.81	Α	4.1	47.9		
WBR	7	8	0.4	1.78	Α	4.1	47.9		
NBL	80	74	0.7	41.68	D	4.4	34.4		
NBT	17	16	0.2	44.56	D	1.3	23.3		
NBR	46	50	0.6	8.07	Α	1.1	25.3		
SBL	17	18	0.2	39.33	D	1.0	14.7		
SBT	48	46	0.3	38.46	D	4.0	42.1		
SBR	68	67	0.1	16.13	В	3.5	42.6		
ΔΠ	1576	1578	0.1	12.59	B	-			

	Elo	ra Drive East -	Rathburn Ro	ad Signalize	ed Intersectio	n	
				AM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	2	2	0.0	4.77	Α	0.0	0.0
EBT	667	674	0.3	3.86	Α	1.6	42.7
EBR	21	21	0.0	1.92	Α	1.0	43.3
WBL	15	16	0.3	17.89	В	0.2	11.1
WBT	507	507	0.0	8.36	Α	4.3	45.9
WBR	20	21	0.2	7.85	Α	3.8	45.2
NBL	54	51	0.4	49.34	D	3.5	28.3
NBT	0	0	0.1	0.00	Α	3.5	28.3
NBR	25	25	0.0	6.57	Α	3.7	28.8
SBL	53	51	0.3	45.40	D	3.4	28.9
SBT	0	0	0.1	0.00	Α	3.4	28.9
SBR	5	4	0.5	24.81	С	2.3	28.4
ALL	1369	1372	0.1	9.06	Α	-	-

	AM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	122	116	0.6	39.90	D	6.3	68.6			
EBT	602	616	0.6	33.72	С	22.6	106.7			
EBR	98	103	0.5	26.31	С	22.0	106.4			
WBL	90	93	0.3	52.11	D	5.2	43.5			
WBT	209	228	1.3	31.38	С	14.2	97.2			
WBR	195	231	2.5	25.16	С	13.7	96.9			
NBL	264	242	1.4	34.57	С	11.8	92.3			
NBT	878	853	0.8	45.20	D	46.2	154.2			
NBR	108	152	3.9	43.53	D	46.5	154.9			
SBL	462	443	0.9	71.75	E	96.2	275.7			
SBT	988	972	0.5	47.59	D	83.4	267.6			
SBR	65	68	0.4	45.31	D	83.1	267.2			
ALL	4081	4117	0.6	43.86	D	-	-			

	Confeder	ation Parkway	- Square One	Drive Unsi	gnalized Inter	section	
				AM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL							
EBT							
EBR	30	33	0.5	3.41	Α	0.1	9.7
WBL							
WBT							
WBR	81	109	2.9	8.94	Α	1.0	27.7
NBL							
NBT	1169	1142	0.8	2.76	Α	0.2	20.5
NBR	17	32	3.0	1.00	Α	0.2	20.5
SBL							
SBT	1167	1155	0.4	0.26	Α	0.2	23.9
SBR	9	10	0.3	0.93	Α	0.2	23.9
ALL	2473	2481	0.2		Α	-	-

	Livi	ng Arts Drive -	Rathburn Ro	oad Signalize	ed Intersectio	n				
Movement		AM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	17	14	0.8	10.18	В	0.2	10.2			
EBT	1033	1008	0.8	17.88	В	21.3	134.9			
EBR	122	172	4.1	20.83	С	21.1	134.7			
WBL	120	77	4.3	14.13	В	1.1	28.8			
WBT	440	494	2.5	13.47	В	6.7	62.1			
WBR	11	14	0.8	9.95	Α	6.0	61.5			
NBL	43	48	0.7	50.77	D	3.6	31.0			
NBT	8	8	0.0	42.31	D	0.8	25.7			
NBR	112	101	1.1	7.61	Α	0.3	25.4			
SBL	2	2	0.0	52.18	D	0.2	6.3			
SBT	0	0	0.1	22.75	С	0.2	6.3			
SBR	11	13	0.6	6.74	Α	0.0	5.9			
ALL	1919	1951	0.7	17.10	В	-	-			

TM	C GEH Sumr	nary	Total Inte	rsection GEH	l Summary	
	AM GEH			AM GEH		
1-5	5-10	>10	1-5 5-10 >10			
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				
1	0	0				
			1	0	0	

TN	IC GEH Sumr	nary	Total Inter	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	0	0			
1	0	0			
0	0	0			
1	0	0			
0	0	0			
1	0	0			
1	0	0			
1	0	0			
0	0	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TN	1C GEH Sumn	nary	Total Inte	rsection GEH	I Summary		
	AM GEH		AM GEH				
1-5	5-10	>10	1-5 5-10 >1				
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	0	0					
·		·	1	0	0		

TIV	C GEH Sumn	nary	Total Inte	rsection GEH	Summary		
	AM GEH		AM GEH				
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					

TN	IC GEH Sumr	nary	Total Inte	rsection GEH	l Summary		
	AM GEH		AM GEH				
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	0	0					
1	0	0					
0	0	0					
1	0	0					
1	0	0					
			1	0	0		

	Livir	ng Arts Drive - S	quare One D	rive Signaliz	ed Intersecti	on	
Movement				AM			
iviovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	66	19	7.2	21.05	С	0.5	10.0
EBT	21	68	7.0	24.27	С	2.5	30.4
EBR	28	24	0.8	8.42	Α	2.1	29.9
WBL	36	36	0.0	26.23	С	1.2	14.9
WBT	15	21	1.4	25.62	С	0.8	17.0
WBR	7	36	6.3	5.28	Α	0.3	16.3
NBL	9	9	0.0	0.35	Α	0.0	0.0
NBT	146	144	0.2	8.98	Α	1.7	33.0
NBR	25	28	0.6	5.60	Α	1.2	32.6
SBL	24	20	0.9	10.27	В	0.2	11.4
SBT	135	134	0.1	8.19	Α	1.6	33.3
SBR	11	4	2.6	2.83	Α	1.2	33.0
ALL	523	543	0.9	12.32	В	-	-

	Duke o	f York Bouleva	rd - Rathburi	n Road Sign	alized Interse	ction	
Movement				AM			
MOVELLIGHT	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	125	85	3.9	26.01	С	3.0	30.4
EBT	921	946	0.8	28.07	С	26.6	149.9
EBR	101	71	3.2	14.36	В	26.6	149.9
WBL	109	127	1.7	26.11	С	4.3	46.0
WBT	428	435	0.3	17.12	В	7.1	50.5
WBR	35	36	0.2	9.47	Α	5.8	48.6
NBL	54	59	0.7	25.27	С	2.0	28.8
NBT	103	139	3.3	29.56	С	5.2	42.7
NBR	67	32	5.0	14.81	В	5.0	42.3
SBL	64	67	0.4	21.60	С	1.9	24.0
SBT	236	250	0.9	35.86	D	12.5	64.0
SBR	89	90	0.1	7.79	Α	12.3	63.7
ALL	2332	2337	0.1	24.85	С	-	-

Du	ike of York Bo	ulevard - Squar	e One Drive	Unsignalized	Intersection	(Roundabout	:)			
		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	33	60	4.0	8.62	Α	0.9	27.6			
EBT	24	33	1.7	7.91	Α	0.9	27.6			
EBR	13	23	2.4	5.18	Α	0.9	27.6			
WBL	38	33	0.8	1.97	Α	0.0	6.0			
WBT	20	34	2.7	2.03	Α	0.0	6.0			
WBR	36	18	3.5	2.35	Α	0.0	5.7			
NBL	7	29	5.2	2.26	Α	0.3	22.0			
NBT	155	151	0.3	2.12	Α	0.3	22.0			
NBR	28	26	0.4	1.78	Α	0.3	22.0			
SBL	81	74	0.8	8.93	Α	3.9	70.1			
SBT	334	342	0.4	8.43	Α	3.9	70.1			
SBR	31	29	0.4	7.04	Α	3.9	70.1			
ALL	800	852	1.8	6.17	Α	-	-			

	Liv	ing Arts Drive -	Parking Lot	unsignalized	intersection	1			
Movement	AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max		
EBL									
EBT									
EBR									
WBL	5	4	0.5	3.68	Α	0.0			
WBT									
WBR	5	6	0.4	1.96	Α	0.0			
NBL									
NBT	158	153	0.4	0.39	Α	0.0			
NBR	61	45	2.2	1.72	Α	0.0			
SBL	77	94	1.8	0.57	Α	0.0			
SBT	165	136	2.4	1.35	Α	0.3			
SBR									
ALL	471	438	1.5	0.91	Α	-	-		

TM	C GEH Sumn	nary	Total Inter	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	1	0			
0	1	0			
1	0	0			
0	0	0			
1	0	0			
0	1	0			
0	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
-			1	0	0

TN	1C GEH Sumn	nary	Total Inter	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
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	0	0			
			1	0	0

TM	C GEH Sumn	nary	Total Inter	section GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TM	C GEH Sumn	nary	Total Inter	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
Existing Conditions PM

	Elo	ra Drive West -	Rathburn Ro	oad Signaliz	ed Intersectio	n				
		PM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	34	34	0.0	29.62	С	0.8	16.0			
EBT	460	465	0.2	17.76	В	7.3	44.9			
EBR	101	103	0.2	2.44	Α	7.3	44.9			
WBL	88	78	1.1	26.04	С	2.4	26.5			
WBT	948	920	0.9	15.71	В	12.6	67.4			
WBR	18	13	1.3	3.66	Α	12.6	67.4			
NBL	91	84	0.7	10.59	В	1.0	19.4			
NBT	21	20	0.2	6.64	Α	0.1	9.8			
NBR	46	50	0.6	3.18	Α	0.1	11.8			
SBL	13	15	0.5	8.46	Α	0.1	6.7			
SBT	12	11	0.3	9.82	Α	0.1	7.9			
SBR	31	30	0.2	3.88	Α	0.0	8.4			
ALL	1863	1823	0.9	15.13	В	-	-			

	Elo	ra Drive East -	Rathburn Ro	ad Signalize	ed Intersection	n				
		PM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	5	4	0.5	33.50	С	0.1	6.5			
EBT	486	490	0.2	23.59	С	9.8	61.6			
EBR	28	27	0.2	19.53	В	9.8	62.2			
WBL	49	45	0.6	20.39	С	0.8	28.5			
WBT	1034	994	1.3	16.49	В	18.8	85.8			
WBR	59	53	0.8	15.21	В	18.2	85.2			
NBL	17	19	0.5	14.98	В	0.3	10.6			
NBT	0	0	0.1	0.00	Α	0.3	10.6			
NBR	7	7	0.0	4.30	Α	0.3	11.1			
SBL	22	21	0.2	11.55	В	0.3	10.2			
SBT	1	1	0.0	0.01	Α	0.3	10.2			
SBR	3	2	0.6	11.32	В	0.1	9.8			
ALL	1711	1663	1.2	18.59	В	-	-			

	PM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	93	98	0.5	34.91	С	4.2	42.8		
EBT	385	387	0.1	29.65	С	12.2	69.0		
EBR	55	53	0.3	21.95	С	11.7	68.7		
WBL	101	115	1.3	48.10	D	6.5	63.6		
WBT	751	738	0.5	60.33	E	80.3	184.4		
WBR	355	323	1.7	64.07	E	79.9	184.1		
NBL	268	245	1.4	64.82	E	29.8	138.2		
NBT	1281	1225	1.6	48.60	D	88.4	156.8		
NBR	97	110	1.3	45.66	D	88.9	157.5		
SBL	377	302	4.1	163.54	F	191.3	477.2		
SBT	980	912	2.2	45.24	D	158.9	477.2		
SBR	191	180	0.8	42.56	D	158.6	478.3		
ALL	4934	4688	3.5	56.65	E	-	-		

	PM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0		
EBL									
EBT									
EBR	20	20	0.0	1.95	Α	0.0	6.4		
WBL									
WBT									
WBR	56	77	2.6	163.92	F	28.3	68.5		
NBL									
NBT	1590	1531	1.5	37.51	E	60.4	223.9		
NBR	22	23	0.2	22.27	С	60.4	223.9		
SBL									
SBT	1120	1067	1.6	0.35	Α	0.2	21.7		
SBR	16	15	0.3	0.58	Α	0.2	21.7		
ALL	2824	2733	1.7		Α	-	-		

	Liv	ing Arts Drive -	Rathburn Ro	ad Signalize	ed Intersection	n			
Movement	PM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	24	23	0.2	38.52	D	0.7	14.3		
EBT	794	724	2.5	19.23	В	14.2	89.6		
EBR	41	53	1.8	19.20	В	13.8	89.6		
WBL	141	98	3.9	20.59	С	1.7	32.0		
WBT	1075	1074	0.0	39.07	D	45.1	188.0		
WBR	14	13	0.3	38.68	D	44.4	187.5		
NBL	104	74	3.2	50.94	D	5.1	48.0		
NBT	8	8	0.0	40.93	D	4.1	35.7		
NBR	123	94	2.8	8.61	Α	2.8	35.4		
SBL	25	27	0.4	43.11	D	2.6	20.8		
SBT	14	17	0.8	42.47	D	2.6	20.8		
SBR	28	29	0.2	25.10	С	1.4	20.2		
ALL	2391	2234	3.3	30.36	С	-	-		

TM	C GEH Sumr	nary	Total Inte	rsection GEH	l Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	0	0			
1	0	0			
1	0	0			
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1	0	0			
			1	0	0

TM	C GEH Sumr	nary	Total Inte	rsection GEH	
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
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1	0	0			
			1	0	0

TN	IC GEH Sumr	nary	Total Inter	rsection GEH	l Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
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	·	·	1	0	0

TM	C GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TN	IC GEH Sumr	nary	Total Inte	rsection GEH	l Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

·	Livir	g Arts Drive - S	quare One D	rive Signaliz	ed Intersecti	on				
				PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	29	19	2.0	26.77	С	0.6	12.2			
EBT	16	17	0.2	17.65	В	0.4	14.7			
EBR	33	13	4.2	3.49	Α	0.3	14.2			
WBL	19	53	5.7	25.96	С	1.9	25.0			
WBT	110	106	0.4	23.59	С	3.5	32.5			
WBR	28	9	4.4	12.37	В	2.3	31.8			
NBL	30	28	0.4	0.99	Α	0.0	6.2			
NBT	160	164	0.3	8.83	Α	1.9	33.8			
NBR	29	23	1.2	4.12	Α	1.4	33.5			
SBL	23	11	2.9	10.23	В	0.1	7.7			
SBT	165	133	2.6	8.07	Α	1.6	36.5			
SBR	29	43	2.3	3.82	Α	1.2	36.1			
ALL	671	619	2.0	12.54	В	_	-			

	Duke of	f York Bouleva	rd - Rathburr	n Road Sign	alized Interse	ction				
				PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	126	104	2.1	87.87	F	13.7	76.1			
EBT	741	625	4.4	39.12	D	23.8	117.6			
EBR	75	113	3.9	17.79	В	23.8	117.6			
WBL	182	204	1.6	30.84	С	7.8	58.2			
WBT	988	1002	0.4	31.01	С	30.8	158.6			
WBR	79	84	0.6	26.27	С	29.4	156.6			
NBL	171	127	3.6	29.00	С	4.7	43.1			
NBT	432	479	2.2	35.44	D	19.6	114.8			
NBR	123	129	0.5	26.87	С	19.4	114.4			
SBL	93	98	0.5	31.52	С	3.3	45.2			
SBT	422	406	0.8	45.49	D	27.3	96.6			
SBR	71	88	1.9	20.03	С	27.1	96.3			
ALL	3503	3459	0.7	35.45	D	-	-			

Du	ıke of York Boı	ılevard - Squai	e One Drive -	- Unsignalized	Intersection	(Roundabout	:)
				PM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	7	4	1.3	4.40	Α	0.2	12.1
EBT	32	35	0.5	5.05	Α	0.2	12.1
EBR	29	11	4.0	3.27	Α	0.2	12.1
WBL	52	42	1.5	4.96	Α	0.2	14.0
WBT	54	36	2.7	5.99	Α	0.2	14.0
WBR	157	179	1.7	12.81	В	1.6	31.5
NBL	57	51	0.8	6.29	Α	4.6	80.0
NBT	562	570	0.3	6.67	Α	4.6	80.0
NBR	64	69	0.6	6.10	Α	4.6	80.0
SBL	207	174	2.4	17.46	С	15.1	145.2
SBT	426	469	2.0	16.44	С	15.1	145.2
SBR	46	83	4.6	17.29	С	15.1	145.2
ALL	1693	1723	0.7	11.42	В	-	-

	Living Arts Drive - Parking Lot Unsignalized Intersection									
Movement		PM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max			
EBL										
EBT										
EBR										
WBL	41	35	1.0	3.66	Α	0.1	30.8			
WBT										
WBR	50	57	1.0	3.09	Α	0.1	13.9			
NBL										
NBT	185	169	1.2	0.28	Α	0.0	0.0			
NBR	32	24	1.5	1.90	Α	0.0	0.0			
SBL	20	15	1.2	0.40	Α	0.0	0.0			
SBT	176	153	1.8	1.48	Α	0.3	41.9			
SBR										
ALL	504	453	2.3	1.39	Α	-	-			

TM	C GEH Sumn	nary	Total Inter	rsection GEH	Summary		
	PM GEH			PM GEH			
1-5	5-10	>10	1-5 5-10 >1				
1	0	0					
1	0	0					
1	0	0					
0	1	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		

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
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1	0	0			
			1	0	0

TN	IC GEH Sumn	nary	Total Inte	rsection GEF	l Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
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1	0	0				
			1	0	0	

TM	C GEH Sumn	nary	Total Inter	rsection GEH	>10		
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
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1	0	0					
1	0	0					
1	0	0					
			1	0	0		

### APPENDIX E FORECASTING MEMORANDUM



To: File From: Steven Kwan

Adrian Soo

Markham, ON Markham, ON

File: 165011005 Date: April 28, 2016

Reference: Square One Drive Extension Class EA

**Traffic Forecasting** 

### 1.0 Introduction and Background

This memo documents the methodology and analysis undertaken to develop the future traffic forecasts for the Square One Drive Extension Class EA. The traffic analysis Study Area is shown in **Figure 1**.

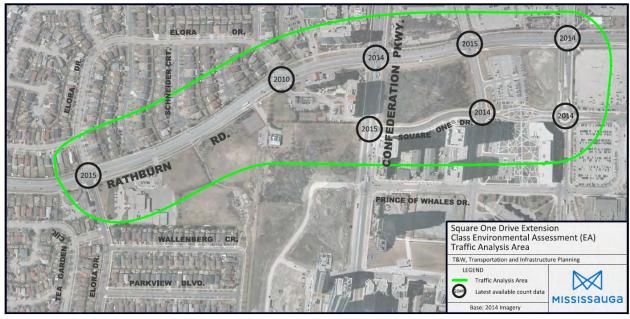


Figure 1 – Traffic Analysis Study Area

Traffic forecasts were developed for the following scenarios:

- 2021 no extension of Square One Drive to Rathburn Road (all other planned improvements);
- 2031 no extension of Square One Drive to Rathburn Road (all other planned improvements);
- 2041 no extension of Square One Drive to Rathburn Road (all other planned improvements);
- 2021 extension of Square One Drive to Rathburn Road;
- 2031 extension of Square One Drive to Rathburn Road; and



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Reference: Square One Drive Extension Class EA
Traffic Forecasting

• 2041 extension of Square One Drive to Rathburn Road.

### 2.0 Macro-Modelling

The City of Mississauga's EMME/3 model was used to assist in developing future traffic forecasts. The City uses the "Simplified GTA Model" which was developed by Peter Dalton Inc. The EMME model is calibrated and validated based on the 2011 Transportation Tomorrow Survey (TTS), cordon and ATR traffic counts.

The major transportation network changes and the associated horizon year are summarized as follows:

- 1. 2021 horizon year (with and without the extension of Square One Drive)
  - Extension of Living Arts Drive to Centre View Drive;
  - Hurontario LRT with associated lane reductions on Hurontario Street, Duke of York Boulevard, Burnhamthorpe Road, and changes to intersection control and operations; and
  - New roadways associated with the Amacon, Rogers, and other developments.
- 2. 2031 horizon year (with and without the extension of Square One Drive)
  - New roadways associated with new development south of Burnhamthorpe Road.
- 3. 2041 horizon year (with and without the extension of Square One Drive)
  - New north service road on the north side of Highway 403;
  - Extension of Duke of York Boulevard and City Centre Drive over Highway 403;
  - Removal of the loop ramp from eastbound Rathburn Road to northbound Hurontario Street;
  - Extension of Centre View Drive to Hurontario Street;
  - Extension of Square One Drive east of Hurontario Street;
  - Lane additions on Burnhamthorpe Road east of Hurontario Street;
  - Removal of Highway 403 EB off-ramp at Hurontario Street; and
  - Reconfiguration of Highway 403 WB off-ramp at Mavis Road to connect to the new north service road.



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Reference: Square One Drive Extension Class EA

**Traffic Forecasting** 

Substantial development is expected within and adjacent to the Study Area in the downtown area. A summary of the model population and employment values for the 2011, 2021, 2031, and 2041 scenarios are shown in **Table 1**.

Table 1  Model Population and Employment Values									
Scenario Population Employment									
2011	31,860	21,250							
2021	49,080	26,910							
2021	(4.4% p.a. from 2011)	(2.4% p.a. from 2011)							
2021	65,430	32,210							
2031	(2.9% p.a. from 2021)	(1.8% p.a. from 2021)							
2041	74,760 (2.3% p.a. from 2031)	37,570 (1.6% p.a. from 2031)							

### 3.0 Future Traffic Forecast Development

In order to develop growth rates for roadways within the Study Area, screenline volumes were compared between the 2011 base model volumes and the 2021, 2031, and 2041 model volumes, both with and without the extension of Square One Drive. These included vertical screenlines to assess east-west travel along Centre View Drive, Rathburn Road, Square One Drive, and Burnhamthorpe Road at the following locations:

- V1 West of Confederation Parkway;
- V2 West of Living Arts Drive; and
- V3 West of Duke of York Boulevard.

Horizontal screenlines were used to assess north-south travel along Confederation Parkway, Living Arts Drive, and Duke of York Boulevard at the following locations:

- H1 North of Rathburn Road;
- H2 North of Square One Drive; and
- H3 North of Burnhamthorpe Road

The total traffic volumes for each screenline were compared to the volumes in the preceding horizon year in order to develop a per annum growth rate. The growth rates for two-way traffic between the 2021, 2031 and 2041 horizon years for the with and without the extension of Square One Drive scenarios are summarized in **Table 2**. The detailed calculation tables with individual directional link volumes are attached in **Appendix A** for reference.



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Reference: Square One Drive Extension Class EA

**Traffic Forecasting** 

	Table 2 Two-Way Traffic Screenline Growth Rates												
	2011 to 2021 2021 to 2031 2031 to 2041												
C 13	A	M	P	M	Α	M	P	M	Α	M	P	M	
Screenline	No	w/ Evt	No	w/	No	w/	No	w/	No	w/	No	w/	
	Ext	w/ Ext	Ext	Ext	Ext	Ext	Ext	Ext	Ext	Ext	Ext	Ext	
V1	1.1%	0.9%	2.2%	1.7%	1.3%	1.1%	1.1%	1.6%	1.2%	1.2%	1.3%	1.2%	
V2	0.4%	0.4%	1.7%	1.4%	1.5%	1.0%	1.3%	1.6%	1.2%	1.5%	1.1%	1.2%	
V3	-0.1%	0.0%	0.8%	0.6%	1.6%	1.2%	1.4%	1.8%	1.4%	1.6%	1.8%	1.6%	
H1	1.4%	1.4%	2.3%	2.1%	1.1%	1.1%	1.5%	1.5%	1.9%	1.9%	1.7%	1.8%	
H2	1.7%	1.3%	2.3%	2.1%	1.3%	1.3%	1.9%	1.7%	1.9%	2.1%	2.0%	2.0%	
Н3	-0.5%	-0.9%	0.4%	0.3%	0.9%	1.0%	1.5%	1.1%	1.1%	1.1%	1.2%	1.5%	

Based on the calculated growth rates, there is minimal difference between the growth rates in the no extension of Square One Drive scenario and with the extension of Square One Drive scenario. This suggests that the extension of Square One Drive would primarily serve a collector road function, providing access to local developments rather than an arterial road function serving traffic travelling through the Study Area.

As might be expected based on the increase of population and employment values in the model, traffic volumes across each of the screenlines generally exhibit robust growth ranging from 1% to 2% per annum (p.a.) between each of the horizon years. The growth rates applied to the existing a.m. and p.m. peak hour traffic volumes shown in **Figure 2** follow:

- From 2011 to 2021, 1.5% p.a. for east-west and north-south traffic;
- From 2021 to 2031, 1.25% p.a. for east-west and north-south traffic;
- From 2031 to 2041, 1.5% p.a. for east-west and north-south traffic.

Sheridan College Phase 2 and the Amacon lands are two of the major developments within the Study Area expected to be developed by the 2021 horizon year. In order to capture the transportation impact of these developments, the site traffic generated by the Sheridan College Phase 2 development was obtained from the previously completed Traffic Impact Assessment by BA Group, dated August 20, 2015. Site traffic for the Amacon lands was generated based on the Amacon estimate of 2,700 residential units, 80,000 ft<sup>2</sup> (7,400 m<sup>2</sup>) of commercial office space and 70,000 ft<sup>2</sup> (6,500 m<sup>2</sup>) of commercial retail space using rates from the ITE *Trip Generation* manual.

In order to avoid double counting the increase in traffic due to these developments, no change was made to the population and employment values for the associated zones in the City's model from the 2011 scenario. The trip generation calculations and site traffic assignments are attached in **Appendix A** for reference. It should be noted that some traffic associated with both of these developments was assigned to the extension of Square One Drive in that particular scenario.



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Reference: Square One Drive Extension Class EA Traffic Forecasting

Other traffic volumes in the Study Area were manually reassigned to account for the extension of Square One Drive and the impacts on land access. These adjustments were applied in the following fashion:

- In order to account for the redistribution of traffic due to the extension of Square One Drive to Rathburn Road, 60% of the traffic making the westbound right-turn movement at the Confederation Parkway at Square One Drive intersection was reassigned to the westbound through movement. The same value was then subtracted from the northbound left-turn movement at the Confederation Parkway at Rathburn Road intersection and the westbound through movements at the Rathburn Road at Elora Drive intersections. This diversion percentage was selected based on existing traffic patterns, traffic observations, and model information.
- While it is relatively easy to identify westbound vehicles on Square One Drive potentially destined for Rathburn Road, it is more challenging to identify vehicles in the opposite direction, i.e. eastbound on Rathburn Road to Square One Drive due to the turning restrictions at the Confederation Parkway at Square One Drive intersection. Consequently, these vehicle volumes were estimated by reversing the westbound through volume in the opposite peak hour. For example, 40 and 50 westbound through vehicles in the a.m. and p.m. peak hours, respectively, would become 50 and 40 eastbound through vehicles in the a.m. and p.m. peak hours, respectively at the Confederation Parkway at Square One Drive intersection. This value was then subtracted from the eastbound through movement at the Confederation Parkway at Rathburn Road intersection, the Living Arts Drive at Rathburn Road intersection, and eastbound right-turn movement at the Duke of York Boulevard at Rathburn Road intersection.
- For the existing condominium development in the southwest quadrant of the Confederation Parkway at Rathburn Road intersection, traffic associated with the Confederation Parkway access was reassigned to an assumed mid-block connection to the extension of Square One Drive.
- For movements which traffic was not manually reassigned to and would expected to be extremely low, i.e. the westbound left-turn movement from Rathburn Road to Square One Drive, a nominal placeholder value of 5 vehicles per hour was used instead of showing 0 vehicles per hour.

The resulting future traffic forecasts, including traffic associated with the Amacon lands and Sheridan College are shown in the following figures:

- Figure 3 2021 Future Traffic No Extension of Square One Drive;
- Figure 4 2021 Future Traffic With Extension of Square One Drive;
- Figure 5 2031 Future Traffic No Extension of Square One Drive;
- Figure 6 2031 Future Traffic With Extension of Square One Drive;



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Reference: Square One Drive Extension Class EA Traffic Forecasting

- Figure 7 2041 Future Traffic No Extension of Square One Drive; and
- Figure 8 2041 Future Traffic With Extension of Square One Drive.

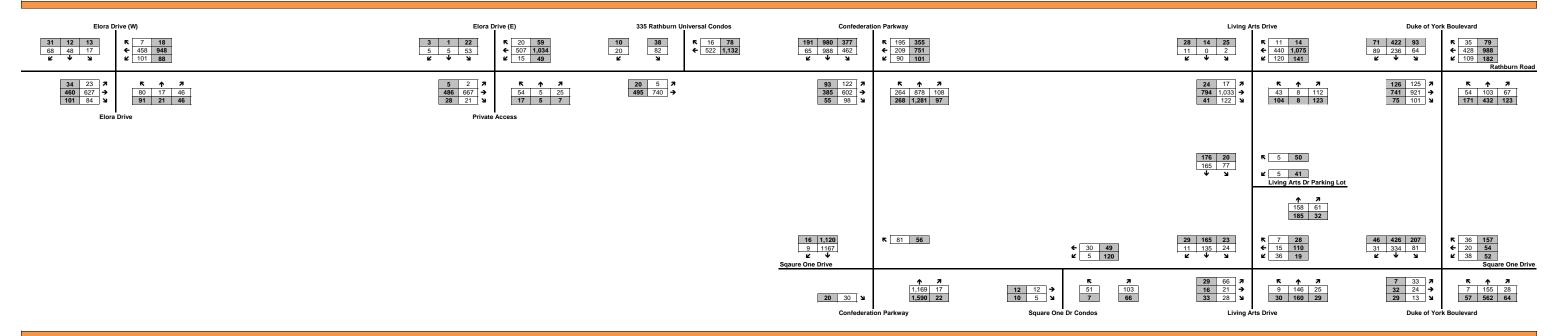


Figure 2 Existing Base Year Traffic

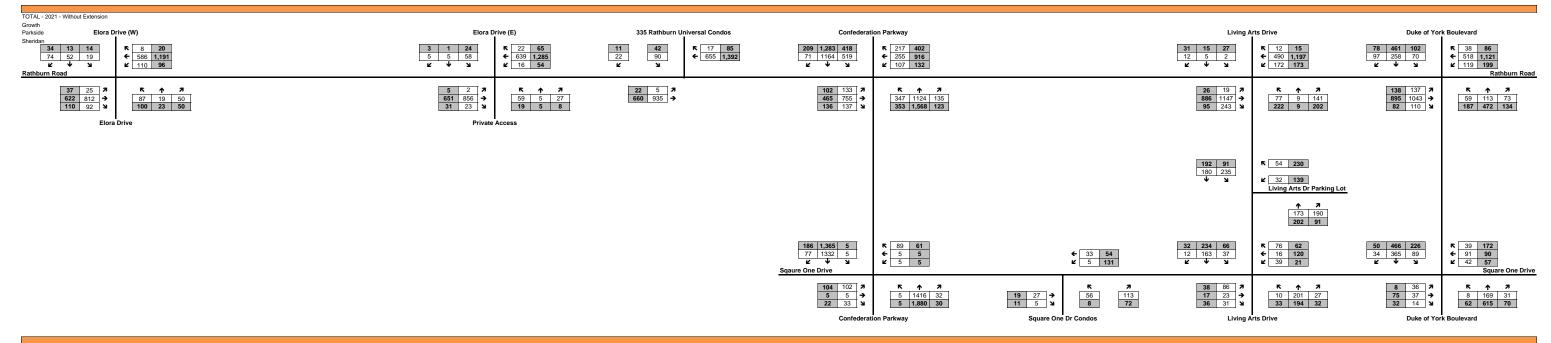


Figure 3 2021 Future Traffic - No Extension of Square One Drive

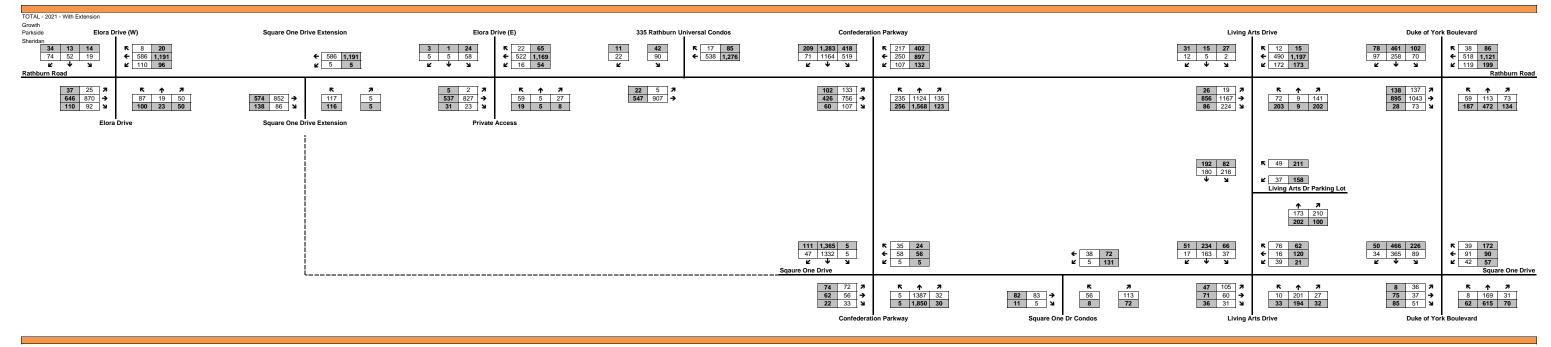


Figure 4 2021 Future Traffic - With Extension of Square One Drive

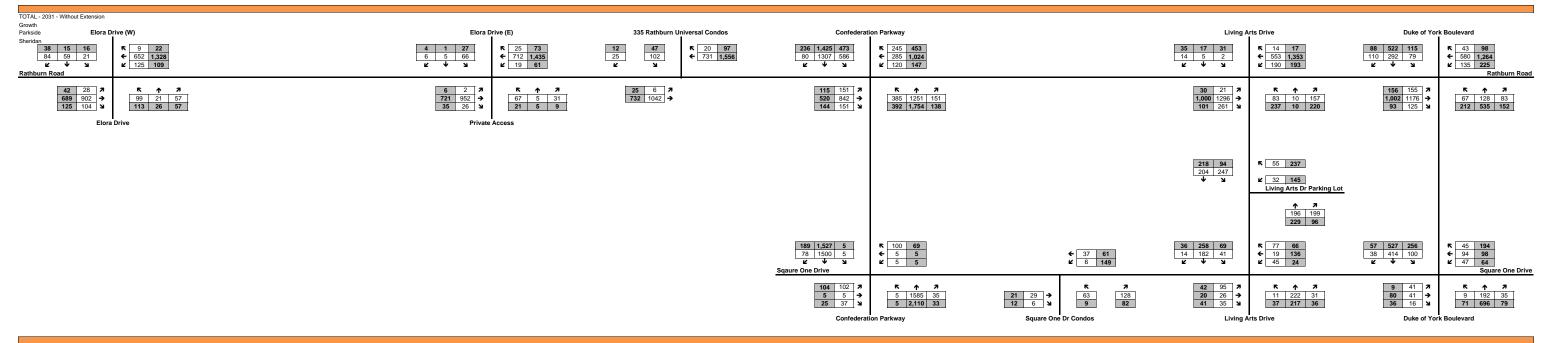


Figure 5 2031 Future Traffic - No Extension of Square One Drive

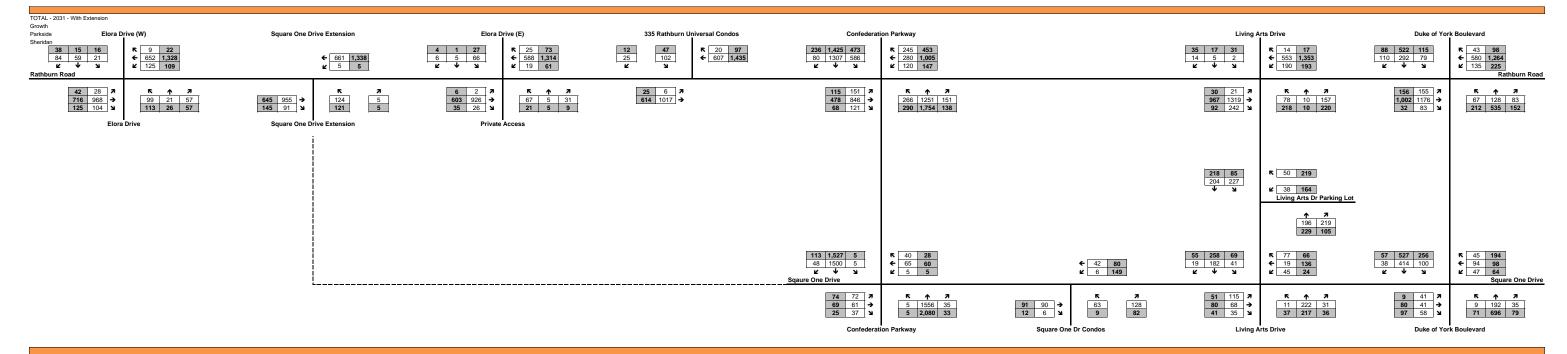


Figure 6 2031 Future Traffic - With Extension of Square One Drive

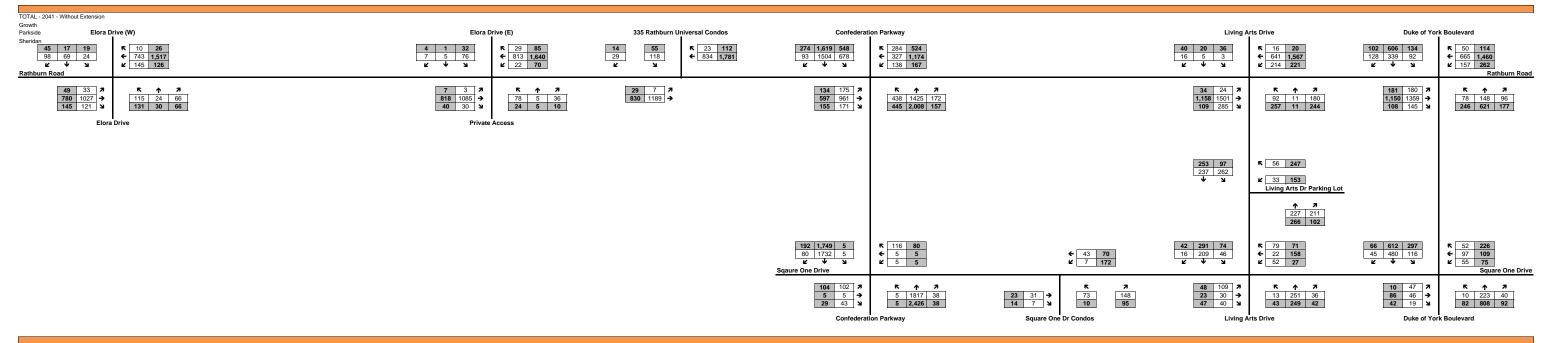


Figure 7 2041 Future Traffic - No Extension of Square One Drive

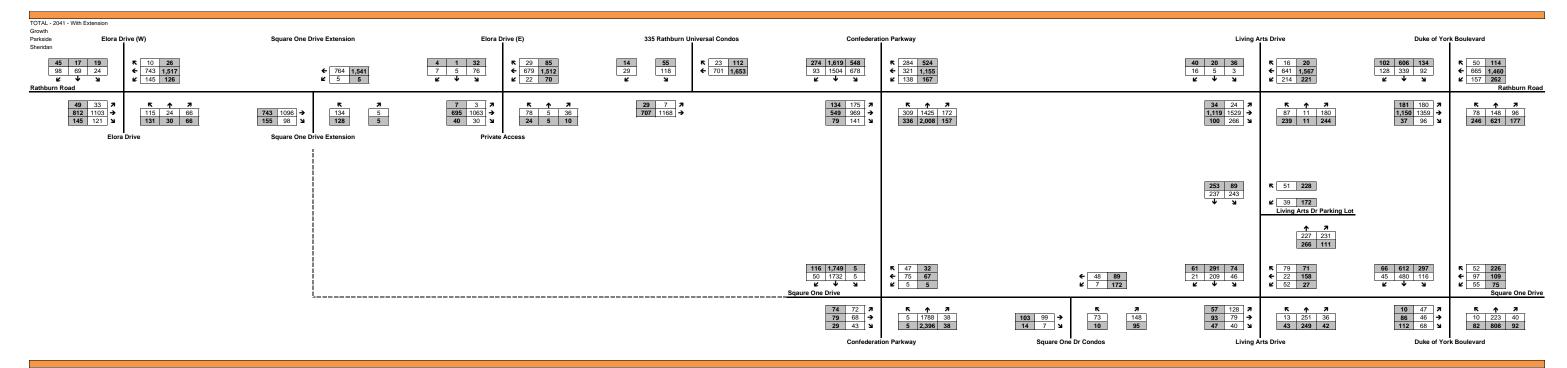


Figure 8 2041 Future Traffic - With Extension of Square One Drive

### **Appendix A**

2011 Existing				Horizontal	Screenline			
			AM Peak Hour		PM Peak Hour			
Road	Direction	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)	
	NB	706	538	553	1290	1044	684	
Confederation Parkway	SB	1317	870	680	975	707	665	
	2-Way	2023	1408	1233	2265	1751	1349	
	NB	=	48	369	=	70	265	
Living Arts Drive	SB	=	240	223	=	97	286	
	2-Way	0	288	592	0	167	551	
	NB	237	193	501	230	224	72	
Duke of York Boulevard	SB	326	284	114	329	187	359	
	2-Way	563	477	615	559	411	431	
	NB	943	779	1423	1520	1338	1021	
otal	SB	1643	1394	1017	1304	991	1310	
	2-Way	2586	2173	2440	2824	2329	2331	

2021 No Extension of S1D	)			Horizonta	l Screenline			
			AM Peak Hour		PM Peak Hour			
Road	Direction	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)	
	NB	861	703	553	1416	1158	656	
Confederation Parkway	SB	1356	1126	633	1173	1023	645	
	2-Way	2217	1829	1186	2589	2181	1301	
	NB	200	213	341	217	210	314	
Living Arts Drive	SB	178	154	282	342	170	328	
	2-Way	378	367	623	559	380	642	
	NB	117	106	449	176	175	62	
Duke of York Boulevard	SB	271	272	52	213	189	416	
	2-Way	388	378	501	389	364	478	
	NB	1178	1022	1343	1809	1543	1032	
Total	SB	1805	1552	967	1728	1382	1389	
	2-Way	2983	2574	2310	3537	2925	2421	

2031 No Extension of S1D	)			Horizonta	l Screenline			
			AM Peak Hour		PM Peak Hour			
Road	Direction	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)	
	NB	893	795	598	1517	1235	656	
Confederation Parkway	SB	1514	1194	597	1307	1225	719	
	2-Way	2407	1989	1195	2824	2460	1375	
	NB	247	255	346	270	282	408	
Living Arts Drive	SB	199	201	321	374	252	354	
	2-Way	446	456	667	644	534	762	
	NB	145	133	573	237	242	147	
Duke of York Boulevard	SB	339	357	83	396	300	512	
	2-Way	484	490	656	633	542	659	
	NB	1285	1183	1517	2024	1759	1211	
Total	SB	2052	1752	1001	2077	1777	1585	
	2-Way	3337	2935	2518	4101	3536	2796	

2041 No Extension of S1D			Horizontal Screenline								
		AM Peak Hour		PM Peak Hour							
Road	Direction	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)				
	NB	989	1050	703	1405	1354	667				
Confederation Parkway	SB	1305	1214	614	1238	1291	726				
	2-Way	2294	2264	1317	2643	2645	1393				
	NB	464	301	400	509	336	469				
Living Arts Drive	SB	503	298	432	561	381	448				
	2-Way	967	599	832	1070	717	917				
	NB	246	221	586	608	508	267				
Duke of York Boulevard	SB	536	454	75	549	443	564				
	2-Way	782	675	661	1157	951	831				
	NB	1699	1572	1689	2522	2198	1403				
<u></u>	SB	2344	1966	1121	2348	2115	1738				
	2-Way	4043	3538	2810	4870	4313	3141				

2021 No Extension of S1D				Horizonta	l Screenline				
	Direction	tion AM Peak Hour			PM Peak Hour				
Road		North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)		
	NB	2.0%	2.7%	0.0%	0.9%	1.0%	-0.4%		
Confederation Parkway	SB	0.3%	2.6%	-0.7%	1.9%	3.8%	-0.3%		
	2-Way	0.9%	2.7%	-0.4%	1.3%	2.2%	-0.4%		
	NB	=	16.1%	-0.8%	=	11.6%	1.7%		
Living Arts Drive	SB	=	-4.3%	2.4%	=	5.8%	1.4%		
	2-Way	=	2.5%	0.5%	=	8.6%	1.5%		
	NB	-6.8%	-5.8%	-1.1%	-2.6%	-2.4%	-1.5%		
Duke of York Boulevard	SB	-1.8%	-0.4%	-7.5%	-4.3%	0.1%	1.5%		
	2-Way	-3.7%	-2.3%	-2.0%	-3.6%	-1.2%	1.0%		
otal	NB	2.3%	2.8%	-0.6%	1.8%	1.4%	0.1%		
	SB	0.9%	1.1%	-0.5%	2.9%	3.4%	0.6%		
	2-Way	1.4%	1.7%	-0.5%	2.3%	2.3%	0.4%		

2031 No Extension of S1D			Horizontal Screenline								
	Direction	AM Peak Hour			PM Peak Hour						
Road		North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)				
	NB	0.4%	1.2%	0.8%	0.7%	0.6%	0.0%				
Confederation Parkway	SB	1.1%	0.6%	-0.6%	1.1%	1.8%	1.1%				
	2-Way	0.8%	0.8%	0.1%	0.9%	1.2%	0.6%				
	NB	2.1%	1.8%	0.1%	2.2%	3.0%	2.7%				
Living Arts Drive	SB	1.1%	2.7%	1.3%	0.9%	4.0%	0.8%				
	2-Way	1.7%	2.2%	0.7%	1.4%	3.5%	1.7%				
	NB	2.2%	2.3%	2.5%	3.0%	3.3%	9.0%				
Duke of York Boulevard	SB	2.3%	2.8%	4.8%	6.4%	4.7%	2.1%				
	2-Way	2.2%	2.6%	2.7%	5.0%	4.1%	3.3%				
otal	NB	0.9%	1.5%	1.2%	1.1%	1.3%	1.6%				
	SB	1.3%	1.2%	0.3%	1.9%	2.5%	1.3%				
	2-Wav	1.1%	1.3%	0.9%	1.5%	1.9%	1.5%				

2041 No Extension of S1D				Horizonta	l Screenline		
	Direction		AM Peak Hour			PM Peak Hour	
Road		North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)
	NB	1.0%	2.8%	1.6%	-0.8%	0.9%	0.2%
Confederation Parkway	SB	-1.5%	0.2%	0.3%	-0.5%	0.5%	0.1%
	2-Way	-0.5%	1.3%	1.0%	-0.7%	0.7%	0.1%
	NB	6.5%	1.7%	1.5%	6.5%	1.8%	1.4%
Living Arts Drive	SB	9.7%	4.0%	3.0%	4.1%	4.2%	2.4%
	2-Way	8.0%	2.8%	2.2%	5.2%	3.0%	1.9%
	NB	5.4%	5.2%	0.2%	9.9%	7.7%	6.1%
Duke of York Boulevard	SB	4.7%	2.4%	-1.0%	3.3%	4.0%	1.0%
	2-Way	4.9%	3.3%	0.1%	6.2%	5.8%	2.3%
	NB	2.8%	2.9%	1.1%	2.2%	2.3%	1.5%
Total	SB	1.3%	1.2%	1.1%	1.2%	1.8%	0.9%
	2-Way	1.9%	1.9%	1.1%	1.7%	2.0%	1.2%

2011 Existing				Horizonta	l Screenline			
			AM Peak Hour			PM Peak Hour		
Road	Direction	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)	
	NB	706	538	553	1290	1044	684	
Confederation Parkway	SB	1317	870	680	975	707	665	
	2-Way	2023	1408	1233	2265	1751	1349	
	NB	=	48	369	=	70	265	
Living Arts Drive	SB	=	240	223	=	97	286	
	2-Way	0	288	592	0	167	551	
	NB	237	193	501	230	224	72	
Duke of York Boulevard	SB	326	284	114	329	187	359	
	2-Way	563	477	615	559	411	431	
	NB	943	779	1423	1520	1338	1021	
Total	SB	1643	1394	1017	1304	991	1310	
	2-Way	2586	2173	2440	2824	2329	2331	

2021 With Extension of S1	d			Horizonta	l Screenline				
			AM Peak Hour				PM Peak Hour		
Road	Direction	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)		
	NB	836	666	546	1418	1114	666		
Confederation Parkway	SB	1360	1054	641	1174	1033	664		
	2-Way	2196	1720	1187	2592	2147	1330		
	NB	211	235	340	181	181	298		
Living Arts Drive	SB	161	145	241	326	184	330		
	2-Way	372	380	581	507	365	628		
	NB	117	97	414	159	157	63		
Duke of York Boulevard	SB	273	273	54	205	190	392		
	2-Way	390	370	468	364	347	455		
	NB	1164	998	1300	1758	1452	1027		
Total	SB	1794	1472	936	1705	1407	1386		
	2-Way	2958	2470	2236	3463	2859	2413		

2031 With Extension of S1	9		Horizontal Screenline								
			AM Peak Hour			PM Peak Hour					
Road	Direction	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)				
	NB	896	791	581	1522	1245	638				
Confederation Parkway	SB	1496	1125	577	1286	1159	678				
	2-Way	2392	1916	1158	2808	2404	1316				
	NB	234	258	368	248	248	412				
Living Arts Drive	SB	205	178	354	353	218	347				
	2-Way	439	436	722	601	466	759				
	NB	160	144	536	236	244	126				
Duke of York Boulevard	SB	323	327	64	360	270	497				
	2-Way	483	471	600	596	514	623				
Total	NB	1290	1193	1485	2006	1737	1176				
	SB	2024	1630	995	1999	1647	1522				
	2-Way	3314	2823	2480	4005	3384	2698				

2041 With Extension of S1	d	Horizontal Screenline									
			AM Peak Hour			PM Peak Hour					
Road	Direction	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)				
	NB	974	1053	685	1401	1324	665				
	SB	1313	1135	626	1237	1261	732				
	2-Way	2287	2188	1311	2638	2585	1397				
	NB	488	340	397	535	333	482				
Living Arts Drive	SB	471	326	400	526	351	445				
	2-Way	959	666	797	1061	684	927				
	NB	246	218	568	566	458	255				
Duke of York Boulevard	SB	527	411	99	543	409	552				
	2-Way	773	629	667	1109	867	807				
	NB	1708	1611	1650	2502	2115	1402				
Total	SB	2311	1872	1125	2306	2021	1729				
	2-Way	4019	3483	2775	4808	4136	3131				

2021 With Extension of S1	D		Horizontal Screenline								
	Direction	AM Peak Hour			PM Peak Hour						
Road		North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)				
	NB	1.7%	2.2%	-0.1%	1.0%	0.7%	-0.3%				
Confederation Parkway	SB	0.3%	1.9%	-0.6%	1.9%	3.9%	0.0%				
	2-Way	0.8%	2.0%	-0.4%	1.4%	2.1%	-0.1%				
	NB	-	17.2%	-0.8%	=	10.0%	1.2%				
Living Arts Drive	SB	=	-4.9%	0.8%	=	6.6%	1.4%				
	2-Way	=	2.8%	-0.2%	=	8.1%	1.3%				
	NB	-6.8%	-6.6%	-1.9%	-3.6%	-3.5%	-1.3%				
Duke of York Boulevard	SB	-1.8%	-0.4%	-7.2%	-4.6%	0.2%	0.9%				
	2-Way	-3.6%	-2.5%	-2.7%	-4.2%	-1.7%	0.5%				
	NB	2.1%	2.5%	-0.9%	1.5%	0.8%	0.1%				
<b>Total</b>	SB	0.9%	0.5%	-0.8%	2.7%	3.6%	0.6%				
	2-Way	1.4%	1.3%	-0.9%	2.1%	2.1%	0.3%				

2031 With Extension of S1	D			Horizonta	l Screenline		
	Direction	tion AM Peak Hour		PM Peak Hour			
Road		North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)
	NB	0.7%	1.7%	0.6%	0.7%	1.1%	-0.4%
Confederation Parkway	SB	1.0%	0.7%	-1.0%	0.9%	1.2%	0.2%
2-W	2-Way	0.9%	1.1%	-0.2%	0.8%	1.1%	-0.1%
	NB	=	0.9%	0.8%	=	3.2%	3.3%
Living Arts Drive	SB	=	2.1%	3.9%	=	1.7%	0.5%
	2-Way	=	1.4%	2.2%	=	2.5%	1.9%
	NB	3.2%	4.0%	2.6%	4.0%	4.5%	7.2%
Duke of York Boulevard	SB	1.7%	1.8%	1.7%	5.8%	3.6%	2.4%
	2-Way	2.2%	2.4%	2.5%	5.1%	4.0%	3.2%
	NB	1.0%	1.8%	1.3%	1.3%	1.8%	1.4%
Total	SB	1.2%	1.0%	0.6%	1.6%	1.6%	0.9%
	2-Way	1.1%	1.3%	1.0%	1.5%	1.7%	1.1%

2041 With Extension of S1	D			Horizonta	l Screenline				
	Direction		AM Peak Hour			PM Peak Hour			
Road		North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)	North of Rathburn Road (H1)	North of Square One Drive (H2)	North of Burnhamthorpe Road (H3)		
	NB	0.8%	2.9%	1.7%	-0.8%	0.6%	0.4%		
Confederation Parkway	SB	-1.3%	0.1%	0.8%	-0.4%	0.8%	0.8%		
2-Wa	2-Way	-0.4%	1.3%	1.2%	-0.6%	0.7%	0.6%		
	NB	=	2.8%	0.8%	=	3.0%	1.6%		
Living Arts Drive	SB	-	6.2%	1.2%	-	4.9%	2.5%		
	2-Way	=	4.3%	1.0%	=	3.9%	2.0%		
	NB	4.4%	4.2%	0.6%	9.1%	6.5%	7.3%		
Duke of York Boulevard	SB	5.0%	2.3%	4.5%	4.2%	4.2%	1.1%		
	2-Way	4.8%	2.9%	1.1%	6.4%	5.4%	2.6%		
	NB	2.8%	3.0%	1.1%	2.2%	2.0%	1.8%		
Total	SB	1.3%	1.4%	1.2%	1.4%	2.1%	1.3%		
	2-Way	1.9%	2.1%	1.1%	1.8%	2.0%	1.5%		

2011 Existing				Vertical S	creenlines			
Dood	Direction		AM Peak Hour			PM Peak Hour		
Road		West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	
	EB	1261	1261	1261	352	352	352	
Centre View Drive	WB	236	236	236	1009	1009	1009	
	2-Way	1497	1497	1497	1361	1361	1361	
	EB	535	687	501	161	84	46	
Rathburn Road	WB	151	23	57	602	504	472	
	2-Way	686	710	558	763	588	518	
	EB	-	0	32	-	0	14	
Square One Drive	WB	-	23	2	-	274	12	
	2-Way	0	23	34	0	274	26	
	EB	1506	1574	1412	900	851	801	
Burnhamthorpe Road	WB	848	808	791	1568	1526	1454	
	2-Way	2354	2382	2203	2468	2377	2255	
	EB	3302	3522	3206	1413	1287	1213	
Total	WB	1235	1090	1086	3179	3313	2947	
	2-Way	4537	4612	4292	4592	4600	4160	

2021 No Extension of S1D				Vertical :	Screenlines			
	Direction		AM Peak Hour		PM Peak Hour			
Road		West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	
	EB	1302	1302	1190	530	530	387	
Centre View Drive	WB	342	342	207	1085	1085	1067	
	2-Way	1644	1644	1397	1615	1615	1454	
	EB	481	450	435	185	60	55	
Rathburn Road	WB	137	34	21	665	647	459	
	2-Way	618	484	456	850	707	514	
	EB	148	231	56	103	183	24	
Square One Drive	WB	63	37	2	184	191	6	
	2-Way	211	268	58	287	374	30	
	EB	1503	1484	1419	1276	1142	1037	
Burnhamthorpe Road	WB	1061	911	905	1686	1597	1478	
	2-Way	2564	2395	2324	2962	2739	2515	
	EB	3434	3467	3100	2094	1915	1503	
Total	WB	1603	1324	1135	3620	3520	3010	
	2-Way	5037	4791	4235	5714	5435	4513	

	_							
2031 No Extension of S1D				Vertical 9	creenlines			
	Direction	AM Peak Hour			PM Peak Hour			
Road		West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	
	EB	1278	1278	1165	676	676	489	
Centre View Drive	WB	394	394	232	1152	1152	1069	
	2-Way	1672	1672	1397	1828	1828	1558	
	EB	552	662	604	260	121	109	
Rathburn Road	WB	180	68	41	666	728	568	
	2-Way	732	730	645	926	849	677	
	EB	233	212	62	165	184	22	
Square One Drive	WB	109	54	2	299	190	6	
	2-Way	342	266	64	464	374	28	
	EB	1769	1794	1774	1405	1388	1252	
Burnhamthorpe Road	WB	1203	1075	1080	1722	1749	1666	
	2-Way	2972	2869	2854	3127	3137	2918	
	EB	3832	3946	3605	2506	2369	1872	
Total	WB	1886	1591	1355	3839	3819	3309	
	2-Way	5718	5537	4960	6345	6188	5181	

2041 No Extension of S1D				Vertical	Screenlines			
	Direction	AM Peak Hour			PM Peak Hour			
Road		West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	
	EB	1619	1619	1511	1402	1402	1336	
Centre View Drive	WB	154	154	85	688	688	674	
	2-Way	1773	1773	1596	2090	2090	2010	
	EB	744	817	789	402	377	246	
Rathburn Road	WB	201	122	97	682	762	593	
	2-Way	945	939	886	1084	1139	839	
	EB	330	157	28	293	106	7	
Square One Drive	WB	158	82	9	352	118	37	
	2-Way	488	239	37	645	224	44	
	EB	1804	1909	1877	1618	1570	1496	
Burnhamthorpe Road	WB	1423	1356	1291	1763	1847	1794	
	2-Way	3227	3265	3168	3381	3417	3290	
	EB	4497	4502	4205	3715	3455	3085	
Total	WB	1936	1714	1482	3485	3415	3098	
	2-Way	6433	6216	5687	7200	6870	6183	

2021 No Extension of S1D			Vertical Screenlines								
	Direction		AM Peak Hour			PM Peak Hour					
Road		West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)				
	EB	0.3%	0.3%	-0.6%	4.2%	4.2%	1.0%				
Centre View Drive	WB	3.8%	3.8%	-1.3%	0.7%	0.7%	0.6%				
	2-Way	0.9%	0.9%	-0.7%	1.7%	1.7%	0.7%				
	EB	-1.1%	-4.1%	-1.4%	1.4%	-3.3%	1.8%				
Rathburn Road	WB	-1.0%	4.0%	-9.5%	1.0%	2.5%	-0.3%				
	2-Way	-1.0%	-3.8%	-2.0%	1.1%	1.9%	-0.1%				
	EB		-	5.8%	-	-	5.5%				
Square One Drive	WB		4.9%	0.0%	-	-3.5%	-6.7%				
	2-Way		27.8%	5.5%	-	3.2%	1.4%				
	EB	0.0%	-0.6%	0.0%	3.6%	3.0%	2.6%				
Burnhamthorpe Road	WB	2.3%	1.2%	1.4%	0.7%	0.5%	0.2%				
	2-Way	0.9%	0.1%	0.5%	1.8%	1.4%	1.1%				
	EB	0.4%	-0.2%	-0.3%	4.0%	4.1%	2.2%				
Total	WB	2.6%	2.0%	0.4%	1.3%	0.6%	0.2%				
	2-Way	1.1%	0.4%	-0.1%	2.2%	1.7%	0.8%				

2031 No Extension of S1D				Vertical :	Screenlines			
	Direction		AM Peak Hour		PM Peak Hour			
Road		West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	
	EB	-0.2%	-0.2%	-0.2%	2.5%	2.5%	2.4%	
Centre View Drive	WB	1.4%	1.4%	1.1%	0.6%	0.6%	0.0%	
	2-Way	0.2%	0.2%	0.0%	1.2%	1.2%	0.7%	
	EB	1.4%	3.9%	3.3%	3.5%	7.3%	7.1%	
Rathburn Road	WB	2.8%	7.2%	6.9%	0.0%	1.2%	2.2%	
	2-Way	1.7%	4.2%	3.5%	0.9%	1.8%	2.8%	
	EB	4.6%	-0.9%	1.0%	4.8%	0.1%	-0.9%	
Square One Drive	WB	5.6%	3.9%	0.0%	5.0%	-0.1%	0.0%	
	2-Way	4.9%	-0.1%	1.0%	4.9%	0.0%	-0.7%	
	EB	1.6%	1.9%	2.3%	1.0%	2.0%	1.9%	
Burnhamthorpe Road	WB	1.3%	1.7%	1.8%	0.2%	0.9%	1.2%	
	2-Way	1.5%	1.8%	2.1%	0.5%	1.4%	1.5%	
	EB	1.1%	1.3%	1.5%	1.8%	2.2%	2.2%	
Total	WB	1.6%	1.9%	1.8%	0.6%	0.8%	1.0%	
1	2-Way	1.3%	1.5%	1.6%	1.1%	1.3%	1.4%	

2041 No Extension of S1D				Vertical S	Screenlines			
	Direction	on AM Peak Hour			PM Peak Hour			
Road		West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	
	EB	2.4%	2.4%	2.6%	7.6%	7.6%	10.6%	
Centre View Drive	WB	-9.0%	-9.0%	-9.6%	-5.0%	-5.0%	-4.5%	
	2-Way	0.6%	0.6%	1.3%	1.3%	1.3%	2.6%	
	EB	3.0%	2.1%	2.7%	4.5%	12.0%	8.5%	
Rathburn Road	WB	1.1%	6.0%	9.0%	0.2%	0.5%	0.4%	
	2-Way	2.6%	2.5%	3.2%	1.6%	3.0%	2.2%	
	EB	3.5%	-3.0%	-7.6%	5.9%	-5.4%	-10.8%	
Square One Drive	WB	3.8%	4.3%	16.2%	1.6%	-4.7%	20.0%	
	2-Way	3.6%	-1.1%	-5.3%	3.3%	-5.0%	4.6%	
	EB	0.2%	0.6%	0.6%	1.4%	1.2%	1.8%	
Burnhamthorpe Road	WB	1.7%	2.3%	1.8%	0.2%	0.5%	0.7%	
	2-Way	0.8%	1.3%	1.0%	0.8%	0.9%	1.2%	
	EB	1.6%	1.3%	1.6%	4.0%	3.8%	5.1%	
Total	WB	0.3%	0.7%	0.9%	-1.0%	-1.1%	-0.7%	
	2-Way	1.2%	1.2%	1.4%	1.3%	1.1%	1.8%	

2011 Existing				Vertical S	creenlines			
Dood	Direction		AM Peak Hour			PM Peak Hour		
Road		West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	
	EB	1261	1261	1261	352	352	352	
Centre View Drive	WB	236	236	236	1009	1009	1009	
	2-Way	1497	1497	1497	1361	1361	1361	
	EB	535	687	501	161	84	46	
Rathburn Road	WB	151	23	57	602	504	472	
	2-Way	686	710	558	763	588	518	
	EB	-	0	32	-	0	14	
Square One Drive	WB	-	23	2	-	274	12	
	2-Way	0	23	34	0	274	26	
	EB	1506	1574	1412	900	851	801	
Burnhamthorpe Road	WB	848	808	791	1568	1526	1454	
	2-Way	2354	2382	2203	2468	2377	2255	
	EB	3302	3522	3206	1413	1287	1213	
Total	WB	1235	1090	1086	3179	3313	2947	
	2-Way	4537	4612	4292	4592	4600	4160	

2021 With Extension of S1D				Vertical :	Screenlines		
	Direction		AM Peak Hour			PM Peak Hour	
Road		West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)
	EB	1266	1266	1167	517	517	389
Centre View Drive	WB	334	334	184	1032	1032	1049
	2-Way	1600	1600	1351	1549	1549	1438
	EB	400	454	446	163	54	59
Rathburn Road	WB	113	33	26	494	547	390
	2-Way	513	487	472	657	601	449
	EB	161	246	67	101	180	20
Square One Drive	WB	65	33	2	208	220	7
	2-Way	226	279	69	309	400	27
	EB	1577	1536	1453	1233	1126	1042
Burnhamthorpe Road	WB	1053	919	935	1677	1590	1474
	2-Way	2630	2455	2388	2910	2716	2516
	EB	3404	3502	3133	2014	1877	1510
Total	WB	1565	1319	1147	3411	3389	2920
	2-Way	4969	4821	4280	5425	5266	4430

2031 With Extension of S1D				Vertical S	creenlines			
	Direction		AM Peak Hour		PM Peak Hour			
Road		West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	
	EB	1209	1209	1082	633	633	479	
Centre View Drive	WB	393	393	237	1140	1140	1092	
	2-Way	1602	1602	1319	1773	1773	1571	
	EB	455	602	596	250	124	128	
Rathburn Road WB 2-W	WB	177	57	43	687	741	588	
	2-Way	632	659	639	937	865	716	
	EB	264	207	72	161	184	18	
Square One Drive	WB	99	41	1	286	192	17	
	2-Way	363	248	73	447	376	35	
	EB	1782	1762	1742	1443	1384	1260	
Burnhamthorpe Road	WB	1187	1064	1057	1751	1750	1691	
	2-Way	2969	2826	2799	3194	3134	2951	
	EB	3710	3780	3492	2487	2325	1885	
Total	WB	1856	1555	1338	3864	3823	3388	
	2-Way	5566	5335	4830	6351	6148	5273	

2041 With Extension of S1D		Vertical Screenlines								
	Direction		AM Peak Hour		PM Peak Hour					
Road		West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)			
	EB	1605	1605	1521	1387	1387	1342			
entre View Drive	WB	198	198	98	717	717	664			
	2-Way	1803	1803	1619	2104	2104	2006			
	EB	620	818	731	363	380	265			
	WB	183	124	92	593	711	592			
	2-Way	803	942	823	956	1091	857			
	EB	350	160	60	300	118	5			
Square One Drive	WB	150	87	7	361	163	48			
	2-Way	500	247	67	661	281	53			
	EB	1773	1884	1870	1611	1566	1477			
Burnhamthorpe Road	WB	1367	1314	1296	1798	1865	1814			
	2-Way	3140	3198	3166	3409	3431	3291			
	EB	4348	4467	4182	3661	3451	3089			
Total	WB	1898	1723	1493	3469	3456	3118			
	2-Way	6246	6190	5675	7130	6907	6207			

2021 With Extension of S1I	D			Vertical	Screenlines			
	Direction	AM Peak Hour			PM Peak Hour			
Road		West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	
	EB	0.0%	0.0%	-0.8%	3.9%	3.9%	1.0%	
entre View Drive	WB	3.5%	3.5%	-2.5%	0.2%	0.2%	0.4%	
	2-Way	0.7%	0.7%	-1.0%	1.3%	1.3%	0.6%	
l l	EB	-2.9%	-4.1%	-1.2%	0.1%	-4.3%	2.5%	
	WB	-2.9%	3.7%	-7.5%	-2.0%	0.8%	-1.9%	
	2-Way	-2.9%	-3.7%	-1.7%	-1.5%	0.2%	-1.4%	
	EB	=	-	7.7%	-	-	3.6%	
Square One Drive	WB	-	3.7%	0.0%	-	-2.2%	-5.2%	
	2-Way	-	28.3%	7.3%	-	3.9%	0.4%	
	EB	0.5%	-0.2%	0.3%	3.2%	2.8%	2.7%	
Burnhamthorpe Road	WB	2.2%	1.3%	1.7%	0.7%	0.4%	0.1%	
	2-Way	1.1%	0.3%	0.8%	1.7%	1.3%	1.1%	
	EB	0.3%	-0.1%	-0.2%	3.6%	3.8%	2.2%	
Total	WB	2.4%	1.9%	0.5%	0.7%	0.2%	-0.1%	
	2-Way	0.9%	0.4%	0.0%	1.7%	1.4%	0.6%	

2031 With Extension of S1	D			Vertical :	Screenlines			
	Direction		AM Peak Hour		PM Peak Hour			
Road		West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	
	EB	-0.5%	-0.5%	-0.8%	2.0%	2.0%	2.1%	
Centre View Drive	WB	1.6%	1.6%	2.6%	1.0%	1.0%	0.4%	
	2-Way	0.0%	0.0%	-0.2%	1.4%	1.4%	0.9%	
Rathburn Road	EB	1.3%	2.9%	2.9%	4.4%	8.7%	8.1%	
	WB	4.6%	5.6%	5.2%	3.4%	3.1%	4.2%	
	2-Way	2.1%	3.1%	3.1%	3.6%	3.7%	4.8%	
	EB	5.1%	-1.7%	0.7%	4.8%	0.2%	-1.0%	
Square One Drive	WB	4.3%	2.2%	-6.7%	3.2%	-1.4%	9.3%	
	2-Way	4.9%	-1.2%	0.6%	3.8%	-0.6%	2.6%	
	EB	1.2%	1.4%	1.8%	1.6%	2.1%	1.9%	
Burnhamthorpe Road	WB	1.2%	1.5%	1.2%	0.4%	1.0%	1.4%	
	2-Way	1.2%	1.4%	1.6%	0.9%	1.4%	1.6%	
	EB	0.9%	0.8%	1.1%	2.1%	2.2%	2.2%	
Total	WB	1.7%	1.7%	1.6%	1.3%	1.2%	1.5%	
ii	2-Way	1.1%	1.0%	1.2%	1.6%	1.6%	1.8%	

2041 With Extension of S1D	)		Vertical Screenlines									
	Direction		AM Peak Hour			PM Peak Hour						
Road		West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)	West of Confederation Parkway (V1)	West of Living Arts Drive (V2)	West of Duke of York Boulevard (V3)					
	EB	2.9%	2.9%	3.5%	8.2%	8.2%	10.9%					
Centre View Drive	WB	-6.6%	-6.6%	-8.5%	-4.5%	-4.5%	-4.9%					
	2-Way	1.2%	1.2%	2.1%	1.7%	1.7%	2.5%					
	EB	3.1%	3.1%	2.1%	3.8%	11.9%	7.5%					
Rathburn Road	WB	0.3%	8.1%	7.9%	-1.5%	-0.4%	0.1%					
	2-Way	2.4%	3.6%	2.6%	0.2%	2.3%	1.8%					
	EB	2.9%	-2.5%	-1.8%	6.4%	-4.3%	-12.0%					
Square One Drive	WB	4.2%	7.8%	21.5%	2.4%	-1.6%	10.9%					
	2-Way	3.3%	0.0%	-0.9%	4.0%	-2.9%	4.2%					
	EB	-0.1%	0.7%	0.7%	1.1%	1.2%	1.6%					
Burnhamthorpe Road	WB	1.4%	2.1%	2.1%	0.3%	0.6%	0.7%					
	2-Way	0.6%	1.2%	1.2%	0.7%	0.9%	1.1%					
	EB	1.6%	1.7%	1.8%	3.9%	4.0%	5.1%					
Total	WB	0.2%	1.0%	1.1%	-1.1%	-1.0%	-0.8%					
	2-Way	1.2%	1.5%	1.6%	1.2%	1.2%	1.6%					

Development: Parkside Village Future Development

Estimated total number of residential units = 2,700 units Estimated total GFA of commercial office space = 80,000 SF Estimated total GFA of commercial retail space = 70,000 SF

Trip Forumulae

			p . o.u	M Peak Ho	LIE	Г	M Peak Ho	ur
Land Use	LUC	Units/Size	F	NIVI PEAK HU	ui	FIVIFEAKTIOUI		
Lana OSC	200		In	Out	Total	In	Out	Total
Residential Units	230	2700	122	599	721	601	296	897
Office	710	80000	141	19	160	30	139	168
Retail	820	70000	78	47	125	227	245	472
Sub-total	duction	20%	341 68	665 133	1,007 201	858 172	681 136	1,537 307
Transit Reduction		2070	<b>272</b>	<b>532</b>	805	686	545	1,229

20% transit reduction

TTS data - ward 4 existing transit usage ranges from 8 - 15% depending on direction in the am peak period.

Assume a 20% transit reduction for future trip generation reference file saved on directory

Distribution to be based on existing amacon report

Excerpt from 2004 Sernas Transtech - Traffic Study

### SITE TRIP DISTRIBUTION

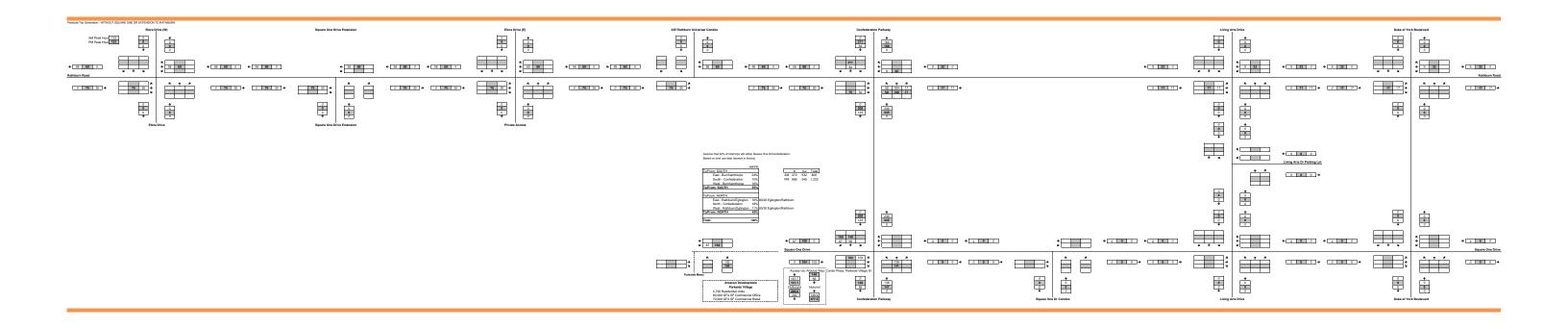
The distribution of the site originating trips, both external and internal to Mississauga, were estimated using 2001 TTS data for the GTA. This resulted in approximately 32% of the morning destinations being external to Mississauga. The site is within the City Centre District and in the geographical centre of the City. The survey data records that for the City Centre zones, 68% of the trips remain within Mississauga.

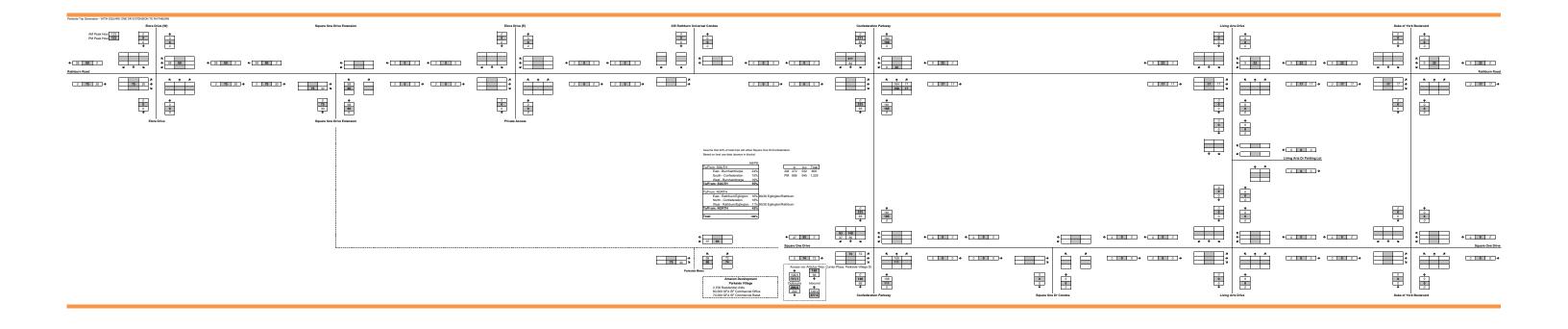
Site traffic would predominantly use Confederation Parkway upon its construction between Burnhamthorpe Road and Rathburn Road (scheduled for 2004). It is planned for an extension over Highway 403 to Eglinton Avenue and McLaughlin Road in 2008. At that time the development would be about 25% built-out and in the interim would not have a significant impact within the existing road network. Ultimately, the orientations to the north and south are estimated at 45 and 55%, respectively. The directional distribution ratios and resulting trips are shown in Table 2.

Table 2 SITE TRIP DISTRIBUTION

		AM Peak Hour			
Toffrom South:	Ratio*	Inbound	Outbound		
East - Burnhamthorpe	24%	67	327		
South - Confederation	15%	42	204		
West - Burnhamthorpe	16%	45	218		
Total	55%	154	749		
To/from North:					
East - Rathburn/Eglinton	16%	45	218		
North - Confederation	18%	50	245		
West - Rathburn/Eglinton	11%	31	150		
Total	45%	126	613		
		PM Pe	ak Hour		
To/from South:	Ratio*	Inbound	Outbound		
East - Burnhamthorpe	24%	320	158		
South - Confederation	15%	200	99		
West - Burnhamthorpe	16%	213	105		
Total	55%	733	362		
To/from North;					
East - Rathbum/Eglinton	16%	213	105		
North - Confederation	18%	240	118		
West - Rathburn/Eglinton	11%	147	72		
Total	45%	600	295		

Based on TTS 2001 survey data resulting in 32% external and 68% internal Mississauga trips





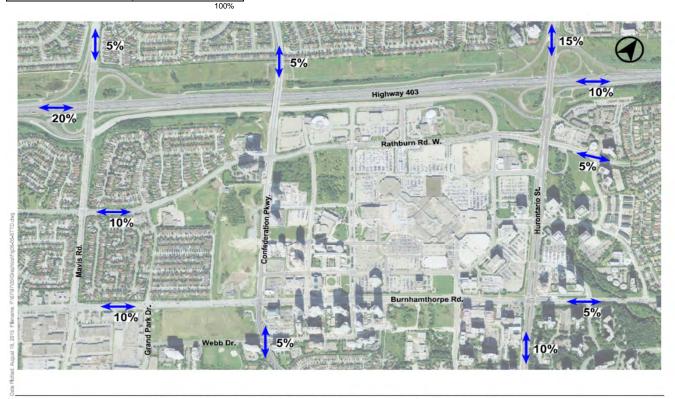
Extracted from BA Group Report - Sheridan College Hazel McCallion Campus - Phase 2 Expansion TIA - August 20, 2015

### Trip Generation at Sheridan College HMC Campus

	In	Out	Total
AM	275	75	350
PM	125	270	395

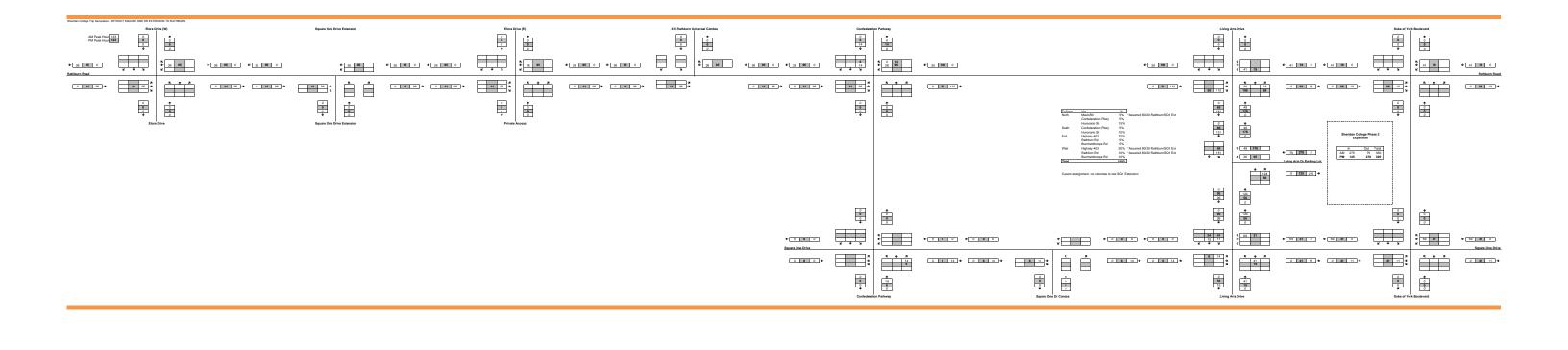
### Distribution

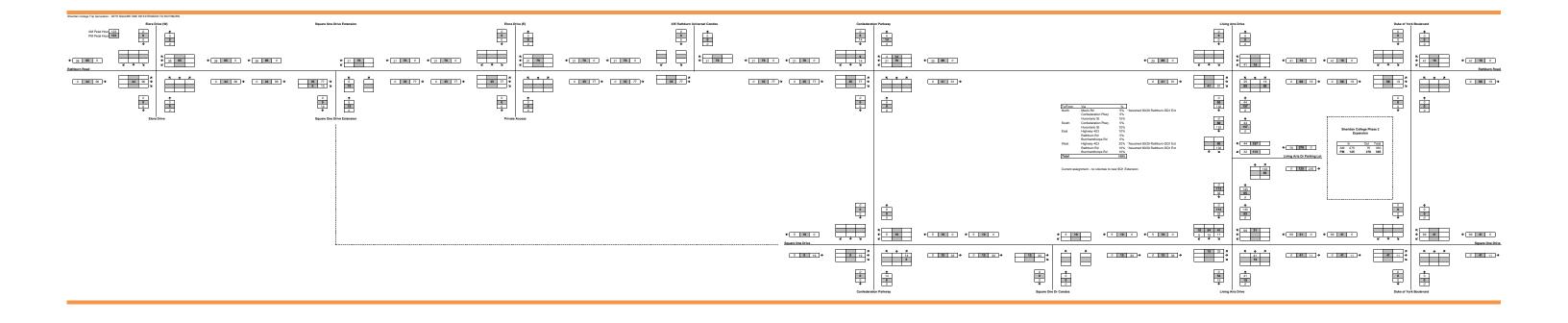
To/From	Via	%
North	Mavis Rd	5%
	Confederation Pkwy	5%
	Hurontario St	15%
South	Confederation Pkwy	5%
	Hurontario St	10%
East	Highway 403	10%
	Rathburn Rd	5%
	Burnhamthorpe Rd	5%
West	Highway 403	20%
	Rathburn Rd	10%
	Burnhamthorpe Rd	10%
		4000/



### SHERIDAN COLLEGE PEAK HOUR TRIP DISTRIBUTION







# APPENDIX F DETAILED TMC RESULTS FUTURE CONDITIONS

# APPENDIX F1 DETAILED TMC RESULTS DO NOTHING

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2021 - Do Nothing - AM

	Elo	ra Drive West -	Rathburn Ro	ad Signalize	d Intersection	1				
	AM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	25	25	0.0	12.80	В	0.3	11.4			
EBT	812	823	0.4	9.09	Α	6.6	68.6			
EBR	92	91	0.1	4.36	Α	6.6	68.6			
WBL	110	107	0.3	23.32	С	2.9	38.9			
WBT	586	573	0.5	8.19	Α	4.6	51.0			
WBR	8	7	0.4	2.70	Α	4.6	51.0			
NBL	87	78	1.0	43.07	D	4.8	41.7			
NBT	19	17	0.5	39.89	D	1.7	27.1			
NBR	50	55	0.7	10.21	В	1.6	29.1			
SBL	19	19	0.0	35.73	D	1.0	12.4			
SBT	52	52	0.0	38.87	D	4.6	39.2			
SBR	74	73	0.1	16.53	В	4.2	39.7			
ALL	1934	1920	0.3	12.45	В	-	-			

	Eld	ora Drive East -	Rathburn Ro	ad Signalize	d Intersection	1				
		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	2	2	0.0	2.44	Α	0.0	0.0			
EBT	856	865	0.3	3.70	Α	1.9	51.5			
EBR	23	23	0.0	2.08	Α	1.2	52.1			
WBL	16	15	0.3	15.16	В	0.1	10.7			
WBT	639	627	0.5	8.37	Α	5.1	55.4			
WBR	22	18	0.9	6.27	Α	4.6	54.8			
NBL	59	55	0.5	50.53	D	3.8	32.1			
NBT	5	0	3.2	0.00	Α	3.8	32.1			
NBR	27	28	0.2	6.72	Α	4.1	32.6			
SBL	58	55	0.4	39.71	D	3.2	30.0			
SBT	5	0	3.2	0.00	Α	3.2	30.0			
SBR	5	4	0.5	24.42	С	2.4	29.6			
ALL	1717	1692	0.6	8.33	Α	-	-			

Confederation Parkway - Rathburn Road Signalized Intersection										
Movement		AM								
vioveinent	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	133	126	0.6	37.62	D	5.9	63.1			
EBT	755	768	0.5	36.76	D	34.4	114.0			
EBR	137	144	0.6	33.40	С	33.9	113.7			
WBL	107	121	1.3	68.45	E	9.6	68.2			
WBT	255	238	1.1	32.66	С	15.8	93.2			
WBR	217	251	2.2	27.79	С	15.3	92.9			
NBL	347	344	0.2	56.55	E	53.4	143.8			
NBT	1124	1009	3.5	55.51	E	84.4	145.8			
NBR	135	173	3.1	55.01	E	84.9	146.4			
SBL	519	450	3.1	97.99	F	292.5	508.3			
SBT	1164	1073	2.7	52.44	D	284.7	508.3			
SBR	71	71	0.0	49.01	D	284.6	508.5			
ALL	4964	4768	2.8	52.36	D	-	-			

	Confederation Parkway - Square One Drive Signalized Intersection									
		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	105	109	0.4	19.07	В	1.8	34.2			
EBT	5	5	0.0	0.69	Α	0.0	1.6			
EBR	33	26	1.3	7.89	Α	0.4	19.5			
WBL	5	5	0.0	43.56	D	14.5	55.6			
WBT	5	3	1.0	47.31	D	8.9	44.2			
WBR	89	115	2.6	97.90	F	21.4	65.8			
NBL	5	6	0.4	24.30	С	0.0	3.7			
NBT	1416	1319	2.6	57.04	E	117.2	248.8			
NBR	32	45	2.1	46.33	D	124.3	257.6			
SBL	5	5	0.0	73.97	E	0.0	3.8			
SBT	1332	1262	1.9	11.13	В	19.9	152.5			
SBR	77	69	0.9	10.41	В	19.9	152.5			
ALL	3109	2969	2.5	35.87	D	-	-			

TI	MC GEH Summ	ary	Total Inte	rsection GEH	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
0	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
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1	0	0				
0	0	0				
0	0	0				
1	0	0				
			1	0	0	

TN	AC GEH Summ	ary	Total Inte	rsection GEH	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
0	0	0				
1	0	0				
0	0	0				
1	0	0				
1	0	0				
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1	0	0				
1	0	0				
1	0	0				
			1	0	0	

TI	MC GEH Summ	ary	Total Inte	rsection GEH	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
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1	0	0				
1	0	0				
1	0	0				
0	0	0				
			1	0	0	

TI	AC GEH Summ	ary	Total Int	ersection GEH	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
0	0	0				
1	0	0				
0	0	0				
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1	0	0				
1	0	0				
			1	0	0	

		ing Arts Drive -	nating arm no		a meeroceno.				
Movement		AM							
ivioveillelit	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL	19	13	1.5	11.74	В	0.1	7.4		
EBT	1147	1066	2.4	21.43	С	35.1	181.9		
EBR	243	288	2.8	28.56	С	35.0	181.8		
WBL	172	120	4.3	19.48	В	2.8	39.6		
WBT	490	550	2.6	13.06	В	7.3	65.3		
WBR	12	17	1.3	9.04	Α	6.7	64.8		
NBL	77	53	3.0	54.32	D	4.4	34.6		
NBT	9	8	0.3	55.26	E	3.7	35.7		
NBR	141	120	1.8	8.50	Α	2.3	35.4		
SBL	2	2	0.0	40.43	D	0.2	7.6		
SBT	5	1	2.3	58.99	E	0.2	7.6		
SBR	12	13	0.3	5.49	Α	0.0	7.1		
ALL	2329	2251	1.6	20.19	С	-	-		

	Livir	g Arts Drive - S	quare One Di	rive Signaliz	ed Intersection	n			
Movement		AM							
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	86	33	6.9	26.71	С	1.1	16.1		
EBT	23	68	6.7	25.26	С	2.7	28.8		
EBR	31	31	0.0	7.80	Α	2.3	28.3		
WBL	39	39	0.0	28.11	С	1.3	18.7		
WBT	16	27	2.4	23.52	С	1.7	34.8		
WBR	76	110	3.5	9.92	Α	1.2	34.2		
NBL	10	8	0.7	0.54	Α	0.0	2.3		
NBT	201	194	0.5	10.56	В	2.6	43.6		
NBR	27	30	0.6	4.77	Α	2.0	43.3		
SBL	37	34	0.5	13.06	В	0.4	13.4		
SBT	163	158	0.4	9.10	Α	2.0	31.7		
SBR	12	5	2.4	3.33	Α	1.5	31.3		
ALL	721	737	0.6	13.24	В	-	-		

	Duke o	of York Bouleva	rd - Rathburi	n Road Signa	lized Interse	ction			
Movement		AM							
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	137	90	4.4	35.08	D	4.2	35.1		
EBT	1043	1019	0.7	33.97	С	36.3	177.5		
EBR	110	70	4.2	18.97	В	36.3	177.5		
WBL	119	129	0.9	25.21	С	3.5	41.3		
WBT	518	529	0.5	20.89	С	10.7	72.5		
WBR	38	40	0.3	15.85	В	10.5	72.0		
NBL	59	62	0.4	24.45	С	2.0	23.7		
NBT	113	154	3.5	31.06	С	5.6	36.5		
NBR	73	32	5.7	15.85	В	5.4	36.2		
SBL	70	71	0.1	26.52	С	2.6	26.0		
SBT	258	273	0.9	36.95	D	14.3	72.5		
SBR	97	95	0.2	9.34	Α	14.1	72.2		
ALL	2635	2564	1.4	28.74	С	-	-		

	Duke of	York Boulevar	d - Square On	e Drive Sign	alized Interse	ction			
Movement		AM							
iviovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	36	62	3.7	34.64	С	3.7	24.2		
EBT	37	43	0.9	29.98	С	3.7	24.2		
EBR	14	26	2.7	12.20	В	0.0	4.7		
WBL	42	38	0.6	29.04	С	1.4	17.2		
WBT	91	111	2.0	30.18	С	5.1	39.1		
WBR	39	17	4.2	18.90	В	0.0	0.0		
NBL	8	33	5.5	15.71	В	0.4	12.8		
NBT	169	166	0.2	9.97	Α	2.4	38.4		
NBR	31	29	0.4	7.92	Α	5.6	54.6		
SBL	89	80	1.0	12.83	В	1.2	28.1		
SBT	365	359	0.3	11.57	В	6.6	82.6		
SBR	34	32	0.3	9.35	Α	9.0	91.5		
ALL	955	996	1.3	16.48	В	-	-		

TN	AC GEH Summ	ary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
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	0	0			
1	0	0			
1	0	0			
			1	0	0

TI	MC GEH Summ	ary	Total Inte	rsection GEH	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
0	1	0				
0	1	0				
0	0	0				
0	0	0				
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1	0	0				
			1	0	0	

TMC GEH Summary AM GEH			Total Inte	rsection GEH	Summary
			AM GEH		
1-5	5-10	>10	1-5	5-10	>10
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			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TI	MC GEH Summ	ary	Total Inte	ersection GEH	Summary		
	AM GEH			AM GEH			
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
			1	0	0		

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2021 - Do Nothing - PM

	Elora Drive West - Rathburn Road Signalized Intersection								
	PM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	37	37	0.0	24.20	С	0.7	13.8		
EBT	622	627	0.2	15.64	В	8.5	51.1		
EBR	110	115	0.5	2.81	Α	8.5	51.1		
WBL	96	86	1.0	22.54	С	2.2	27.0		
WBT	1191	954	7.2	11.44	В	9.5	62.7		
WBR	20	15	1.2	3.54	Α	9.5	62.7		
NBL	100	92	0.8	11.71	В	1.3	24.4		
NBT	23	22	0.2	10.80	В	0.3	19.4		
NBR	50	53	0.4	4.27	Α	0.2	21.4		
SBL	14	15	0.3	11.04	В	0.2	8.7		
SBT	13	12	0.3	14.76	В	0.2	11.2		
SBR	34	35	0.2	4.70	Α	0.1	11.8		
ALL	2310	2063	5.3	12.59	В	-	-		

Elora Drive East - Rathburn Road Signalized Intersection									
Movement		PM							
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	5	5	0.0	35.61	D	0.1	9.9		
EBT	651	647	0.2	23.29	С	12.9	79.7		
EBR	31	28	0.6	19.93	В	13.0	80.3		
WBL	54	44	1.4	17.14	В	0.6	26.5		
WBT	1285	1035	7.3	14.73	В	17.6	85.2		
WBR	65	52	1.7	13.69	В	17.0	84.6		
NBL	19	20	0.2	18.12	В	0.4	13.3		
NBT	5	0	3.2	0.00	Α	0.4	13.3		
NBR	8	7	0.4	4.61	Α	0.4	13.8		
SBL	24	23	0.2	12.73	В	0.4	12.3		
SBT	1	1	0.0	9.97	Α	0.4	12.3		
SBR	3	2	0.6	7.04	Α	0.1	11.9		
ALL	2151	1864	6.4	17.83	В	-	-		

		PM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	102	106	0.4	40.11	D	4.8	41.1			
EBT	465	461	0.2	30.98	С	17.4	98.2			
EBR	136	135	0.1	27.40	С	16.9	97.9			
WBL	132	140	0.7	45.32	D	5.4	62.5			
WBT	916	756	5.5	58.46	E	82.6	187.0			
WBR	402	327	3.9	63.01	E	82.2	186.7			
NBL	353	259	5.4	108.84	F	71.0	148.3			
NBT	1568	1154	11.2	48.82	D	91.4	148.6			
NBR	123	107	1.5	49.87	D	91.8	149.2			
SBL	418	335	4.3	134.54	F	267.0	507.7			
SBT	1283	1124	4.6	65.54	E	324.3	507.7			
SBR	209	184	1.8	60.44	E	324.2	507.6			
ALL	6107	5088	13.6	61.54	E	-	-			

Confederation Parkway - Square One Drive Signalized Intersection										
		PM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	104	102	0.2	87.72	F	10.2	52.3			
EBT	5	4	0.5	45.46	D	0.4	12.0			
EBR	22	17	1.1	8.93	Α	1.3	25.0			
WBL	5	4	0.5	78.33	E	0.0	0.0			
WBT	5	3	1.0	153.34	F	24.3	57.2			
WBR	61	85	2.8	164.19	F	34.1	69.2			
NBL	5	4	0.5	81.18	F	0.0	1.3			
NBT	1880	1357	13.0	73.02	E	194.4	264.6			
NBR	30	22	1.6	56.73	E	204.2	274.9			
SBL	5	5	0.0	31.81	С	0.0	2.6			
SBT	1365	1213	4.2	9.23	Α	14.3	147.0			
SBR	186	176	0.7	7.42	Α	16.2	154.8			
ALL	3673	2992	11.8	45.90	D	-	-			

TI	TMC GEH Summary PM GEH			rsection GEH	Summary
				PM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	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

TI	TMC GEH Summary PM GEH			rsection GEH	Summary
				PM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	0	0			
1	0	0			
			0	1	0

TI	TMC GEH Summary PM GEH			ersection GEH	Summary
				PM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
0	1	0			
0	0	1			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			0	0	1

TN	TMC GEH Summary			ersection GEH	Summary		
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	>10			
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	0	1					
1	0	0					
0	0	0					
1	0	0					
1	0	0					
			0	0	1		

	Liv	ing Arts Drive -	Rathburn Ro	ad Signalize	d Intersection	1			
Movement	PM								
iviovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL	26	20	1.3	62.35	E	1.2	16.3		
EBT	886	771	4.0	33.68	С	28.1	150.0		
EBR	95	101	0.6	30.70	С	27.8	149.9		
WBL	173	113	5.0	34.41	С	12.7	106.1		
WBT	1197	1100	2.9	64.07	E	112.3	213.2		
WBR	15	14	0.3	57.82	E	111.8	212.7		
NBL	222	92	10.4	47.40	D	5.7	52.9		
NBT	9	7	0.7	34.70	С	11.8	70.0		
NBR	202	169	2.4	11.79	В	11.0	69.7		
SBL	27	30	0.6	40.19	D	2.6	25.2		
SBT	15	18	0.7	41.82	D	2.6	25.2		
SBR	31	34	0.5	24.93	С	1.4	24.5		
ALL	2898	2469	8.3	46.53	D	-	-		

	Livir	g Arts Drive - S	quare One D	rive Signaliz	ed Intersection	n			
	PM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL	38	26	2.1	28.24	С	0.8	14.2		
EBT	17	17	0.0	24.90	С	0.6	13.7		
EBR	36	19	3.2	4.73	Α	0.5	13.2		
WBL	21	59	6.0	24.32	С	2.0	38.6		
WBT	120	112	0.7	25.08	С	4.3	46.5		
WBR	62	32	4.4	11.37	В	3.3	45.8		
NBL	33	29	0.7	1.04	Α	0.0	7.0		
NBT	194	199	0.4	9.32	Α	2.4	40.4		
NBR	32	26	1.1	4.19	Α	0.7	54.1		
SBL	66	50	2.1	10.65	В	0.5	15.8		
SBT	234	194	2.7	7.86	Α	2.3	38.1		
SBR	32	45	2.1	3.92	Α	1.9	37.8		
ALL	885	808	2.6	12.48	В	-	-		

	PM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL	138	117	1.9	43.13	D	6.9	66.1		
EBT	895	732	5.7	37.79	D	30.0	185.6		
EBR	82	117	3.5	19.94	В	30.0	185.6		
WBL	199	206	0.5	39.74	D	9.7	104.1		
WBT	1121	1049	2.2	72.87	E	101.2	177.8		
WBR	86	86	0.0	53.10	D	100.9	177.4		
NBL	187	125	5.0	119.53	F	28.3	136.8		
NBT	472	521	2.2	47.88	D	34.8	153.6		
NBR	134	143	0.8	43.19	D	34.6	153.3		
SBL	102	106	0.4	77.36	E	11.8	117.0		
SBT	461	436	1.2	83.36	F	54.7	156.3		
SBR	78	92	1.5	85.74	F	54.5	156.1		
ALL	3955	3730	3.6	59.71	E	-	-		

	Duke of	York Boulevar	d - Square Or	ne Drive Sign	alized Interse	ction	
				PM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	8	4	1.6	36.78	D	3.4	28.5
EBT	75	72	0.3	31.46	С	3.4	28.5
EBR	32	16	3.3	13.89	В	8.7	42.4
WBL	57	48	1.2	32.24	С	2.0	18.7
WBT	90	60	3.5	41.94	D	10.7	86.7
WBR	172	195	1.7	36.93	D	12.8	101.7
NBL	62	57	0.6	22.94	С	0.7	18.2
NBT	615	617	0.1	27.46	С	43.7	283.8
NBR	70	77	0.8	21.23	С	46.3	291.0
SBL	226	187	2.7	32.33	С	6.8	75.5
SBT	466	484	0.8	14.38	В	12.4	147.3
SBR	50	88	4.6	12.96	В	15.3	156.3
ALL	1923	1905	0.4	25.16	С	-	-

TN	MC GEH Summ	ary	Total Inte	rsection GEH	Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
0	0	1			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			0	1	0

TI	MC GEH Summ	ary	Total Inte	rsection GEH	Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
0	0	0			
1	0	0			
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1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TN	ИС GEH Summ	ary	Total Inte	rsection GEH	Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
0	1	0			
1	0	0			
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1	0	0			
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1	0	0			
1	0	0			
1	0	0			
			1	0	0

Т	MC GEH Summ	ary	Total Int	ersection GEH	Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
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			1	0	0

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2031 - Do Nothing - AM

	Elo	ra Drive West -	Rathburn Ro	ad Signalize	ed Intersection	1	
Movement				AM			
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	28	28	0.0	11.68	В	0.3	12.7
EBT	902	915	0.4	10.35	В	8.4	73.1
EBR	104	103	0.1	4.70	Α	8.4	73.1
WBL	125	117	0.7	24.46	С	3.3	42.9
WBT	652	553	4.0	8.34	Α	4.6	50.8
WBR	9	8	0.3	3.16	Α	4.6	50.8
NBL	99	88	1.1	44.64	D	5.8	39.7
NBT	21	21	0.0	44.00	D	2.3	35.6
NBR	57	60	0.4	13.97	В	2.3	37.6
SBL	21	22	0.2	38.21	D	1.2	16.2
SBT	59	59	0.0	42.77	D	5.9	49.5
SBR	84	83	0.1	18.04	В	5.4	50.1
ALL	2161	2057	2.3	13.77	В	-	-

	Eld	ora Drive East -	Rathburn Ro	ad Signalize	d Intersection		
Movement				AM			
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	2	2	0.0	4.83	Α	0.0	0.0
EBT	952	962	0.3	3.96	Α	2.1	65.3
EBR	26	26	0.0	2.88	Α	1.5	65.9
WBL	19	17	0.5	18.35	В	0.2	16.2
WBT	712	612	3.9	8.54	Α	5.1	59.8
WBR	25	21	0.8	6.12	Α	4.6	59.1
NBL	67	63	0.5	45.47	D	4.0	33.8
NBT	5	0	3.2	0.00	Α	4.0	33.8
NBR	31	33	0.4	9.99	Α	4.2	34.3
SBL	66	63	0.4	40.74	D	3.8	31.8
SBT	5	0	3.2	0.00	Α	3.8	31.8
SBR	6	5	0.4	11.59	В	2.9	31.4
ALL	1916	1804	2.6	8.53	Α	-	-

	Conte	deration Parkw	ay - Katnburr	i Koad Signa	ilizea intersec	tion			
Movement	AM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL	151	145	0.5	41.73	D	7.9	90.6		
EBT	842	854	0.4	35.84	D	38.2	113.7		
EBR	151	154	0.2	31.28	С	37.7	113.4		
WBL	120	132	1.1	115.27	F	23.2	105.3		
WBT	285	268	1.0	34.63	С	20.2	112.3		
WBR	245	276	1.9	31.76	С	19.7	112.0		
NBL	385	304	4.4	50.50	D	40.5	144.4		
NBT	1251	1033	6.5	57.45	E	90.6	145.4		
NBR	151	177	2.0	56.94	E	91.1	146.0		
SBL	586	426	7.1	119.32	F	394.7	510.2		
SBT	1307	1046	7.6	53.22	D	393.1	510.2		
SBR	80	68	1.4	43.57	D	393.0	510.2		
ALL	5554	4883	9.3	55.08	E	-	-		

	Confede	ration Parkwa	y - Square Or	ne Drive Sign	alized Interse	ction	
				AM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	102	107	0.5	23.49	С	2.5	41.9
EBT	5	5	0.0	1.44	Α	0.0	4.4
EBR	37	27	1.8	8.75	Α	0.5	22.6
WBL	5	5	0.0	120.91	F	23.5	56.7
WBT	5	5	0.0	96.82	F	16.1	45.3
WBR	100	127	2.5	115.15	F	31.4	66.8
NBL	5	5	0.0	53.18	D	0.1	6.1
NBT	1585	1296	7.6	76.96	E	211.0	264.8
NBR	35	44	1.4	62.43	E	219.5	273.7
SBL	5	5	0.0	52.32	D	0.0	5.0
SBT	1500	1263	6.4	10.52	В	18.5	155.4
SBR	78	65	1.5	10.69	В	18.5	155.4
ALL	3462	2954	9.0	45.86	D	-	-

TN	IC GEH Summ	ary	Total Inte	rsection GEH	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
0	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	0	0				
1	0	0				
1	0	0				
0	0	0				
1	0	0				
			1	0	0	

TI	MC GEH Summ	ary	Total Inte	ersection GEH	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
0	0	0				
1	0	0				
0	0	0				
1	0	0				
1	0	0				
1	0	0				
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1	0	0				
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1	0	0				
1	0	0				
			1	0	0	

TI	MC GEH Summ	ary	Total Into	ersection GEH	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
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0	1	0				
1	0	0				
0	1	0				
0	1	0				
1	0	0				
			0	1	0	

TM	1C GEH Summ	ary	Total Inte	rsection GEH	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
0	0	0				
1	0	0				
0	0	0				
0	0	0				
1	0	0				
0	0	0				
0	1	0				
1	0	0				
0	0	0				
0	1	0				
1	0	0				
			0	1	0	

	Liv	ing Arts Drive -	Rathburn Ro	oad Signalize	d Intersection	n	
				AM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	21	12	2.2	27.40	С	0.3	8.9
EBT	1296	1135	4.6	28.81	С	59.4	189.8
EBR	261	286	1.5	36.19	D	59.3	189.7
WBL	190	140	3.9	21.25	С	3.6	49.9
WBT	553	615	2.6	16.09	В	9.9	76.7
WBR	14	19	1.2	16.31	В	9.3	76.2
NBL	83	59	2.8	54.63	D	4.9	36.9
NBT	10	10	0.0	63.71	E	4.0	34.4
NBR	157	137	1.6	9.26	Α	2.6	34.1
SBL	2	2	0.0	48.28	D	0.2	6.4
SBT	5	1	2.3	38.70	D	0.2	6.4
SBR	14	14	0.0	5.46	Α	0.0	5.9
ALL	2606	2430	3.5	25.47	С	-	-

	Livin	g Arts Drive - S	quare One D	rive Signaliz	ed Intersection	n	
Movement				AM			
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	95	35	7.4	28.61	С	1.3	16.2
EBT	26	74	6.8	25.50	С	3.1	32.9
EBR	35	34	0.2	9.69	Α	2.8	32.4
WBL	45	43	0.3	27.30	С	1.4	22.6
WBT	19	29	2.0	27.57	С	2.0	35.1
WBR	77	111	3.5	10.37	В	1.5	34.4
NBL	11	9	0.6	0.74	Α	0.0	2.3
NBT	222	217	0.3	9.78	Α	2.6	38.0
NBR	31	35	0.7	4.37	Α	2.1	37.6
SBL	41	37	0.6	12.61	В	0.4	16.2
SBT	182	179	0.2	8.54	Α	2.2	39.4
SBR	14	4	3.3	4.64	Α	1.6	39.0
ALL	798	807	0.3	13.18	В	-	-

700 Duke of York Boulevard - Rathburn Road Signalized Intersection							
Movement				AM			
iviovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C
EBL	155	107	4.2	34.89	С	4.9	39.2
EBT	1176	1075	3.0	33.93	С	39.8	183.2
EBR	125	80	4.4	18.31	В	39.8	183.2
WBL	135	145	0.8	29.69	С	5.7	46.3
WBT	580	594	0.6	21.27	С	12.1	79.0
WBR	43	42	0.2	17.35	В	10.9	77.1
NBL	67	71	0.5	26.10	С	2.4	28.1
NBT	128	172	3.6	32.21	С	6.4	42.8
NBR	83	34	6.4	16.28	В	6.3	42.5
SBL	79	80	0.1	25.98	С	2.8	26.6
SBT	292	308	0.9	37.89	D	16.4	86.8
SBR	110	109	0.1	9.16	Α	16.3	86.6
ALL	2973	2817	2.9	29.12	С	-	-

	Duke of	York Boulevar	d - Square On	e Drive Sign	alized Interse	ction					
Movement				AM							
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	41	70	3.9	35.00	D	4.0	34.8				
EBT	41	44	0.5	27.88	С	4.0	34.8				
EBR	16	29	2.7	10.33	В	0.1	10.9				
WBL	47	44	0.4	29.72	С	1.6	18.4				
WBT	94	114	2.0	32.02	С	5.8	45.5				
WBR	45	20	4.4	20.08	С	0.2	21.0				
NBL	9	37	5.8	16.68	В	0.5	14.4				
NBT	192	185	0.5	11.35	В	3.1	50.8				
NBR	35	34	0.2	7.61	Α	6.7	66.9				
SBL	100	88	1.2	13.95	В	1.3	23.1				
SBT	414	411	0.1	12.32	В	7.7	105.5				
SBR	38	33	0.8	7.98	Α	10.5	114.4				
ALL	1072	1109	1.1	17.01	В	-	-				

IT	MC GEH Summ	ary	Total Inte	rsection GEH	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
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0	0	0				
			1	0	0	

TI	MC GEH Summ	ary	Total Inte	rsection GEH	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
0	1	0				
0	1	0				
1	0	0				
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1	0	0				
			1	0	0	

TI	MC GEH Summ	ary	Total Inte	rsection GEH	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
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0	1	0				
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1	0	0				
1	0	0				
			1	0	0	

TI	MC GEH Summa	ary	Total Inte	Total Intersection GEH Summary				
	AM GEH		AM GEH					
1-5	5-10	>10	1-5	5-10	>10			
1	0	0						
1	0	0						
1	0	0						
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0	1	0						
1	0	0						
1	0	0						
1	0	0						
1	0	0						
1	0	0						

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2031 - Do Nothing - PM

	Eloi	ra Drive West -	Rathburn Ro	ad Signalize	d Intersection	1	
Movement				PM			
iviovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	42	40	0.3	23.70	С	0.6	13.6
EBT	689	691	0.1	13.27	В	7.9	49.8
EBR	125	126	0.1	3.05	Α	7.9	49.8
WBL	109	83	2.7	25.87	С	2.5	34.9
WBT	1328	951	11.2	13.50	В	11.5	103.8
WBR	22	15	1.6	2.28	Α	11.5	103.8
NBL	113	106	0.7	16.59	В	2.3	33.9
NBT	26	26	0.0	14.57	В	0.6	17.1
NBR	57	56	0.1	5.57	Α	0.5	19.1
SBL	16	17	0.2	19.14	В	0.4	11.4
SBT	15	14	0.3	18.00	В	0.4	12.5
SBR	38	38	0.0	5.56	Α	0.2	13.1
ALL	2580	2163	8.6	13.30	В	-	-

	Elc	ra Drive East -	Rathburn Roa	ad Signalize	d Intersectior	1	
Movement				PM			
iviovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	6	5	0.4	15.14	В	0.0	3.9
EBT	721	728	0.3	14.21	В	8.6	74.8
EBR	35	30	0.9	10.22	В	8.2	75.4
WBL	61	45	2.2	17.16	В	0.6	26.4
WBT	1435	1034	11.4	11.40	В	13.0	86.0
WBR	73	50	2.9	10.51	В	12.3	85.3
NBL	21	24	0.6	19.73	В	0.5	11.4
NBT	5	0	3.2	0.00	Α	0.5	11.4
NBR	9	8	0.3	4.33	Α	0.5	11.9
SBL	27	27	0.0	13.52	В	0.5	13.7
SBT	1	1	0.0	8.45	Α	0.5	13.7
SBR	4	2	1.2	7.20	Α	0.2	13.3
ALL	2398	1954	9.5	12.65	В	-	-

• • • • • • • • • • • • • • • • • • • •				PM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	115	115	0.0	41.70	D	5.7	70.5
EBT	520	524	0.2	29.71	С	18.1	90.4
EBR	144	151	0.6	24.06	С	17.6	90.1
WBL	147	136	0.9	53.45	D	6.5	94.5
WBT	1024	766	8.6	60.83	E	97.2	189.2
WBR	453	331	6.2	59.61	E	96.8	188.9
NBL	392	260	7.3	105.71	F	67.9	149.9
NBT	1754	1173	15.2	47.97	D	91.9	150.7
NBR	138	106	2.9	46.11	D	92.4	151.3
SBL	473	318	7.8	175.78	F	388.9	507.9
SBT	1425	1089	9.5	60.72	E	403.8	509.0
SBR	236	172	4.5	56.41	E	403.8	508.9
ALL	6821	5141	21.7	61.85	E	-	-

	Confede	ration Parkwa	y - Square Or	e Drive Sign	alized Interse	ction	
				PM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	104	102	0.2	96.30	F	11.5	56.7
EBT	5	4	0.5	35.68	D	0.3	10.8
EBR	25	19	1.3	8.50	Α	1.0	23.9
WBL	5	3	1.0	134.55	F	0.0	0.0
WBT	5	3	1.0	95.06	F	25.4	58.8
WBR	69	91	2.5	153.32	F	35.2	70.8
NBL	5	3	1.0	57.62	E	0.0	2.5
NBT	2110	1367	17.8	74.54	E	204.1	263.8
NBR	33	21	2.3	54.39	D	214.1	274.2
SBL	5	4	0.5	34.87	С	0.0	2.6
SBT	1527	1202	8.8	8.98	Α	13.1	146.7
SBR	189	164	1.9	7.52	Α	15.0	154.5
ALL	4082	2983	18.5	46.98	D	-	-

TI	MC GEH Summ	ary	Total Inte	rsection GEH	Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	0	1			
1	0	0			
1	0	0			
0	0	0			
1	0	0			
1	0	0			
1	0	0			
0	0	0			
			0	1	0

TI	MC GEH Summ	ary	Total Inte	rsection GEH	Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	0	1			
1	0	0			
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1	0	0			
1	0	0			
0	0	0			
0	0	0			
1	0	0			
			0	1	0

TI	MC GEH Summ	ary	Total Into	ersection GEH	Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
0	1	0			
0	1	0			
0	0	1			
1	0	0			
0	1	0			
0	1	0			
1	0	0			
			0	0	1

TI	MC GEH Summ	ary	Total Into	ersection GEH	Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
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1	0	0			
0	0	1			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
			0	0	1

	LIV	ing Arts Drive -	Kathburn Ko	ad Signalize	a intersectio	n					
Movement		PM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	30	23	1.4	87.22	F	2.1	20.3				
EBT	1000	802	6.6	47.59	D	43.5	151.2				
EBR	101	97	0.4	48.96	D	43.3	151.1				
WBL	193	109	6.8	36.34	D	2.5	33.4				
WBT	1353	1092	7.5	75.07	E	127.8	208.4				
WBR	17	14	0.8	67.56	E	127.2	207.8				
NBL	237	102	10.4	108.57	F	20.0	75.9				
NBT	10	7	1.0	56.70	E	14.1	69.3				
NBR	220	179	2.9	11.87	В	13.3	69.0				
SBL	31	33	0.4	62.79	E	4.5	31.7				
SBT	17	20	0.7	64.11	E	4.5	31.7				
SBR	35	37	0.3	41.95	D	3.1	31.0				
ALL	3244	2515	13.6	59.76	E	-	-				

	Livir	ng Arts Drive - S	quare One D	rive Signaliz	ed Intersection	n	
Movement				PM			
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	42	27	2.6	30.74	С	0.9	16.1
EBT	20	17	0.7	22.88	С	0.6	13.7
EBR	41	19	4.0	5.17	Α	0.5	13.2
WBL	24	61	5.7	25.85	С	2.1	25.9
WBT	136	117	1.7	23.65	С	4.3	52.1
WBR	66	32	4.9	14.09	В	3.5	51.4
NBL	37	33	0.7	1.42	Α	0.0	8.4
NBT	217	222	0.3	10.57	В	2.9	41.3
NBR	36	31	0.9	6.13	Α	1.4	52.9
SBL	69	46	3.0	12.90	В	0.6	18.9
SBT	258	191	4.5	5.46	Α	1.4	29.1
SBR	36	44	1.3	3.53	Α	1.0	28.7
ALL	982	840	4.7	12.48	В	-	-

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Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C
EBL	156	125	2.6	255.95	F	63.8	180.4
EBT	1002	771	7.8	38.52	D	46.8	167.1
EBR	93	124	3.0	23.99	С	46.8	167.1
WBL	225	198	1.9	47.34	D	11.2	110.0
WBT	1264	1031	6.9	88.35	F	125.4	186.2
WBR	98	84	1.5	67.03	E	123.6	184.2
NBL	212	136	5.8	181.86	F	48.3	160.7
NBT	535	524	0.5	53.19	D	45.4	160.3
NBR	152	141	0.9	44.08	D	45.1	159.9
SBL	115	101	1.3	141.59	F	45.4	166.6
SBT	522	435	4.0	158.94	F	132.7	167.1
SBR	88	93	0.5	172.56	F	132.5	166.8
ALL	4462	3763	10.9	87.45	F	-	-

	Duke of	York Boulevar	d - Square On	e Drive Sign	alized Interse	ction	
Movement				PM			
iviovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	9	5	1.5	34.05	С	3.3	35.0
EBT	80	74	0.7	28.91	С	3.3	35.0
EBR	36	15	4.2	17.42	В	8.0	49.0
WBL	64	55	1.2	32.32	С	2.2	27.1
WBT	98	66	3.5	44.55	D	16.5	95.7
WBR	197	219	1.5	53.77	D	21.4	117.8
NBL	71	57	1.8	46.29	D	1.5	19.3
NBT	693	608	3.3	65.02	E	169.9	308.4
NBR	79	75	0.5	49.18	D	178.7	322.9
SBL	256	186	4.7	85.44	F	24.9	133.2
SBT	527	479	2.1	25.46	С	25.8	160.5
SBR	57	86	3.4	21.47	С	30.4	169.5
ALL	2167	1925	5.4	49.28	D	-	-

Т	MC GEH Summ	ary	Total Inte	rsection GEH	Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
0	1	0			
1	0	0			
0	1	0			
0	1	0			
1	0	0			
0	0	1			
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1	0	0			
1	0	0			
			0	0	1

TI	MC GEH Summ	ary	Total Inte	ersection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
0	1	0				
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			1	0	0	

TI	MC GEH Summ	ary	Total Inte	ersection GEH	Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
0	1	0			
1	0	0			
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1	0	0			
1	0	0			
			0	0	1

Т	MC GEH Summ	ary	Total Int	ersection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
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1	0	0				
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1	0	0				
1	0	0				
			0	1	0	

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2041 - Do Nothing - AM

	Elor	a Drive West -	Rathburn Ro	ad Signaliz	ed Intersection	n	
				AM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	33	34	0.2	14.69	В	0.4	13.5
EBT	1027	1034	0.2	9.99	Α	9.2	81.4
EBR	121	124	0.3	5.07	Α	9.2	81.4
WBL	145	126	1.6	31.17	С	5.0	49.0
WBT	743	585	6.1	8.10	Α	4.5	52.9
WBR	10	8	0.7	1.95	Α	4.5	52.9
NBL	115	103	1.1	43.24	D	6.5	45.7
NBT	24	25	0.2	37.06	D	2.2	32.9
NBR	66	65	0.1	12.07	В	2.2	34.9
SBL	24	25	0.2	33.23	С	1.1	17.4
SBT	69	69	0.0	39.05	D	6.2	53.7
SBR	98	92	0.6	17.91	В	5.6	54.3
ALL	2475	2290	3.8	13.75	В	-	-

	Elo	ra Drive East -	Rathburn Ro	ad Signalize	ed Intersection	n	
				AM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	3	1	1.4	4.30	Α	0.0	0.0
EBT	1085	1084	0.0	5.23	Α	2.8	76.2
EBR	30	32	0.4	3.31	Α	2.3	76.8
WBL	22	19	0.7	21.78	С	0.2	12.6
WBT	813	645	6.2	8.51	Α	5.3	60.2
WBR	29	22	1.4	5.42	Α	4.9	59.5
NBL	78	67	1.3	48.58	D	4.7	42.4
NBT	5	0	3.2	0.00	Α	4.7	42.4
NBR	36	39	0.5	10.42	В	5.0	42.9
SBL	76	73	0.3	45.23	D	4.9	37.2
SBT	5	0	3.2	0.00	Α	4.9	37.2
SBR	7	6	0.4	24.96	С	4.0	36.8
ALL	2189	1988	4.4	9.51	Α	-	-

	Connec	eration Parkwa	ay - Nathbull		anzeu iliterse	LUUII	
Movement				AM			
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C
EBL	175	170	0.4	41.32	D	9.3	107.7
EBT	961	976	0.5	38.49	D	46.8	115.6
EBR	171	165	0.5	34.29	С	46.4	115.3
WBL	138	128	0.9	339.84	F	96.7	183.8
WBT	327	300	1.5	39.32	D	83.5	183.0
WBR	284	310	1.5	36.98	D	82.9	182.7
NBL	438	313	6.5	50.21	D	41.2	142.4
NBT	1425	1034	11.2	57.85	E	91.3	145.9
NBR	172	182	0.8	59.50	E	91.8	146.5
SBL	678	377	13.1	144.34	F	424.4	510.4
SBT	1504	959	15.5	53.43	D	429.7	510.4
SBR	93	62	3.5	47.75	D	429.7	510.3
ALL	6366	4976	18.5	62.70	E	-	-

				AM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C			
EBL	102	109	0.7	24.22	С	2.6	37.8			
EBT	5	5	0.0	0.89	Α	0.0	3.0			
EBR	43	30	2.2	7.35	Α	0.5	20.6			
WBL	5	5	0.0	92.31	F	27.0	57.8			
WBT	5	5	0.0	85.94	F	18.7	46.4			
WBR	116	146	2.6	115.13	F	35.4	67.9			
NBL	5	4	0.5	43.75	D	0.1	5.0			
NBT	1817	1288	13.4	77.78	E	207.7	264.8			
NBR	38	45	1.1	61.14	E	216.2	273.6			
SBL	5	3	1.0	32.02	С	0.0	1.3			
SBT	1732	1192	14.1	10.93	В	20.5	153.1			
SBR	80	56	2.9	10.88	В	20.5	153.1			
ALL	3953	2888	18.2	47.58	D	-	-			

TN	IC GEH Summ	ary	Total Inte	ersection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
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1	0	0			
			1	0	0

TI	MC GEH Summ	ary	Total Inte	ersection GEH	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
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1	0	0				
			1	0	0	

Т	MC GEH Summ	ary	Total Inte	ersection GEH	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	>10		
1	0	0				
1	0	0				
1	0	0				
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1	0	0				
			0	0	1	

Т	MC GEH Summ	ary	Total Inte	ersection GEH S	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
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	Living Arts Drive - Rathburn Road Signalized Intersection								
	AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	24	13	2.6	25.06	С	0.3	9.8		
EBT	1501	1215	7.8	32.37	С	80.2	191.9		
EBR	285	285	0.0	38.46	D	80.1	191.8		
WBL	214	154	4.4	25.14	С	4.5	52.2		
WBT	641	689	1.9	30.74	С	19.2	127.1		
WBR	16	21	1.2	18.33	В	18.7	126.6		
NBL	92	64	3.2	60.39	E	5.2	38.5		
NBT	11	9	0.6	60.42	E	4.1	30.5		
NBR	180	157	1.8	12.10	В	2.9	30.3		
SBL	3	2	0.6	65.22	E	0.5	13.4		
SBT	5	2	1.6	56.04	E	0.5	13.4		
SBR	16	17	0.2	13.10	В	0.2	12.8		
ALL	2988	2628	6.8	31.52	С	-	-		

	Livin	g Arts Drive - S	quare One D	rive Signali	zed Intersecti	on				
		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	109	34	8.9	27.98	С	1.2	18.3			
EBT	30	81	6.8	27.51	С	3.9	38.5			
EBR	40	37	0.5	11.42	В	3.5	38.0			
WBL	52	54	0.3	27.79	С	1.8	25.3			
WBT	22	30	1.6	24.04	С	1.8	36.1			
WBR	79	115	3.7	9.43	Α	1.4	35.4			
NBL	13	11	0.6	0.66	Α	0.0	1.2			
NBT	251	244	0.4	10.26	В	3.4	43.4			
NBR	36	42	1.0	6.95	Α	2.8	43.1			
SBL	46	37	1.4	13.42	В	0.4	14.6			
SBT	209	200	0.6	8.37	Α	2.4	38.5			
SBR	16	4	3.8	6.51	Α	2.0	38.1			
ALL	903	889	0.5	13.39	В	-	-			

	Duke o	f York Bouleva	rd - Rathburi	n Road Sign	alized Interse	ction			
	AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	180	125	4.5	37.34	D	6.3	49.7		
EBT	1359	1153	5.8	31.04	С	42.1	190.3		
EBR	145	88	5.3	16.82	В	42.1	190.3		
WBL	157	170	1.0	32.16	С	6.3	55.5		
WBT	665	676	0.4	19.35	В	12.3	86.6		
WBR	50	49	0.1	15.20	В	12.2	86.3		
NBL	78	85	0.8	30.20	С	3.5	31.4		
NBT	148	198	3.8	35.33	D	7.9	42.0		
NBR	96	36	7.4	18.72	В	7.7	41.6		
SBL	92	94	0.2	31.97	С	4.0	53.9		
SBT	339	359	1.1	46.11	D	23.4	88.5		
SBR	128	127	0.1	15.00	В	23.2	88.3		
ALL	3437	3160	4.8	29.41	С	-	-		

	Duke of	York Boulevar	d - Square O	ne Drive Sigr	nalized Inters	ection				
		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	47	77	3.8	33.26	С	4.4	32.0			
EBT	46	47	0.1	29.34	С	4.4	32.0			
EBR	19	28	1.9	10.25	В	0.1	8.7			
WBL	55	53	0.3	29.72	С	2.0	24.6			
WBT	97	118	2.0	30.31	С	5.7	40.7			
WBR	52	27	4.0	17.56	В	0.2	16.0			
NBL	10	40	6.0	18.80	В	0.7	18.1			
NBT	223	212	0.7	12.00	В	3.9	61.1			
NBR	40	40	0.0	8.09	Α	7.5	76.5			
SBL	116	101	1.4	13.66	В	1.4	26.5			
SBT	480	471	0.4	12.41	В	9.3	125.6			
SBR	45	42	0.5	10.39	В	12.0	134.5			
ALL	1230	1256	0.7	16.83	В	-	-			

TN	/IC GEH Summ	ary	Total Inte	ersection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
0	1	0			
0	0	0			
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1	0	0			
			0	1	0

TT	MC GEH Summ	ary	Total Inte	ersection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	1	0			
0	1	0			
1	0	0			
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			1	0	0

TI	MC GEH Summ	ary	Total Into	ersection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
0	1	0			
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			1	0	0

Т	MC GEH Summ	ary	Total Inte	ersection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
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0	1	0			
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1	0	0			
1	0	0			
1	0	0			
			1	0	0

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2041 - Do Nothing - PM

	Eloi	ra Drive West -	Rathburn Ro	ad Signaliz	ed Intersection	n			
	PM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	49	47	0.3	23.56	С	0.9	19.5		
EBT	780	788	0.3	13.32	В	9.1	57.7		
EBR	145	146	0.1	3.03	Α	9.1	57.7		
WBL	126	86	3.9	25.65	С	2.4	28.8		
WBT	1517	963	15.7	14.14	В	11.8	93.2		
WBR	26	16	2.2	3.50	Α	11.8	93.2		
NBL	131	128	0.3	18.13	В	3.1	41.3		
NBT	30	31	0.2	15.78	В	0.8	24.5		
NBR	66	63	0.4	6.04	Α	0.7	26.5		
SBL	19	19	0.0	16.98	В	0.4	10.1		
SBT	17	16	0.2	18.88	В	0.5	16.2		
SBR	45	45	0.0	6.65	Α	0.3	16.7		
ALL	2951	2348	11.7	13.65	В	-	-		

	Elo	ra Drive East -	Rathburn Ro	ad Signalize	ed Intersectio	n				
		PM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	7	6	0.4	15.94	В	0.1	7.5			
EBT	818	816	0.1	10.48	В	7.2	81.1			
EBR	40	40	0.0	8.28	Α	6.9	81.7			
WBL	70	48	2.9	15.08	В	0.5	27.9			
WBT	1640	1051	16.1	9.17	Α	10.4	84.0			
WBR	85	53	3.9	7.76	Α	9.9	83.4			
NBL	24	26	0.4	23.27	С	0.7	14.7			
NBT	5	0	3.2	0.00	Α	0.7	14.7			
NBR	10	9	0.3	6.82	Α	0.8	15.2			
SBL	32	32	0.0	21.61	С	0.9	13.4			
SBT	1	1	0.0	20.15	С	0.9	13.4			
SBR	4	2	1.2	6.98	Α	0.4	13.0			
ALL	2736	2084	13.3	10.15	В	-	-			

	Confed	eration Parkwa	ay - Rathburi	n Road Sign	alized Interse	ction	
				PM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	134	130	0.3	45.83	D	7.5	75.5
EBT	597	598	0.0	31.97	С	23.1	110.4
EBR	155	165	0.8	29.18	С	22.6	110.1
WBL	167	136	2.5	56.55	E	9.9	183.0
WBT	1174	787	12.4	58.50	E	99.3	188.8
WBR	524	337	9.0	60.39	E	98.9	188.5
NBL	445	259	9.9	97.94	F	58.0	149.5
NBT	2008	1162	21.2	49.63	D	91.8	150.7
NBR	157	106	4.4	51.23	D	92.2	151.4
SBL	548	315	11.2	183.44	F	407.1	511.0
SBT	1619	1073	14.9	61.60	E	428.3	511.0
SBR	274	173	6.8	55.93	E	428.3	510.8
ALL	7802	5241	31.7	62.20	E	-	-

	Confede	ration Parkwa	y - Square Oi	ne Drive Sigi	nalized Inters	ection				
Movement		PM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	104	102	0.2	94.32	F	11.1	54.0			
EBT	5	4	0.5	42.93	D	0.3	11.2			
EBR	29	23	1.2	8.52	Α	1.2	24.2			
WBL	5	3	1.0	72.15	E	0.0	0.0			
WBT	5	3	1.0	154.27	F	29.5	58.0			
WBR	80	98	1.9	156.64	F	40.1	70.0			
NBL	5	2	1.6	61.46	E	0.0	1.1			
NBT	2426	1342	25.0	77.15	E	206.9	264.0			
NBR	38	19	3.6	61.79	E	216.9	274.4			
SBL	5	3	1.0	43.31	D	0.0	3.8			
SBT	1749	1209	14.0	9.22	Α	14.4	147.3			
SBR	192	158	2.6	6.95	Α	16.4	155.1			
ALL	4643	2966	27.2	48.29	D	-	-			

TN	AC GEH Summ	ary	Total Inte	ersection GEH	Summary
	PM GEH	-		PM GEH	-
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
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			0	0	1

TI	MC GEH Summ	ary	Total Inte	rsection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
0	0	0				
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			0	0	1	

TN	AC GEH Summ	ary	Total Inte	ersection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
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			0	0	1	

TN	IC GEH Summ	ary	Total Inte	rsection GEH	Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
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			0	0	1

	Livi	ng Arts Drive -	Rathburn Ro	ad Signalize	ed Intersectio	n	
				PM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C
EBL	34	24	1.9	78.88	E	1.9	15.2
EBT	1158	866	9.2	50.23	D	50.7	173.0
EBR	109	101	0.8	48.15	D	50.5	172.9
WBL	221	107	8.9	42.00	D	3.0	38.0
WBT	1567	1101	12.8	77.47	E	136.3	217.2
WBR	20	15	1.2	71.15	E	135.8	216.6
NBL	257	115	10.4	120.26	F	26.6	79.8
NBT	11	8	1.0	60.23	E	17.7	78.7
NBR	244	189	3.7	18.27	В	17.0	78.4
SBL	36	38	0.3	64.80	E	4.7	31.8
SBT	20	22	0.4	61.26	E	4.7	31.8
SBR	40	43	0.5	36.43	D	3.2	31.1
ALL	3717	2629	19.3	62.48	E	-	-

	Livin	g Arts Drive - S	quare One D	rive Signali	zed Intersecti	on				
				PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	48	30	2.9	31.77	С	1.0	15.0			
EBT	30	20	2.0	23.88	С	0.7	17.1			
EBR	40	22	3.2	3.96	Α	0.6	16.6			
WBL	27	61	5.1	24.97	С	2.0	28.7			
WBT	158	118	3.4	24.09	С	4.4	52.2			
WBR	71	32	5.4	18.87	В	3.5	51.5			
NBL	43	41	0.3	1.81	Α	0.0	6.1			
NBT	249	245	0.3	15.50	В	6.4	99.1			
NBR	42	36	1.0	9.71	Α	4.6	112.6			
SBL	74	47	3.5	12.51	В	0.5	16.7			
SBT	291	192	6.4	5.84	Α	1.7	32.5			
SBR	42	45	0.5	3.71	Α	1.2	32.2			
ALL	1115	889	7.1	14.16	В	-	-			

				PM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	181	133	3.8	247.63	F	70.6	182.7
EBT	1150	830	10.2	39.31	D	53.5	191.8
EBR	108	134	2.4	25.14	С	53.5	191.8
WBL	262	199	4.1	55.00	E	14.6	146.8
WBT	1460	1033	12.1	88.85	F	124.3	178.9
WBR	114	82	3.2	60.87	E	123.9	178.5
NBL	246	144	7.3	206.18	F	63.3	161.2
NBT	621	511	4.6	56.27	E	49.6	160.5
NBR	177	134	3.4	49.74	D	49.4	160.1
SBL	134	103	2.8	145.15	F	31.9	148.8
SBT	606	435	7.5	163.13	F	139.1	168.7
SBR	102	91	1.1	183.16	F	138.8	168.5
ALL	5161	3829	19.9	89.93	F	-	-

	Duke of	York Boulevar	d - Square O	ne Drive Sign	alized Inters	ection	Duke of York Boulevard - Square One Drive Signalized Intersection								
				PM											
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q								
EBL	10	6	1.4	40.65	D	3.7	34.6								
EBT	86	80	0.7	30.57	С	3.7	34.6								
EBR	42	15	5.1	14.93	В	8.8	48.6								
WBL	75	64	1.3	47.65	D	2.9	33.1								
WBT	109	69	4.2	93.63	F	52.0	162.5								
WBR	226	242	1.0	106.25	F	61.2	184.7								
NBL	82	54	3.4	58.60	Е	1.6	18.1								
NBT	808	574	8.9	81.69	F	243.2	312.3								
NBR	92	70	2.4	65.44	E	255.1	326.8								
SBL	297	195	6.5	87.60	F	33.1	166.7								
SBT	612	484	5.5	26.43	С	27.8	166.2								
SBR	66	89	2.6	23.43	С	32.3	175.1								
ALL	2505	1942	11.9	64.23	E	-	-								

TN	AC GEH Summ	ary	Total Inte	ersection GEH S	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
0	1	0				
1	0	0				
0	1	0				
0	0	1				
1	0	0				
0	0	1				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			0	0	1	

IT	MC GEH Summ	ary	Total Into	ersection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
			0	1	0	

TN	/IC GEH Summ	ary	Total Inte	rsection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
0	0	1				
1	0	0				
1	0	0				
0	0	1				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
-			0	0	1	

TN	/IC GEH Summ	ary	Total Inte	rsection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
0	1	0				
0	1	0				
1	0	0				
			0	0	1	

## APPENDIX F2 DETAILED TMC RESULTS T-INTERSECTION

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2021 - T Intersection - AM

	Elo	ra Drive West	- Rathburn Ro	ad Signalize	ed Intersection	1				
		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C			
EBL	25	25	0.0	12.58	В	0.3	11.4			
EBT	870	823	1.6	9.07	Α	6.6	68.6			
EBR	92	91	0.1	4.34	Α	6.6	68.6			
WBL	110	112	0.2	25.99	С	3.6	42.9			
WBT	586	565	0.9	9.67	Α	5.0	55.8			
WBR	8	7	0.4	3.96	Α	5.0	55.8			
NBL	87	78	1.0	41.55	D	4.7	41.7			
NBT	19	17	0.5	39.80	D	1.7	27.1			
NBR	50	55	0.7	10.25	В	1.6	29.1			
SBL	19	11	2.1	30.99	С	0.5	9.0			
SBT	52	30	3.4	40.55	D	2.3	25.2			
SBR	74	44	3.9	12.53	В	1.7	25.7			
ALL	1992	1858	3.1	12.47	В	-	-			

	Ele	ora Drive East -	Rathburn Ro	ad Signalize	d Intersection	l .					
Movement		AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	2	1	0.8	2.09	Α	0.0	0.0				
EBT	827	776	1.8	5.80	Α	4.2	94.0				
EBR	23	0	6.8	0.00	Α	3.7	93.8				
WBL	16	16	0.0	3.19	Α	0.1	7.0				
WBT	522	506	0.7	8.62	Α	4.3	49.6				
WBR	22	18	0.9	6.55	Α	3.7	49.3				
NBL	59	61	0.3	46.98	D	4.3	36.1				
NBT											
NBR	27	28	0.2	6.23	Α	3.6	35.8				
SBL	58	108	5.5	45.63	D	7.9	51.4				
SBT											
SBR	5	7	0.8	30.13	С	6.8	50.9				
ALL	1561	1521	1.0	11.32	В	-	-				

	Confed	leration Parkw	ay - Rathburr	n Road Signa	alized Intersec	tion				
		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0			
EBL	133	132	0.1	34.05	С	5.4	52.9			
EBT	756	768	0.4	34.95	С	31.2	114.5			
EBR	107	113	0.6	32.96	С	30.6	114.2			
WBL	107	104	0.3	67.63	E	8.2	64.9			
WBT	250	221	1.9	32.71	С	15.1	89.8			
WBR	217	252	2.3	27.67	С	14.7	89.5			
NBL	235	236	0.1	42.67	D	18.7	142.2			
NBT	1124	1047	2.3	53.41	D	77.4	145.0			
NBR	135	177	3.4	50.78	D	77.8	145.7			
SBL	519	439	3.7	104.93	F	296.6	508.3			
SBT	1164	1051	3.4	51.59	D	284.9	508.2			
SBR	71	75	0.5	46.22	D	284.7	508.2			
ALL	4818	4615	3.0	50.93	D	-	-			

	Confed	eration Parkwa	y - Square Or	ne Drive Sigr	nalized Interse	ction			
	AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0		
EBL	72	71	0.1	16.26	В	1.1	22.5		
EBT	56	50	0.8	32.41	С	2.8	30.1		
EBR	33	30	0.5	16.64	В	4.5	41.6		
WBL	5	5	0.0	60.65	E	14.6	55.5		
WBT	58	58	0.0	64.35	E	14.6	55.5		
WBR	35	83	6.2	74.39	E	21.1	65.6		
NBL	5	6	0.4	36.16	D	0.1	5.1		
NBT	1387	1310	2.1	47.08	D	76.3	232.3		
NBR	32	47	2.4	38.44	D	82.7	241.2		
SBL	5	5	0.0	53.24	D	0.0	3.8		
SBT	1332	1227	2.9	10.91	В	18.6	152.4		
SBR	47	35	1.9	9.64	Α	18.6	152.4		
ALL	3067	2927	2.6	31.15	С	-	-		

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
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			
1	0	0			
			1	0	0

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
0	1	0			
0	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
			1	0	0

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
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	0	0			
			1	0	0

TIV	1C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
0	0	0			
0	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
0	0	0			
1	0	0			
1	0	0	Ī		
			1	0	0

	Liv	ing Arts Drive -	Rathburn Ro	ad Signalize	ed Intersection	1			
Movement	AM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	19	11	2.1	16.62	В	0.1	7.8		
EBT	1167	1082	2.5	22.31	С	39.0	189.0		
EBR	224	263	2.5	29.39	С	38.9	188.9		
WBL	172	125	3.9	19.01	В	2.8	41.7		
WBT	490	544	2.4	13.05	В	7.2	67.5		
WBR	12	14	0.6	12.61	В	6.6	67.0		
NBL	72	26	6.6	55.80	E	2.1	21.2		
NBT	9	10	0.3	44.14	D	3.4	29.4		
NBR	141	126	1.3	8.46	Α	2.1	29.1		
SBL	2	2	0.0	39.89	D	0.2	7.6		
SBT	5	1	2.3	58.70	E	0.2	7.6		
SBR	12	13	0.3	5.30	Α	0.0	7.1		
ALL	2325	2217	2.3	20.24	С	-	-		

	Livi	ng Arts Drive - S	quare One D	rive Signali:	zed Intersection	on	
Movement				AM			
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	105	50	6.2	27.27	С	1.9	29.3
EBT	60	100	4.5	26.92	С	4.3	45.7
EBR	31	26	0.9	10.32	В	3.9	45.2
WBL	39	42	0.5	29.32	С	1.4	19.0
WBT	16	23	1.6	25.01	С	1.8	39.8
WBR	76	109	3.4	10.59	В	1.4	39.1
NBL	10	29	4.3	0.60	Α	0.0	4.6
NBT	201	177	1.7	10.56	В	2.4	38.8
NBR	27	25	0.4	5.70	Α	1.8	38.5
SBL	37	32	0.9	10.58	В	0.3	12.0
SBT	163	161	0.2	8.82	Α	2.0	33.9
SBR	17	8	2.5	2.47	Α	1.4	33.6
ALL	782	782	0.0	14.18	В	-	-

	Duke o	of York Bouleva	ırd - Rathburı	n Road Sign	alized Interse	ction				
Marramant		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	137	95	3.9	32.92	С	4.2	41.0			
EBT	1043	1064	0.6	34.01	С	37.9	175.8			
EBR	73	39	4.5	20.87	С	37.9	175.8			
WBL	119	137	1.6	28.76	С	4.6	45.2			
WBT	518	521	0.1	20.82	С	10.6	68.8			
WBR	38	39	0.2	15.17	В	10.4	68.5			
NBL	59	65	0.8	24.03	С	2.1	27.4			
NBT	113	154	3.5	32.46	С	5.8	36.3			
NBR	73	33	5.5	14.21	В	5.6	36.0			
SBL	70	71	0.1	26.50	С	2.6	26.0			
SBT	258	273	0.9	36.81	D	14.2	72.5			
SBR	97	95	0.2	9.25	Α	14.1	72.2			
ALL	2598	2586	0.2	29.14	С	-				

	Duke o	f York Boulevar	d - Square Oi	ne Drive Sigr	nalized Interse	ction					
Movement		AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	36	63	3.8	34.65	С	4.2	35.5				
EBT	37	38	0.2	30.73	С	4.2	35.5				
EBR	51	54	0.4	11.95	В	0.2	12.0				
WBL	42	38	0.6	28.90	С	1.4	17.2				
WBT	91	111	2.0	30.20	С	5.1	39.1				
WBR	39	17	4.2	18.90	В	0.0	0.0				
NBL	8	29	4.9	18.84	В	0.5	16.5				
NBT	169	170	0.1	9.99	Α	2.4	35.2				
NBR	31	29	0.4	6.91	Α	5.7	51.4				
SBL	89	82	0.8	14.09	В	1.3	28.2				
SBT	365	331	1.8	11.40	В	5.9	78.2				
SBR	34	35	0.2	9.17	Α	8.3	87.0				
ALL	992	997	0.2	16.51	В	-	-				

Square One Drive Extension - Rathburn Road Signalized Intersection								
Marramant		AM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C	
EBL								
EBT	852	770	2.9	13.48	В	8.8	96.7	
EBR	86	109	2.3	4.57	Α	0.1	20.3	
WBL	5	5	0.0	24.67	С	0.1	6.6	
WBT	586	570	0.7	10.57	В	5.3	57.6	
WBR								
NBL	117	110	0.7	45.84	D	8.2	54.1	
NBT								
NBR	5	6	0.4	27.23	С	13.3	64.5	
SBL								
SBT								
SBR								
ALL	1651	1570	2.0	14.16	В	-	-	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
0	0	0			
1	0	0			
1	0	0			
			1	0	0

TM	C GEH Sumn	nary	Total Inte	Total Intersection GEH Summary			
	AM GEH			AM GEH			
1-5	5-10	>10	1-5 5-10 >1				
0	1	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	0	0		

TN	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH		AM GEH		
1-5	5-10	>10	1-5	5-10	>10
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			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TN	1C GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	>10	
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	0	0			
			1	0	0

TM	IC GEH Sumn	2221	Total Into	reaction CEL	Cummanı		
110		іаі ў	Total litte		section GEH Summary AM GEH		
	AM GEH						
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
1	0	0					
0	0	0					
1	0	0					
1	0	0					
1	0	0					
		•	1	0	0		

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2021 - T Intersection - PM

	Elo	ra Drive West -	- Rathburn Ro	ad Signalize	ed Intersection	1	
	PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C
EBL	37	37	0.0	30.28	С	0.8	18.9
EBT	646	627	0.8	15.50	В	8.4	53.7
EBR	110	114	0.4	2.98	Α	8.4	53.7
WBL	96	86	1.0	29.52	С	2.9	33.3
WBT	1191	1007	5.6	17.08	В	14.8	103.5
WBR	20	17	0.7	4.88	Α	14.8	103.5
NBL	100	93	0.7	11.54	В	1.3	26.1
NBT	23	22	0.2	11.37	В	0.3	13.7
NBR	50	52	0.3	3.95	Α	0.2	15.7
SBL	14	15	0.3	9.60	Α	0.2	7.9
SBT	13	12	0.3	11.76	В	0.2	11.3
SBR	34	35	0.2	5.00	Α	0.1	11.9
ALL	2334	2117	4.6	15.58	В	-	-

	Ele	ora Drive East -	Rathburn Ro	ad Signalize	ed Intersection	1		
Movement		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C	
EBL	5	5	0.0	26.17	С	0.1	5.3	
EBT	537	518	0.8	15.38	В	6.8	57.3	
EBR	31	0	7.9	0.00	Α	6.2	56.9	
WBL	54	42	1.7	18.38	В	0.8	26.8	
WBT	1169	983	5.7	16.93	В	17.5	85.0	
WBR	65	53	1.6	14.44	В	16.9	84.6	
NBL	19	21	0.4	12.67	В	0.3	12.6	
NBT								
NBR	8	7	0.4	4.54	Α	0.3	12.3	
SBL	24	24	0.0	12.17	В	0.4	11.2	
SBT								
SBR	3	2	0.6	14.54	В	0.1	10.9	
ALL	1915	1655	6.2	16.25	В	-	-	

		deration Parkw	ay namban		anzeu meeroe						
Movement	Obs	Modelled	GEH	PM Delay	LOS	Avg Q	Max Q				
EBL	102	101	0.1	36.44	D	4.3	39.7				
EBT	426	414	0.6	35.74	D	13.7	89.9				
EBR	60	53	0.9	25.97	С	13.2	89.6				
WBL	132	140	0.7	45.28	D	6.2	94.2				
WBT	897	771	4.4	57.70	E	81.9	185.9				
WBR	402	330	3.8	61.82	E	81.5	185.6				
NBL	256	198	3.8	67.45	E	23.0	144.6				
NBT	1568	1218	9.4	51.55	D	95.0	148.6				
NBR	123	111	1.1	55.55	E	95.5	149.3				
SBL	418	308	5.8	177.66	F	329.0	508.0				
SBT	1283	1029	7.5	58.54	E	336.8	508.0				
SBR	209	184	1.8	56.38	E	336.6	508.0				
ALL	5876	4857	13.9	61.50	E	-	-				

·	Confede	eration Parkwa	y - Square Or	ne Drive Sigr	nalized Interse	ction		
		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	74	69	0.6	79.74	E	6.1	36.4	
EBT	62	53	1.2	54.72	D	5.0	34.7	
EBR	22	19	0.7	29.22	С	10.8	47.7	
WBL	5	4	0.5	26.88	С	0.0	0.0	
WBT	56	55	0.1	63.02	E	15.5	56.7	
WBR	24	59	5.4	120.58	F	23.8	68.7	
NBL	5	4	0.5	46.91	D	0.0	2.3	
NBT	1850	1420	10.6	68.63	E	188.6	261.9	
NBR	30	23	1.4	51.12	D	198.3	272.3	
SBL	5	4	0.5	39.16	D	0.1	4.0	
SBT	1365	1121	6.9	9.42	Α	12.5	147.3	
SBR	111	94	1.7	9.50	Α	14.4	155.1	
ALL	3609	2925	12.0	44.47	D	-	-	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	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

TM	C GEH Sumn	nary	Total Inte	<b>Total Intersection GEH Summary</b>			
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	5-10	>10		
0	0	0					
1	0	0					
0	1	0					
1	0	0					
0	1	0					
1	0	0					
1	0	0					
1	0	0					
0	0	0					
1	0	0					
			0	1	0		

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
0	1	0				
0	1	0				
1	0	0				
			0	0	1	

TN	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary		
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	>10			
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
0	0	1					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
			0	0	1		

	Liv	ing Arts Drive -	Rathburn Ro	ad Signalize	ed Intersection	n		
Movement	PM							
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C	
EBL	26	21	1.0	57.96	E	1.3	22.0	
EBT	856	711	5.2	47.89	D	38.2	146.6	
EBR	86	90	0.4	37.07	D	38.0	146.5	
WBL	173	115	4.8	35.80	D	3.4	40.5	
WBT	1197	1121	2.2	59.98	E	103.7	214.1	
WBR	15	15	0.0	51.14	D	103.1	213.6	
NBL	203	88	9.5	46.78	D	5.2	49.7	
NBT	9	7	0.7	50.43	D	10.6	69.0	
NBR	202	172	2.2	17.12	В	9.8	68.8	
SBL	27	30	0.6	55.75	E	2.6	21.8	
SBT	15	19	1.0	34.96	С	2.6	21.8	
SBR	31	32	0.2	22.81	С	1.4	21.1	
ALL	2840	2421	8.2	50.06	D	-	-	

Living Arts Drive - Square One Drive Signalized Intersection								
Movement	PM							
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	47	30	2.7	33.46	С	1.1	15.7	
EBT	71	64	0.9	25.18	С	2.4	32.6	
EBR	36	14	4.4	6.41	Α	2.2	32.1	
WBL	21	59	6.0	26.16	С	2.1	28.8	
WBT	120	121	0.1	25.17	С	4.7	54.4	
WBR	62	33	4.2	13.38	В	3.8	53.8	
NBL	33	28	0.9	0.93	Α	0.0	4.8	
NBT	194	198	0.3	9.18	Α	2.3	38.4	
NBR	32	27	0.9	4.13	Α	0.8	52.2	
SBL	66	48	2.4	11.51	В	0.5	17.2	
SBT	234	195	2.7	8.14	Α	2.4	40.7	
SBR	51	63	1.6	4.09	Α	2.0	40.3	
ALL	967	880	2.9	13.74	В	-	-	

	Duke	of York Bouleva	iu - Katiibuii	i Kuau Sigila	ilizeu iliterse	CLIOII			
Movement		PM							
wovernent	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	138	106	2.9	263.98	F	60.7	192.7		
EBT	895	716	6.3	36.97	D	43.2	188.4		
EBR	28	78	6.9	21.05	С	43.2	188.4		
WBL	199	210	0.8	38.04	D	11.5	126.5		
WBT	1121	1077	1.3	65.90	E	90.8	176.1		
WBR	86	88	0.2	46.69	D	90.5	175.8		
NBL	187	127	4.8	106.56	F	23.9	153.9		
NBT	472	517	2.0	49.32	D	33.6	160.4		
NBR	134	146	1.0	40.54	D	33.3	160.0		
SBL	102	103	0.1	86.93	F	11.5	118.6		
SBT	461	433	1.3	99.62	F	68.5	150.7		
SBR	78	90	1.3	91.72	F	68.2	150.4		
ALL	3901	3691	3.4	66.23	E	-	-		

Duke of York Boulevard - Square One Drive Signalized Intersection									
		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	8	4	1.6	40.70	D	4.2	35.8		
EBT	75	75	0.0	29.63	С	4.2	35.8		
EBR	85	59	3.1	15.34	В	9.4	49.8		
WBL	57	47	1.4	31.53	С	1.9	23.2		
WBT	90	61	3.3	32.39	С	7.5	74.1		
WBR	172	194	1.6	27.64	С	9.3	88.8		
NBL	62	64	0.3	23.41	С	1.1	22.0		
NBT	615	615	0.0	23.88	С	34.9	271.3		
NBR	70	70	0.0	20.24	С	36.4	285.8		
SBL	226	183	3.0	32.80	С	6.1	65.5		
SBT	466	452	0.7	14.62	В	11.6	138.0		
SBR	50	87	4.5	11.78	В	14.5	146.9		
ALL	1976	1911	1.5	22.68	С	-	-		

Square One Drive Extension - Rathburn Road Signalized Intersection									
		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL									
EBT	574	519	2.4	11.52	В	5.0	59.2		
EBR	138	164	2.1	5.28	Α	0.5	35.6		
WBL	5	5	0.0	1.22	Α	0.0	0.0		
WBT	1191	1004	5.6	10.71	В	10.5	99.2		
WBR									
NBL	116	111	0.5	20.43	С	3.4	56.7		
NBT									
NBR	5	6	0.4	13.01	В	5.1	66.2		
SBL									
SBT									
SBR									
ALL	2029	1809	5.0	11.03	В	-	-		

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	>10		
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
0	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			0	1	0	

TM	C GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
1	0	0					
1	0	0					
0	1	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		

TN	/IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
0	1	0				
0	1	0				
1	0	0				
1	0	0				
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1	0	0				
1	0	0				
1	0	0				
1	0	0				
			1	0	0	

TM	1C GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	>10			
1	0	0					
0	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	0	0					
0	0	0					
1	0	0					
1	0	0					
1	0	0					
			1	0	0		

TN	AC GEH Sumn	nary	Total Inte	rsection GEH	l Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
0	0	0				
0	1	0				
1	0	0				
1	0	0				
			0	1	0	

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2031 - T Intersection - AM

	Elo	ra Drive West -	Rathburn Ro	ad Signaliz	ed Intersectio	n				
Movement	AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C			
EBL	28	28	0.0	11.65	В	0.3	12.7			
EBT	968	915	1.7	10.36	В	8.4	73.1			
EBR	104	103	0.1	4.70	Α	8.4	73.1			
WBL	125	120	0.5	29.88	С	4.5	47.7			
WBT	652	588	2.6	10.02	В	5.3	69.6			
WBR	9	9	0.0	3.35	Α	5.3	69.6			
NBL	99	88	1.1	44.64	D	5.8	39.7			
NBT	21	21	0.0	44.00	D	2.3	35.6			
NBR	57	60	0.4	14.00	В	2.3	37.6			
SBL	21	22	0.2	38.22	D	1.2	16.2			
SBT	59	59	0.0	42.77	D	5.9	49.5			
SBR	84	59	3.0	42.77	D	5.9	49.5			
ALL	2227	2072	3.3	15.14	В	-	-			

	Ele	ora Drive East -	Rathburn Ro	ad Signalize	d Intersection	1					
		AM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	2	2	0.0	6.96	Α	0.0	0.0				
EBT	926	875	1.7	5.70	Α	4.0	92.5				
EBR	26	0	7.2	0.00	Α	3.5	92.2				
WBL	19	18	0.2	16.96	В	0.2	12.5				
WBT	588	526	2.6	9.02	Α	4.5	56.0				
WBR	25	21	0.8	5.99	Α	4.1	55.6				
NBL	67	68	0.1	41.98	D	4.3	35.4				
NBT	5		3.2		Α						
NBR	31	33	0.4	8.20	Α	4.1	35.1				
SBL	66	63	0.4	39.86	D	3.8	31.8				
SBT	5		3.2		Α						
SBR	6	5	0.4	11.65	В	2.6	31.2				
ALL	1766	1611	3.8	9.85	Α	-	-				

	Confed	leration Parkw	ay - Rathburr	n Road Signa	alized Intersec	tion					
		AM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	151	148	0.2	40.71	D	7.9	81.2				
EBT	846	813	1.1	33.99	С	32.5	113.2				
EBR	121	121	0.0	30.05	С	32.1	112.9				
WBL	120	113	0.6	86.63	F	13.1	93.9				
WBT	280	247	2.0	35.84	D	19.7	118.2				
WBR	245	280	2.2	31.68	С	19.3	117.9				
NBL	266	236	1.9	44.80	D	23.7	141.5				
NBT	1251	1055	5.8	56.86	E	89.1	143.3				
NBR	151	180	2.3	57.44	E	89.5	144.0				
SBL	586	426	7.1	118.32	F	395.4	509.8				
SBT	1307	1024	8.3	53.58	D	393.7	509.8				
SBR	80	71	1.0	47.45	D	393.6	509.6				
ALL	5404	4714	9.7	53.96	D	-	-				

	Confed	eration Parkwa	y - Square Or	ne Drive Sigr	nalized Interse	ction					
		AM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	72	71	0.1	23.90	С	1.6	23.3				
EBT	61	57	0.5	34.82	С	3.8	40.6				
EBR	37	32	0.9	23.11	С	5.6	52.1				
WBL	5	5	0.0	65.41	E	25.3	59.0				
WBT	65	66	0.1	65.72	E	25.3	59.0				
WBR	40	92	6.4	117.99	F	32.9	69.1				
NBL	5	5	0.0	44.63	D	0.0	3.8				
NBT	1556	1318	6.3	69.99	E	176.1	266.0				
NBR	35	45	1.6	59.52	E	184.2	274.8				
SBL	5	5	0.0	32.99	С	0.0	1.2				
SBT	1500	1220	7.6	10.49	В	17.8	151.0				
SBR	48	35	2.0	10.92	В	17.8	151.0				
ALL	3429	2951	8.5	43.52	D	-	-				

TM	C GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	0	0			
1	0	0			
0	0	0			
1	0	0			
1	0	0			
0	0	0			
1	0	0			
			1	0	0

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	0	0			
1	0	0			
0	1	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

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
0	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
0	1	0			
0	1	0			
1	0	0			
			0	1	0

TN	AC GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
0	0	0			
1	0	0			
0	1	0			
0	0	0			
0	1	0			
1	0	0			
0	0	0			
0	1	0			
1	0	0			
			0	1	0

	Liv	ing Arts Drive -	Rathburn Ro	ad Signalize	ed Intersection	1				
Movement	AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C			
EBL	21	13	1.9	31.52	С	0.4	9.7			
EBT	1319	1115	5.8	29.30	С	56.3	191.5			
EBR	242	268	1.6	35.65	D	56.1	191.4			
WBL	190	142	3.7	20.43	С	3.5	46.8			
WBT	553	610	2.4	15.89	В	9.6	71.7			
WBR	14	16	0.5	14.27	В	9.1	71.2			
NBL	78	28	6.9	59.72	E	2.5	21.7			
NBT	10	11	0.3	51.28	D	3.6	30.5			
NBR	157	138	1.6	10.50	В	2.3	30.2			
SBL	2	2	0.0	47.75	D	0.2	6.4			
SBT	5	1	2.3	38.67	D	0.2	6.4			
SBR	14	14	0.0	5.41	Α	0.0	5.9			
ALL	2605	2358	5.0	25.17	С	-	-			

	Livi	ng Arts Drive - S	quare One D	rive Signali:	zed Intersection	on			
Movement	AM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	115	51	7.0	27.80	С	1.9	22.9		
EBT	68	114	4.8	25.09	С	4.7	43.1		
EBR	35	29	1.1	12.91	В	4.2	42.6		
WBL	45	48	0.4	28.94	С	1.6	25.4		
WBT	19	27	1.7	25.82	С	1.6	35.5		
WBR	77	111	3.5	8.90	Α	1.1	34.8		
NBL	11	34	4.8	0.83	Α	0.0	4.7		
NBT	222	193	2.0	9.74	Α	2.4	35.8		
NBR	31	34	0.5	5.45	А	1.8	35.4		
SBL	41	38	0.5	12.28	В	0.4	13.4		
SBT	182	181	0.1	8.41	Α	2.2	41.2		
SBR	19	8	3.0	3.92	А	1.7	40.8		
ALL	865	868	0.1	13.64	В	-	-		

	Duke (	of York Bouleva	ırd - Rathburı	n Road Sign	alized Intersed	ction					
Movement		AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	155	107	4.2	37.92	D	5.5	37.3				
EBT	1176	1101	2.2	33.39	С	41.1	193.5				
EBR	83	36	6.1	22.71	С	41.1	193.5				
WBL	135	155	1.7	28.68	С	5.2	44.8				
WBT	580	585	0.2	21.06	С	11.8	77.7				
WBR	43	41	0.3	17.77	В	11.7	77.4				
NBL	67	75	0.9	26.79	С	2.6	30.0				
NBT	128	177	4.0	32.47	С	6.7	39.6				
NBR	83	35	6.2	17.92	В	6.5	39.3				
SBL	79	80	0.1	25.85	С	2.7	25.9				
SBT	292	308	0.9	37.80	D	16.5	87.6				
SBR	110	109	0.1	9.65	Α	16.4	87.4				
ALL	2931	2809	2.3	29.29	С	-	-				

	Duke o	f York Boulevai	rd - Square Or	ne Drive Sigr	nalized Interse	ction					
Movement		AM									
iviovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	41	75	4.5	34.83	С	4.9	44.5				
EBT	41	41	0.0	33.10	С	4.9	44.5				
EBR	58	66	1.0	13.74	В	0.2	21.5				
WBL	47	44	0.4	30.14	С	1.6	18.4				
WBT	94	114	2.0	32.03	С	5.8	45.5				
WBR	45	20	4.4	20.00	С	0.2	21.0				
NBL	9	33	5.2	13.72	В	0.4	15.3				
NBT	192	189	0.2	11.53	В	3.3	53.0				
NBR	35	34	0.2	7.51	Α	6.9	69.2				
SBL	100	89	1.1	13.49	В	1.3	25.0				
SBT	414	371	2.2	12.17	В	7.0	99.9				
SBR	38	39	0.2	9.82	Α	9.6	108.8				
ALL	1114	1115	0.0	17.26	В	-					

Square One Drive Extension - Rathburn Road Signalized Intersection								
Marramant		AM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C	
EBL								
EBT	955	871	2.8	13.02	В	9.9	98.2	
EBR	91	118	2.6	6.11	Α	0.5	43.9	
WBL	5	5	0.0	29.13	С	0.1	5.1	
WBT	661	592	2.8	10.83	В	5.8	81.3	
WBR								
NBL	124	120	0.4	46.13	D	8.8	65.1	
NBT								
NBR	5	6	0.4	24.81	С	13.8	75.5	
SBL								
SBT					<i>"</i>			
SBR								
ALL	1841	1712	3.1	14.20	В	-	-	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary		
	AM GEH			AM GEH			
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
0	1	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
1	0	0					
0	0	0					
1	0	0					
0	0	0					
			1	0	0		

TM	IC GEH Sumn	nary	Total Intersection GEH Summary			
	AM GEH			AM GEH		
1-5	5-10	>10	1-5 5-10 >1			
0	1	0				
1	0	0				
1	0	0				
1	0	0				
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1	0	0				
1	0	0				
1	0	0				
			1	0	0	

TN	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TM	1C GEH Sumn	nary	Total Inte	rsection GEH	l Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5 5-10 >1			
1	0	0				
0	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			1	0	0	

TN	AC GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
0	0	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2031 - T Intersection - PM

	Elo	ra Drive West -	- Rathburn Ro	ad Signalize	ed Intersection	n	
	PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C
EBL	42	40	0.3	23.69	С	0.6	15.3
EBT	716	689	1.0	13.44	В	8.2	50.1
EBR	125	128	0.3	2.91	Α	8.2	50.1
WBL	109	87	2.2	26.62	С	2.7	38.1
WBT	1328	1014	9.2	16.38	В	15.4	123.8
WBR	22	16	1.4	3.63	Α	15.4	123.8
NBL	113	105	0.8	15.75	В	2.1	29.0
NBT	26	26	0.0	16.90	В	0.8	24.6
NBR	57	57	0.0	6.22	Α	0.7	26.6
SBL	16	16	0.0	18.48	В	0.3	12.3
SBT	15	15	0.0	19.47	В	0.5	19.7
SBR	38	38	0.0	7.52	Α	0.3	20.3
ALL	2607	2231	7.6	14.74	В	-	-

Elora Drive East - Rathburn Road Signalized Intersection									
Movement		PM							
wovernent	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max		
EBL	6	6	0.0	22.83	С	0.1	7.8		
EBT	603	580	0.9	12.87	В	6.5	62.		
EBR	35	0	8.4	0.00	Α	5.9	61.		
WBL	61	44	2.3	14.17	В	0.5	15.		
WBT	1314	998	9.3	14.19	В	13.9	85.		
WBR	73	52	2.7	10.07	В	13.1	84.		
NBL	21	23	0.4	14.97	В	0.4	11.		
NBT	5		3.2		Α				
NBR	9	8	0.3	4.38	Α	0.1	10.		
SBL	27	26	0.2	13.03	В	0.5	12.		
SBT	1		1.4		Α				
SBR	4	4	0.0	8.30	Α	0.1	11.		
ALL	2159	1741	9.5	13.59	В	-	-		

	Confed	deration Parkw	ay - Rathburn	Road Signa	alized Intersed	tion			
		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	115	120	0.5	37.99	D	5.5	45.1		
EBT	478	456	1.0	27.25	С	13.1	89.5		
EBR	68	66	0.2	21.09	С	12.5	89.2		
WBL	147	142	0.4	52.12	D	6.6	65.3		
WBT	1005	782	7.5	58.27	E	92.3	187.1		
WBR	453	336	5.9	54.65	D	91.9	186.8		
NBL	290	201	5.7	59.63	E	19.5	129.6		
NBT	1754	1233	13.5	50.86	D	93.5	147.9		
NBR	138	113	2.2	46.72	D	94.0	148.6		
SBL	473	313	8.1	185.03	F	402.6	510.3		
SBT	1425	1027	11.4	58.36	E	407.4	510.3		
SBR	236	183	3.7	54.11	D	407.3	510.2		
ALL	6582	4972	21.2	59.82	E	-	-		

	Confede	eration Parkwa	y - Square Or	ne Drive Sigr	nalized Interse	ction	
	PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	74	69	0.6	78.52	E	5.8	33.9
EBT	69	64	0.6	46.72	D	5.1	42.7
EBR	25	23	0.4	23.23	С	10.8	55.7
WBL	5	3	1.0	48.28	D	0.0	1.1
WBT	60	55	0.7	73.88	E	20.6	55.9
WBR	28	65	5.4	120.40	F	29.1	67.9
NBL	5	3	1.0	33.29	С	0.0	0.0
NBT	2080	1437	15.3	67.91	E	195.0	263.4
NBR	33	23	1.9	66.26	E	204.7	273.8
SBL	5	4	0.5	45.83	D	0.1	7.5
SBT	1527	1144	10.5	8.70	Α	11.4	147.4
SBR	113	81	3.2	7.67	Α	13.2	155.2
ALL	4024	2971	17.8	44.07	D	-	-

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5 5-10 >1		
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
0	0	0			
0	0	0			
0	0	0			
0	0	0			
0	0	0			
			0	1	0

TN	1C GEH Sumn	nary	Total Inter	rsection GEH	Summary
	PM GEH		PM GEH		
1-5	5-10	>10	1-5	5-10	>10
0	0	0			
1	0	0			
0	1	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	0	0			
			0	1	0

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
0	1	0				
0	1	0				
0	0	1				
1	0	0				
0	1	0				
0	0	1				
1	0	0				
			0	0	1	

TN	IC GEH Sumn	nary	Total Inte	Total Intersection GEH Summary				
	PM GEH			PM GEH				
1-5	5-10	>10	1-5	>10				
1	0	0						
1	0	0						
1	0	0						
1	0	0						
1	0	0						
0	1	0						
1	0	0						
0	0	1						
1	0	0						
1	0	0						
0	0	1						
1	0	0						
			0	0	1			

	Living Arts Drive - Rathburn Road Signalized Intersection								
Movement	PM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL	30	22	1.6	86.25	F	2.0	19.0		
EBT	967	739	7.8	42.41	D	34.9	135.1		
EBR	92	96	0.4	42.85	D	34.7	135.0		
WBL	193	114	6.4	32.76	С	2.6	40.7		
WBT	1353	1124	6.5	71.53	E	126.6	214.2		
WBR	17	14	0.8	64.14	E	126.1	213.7		
NBL	218	98	9.5	112.61	F	20.1	78.6		
NBT	10	6	1.4	63.62	E	12.1	67.2		
NBR	220	181	2.8	10.41	В	11.2	67.0		
SBL	31	33	0.4	64.19	E	4.1	30.1		
SBT	17	20	0.7	56.31	E	4.1	30.1		
SBR	35	38	0.5	36.55	D	2.6	29.5		
ALL	3183	2485	13.1	56.47	E	-	-		

Living Arts Drive - Square One Drive Signalized Intersection									
Marramant		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	51	29	3.5	30.17	С	1.0	17.7		
EBT	80	78	0.2	23.92	С	2.8	39.8		
EBR	41	17	4.5	6.86	Α	2.4	39.3		
WBL	24	62	5.8	25.43	С	2.0	31.3		
WBT	136	127	0.8	25.78	С	5.4	61.0		
WBR	66	33	4.7	21.78	С	4.5	60.3		
NBL	37	33	0.7	1.38	Α	0.0	5.8		
NBT	217	224	0.5	13.36	В	3.8	52.2		
NBR	36	29	1.2	8.32	Α	2.5	65.8		
SBL	69	43	3.5	11.58	В	0.4	15.1		
SBT	258	194	4.3	5.53	Α	1.7	38.3		
SBR	55	63	1.0	3.51	Α	1.3	38.0		
ALL	1070	932	4.4	14.48	В	-	-		

	Duke of York Boulevard - Rathburn Road Signalized Intersection									
		PM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	156	115	3.5	220.87	F	50.7	161.8			
EBT	1002	749	8.6	37.88	D	41.3	170.8			
EBR	32	87	7.1	17.55	В	41.3	170.8			
WBL	225	209	1.1	42.37	D	9.6	110.1			
WBT	1264	1064	5.9	79.98	E	116.6	178.3			
WBR	98	86	1.3	61.69	E	116.3	178.0			
NBL	212	136	5.8	169.52	F	44.6	160.4			
NBT	535	533	0.1	52.91	D	42.0	160.1			
NBR	152	149	0.2	46.32	D	41.7	159.7			
SBL	115	106	0.9	130.10	F	25.6	149.3			
SBT	522	453	3.1	141.50	F	114.8	167.4			
SBR	88	98	1.0	152.56	F	114.6	167.2			
ALL	4401	3785	9.6	80.73	F	-	-			

Duke of York Boulevard - Square One Drive Signalized Intersection									
		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	9	4	2.0	38.91	D	5.3	46.5		
EBT	80	75	0.6	32.18	С	5.3	46.5		
EBR	97	70	3.0	21.28	С	11.1	60.4		
WBL	64	54	1.3	31.82	С	2.2	22.2		
WBT	98	67	3.4	40.61	D	11.3	81.7		
WBR	194	219	1.7	38.90	D	12.8	97.7		
NBL	71	64	0.9	47.01	D	1.9	23.2		
NBT	696	627	2.7	59.25	E	173.7	309.5		
NBR	79	72	0.8	48.43	D	183.0	324.0		
SBL	256	195	4.1	27.95	С	5.8	84.1		
SBT	527	465	2.8	23.58	С	23.6	154.5		
SBR	57	90	3.8	20.31	С	28.1	163.4		
ALL	2228	2002	4.9	39.41	D	-	-		

Square One Drive Extension - Rathburn Road Signalized Intersection									
		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL									
EBT	645	581	2.6	10.56	В	5.2	68.2		
EBR	145	182	2.9	5.10	Α	0.5	50.2		
WBL	5	5	0.0	2.27	А	0.0	0.0		
WBT	1338	1024	9.1	10.56	В	11.3	100.4		
WBR									
NBL	121	110	1.0	21.83	С	3.6	60.7		
NBT									
NBR	5	5	0.0	12.42	В	5.2	70.2		
SBL									
SBT									
SBR									
ALL	2259	1907	7.7	10.67	В	-	-		

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
0	1	0				
1	0	0				
0	1	0				
0	1	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			0	0	1	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
0	1	0				
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1	0	0				
1	0	0				
			1	0	0	

TN	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	>10		
1	0	0				
0	1	0				
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1	0	0				
1	0	0				
			0	1	0	

TM	1C GEH Sumn	nary	Total Inte	rsection GEH	Summary		
	PM GEH			PM GEH			
1-5	5-10	>10	1-5 5-10 >1				
1	0	0					
1	0	0					
1	0	0					
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1	0	0					
1	0	0					
1	0	0					
			1	0	0		

TN	1C GEH Sumn	nary	Total Inte	rsection GEH	Summary		
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
1	0	0					
0	0	0					
0	1	0					
1	0	0					
0	0	0					
			0	1	0		

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2041 - T Intersection - AM

	Elo	ra Drive West -	Rathburn Ro	ad Signalize	ed Intersectio	n	
				AM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	33	34	0.2	14.72	В	0.4	13.5
EBT	1103	1034	2.1	9.99	Α	9.2	81.4
EBR	121	124	0.3	5.06	Α	9.2	81.4
WBL	145	130	1.3	36.37	D	6.3	51.0
WBT	743	618	4.8	9.76	Α	5.3	64.8
WBR	10	9	0.3	2.66	Α	5.3	64.8
NBL	115	103	1.1	43.24	D	6.5	45.7
NBT	24	25	0.2	37.07	D	2.2	32.9
NBR	66	65	0.1	12.09	В	2.2	34.9
SBL	24	25	0.2	33.25	С	1.1	17.4
SBT	69	69	0.0	39.05	D	6.2	53.7
SBR	98	69	3.2	39.05	D	6.2	53.7
ALL	2551	2305	5.0	15.02	В	-	-

	Ele	ora Drive East -	Rathburn Ro	ad Signalize	d Intersection	1	
				AM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	3	1	1.4	2.16	Α	0.0	0.0
EBT	1063	994	2.2	7.24	А	6.1	96.8
EBR	30	0	7.7	0.00	А	5.6	96.2
WBL	22	19	0.7	6.02	А	0.1	10.5
WBT	679	550	5.2	8.39	А	4.5	65.4
WBR	29	24	1.0	5.36	Α	4.0	65.1
NBL	78	75	0.3	45.53	D	5.2	41.8
NBT	5		3.2		Α		
NBR	36	39	0.5	4.32	А	4.7	41.2
SBL	76	73	0.3	42.54	D	4.7	37.3
SBT	5		3.2		А		
SBR	7	6	0.4	24.21	С	3.4	36.7
ALL	2033	1781	5.8	10.61	В	-	-

0	Confe	deration Parkw	ay - Rathburn	Road Sign	alized Intersec	tion	
				AM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	175	171	0.3	39.58	D	9.0	97.2
EBT	969	926	1.4	37.00	D	40.5	114.5
EBR	141	137	0.3	33.93	С	40.1	114.3
WBL	138	130	0.7	136.19	F	30.0	135.2
WBT	321	281	2.3	36.93	D	25.3	134.4
WBR	284	320	2.1	34.62	С	24.9	134.1
NBL	309	235	4.5	44.14	D	22.1	143.1
NBT	1425	1044	10.8	58.54	E	90.8	144.0
NBR	172	182	0.8	60.28	E	91.2	144.6
SBL	678	384	12.8	139.87	F	421.9	508.6
SBT	1504	969	15.2	52.74	D	430.7	508.6
SBR	93	66	3.0	45.16	D	430.6	508.6
ALL	6209	4845	18.3	56.78	E	-	-

	Confed	eration Parkwa	ay - Square On	ne Drive Sigr	nalized Interse	ction				
		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	72	72	0.0	22.72	С	1.5	23.6			
EBT	68	67	0.1	44.37	D	5.0	40.0			
EBR	43	36	1.1	21.31	С	7.8	51.5			
WBL	5	5	0.0	86.47	F	29.9	59.0			
WBT	75	74	0.1	68.03	E	29.9	59.0			
WBR	47	100	6.2	117.79	F	38.3	69.1			
NBL	5	4	0.5	49.41	D	0.0	3.6			
NBT	1788	1298	12.5	76.25	E	205.2	265.9			
NBR	38	45	1.1	62.95	E	213.6	274.7			
SBL	5	3	1.0	52.75	D	0.0	2.6			
SBT	1732	1199	13.9	10.88	В	18.5	152.6			
SBR	50	33	2.6	13.34	В	18.5	152.6			
ALL	3928	2936	16.9	47.09	D	-	-			

TIV	IC GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
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1	0	0			
			1	0	0

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
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1	0	0			
1	0	0			
1	0	0			
1	0	0			
			0	1	0

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
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1	0	0			
0	0	1			
1	0	0			
0	0	1			
0	0	1			
1	0	0			
			0	0	1

TN	AC GEH Sumr	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	0	0			
1	0	0			
1	0	0			
0	0	0			
1	0	0			
0	1	0			
1	0	0			
0	0	1			
1	0	0			
1	0	0			
0	0	1			
1	0	0			
			0	0	1

	Liv	ing Arts Drive -	Rathburn Ro	ad Signalize	ed Intersection	n			
Marramant	AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL	24	15	2.0	23.12	С	0.3	8.7		
EBT	1529	1186	9.3	31.14	С	72.0	190.6		
EBR	266	270	0.2	36.58	D	71.9	190.5		
WBL	214	158	4.1	23.43	С	4.7	53.5		
WBT	641	701	2.3	17.75	В	12.3	88.5		
WBR	16	20	0.9	19.74	В	11.8	88.0		
NBL	87	33	7.0	50.22	D	2.4	20.4		
NBT	11	13	0.6	55.19	E	4.3	32.1		
NBR	180	162	1.4	12.33	В	3.2	31.8		
SBL	3	2	0.6	65.76	E	0.5	13.4		
SBT	5	2	1.6	56.11	E	0.5	13.4		
SBR	16	17	0.2	8.92	Α	0.2	12.8		
ALL	2992	2579	7.8	26.55	С	-	-		

	Livi	ng Arts Drive - S	Square One D	rive Signali:	zed Intersection	n				
Movement		AM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	128	53	7.9	27.48	С	2.3	48.8			
EBT	79	130	5.0	27.25	С	6.2	52.9			
EBR	40	32	1.3	13.87	В	5.7	52.4			
WBL	52	56	0.5	28.88	С	1.9	27.4			
WBT	22	31	1.7	22.75	С	1.7	40.5			
WBR	79	115	3.7	9.21	Α	1.2	39.9			
NBL	13	39	5.1	0.89	Α	0.0	7.1			
NBT	251	220	2.0	10.04	В	2.9	41.4			
NBR	36	38	0.3	6.63	Α	2.3	41.1			
SBL	46	39	1.1	14.17	В	0.5	13.7			
SBT	209	203	0.4	8.63	Α	2.5	39.5			
SBR	21	7	3.7	4.42	Α	2.0	39.1			
ALL	976	963	0.4	14.18	В	-	-			

	Duke (	of York Bouleva	ırd - Rathburı	n Road Sign	alized Intersed	ction					
Marramant		AM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	180	123	4.6	34.75	С	5.6	47.5				
EBT	1359	1180	5.0	30.93	С	41.7	189.9				
EBR	96	36	7.4	21.91	С	41.7	189.9				
WBL	157	176	1.5	30.58	С	6.1	53.5				
WBT	665	665	0.0	18.65	В	11.9	85.7				
WBR	50	49	0.1	16.30	В	11.7	85.4				
NBL	78	87	1.0	28.61	С	3.4	29.8				
NBT	148	203	4.2	34.73	С	8.0	43.6				
NBR	96	38	7.1	19.56	В	7.8	43.2				
SBL	92	94	0.2	31.71	С	3.9	53.9				
SBT	339	359	1.1	46.03	D	23.4	88.5				
SBR	128	127	0.1	15.72	В	23.3	88.3				
ALL	3388	3137	4.4	29.30	С	-	-				

	Duke of York Boulevard - Square One Drive Signalized Intersection									
Movement		AM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	47	81	4.3	35.58	D	5.7	47.4			
EBT	46	47	0.1	30.10	С	5.7	47.4			
EBR	68	75	0.8	15.12	В	0.4	24.3			
WBL	55	53	0.3	29.99	С	2.0	24.6			
WBT	97	118	2.0	30.30	С	5.7	40.7			
WBR	52	27	4.0	17.45	В	0.2	10.6			
NBL	10	40	6.0	18.83	В	0.7	19.2			
NBT	223	220	0.2	12.34	В	4.1	60.3			
NBR	40	40	0.0	8.30	Α	8.0	75.0			
SBL	116	99	1.6	13.52	В	1.4	26.4			
SBT	480	425	2.6	12.66	В	8.7	107.9			
SBR	45	44	0.1	10.28	В	11.3	116.8			
ALL	1279	1269	0.3	17.37	В	-	-			

			AM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL									
EBT	1096	989	3.3	14.54	В	12.6	123.8		
EBR	98	126	2.6	7.73	Α	0.5	43.0		
WBL	5	4	0.5	33.71	С	0.1	6.5		
WBT	764	624	5.3	10.72	В	6.0	80.1		
WBR									
NBL	134	125	0.8	46.98	D	9.3	65.2		
NBT									
NBR	5	6	0.4	27.51	С	14.2	75.6		
SBL									
SBT									
SBR									
ALL	2102	1874	5.1	15.06	С	-	-		

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			0	1	0	

TM	C GEH Sumn	nary	Total Intersection GEH Summary				
	AM GEH		AM GEH				
1-5	5-10	>10	1-5 5-10 >10				
0	1	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
			1	0	0		

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	AM GEH			AM GEH		
1-5	5-10	>10	1-5 5-10 >1			
1	0	0				
0	1	0				
0	1	0				
1	0	0				
0	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
			1	0	0	

TN	IC GEH Sumn	nary	Total Intersection GEH Summary				
	AM GEH			AM GEH			
1-5	5-10	>10	1-5 5-10 >1				
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
0	0	0					
1	0	0					
1	0	0					
1	0	0					
				0	0		

TN	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH		AM GEH		
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
			0	1	0

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2041 - T Intersection - PM

	Elc	ra Drive West	- Rathburn Ro	ad Signaliz	ed Intersectio	n		
	PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C	
EBL	49	48	0.1	19.01	В	0.7	17.1	
EBT	812	788	0.8	13.31	В	9.1	57.7	
EBR	145	146	0.1	3.04	Α	9.1	57.7	
WBL	126	84	4.1	26.68	С	2.6	31.5	
WBT	1517	1006	14.4	13.91	В	12.1	82.5	
WBR	26	17	1.9	5.82	Α	12.1	82.5	
NBL	131	128	0.3	18.13	В	3.1	41.3	
NBT	30	31	0.2	15.79	В	0.8	24.5	
NBR	66	63	0.4	6.05	Α	0.7	26.5	
SBL	19	19	0.0	16.98	В	0.4	10.1	
SBT	17	16	0.2	18.88	В	0.5	16.2	
SBR	45	45	0.0	6.57	Α	0.3	16.7	
ALL	2983	2391	11.4	13.50	В	-	-	

	Ele	ora Drive East -	Rathburn Ro	ad Signalize	d Intersection				
		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	7	8	0.4	26.23	С	0.1	7.7		
EBT	695	665	1.2	9.46	Α	5.3	59.9		
EBR	40	0	8.9	0.00	Α	4.8	59.6		
WBL	70	48	2.9	11.65	В	0.4	15.2		
WBT	1512	982	15.0	11.18	В	10.3	85.1		
WBR	85	52	4.0	8.69	Α	9.7	84.7		
NBL	24	26	0.4	20.14	С	0.7	15.0		
NBT	5		3.2		Α				
NBR	10	9	0.3	6.58	Α	0.5	14.4		
SBL	32	33	0.2	22.15	С	0.9	13.4		
SBT	1		1.4		Α				
SBR	4	2	1.2	8.91	Α	0.2	12.9		
ALL	2485	1825	14.2	10.86	В	-	-		

	Confed	eration Parkw	ay - Rathburn	Road Signa	alized Intersec	tion		
		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	134	131	0.3	41.30	D	6.8	64.4	
EBT	549	533	0.7	30.24	С	16.8	96.4	
EBR	79	76	0.3	23.08	С	16.4	96.1	
WBL	167	136	2.5	53.49	D	8.4	94.6	
WBT	1155	780	12.1	59.76	E	97.7	187.8	
WBR	524	335	9.1	61.61	E	97.3	187.5	
NBL	336	201	8.2	62.06	E	21.9	113.5	
NBT	2008	1250	18.8	50.96	D	97.6	148.4	
NBR	157	113	3.8	52.07	D	98.0	149.1	
SBL	548	302	11.9	193.03	F	418.3	510.4	
SBT	1619	991	17.4	59.96	E	434.7	510.4	
SBR	274	174	6.7	52.01	D	434.6	510.4	
ALL	7550	5022	31.9	61.06	E	-	-	

	Confede	eration Parkwa	y - Square On	e Drive Sigr	nalized Interse	ction		
	PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0	
EBL	74	69	0.6	81.73	F	6.0	36.7	
EBT	79	71	0.9	41.96	D	5.1	41.6	
EBR	29	28	0.2	21.19	С	10.6	54.6	
WBL	5	3	1.0	56.70	E	0.0	2.3	
WBT	67	53	1.8	73.57	E	21.7	58.4	
WBR	32	75	5.9	121.64	F	30.7	70.4	
NBL	5	2	1.6	15.60	В	0.0	1.2	
NBT	2396	1436	21.9	69.57	E	200.4	263.3	
NBR	38	21	3.1	61.72	E	210.3	273.7	
SBL	5	3	1.0	36.68	D	0.0	2.6	
SBT	1749	1125	16.5	8.62	Α	11.1	146.4	
SBR	116	71	4.7	8.63	Α	12.9	154.2	
ALL	4595	2957	26.7	45.33	D	-	-	

TM	C GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	1-5 5-10 >1			
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	0	1					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	0	0					
1	0	0					
0	0	0					
			0	0	1		

TIV	IC GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH		PM GEH				
1-5	5-10	>10	1-5 5-10 >:				
1	0	0					
1	0	0					
0	1	0					
1	0	0					
0	0	1					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
				0	1		

TM	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	0	1				
0	1	0				
0	1	0				
0	0	1				
1	0	0				
0	0	1				
0	0	1				
0	1	0				
			0	0	1	

TN	IC GEH Sumn	nary	Total Inte	Total Intersection GEH Summary				
	PM GEH			PM GEH				
1-5	5-10	>10	1-5	5-10	>10			
1	0	0						
1	0	0						
1	0	0						
1	0	0						
1	0	0						
0	1	0						
1	0	0						
0	0	1						
1	0	0						
1	0	0						
0	0	1						
1	0	0						
			0	0	1			

	PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max (	
EBL	34	24	1.9	72.59	E	1.7	17.9	
EBT	1119	802	10.2	45.31	D	41.0	157.0	
EBR	100	97	0.3	46.62	D	40.8	156.9	
WBL	221	108	8.8	35.17	D	2.3	34.0	
WBT	1567	1094	13.0	77.75	E	135.3	217.6	
WBR	20	15	1.2	77.24	E	134.7	217.1	
NBL	239	113	9.5	123.48	F	26.5	79.1	
NBT	11	8	1.0	59.63	E	14.0	73.0	
NBR	244	196	3.2	12.69	В	13.2	72.7	
SBL	36	38	0.3	62.04	E	4.7	31.8	
SBT	20	22	0.4	61.08	E	4.7	31.8	
SBR	40	43	0.5	38.03	D	3.2	31.1	
ALL	3651	2560	19.6	60.50	E	-	-	

	Livi	ng Arts Drive - S	quare One D	rive Signali:	zed Intersection	n		
Marramant	PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	57	31	3.9	28.86	С	1.0	17.3	
EBT	93	87	0.6	25.68	С	3.5	45.8	
EBR	47	19	4.9	7.06	Α	3.2	45.2	
WBL	27	63	5.4	28.44	С	2.3	34.4	
WBT	158	126	2.7	24.86	С	4.8	52.4	
WBR	71	31	5.6	18.75	В	4.0	51.7	
NBL	43	41	0.3	1.86	Α	0.0	4.6	
NBT	249	245	0.3	14.62	В	5.1	66.5	
NBR	42	36	1.0	7.84	Α	3.7	80.0	
SBL	74	45	3.8	11.53	В	0.4	13.3	
SBT	291	192	6.4	6.03	Α	1.9	40.9	
SBR	61	65	0.5	4.75	Α	1.5	40.6	
ALL	1213	981	7.0	14.98	В	-	-	

	Duke o	of York Bouleva	ard - Rathburr	Road Signa	alized Intersed	tion				
		PM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0			
EBL	181	126	4.4	227.50	F	57.4	174.0			
EBT	1150	822	10.4	37.70	D	41.6	172.1			
EBR	37	88	6.5	20.27	С	41.6	172.1			
WBL	262	199	4.1	47.52	D	11.0	103.0			
WBT	1460	1023	12.4	91.33	F	125.7	178.2			
WBR	114	81	3.3	68.70	E	125.4	177.9			
NBL	246	143	7.4	205.09	F	62.8	162.8			
NBT	621	518	4.3	56.02	E	51.7	161.0			
NBR	177	142	2.8	46.71	D	51.4	160.6			
SBL	134	109	2.3	140.24	F	32.1	165.6			
SBT	606	453	6.6	155.33	F	137.4	167.1			
SBR	102	97	0.5	190.31	F	137.2	166.8			
ALL	5090	3801	19.3	89.18	F	-	-			

	Duke of	York Bouleva	u - Square Or	ie Drive Sigr	ialized interse	ction			
Movement		PM							
Wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	10	5	1.8	45.76	D	5.5	49.2		
EBT	86	79	0.8	31.15	С	5.5	49.2		
EBR	112	82	3.0	19.85	В	11.5	63.1		
WBL	75	63	1.4	45.86	D	3.6	50.9		
WBT	109	67	4.5	83.16	F	48.0	173.0		
WBR	226	242	1.0	106.28	F	56.5	195.2		
NBL	82	61	2.5	57.80	E	2.1	25.1		
NBT	808	588	8.3	78.46	E	250.0	313.0		
NBR	92	67	2.8	66.20	E	263.2	327.6		
SBL	297	205	5.8	30.18	С	8.0	106.5		
SBT	612	446	7.2	23.02	С	20.9	161.1		
SBR	66	92	2.9	19.50	В	25.2	170.1		
ALL	2575	1997	12.1	55.50	E	-	-		

				urn Road Sign					
Movement		PM							
Wiovernerit	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL									
EBT	743	668	2.8	6.57	Α	3.6	35.2		
EBR	155	197	3.2	3.11	Α	0.1	22.7		
WBL	5	4	0.5	0.58	Α	0.0	0.0		
WBT	1541	1010	14.9	10.45	В	10.6	100.5		
WBR									
NBL	128	108	1.8	20.71	С	3.3	50.6		
NBT									
NBR	5	6	0.4	7.71	Α	4.9	60.1		
SBL									
SBT									
SBR									
ALL	2577	1993	12.2	8.95	Α	-	-		

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
0	0	1				
1	0	0				
0	1	0				
0	0	1				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			0	0	1	

TM	C GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH		PM GEH				
1-5	5-10	>10	1-5	>10			
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
0	1	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
			0	1	0		

TIV	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
0	0	1				
0	1	0				
1	0	0				
0	0	1				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
			0	0	1	

TM	IC GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH		PM GEH				
1-5	5-10	>10	1-5 5-10 >				
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
0	1	0					
0	1	0					
1	0	0					
			0	0	1		

TN	/IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
0	0	1				
1	0	0				
1	0	0				
			0	0	1	

## APPENDIX F3 DETAILED TMC RESULTS ROUNDABOUT INTERSECTION

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2021 - Roundabout Intersection - AM

	Elc	ra Drive West -	- Rathburn Ro	ad Signaliz	ed Intersection	n			
Marramant	AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL	25	25	0.0	12.73	В	0.3	11.4		
EBT	870	823	1.6	9.10	А	6.6	68.6		
EBR	92	91	0.1	4.37	Α	6.6	68.6		
WBL	110	110	0.0	22.86	С	3.0	38.1		
WBT	586	556	1.3	9.34	А	5.0	48.4		
WBR	8	7	0.4	2.78	Α	5.0	48.4		
NBL	87	78	1.0	43.07	D	4.8	41.7		
NBT	19	17	0.5	39.83	D	1.7	27.1		
NBR	50	55	0.7	10.22	В	1.6	29.1		
SBL	19	19	0.0	35.72	D	1.0	12.4		
SBT	52	52	0.0	38.88	D	4.6	39.2		
SBR	74	73	0.1	16.58	В	4.2	39.7		
ALL	1992	1906	1.9	12.82	В	-	-		

	Eld	ora Drive East -	Rathburn Ro	ad Signalize	d Intersection	1				
Marramant	AM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0			
EBL	2	1	0.8	5.87	Α	0.0	1.1			
EBT	827	782	1.6	5.09	Α	4.0	36.1			
EBR	23	0	6.8	0.00	Α	3.4	36.7			
WBL	16	16	0.0	16.83	В	0.2	11.5			
WBT	522	503	0.8	8.53	Α	4.1	54.3			
WBR	22	18	0.9	6.20	Α	3.6	53.8			
NBL	59	61	0.3	47.02	D	4.3	36.2			
NBT										
NBR	27	28	0.2	6.08	Α	4.3	36.0			
SBL	58	55	0.4	39.19	D	3.3	30.0			
SBT										
SBR	5	4	0.5	24.34	С	2.2	29.5			
ALL	1561	1468	2.4	9.50	Α	-	-			

	Confed	leration Parkw	ay - Rathburn	Road Sign	alized Intersec	tion				
		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	133	125	0.7	37.28	D	5.8	58.3			
EBT	756	723	1.2	37.82	D	31.5	112.1			
EBR	107	111	0.4	34.61	С	31.0	111.9			
WBL	107	105	0.2	64.63	E	7.9	61.9			
WBT	250	222	1.8	32.89	С	15.1	93.4			
WBR	217	252	2.3	27.71	С	14.6	93.1			
NBL	235	233	0.1	40.54	D	16.8	126.6			
NBT	1124	1036	2.7	54.42	D	92.0	142.8			
NBR	135	175	3.2	53.33	D	92.5	143.4			
SBL	519	452	3.0	98.46	F	290.0	507.8			
SBT	1164	1075	2.7	51.92	D	275.8	507.8			
SBR	71	75	0.5	50.04	D	275.5	508.7			
ALL	4818	4584	3.4	51.52	D	-	-			

	Confed	eration Parkwa	y - Square Or	ne Drive Sigr	nalized Interse	ection			
	AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	72	71	0.1	18.29	В	1.2	21.5		
EBT	56	50	0.8	30.59	С	2.7	26.5		
EBR	33	30	0.5	15.39	В	2.3	26.0		
WBL	5	5	0.0	68.55	E	17.2	57.3		
WBT	58	58	0.0	69.21	E	17.2	57.3		
WBR	35	83	6.2	82.02	F	16.1	56.1		
NBL	5	6	0.4	38.51	D	0.1	4.0		
NBT	1387	1297	2.5	50.06	D	90.2	232.4		
NBR	32	47	2.4	39.52	D	96.7	241.2		
SBL	5	5	0.0	48.51	D	0.0	3.6		
SBT	1332	1248	2.3	10.44	В	18.0	152.2		
SBR	47	36	1.7	9.76	Α	18.0	152.2		
ALL	3067	2936	2.4	32.39	С	-	-		

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	0	0			
1	0	0			
1	0	0			
0	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	0	0			
0	0	0			
1	0	0			
			1	0	0

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
0	1	0			
0	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
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	0	0			
			1	0	0

TN	IC GEH Sumn	nary	Total Inte	rsection GEF	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
0	0	0			
0	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
0	0	0			
1	0	0			
1	0	0			
			1	0	0

	Liv	ing Arts Drive -	Rathburn Ro	ad Signalize	d Intersection	1			
Movement	AM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	19	11	2.1	16.47	В	0.2	6.8		
EBT	1167	1052	3.5	20.17	С	32.4	189.0		
EBR	224	264	2.6	26.99	С	32.3	188.9		
WBL	172	125	3.9	17.88	В	2.5	35.5		
WBT	490	545	2.4	13.98	В	7.9	60.4		
WBR	12	14	0.6	11.74	В	7.4	59.9		
NBL	72	26	6.6	55.39	E	2.1	21.1		
NBT	9	10	0.3	47.04	D	3.4	29.4		
NBR	141	125	1.4	8.14	Α	2.2	29.1		
SBL	2	2	0.0	39.93	D	0.2	7.6		
SBT	5	1	2.3	58.70	E	0.2	7.6		
SBR	12	13	0.3	6.01	Α	0.0	7.1		
ALL	2325	2188	2.9	19.05	В	-	-		

	Livi	ng Arts Drive - S	Square One D	rive Signali:	zed Intersectio	n					
Movement		AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	105	50	6.2	26.90	С	1.8	30.1				
EBT	60	100	4.5	26.69	С	4.2	42.5				
EBR	31	26	0.9	9.77	Α	3.8	42.0				
WBL	39	42	0.5	29.43	С	1.4	19.0				
WBT	16	23	1.6	25.65	С	1.8	39.8				
WBR	76	109	3.4	10.57	В	1.4	39.1				
NBL	10	29	4.3	0.81	Α	0.0	5.9				
NBT	201	177	1.7	10.61	В	2.4	38.8				
NBR	27	25	0.4	5.68	Α	1.8	38.5				
SBL	37	33	0.7	11.18	В	0.4	12.2				
SBT	163	162	0.1	8.57	Α	2.0	34.3				
SBR	17	8	2.5	2.84	Α	1.5	33.9				
ALL	782	784	0.1	14.12	В	-	-				

	Duke o	of York Bouleva	ird - Rathburi	Road Sign	alized Intersed	tion	
Marramant				AM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0
EBL	137	95	3.9	30.37	С	3.9	39.5
EBT	1043	1039	0.1	33.30	С	35.1	172.9
EBR	73	36	5.0	19.14	В	35.1	172.9
WBL	119	137	1.6	27.56	С	4.3	44.2
WBT	518	524	0.3	8.23	Α	5.0	54.5
WBR	38	39	0.2	17.33	В	4.8	54.1
NBL	59	65	0.8	24.06	С	2.1	27.4
NBT	113	154	3.5	32.21	С	5.8	36.3
NBR	73	33	5.5	14.09	В	5.6	36.0
SBL	70	71	0.1	26.36	С	2.6	26.0
SBT	258	273	0.9	37.07	D	14.4	72.5
SBR	97	95	0.2	10.12	В	14.2	72.2
ALL	2598	2561	0.7	26.11	С	-	-

	Duke o	f York Boulevar	d - Square Or	ne Drive Sigr	nalized Interse	ction					
		AM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	36	63	3.8	35.09	D	4.1	34.3				
EBT	37	38	0.2	29.78	С	4.1	34.3				
EBR	51	54	0.4	11.48	В	0.2	10.7				
WBL	42	38	0.6	29.01	С	1.4	17.2				
WBT	91	111	2.0	30.20	С	5.1	39.1				
WBR	39	17	4.2	18.91	В	0.0	0.0				
NBL	8	29	4.9	18.69	В	0.5	16.5				
NBT	169	170	0.1	9.99	Α	2.4	35.2				
NBR	31	29	0.4	6.95	Α	5.7	51.4				
SBL	89	82	0.8	13.20	В	1.2	28.2				
SBT	365	329	1.9	11.25	В	5.8	75.0				
SBR	34	35	0.2	8.70	Α	8.1	83.9				
ALL	992	995	0.1	16.35	В	-	-				

Square One Drive Extension - Rathburn Road Roundabout Intersection								
Marramant				AM				
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL								
EBT	852	778	2.6	3.33	Α	0.3	40.7	
EBR	86	109	2.3	3.00	Α	0.3	40.7	
WBL	5	5	0.0	2.44	Α	0.2	21.0	
WBT	586	565	0.9	1.18	Α	0.2	21.0	
WBR								
NBL	117	110	0.7	16.65	С	1.9	39.5	
NBT								
NBR	5	6	0.4	12.51	В	1.9	39.5	
SBL								
SBT								
SBR								
ALL	1651	1573	1.9	3.50	Α	-	-	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary			
	AM GEH			AM GEH	Н			
1-5	5-10	>10	1-5	5-10	>10			
1	0	0						
1	0	0						
1	0	0						
1	0	0						
1	0	0						
1	0	0						
0	1	0						
1	0	0						
1	0	0						
0	0	0						
1	0	0						
1	0	0						
			1	0	0			

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	AM GEH			AM GEH		
1-5	5-10	>10	1-5	5-10	>10	
0	1	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	0	0	

TIV	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TIV	IC GEH Sumn	nary	Total Inte	rsection GEH	Summary		
	AM GEH			AM GEH			
1-5	5-10	>10	1-5	5-10	>10		
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	0	0					
			1	0	0		

TM	IC GEH Sumn	narv	Total Inte	rsection GEH	Summary	
	AM GEH	,	AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
0	0	0				
1	0	0				
1	0	0				
1	0	0				
			1	0	0	

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2021 - Roundabout Intersection - PM

Elora Drive West - Rathburn Road Signalized Intersection								
Marramant		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	37	37	0.0	27.05	С	0.7	13.8	
EBT	646	626	0.8	15.63	В	8.5	51.1	
EBR	110	115	0.5	2.79	А	8.5	51.1	
WBL	96	84	1.3	32.34	С	3.4	35.6	
WBT	1191	999	5.8	19.60	В	17.1	88.1	
WBR	20	17	0.7	4.30	Α	17.1	88.1	
NBL	100	92	0.8	11.72	В	1.3	24.4	
NBT	23	22	0.2	10.84	В	0.3	19.4	
NBR	50	53	0.4	4.27	А	0.2	21.4	
SBL	14	15	0.3	11.06	В	0.2	8.7	
SBT	13	12	0.3	14.76	В	0.2	11.2	
SBR	34	35	0.2	4.93	А	0.0	11.8	
ALL	2334	2107	4.8	16.87	В	-	-	

	Eld	ora Drive East -	Rathburn Ro	ad Signalize	d Intersection	1		
		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	5	5	0.0	22.43	С	0.0	7.7	
EBT	537	517	0.9	10.31	В	4.8	69.9	
EBR	31	0	7.9	0.00	А	4.0	69.6	
WBL	54	43	1.6	18.48	В	0.9	28.7	
WBT	1169	973	6.0	15.61	В	16.3	85.2	
WBR	65	53	1.6	14.56	В	15.6	84.6	
NBL	19	20	0.2	13.79	В	0.4	12.3	
NBT								
NBR	8	7	0.4	3.72	Α	0.3	11.9	
SBL	24	23	0.2	12.26	В	0.4	12.3	
SBT								
SBR	3	2	0.6	7.32	Α	0.1	11.6	
ALL	1915	1643	6.4	13.87	В	-	-	

	Confed	eration Parkw	ay - Rathburn	Road Signa	alized Intersec	tion	
				PM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0
EBL	102	103	0.1	37.48	D	4.7	45.7
EBT	426	414	0.6	31.97	С	13.3	88.3
EBR	60	54	0.8	24.34	С	12.7	88.0
WBL	132	140	0.7	44.47	D	5.4	33.4
WBT	897	755	4.9	57.91	E	82.5	187.5
WBR	402	328	3.9	62.57	E	82.1	187.2
NBL	256	197	3.9	65.52	E	22.7	128.7
NBT	1568	1227	9.1	51.01	D	93.9	148.2
NBR	123	114	0.8	50.96	D	94.4	148.8
SBL	418	314	5.4	173.79	F	326.1	508.7
SBT	1283	1053	6.7	59.58	E	335.9	508.7
SBR	209	185	1.7	57.26	E	335.8	509.2
ALL	5876	4884	13.5	61.03	E	-	-

	Confed	eration Parkwa	y - Square Or	ne Drive Sigr	nalized Interse	ction		
		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	74	68	0.7	81.63	F	6.2	36.3	
EBT	62	53	1.2	54.97	D	4.8	35.9	
EBR	22	19	0.7	23.22	С	10.3	48.9	
WBL	5	4	0.5	26.96	С	0.0	1.2	
WBT	56	57	0.1	52.91	D	15.3	56.2	
WBR	24	58	5.3	117.86	F	22.8	68.2	
NBL	5	4	0.5	39.50	D	0.0	2.6	
NBT	1850	1435	10.2	66.86	E	187.7	263.4	
NBR	30	23	1.4	60.57	E	197.5	273.8	
SBL	5	5	0.0	30.52	С	0.0	1.2	
SBT	1365	1143	6.3	8.59	Α	11.7	147.0	
SBR	111	94	1.7	8.07	Α	13.4	154.8	
ALL	3609	2963	11.3	42.89	D	-	-	

TM	C GEH Sumn	nary	Total Inte	ersection GEH Summary			
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	5-10	>10		
0	0	0					
1	0	0					
1	0	0					
1	0	0					
0	1	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		

TM	IC GEH Sumn	nary	Total Inte	al Intersection GEH Summary			
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	5-10	>10		
0	0	0					
1	0	0					
0	1	0					
1	0	0					
0	1	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
			0	1	0		

TM	C GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
0	1	0					
0	1	0					
1	0	0					
			0	0	1		

TN	IC GEH Sumn	nary	Total Inte	Total Intersection GEH Summary				
	PM GEH			PM GEH				
1-5	5-10	>10	1-5	>10				
1	0	0						
1	0	0						
1	0	0						
1	0	0						
1	0	0						
0	1	0						
1	0	0						
0	0	1						
1	0	0						
0	0	0						
0	1	0						
1	0	0						
			0	0	1			

Living Arts Drive - Rathburn Road Signalized Intersection									
Movement		PM							
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL	26	21	1.0	61.49	E	1.3	19.4		
EBT	856	720	4.8	40.24	D	31.5	140.4		
EBR	86	89	0.3	38.00	D	31.2	140.3		
WBL	173	113	5.0	36.51	D	3.6	41.7		
WBT	1197	1101	2.8	64.61	E	112.8	216.2		
WBR	15	14	0.3	63.36	E	112.2	215.7		
NBL	203	88	9.5	54.01	D	6.1	43.0		
NBT	9	6	1.1	29.09	С	11.2	72.4		
NBR	202	172	2.2	17.85	В	10.3	72.1		
SBL	27	30	0.6	48.67	D	2.6	25.2		
SBT	15	18	0.7	41.83	D	2.6	25.2		
SBR	31	34	0.5	27.72	С	1.4	24.5		
ALL	2840	2406	8.5	50.27	D	-	-		

	PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	47	29	2.9	32.71	С	1.1	16.8	
EBT	71	64	0.9	25.15	С	2.5	35.3	
EBR	36	14	4.4	6.57	Α	2.2	34.7	
WBL	21	60	6.1	25.67	С	2.0	30.1	
WBT	120	119	0.1	26.70	С	4.9	46.2	
WBR	62	32	4.4	13.16	В	3.9	45.5	
NBL	33	29	0.7	1.21	Α	0.0	4.7	
NBT	194	199	0.4	9.35	Α	2.4	40.4	
NBR	32	26	1.1	4.49	Α	0.8	54.1	
SBL	66	47	2.5	9.96	Α	0.4	13.5	
SBT	234	192	2.9	8.08	Α	2.4	44.1	
SBR	51	61	1.3	3.65	Α	2.0	43.8	
ALL	967	872	3.1	13.81	В	_	_	

	Duke of York Boulevard - Rathburn Road Signalized Intersection								
Marramant		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	138	105	3.0	295.57	F	62.3	163.1		
EBT	895	723	6.0	37.06	D	49.4	196.7		
EBR	28	79	7.0	17.54	В	49.4	196.7		
WBL	199	209	0.7	43.23	D	13.6	127.5		
WBT	1121	1050	2.2	72.93	E	103.7	179.2		
WBR	86	86	0.0	58.48	E	103.5	178.9		
NBL	187	125	5.0	120.54	F	26.9	144.2		
NBT	472	520	2.2	48.49	D	33.8	159.9		
NBR	134	145	0.9	38.15	D	33.5	159.5		
SBL	102	107	0.5	83.23	F	15.8	127.1		
SBT	461	438	1.1	84.61	F	57.0	144.0		
SBR	78	93	1.6	84.69	F	56.8	143.7		
ALL	3901	3680	3.6	67.80	E	-	-		

	Duke of York Boulevard - Square One Drive Signalized Intersection									
		PM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	8	4	1.6	33.25	С	4.4	45.3			
EBT	75	73	0.2	30.34	С	4.4	45.3			
EBR	85	59	3.1	17.08	В	9.7	59.3			
WBL	57	48	1.2	32.94	С	2.0	18.7			
WBT	90	60	3.5	38.60	D	8.9	75.6			
WBR	172	194	1.6	31.42	С	10.2	88.4			
NBL	62	63	0.1	19.88	В	0.8	16.8			
NBT	615	617	0.1	27.16	С	43.1	265.5			
NBR	70	71	0.1	22.05	С	45.0	279.4			
SBL	226	186	2.8	33.11	С	7.3	96.6			
SBT	466	452	0.7	13.85	В	11.9	156.8			
SBR	50	89	4.7	12.43	В	14.7	165.7			
ALL	1976	1916	1.4	24.24	С	-	-			

Square One Drive Extension - Rathburn Road Roundabout Intersection									
		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL									
EBT	574	516	2.5	3.69	Α	0.4	35.3		
EBR	138	164	2.1	3.62	Α	0.4	35.3		
WBL	5	5	0.0	2.70	А	1.9	84.9		
WBT	1191	991	6.1	3.14	Α	1.9	84.9		
WBR									
NBL	116	112	0.4	12.95	В	1.2	44.3		
NBT									
NBR	5	6	0.4	7.24	Α	1.2	44.3		
SBL									
SBT									
SBR									
ALL	2029	1794	5.4	3.97	Α	-	-		

TM	C GEH Sumn	nary	Total Inter	rsection GEH	Summary		
	PM GEH		PM GEH				
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
			0	1	0		

TM	C GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
1	0	0					
1	0	0					
0	1	0					
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1	0	0					
1	0	0					
			1	0	0		

TIV	IC GEH Sumn	nary	Total Inte	rsection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
0	1	0				
0	1	0				
1	0	0				
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1	0	0				
1	0	0				
			1	0	0	

TM	1C GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH			PM GEH			
1-5	5-10	>10	1-5 5-10				
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
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1	0	0					
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1	0	0					
1	0	0					
1	0	0					
1	0	0					
			1	0	0		

TIV	IC GEH Sumn	narv	Total Inte	rsection GEH	Summary
	PM GEH	,	PM GEH		
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
0	0	0			
0	1	0			
1	0	0			
1	0	0			
		•	0	1	0

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2031 - Roundabout Intersection - AM

	Elo	ra Drive West	- Rathburn Ro	oad Signalize	ed Intersection	1				
		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	28	28	0.0	12.35	В	0.3	12.7			
EBT	968	915	1.7	10.35	В	8.4	73.1			
EBR	104	103	0.1	4.70	Α	8.4	73.1			
WBL	125	119	0.5	25.37	С	3.6	44.7			
WBT	652	606	1.8	9.21	Α	5.2	51.2			
WBR	9	9	0.0	2.44	Α	5.2	51.2			
NBL	99	88	1.1	44.64	D	5.8	39.7			
NBT	21	21	0.0	44.01	D	2.3	35.6			
NBR	57	60	0.4	13.97	В	2.3	37.6			
SBL	21	22	0.2	38.21	D	1.2	16.2			
SBT	59	59	0.0	42.78	D	5.9	49.5			
SBR	84	83	0.1	18.31	В	5.4	50.1			
ALL	2227	2113	2.4	13.96	В	-	-			

0	Ele	ora Drive East -	Rathburn Ro	ad Signalize	d Intersection		
Marramant				AM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	2	2	0.0	4.78	Α	0.0	0.0
EBT	926	873	1.8	4.63	Α	4.0	34.4
EBR	26	0	7.2	0.00	Α	3.3	34.1
WBL	19	18	0.2	15.80	В	0.2	12.5
WBT	588	553	1.5	8.66	Α	4.5	51.3
WBR	25	21	0.8	6.27	Α	4.0	50.6
NBL	67	68	0.1	42.15	D	4.3	35.4
NBT	5		3.2		Α		
NBR	31	33	0.4	7.22	Α	3.4	35.0
SBL	66	63	0.4	39.81	D	3.8	31.8
SBT	5		3.2		Α		
SBR	6	5	0.4	12.76	В	3.2	31.3
ALL	1766	1636	3.2	9.13	Α	-	-

	Confec	leration Parkw	ay - Rathburn	Road Signa	alized Intersec	tion				
		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	151	146	0.4	41.33	D	7.8	89.4			
EBT	846	802	1.5	37.40	D	36.0	112.6			
EBR	121	121	0.0	34.60	С	35.6	112.4			
WBL	120	113	0.6	83.49	F	12.1	89.7			
WBT	280	272	0.5	34.83	С	20.7	109.1			
WBR	245	288	2.6	31.99	С	20.1	108.8			
NBL	266	237	1.8	45.99	D	32.3	144.4			
NBT	1251	1052	5.9	57.15	E	106.0	146.1			
NBR	151	180	2.3	56.40	E	106.5	146.8			
SBL	586	433	6.8	115.00	F	390.8	508.3			
SBT	1307	1057	7.3	52.07	D	388.9	508.3			
SBR	80	73	0.8	48.29	D	388.7	508.3			
ALL	5404	4774	8.8	54.02	D	-	-			

·	Confede	eration Parkwa	y - Square Or	ne Drive Sigr	nalized Interse	ction				
		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	72	71	0.1	24.44	С	1.5	22.5			
EBT	61	57	0.5	30.57	С	3.4	34.4			
EBR	37	32	0.9	22.38	С	3.0	33.9			
WBL	5	5	0.0	60.30	E	25.8	59.7			
WBT	65	66	0.1	71.17	E	25.8	59.7			
WBR	40	91	6.3	116.59	F	24.6	58.5			
NBL	5	5	0.0	42.08	D	0.0	3.6			
NBT	1556	1316	6.3	70.93	E	181.6	264.8			
NBR	35	45	1.6	54.74	D	189.7	273.7			
SBL	5	5	0.0	28.84	С	0.0	0.0			
SBT	1500	1250	6.7	10.27	В	19.1	149.6			
SBR	48	36	1.9	9.77	Α	19.1	149.6			
ALL	3429	2979	7.9	43.35	D	-	-			

TM	C GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	0	0			
1	0	0			
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1	0	0			
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0	0	0			
1	0	0			
			1	0	0

TM	IC GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	0	0			
1	0	0			
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1	0	0			
			1	0	0

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
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0	1	0			
1	0	0			
			0	1	0

TIV	IC GEH Sumn	nary	Total Inte	rsection GEH	I Summary	
	AM GEH			AM GEH		
1-5	5-10	>10	1-5	1-5 5-10		
1	0	0				
1	0	0				
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1	0	0				
			0	1	0	

	Liv	ing Arts Drive -	Rathburn Ro	ad Signalize	d Intersection	1			
Movement	AM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	21	13	1.9	24.79	С	0.3	8.7		
EBT	1319	1111	6.0	29.47	С	54.7	189.8		
EBR	242	267	1.6	34.67	С	54.5	189.7		
WBL	190	142	3.7	20.38	С	3.4	45.4		
WBT	553	610	2.4	16.35	В	10.1	68.3		
WBR	14	16	0.5	15.86	В	9.6	67.8		
NBL	78	59	2.3	55.55	E	5.0	39.2		
NBT	10	11	0.3	47.29	D	1.3	26.1		
NBR	157	138	1.6	9.52	Α	0.7	25.8		
SBL	2	2	0.0	46.75	D	0.2	6.4		
SBT	5	1	2.3	38.59	D	0.2	6.4		
SBR	14	14	0.0	5.98	Α	0.0	5.9		
ALL	2605	2384	4.4	25.49	С	-	-		

	Livi	ng Arts Drive - S	quare One D	rive Signali:	zed Intersection	on				
Movement	AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	115	51	7.0	27.76	С	1.9	27.7			
EBT	68	114	4.8	24.36	С	4.5	40.5			
EBR	35	29	1.1	11.98	В	4.0	39.9			
WBL	45	48	0.4	30.25	С	1.7	25.3			
WBT	19	27	1.7	24.82	С	1.6	35.5			
WBR	77	111	3.5	8.86	Α	1.1	34.8			
NBL	11	34	4.8	0.87	Α	0.0	5.9			
NBT	222	193	2.0	9.75	Α	2.4	35.8			
NBR	31	34	0.5	5.48	Α	1.8	35.4			
SBL	41	38	0.5	13.27	В	0.4	13.2			
SBT	182	181	0.1	8.50	Α	2.2	36.9			
SBR	19	8	3.0	4.14	Α	1.6	36.5			
ALL	865	868	0.1	13.62	В	-	-			

	Duke (	of York Bouleva	rd - Rathburi	n Road Signa	alized Intersed	tion				
Marramant		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	155	106	4.3	33.48	С	4.8	37.9			
EBT	1176	1100	2.3	33.22	С	40.0	187.3			
EBR	83	36	6.1	19.58	В	40.0	187.3			
WBL	135	155	1.7	28.95	С	5.4	43.6			
WBT	580	586	0.2	8.18	Α	5.6	65.2			
WBR	43	42	0.2	18.41	В	5.5	64.8			
NBL	67	75	0.9	26.74	С	2.6	30.0			
NBT	128	178	4.0	32.65	С	6.6	39.4			
NBR	83	34	6.4	17.22	В	6.4	39.1			
SBL	79	80	0.1	25.53	С	2.7	26.6			
SBT	292	308	0.9	37.79	D	16.6	85.5			
SBR	110	109	0.1	10.13	В	16.4	85.3			
ALL	2931	2809	2.3	26.36	С	-	-			

	Duke o	f York Bouleva	rd - Square Or	ne Drive Sigr	nalized Interse	ction					
Movement		AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	41	75	4.5	34.70	С	4.9	44.0				
EBT	41	41	0.0	31.44	С	4.9	44.0				
EBR	58	66	1.0	14.22	В	0.2	20.9				
WBL	47	44	0.4	30.05	С	1.6	18.4				
WBT	94	114	2.0	32.03	С	5.8	45.5				
WBR	45	20	4.4	20.01	С	0.2	21.0				
NBL	9	33	5.2	13.75	В	0.4	15.3				
NBT	192	189	0.2	11.54	В	3.3	53.0				
NBR	35	34	0.2	7.52	Α	6.9	69.2				
SBL	100	89	1.1	14.96	В	1.4	24.9				
SBT	414	370	2.2	12.26	В	7.1	97.6				
SBR	38	39	0.2	9.97	Α	9.6	106.4				
ALL	1114	1114	0.0	17.37	В	-					

	Square C	ne Drive Extensi	ion - Rathbu	rn Road Roun	ıdabout Intei	rsection					
Marramant				AM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL											
EBT	955	870	2.8	4.26	Α	0.9	55.2				
EBR	91	118	2.6	3.70	Α	0.9	55.2				
WBL	5	5	0.0	2.73	Α	0.2	26.5				
WBT	661	620	1.6	1.27	Α	0.2	26.5				
WBR											
NBL	124	117	0.6	19.94	С	2.8	52.6				
NBT											
NBR	5	6	0.4	12.54	В	2.8	52.6				
SBL											
SBT											
SBR											
ALL	1841	1736	2.5	4.24	Α	-	-				

TM	C GEH Sumn	nary	Total Inter	Total Intersection GEH Summary			
	AM GEH			AM GEH			
1-5	5-10	>10	1-5	>10			
1	0	0					
0	1	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	0	0					
1	0	0					
0	0	0					
			1	0	0		

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	AM GEH			AM GEH		
1-5	5-10	>10	1-5	5-10	>10	
0	1	0				
1	0	0				
1	0	0				
1	0	0				
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1	0	0				
1	0	0				
1	0	0				
1	0	0				
			1	0	0	

TN	1C GEH Sumn	nary	Total Inte	Total Intersection GEH Summary			
	AM GEH			AM GEH			
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
1	0	0					
0	1	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
1	0	0					
1	0	0					
			1	0	0		

TIV	IC GEH Sumn	nary	Total Intersection GEH Summary				
	AM GEH			AM GEH	>10		
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
0	0	0					
1	0	0					
1	0	0					
1	0	0					
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0	1	0					
1	0	0					
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1	0	0					
1	0	0					
			1	0	0		

TN	1C GEH Sumn	nary	Total Inte	rsection GEH	l Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
0	0	0				
1	0	0				
1	0	0				
1	0	0				
			1	0	0	

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS

2031 - Roundabout Intersection - PM

	Elo	ra Drive West -	- Rathburn Ro	ad Signaliz	ed Intersection	n	
				PM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C
EBL	42	40	0.3	26.19	С	0.7	13.6
EBT	716	691	0.9	13.28	В	7.9	49.8
EBR	125	126	0.1	3.06	Α	7.9	49.8
WBL	109	80	3.0	27.76	С	2.5	42.3
WBT	1328	1015	9.1	14.33	В	13.1	116.8
WBR	22	16	1.4	2.72	Α	13.1	116.8
NBL	113	106	0.7	16.59	В	2.3	33.9
NBT	26	26	0.0	14.63	В	0.6	17.1
NBR	57	56	0.1	5.57	Α	0.5	19.1
SBL	16	17	0.2	19.16	В	0.4	11.4
SBT	15	14	0.3	18.00	В	0.4	12.5
SBR	38	38	0.0	6.16	Α	0.2	13.1
ALL	2607	2225	7.8	13.79	В	-	-

0	Ele	ora Drive East -	Rathburn Ro	ad Signalize	d Intersection	1			
		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	6	7	0.4	23.51	С	0.1	5.3		
EBT	603	579	1.0	11.67	В	6.6	76.7		
EBR	35	0	8.4	0.00	Α	5.7	76.3		
WBL	61	42	2.6	14.53	В	0.5	27.5		
WBT	1314	992	9.5	12.76	В	13.0	84.4		
WBR	73	46	3.5	9.57	Α	12.6	83.9		
NBL	21	24	0.6	16.02	В	0.5	13.6		
NBT	5		3.2		Α				
NBR	9	8	0.3	4.03	Α	0.1	13.2		
SBL	27	28	0.2	13.23	В	0.5	13.7		
SBT	1		1.4		Α				
SBR	4	2	1.2	7.11	Α	0.1	13.0		
ALL	2159	1728	9.8	12.40	В	-	-		

	Confed	leration Parkw	ay - Rathburn	Road Signa	alized Intersec	tion		
		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	115	117	0.2	38.37	D	5.5	57.1	
EBT	478	466	0.6	33.48	С	15.9	93.7	
EBR	68	61	0.9	28.82	С	15.3	93.5	
WBL	147	132	1.3	52.12	D	6.7	65.4	
WBT	1005	772	7.8	63.89	E	103.0	188.1	
WBR	453	340	5.7	62.71	E	102.7	187.8	
NBL	290	199	5.8	59.72	E	20.6	114.9	
NBT	1754	1240	13.3	50.69	D	98.1	148.8	
NBR	138	110	2.5	53.68	D	98.6	149.5	
SBL	473	298	8.9	200.47	F	402.1	510.3	
SBT	1425	991	12.5	58.26	E	411.8	510.3	
SBR	236	172	4.5	52.30	D	411.6	510.2	
ALL	6582	4898	22.2	62.57	E	-	-	

·	Confed	eration Parkwa	y - Square Or	ne Drive Sigr	nalized Interse	ction			
		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	74	70	0.5	82.52	F	5.8	31.3		
EBT	69	63	0.7	45.82	D	4.8	35.6		
EBR	25	23	0.4	21.11	С	10.2	48.6		
WBL	5	3	1.0	117.49	F	0.0	1.1		
WBT	60	54	0.8	64.24	E	19.1	59.2		
WBR	28	67	5.7	127.42	F	27.6	71.2		
NBL	5	3	1.0	46.33	D	0.0	2.5		
NBT	2080	1433	15.4	69.37	E	198.1	262.8		
NBR	33	22	2.1	50.31	D	208.0	273.2		
SBL	5	4	0.5	52.07	D	0.1	5.1		
SBT	1527	1099	11.8	9.18	Α	11.5	145.7		
SBR	113	77	3.7	8.11	Α	13.2	153.4		
ALL	4024	2918	18.8	45.61	D	-	-		

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	PM GEH			PM GEH		
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
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			0	1	0	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
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			0	1	0

TM	C GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	>10			
1	0	0					
1	0	0					
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0	0	1					
1	0	0					
			0	0	1		

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	>10		
1	0	0				
1	0	0				
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0	0	1				
1	0	0				
			0	0	1	

	Liv	ing Arts Drive -	Rathburn Ro	ad Signalize	ed Intersectio	n		
Movement	PM							
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C	
EBL	30	22	1.6	71.72	E	1.5	18.8	
EBT	967	735	8.0	52.49	D	44.4	170.7	
EBR	92	93	0.1	45.82	D	44.2	170.6	
WBL	193	104	7.3	37.26	D	2.4	34.5	
WBT	1353	1033	9.3	85.42	F	143.2	216.7	
WBR	17	13	1.0	65.25	E	142.7	216.2	
NBL	218	177	2.9	122.16	F	44.8	84.2	
NBT	10	7	1.0	56.72	E	4.8	76.7	
NBR	220	162	4.2	16.59	В	4.5	76.4	
SBL	31	33	0.4	64.87	E	4.6	34.7	
SBT	17	20	0.7	63.46	E	4.6	34.7	
SBR	35	37	0.3	41.75	D	3.1	34.0	
ALL	3183	2436	14.1	68.57	E	-	-	

	Livi	ng Arts Drive - S	quare One D	rıve Signali	zed Intersection	on		
Movement	PM							
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	51	30	3.3	39.63	D	1.0	15.8	
EBT	80	77	0.3	24.68	С	2.9	41.7	
EBR	41	17	4.5	7.85	Α	2.6	41.2	
WBL	24	61	5.7	27.99	С	2.2	36.4	
WBT	136	122	1.2	24.07	С	4.9	48.5	
WBR	66	32	4.9	24.41	С	4.1	47.8	
NBL	37	33	0.7	3.51	Α	0.0	7.1	
NBT	217	217	0.0	23.25	С	8.3	121.5	
NBR	36	29	1.2	21.44	С	7.8	135.3	
SBL	69	34	4.9	13.22	В	0.4	16.1	
SBT	258	170	6.0	5.94	Α	1.7	41.9	
SBR	55	60	0.7	4.40	А	1.2	41.5	
ALL	1070	882	6.0	18.32	В	-	-	

	Duke	of York Bouleva	iru - Natiibuii	i Noau Jigiid	ilizeu iliterse	LLIOII	
Movement				PM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C
EBL	156	112	3.8	251.84	F	59.9	143.7
EBT	1002	738	9.0	37.09	D	43.5	157.9
EBR	32	83	6.7	22.04	С	43.5	157.9
WBL	225	188	2.6	41.09	D	8.6	78.0
WBT	1264	968	8.9	95.32	F	123.2	178.5
WBR	98	80	1.9	66.12	E	122.9	178.2
NBL	212	134	5.9	202.60	F	54.8	160.2
NBT	535	516	0.8	52.41	D	42.3	160.2
NBR	152	146	0.5	47.33	D	42.1	159.9
SBL	115	103	1.1	132.38	F	26.2	153.1
SBT	522	437	3.9	144.37	F	120.7	166.5
SBR	88	93	0.5	177.17	F	120.4	166.2
ALL	4401	3598	12.7	88.10	F	-	-

Duke of York Boulevard - Square One Drive Signalized Intersection									
		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	9	4	2.0	36.54	D	4.3	53.6		
EBT	80	66	1.6	29.59	С	4.3	53.6		
EBR	97	69	3.1	18.01	В	9.2	67.6		
WBL	64	55	1.2	31.85	С	2.2	27.1		
WBT	98	66	3.5	47.15	D	17.4	104.3		
WBR	194	218	1.7	58.46	E	22.5	118.8		
NBL	71	62	1.1	48.78	D	1.9	26.6		
NBT	696	601	3.7	67.59	E	187.2	307.3		
NBR	79	69	1.2	54.85	D	196.9	321.8		
SBL	256	191	4.3	24.76	С	4.4	52.9		
SBT	527	434	4.2	22.67	С	19.7	151.9		
SBR	57	86	3.4	19.70	В	23.8	160.8		
ALL	2228	1921	6.7	44.06	D	-	-		

Square One Drive Extension - Rathburn Road Roundabout Intersection									
		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL									
EBT	645	583	2.5	4.09	Α	0.8	37.1		
EBR	145	181	2.8	3.70	Α	0.8	37.1		
WBL	5	5	0.0	3.06	Α	1.8	87.8		
WBT	1338	1014	9.4	2.94	Α	1.8	87.8		
WBR									
NBL	121	109	1.1	15.69	В	1.6	57.8		
NBT									
NBR	5	6	0.4	5.47	Α	1.6	57.8		
SBL									
SBT									
SBR									
ALL	2259	1898	7.9	4.11	Α	-	-		

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	>10		
1	0	0				
0	1	0				
1	0	0				
0	1	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			0	0	1	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	l Summary		
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
1	0	0					
1	0	0					
0	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
			0	1	0		

TM	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	>10		
1	0	0				
0	1	0				
0	1	0				
1	0	0				
0	1	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			0	0	1	

TM	1C GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	>10			
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	0	0					
			0	1	0		

TN	/IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
0	0	0				
0	1	0				
1	0	0				
1	0	0				
			0	1	0	

Project: Square One Drive EA Project # 1650-11005 Task: Traffic Analysis

Summary of Intersection TMCs and LOS 2041 - Roundabout Intersection - AM

				oad Signalize		•				
Movement	AM									
Wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max (			
EBL	33	34	0.2	15.64	В	0.4	13.5			
EBT	1103	1034	2.1	9.99	Α	9.2	81.4			
EBR	121	124	0.3	5.07	Α	9.2	81.4			
WBL	145	129	1.4	33.10	С	5.6	49.6			
WBT	743	614	5.0	8.78	Α	5.1	57.1			
WBR	10	9	0.3	1.75	Α	5.1	57.1			
NBL	115	103	1.1	43.22	D	6.5	45.7			
NBT	24	25	0.2	37.06	D	2.2	32.9			
NBR	66	65	0.1	12.07	В	2.2	34.9			
SBL	24	25	0.2	33.23	С	1.1	17.4			
SBT	69	69	0.0	39.05	D	6.2	53.7			
SBR	98	92	0.6	17.87	В	5.6	54.3			
ALL	2551	2323	4.6	13.99	В	-	-			

	Elo	ra Drive East -	Rathburn Roa	ad Signalize	d Intersection	1				
Marramant	AM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	3	1	1.4	0.91	Α	0.0	0.0			
EBT	1063	992	2.2	5.53	Α	4.9	43.4			
EBR	30	0	7.7	0.00	Α	4.3	42.7			
WBL	22	19	0.7	22.42	С	0.4	15.7			
WBT	679	556	4.9	8.35	Α	4.4	53.0			
WBR	29	24	1.0	6.04	Α	4.0	52.5			
NBL	78	75	0.3	45.62	D	5.2	41.6			
NBT	5		3.2		Α					
NBR	36	39	0.5	7.06	Α	4.3	41.1			
SBL	76	73	0.3	42.74	D	4.7	37.3			
SBT	5		3.2		Α					
SBR	7	6	0.4	24.13	С	3.5	36.7			
ALL	2033	1785	5.7	9.89	Α	-	-			

	Confed	leration Parkw	ay - Rathburr	n Road Signa	alized Intersec	tion				
		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	175	167	0.6	39.95	D	8.6	98.3			
EBT	969	912	1.9	38.37	D	43.1	113.2			
EBR	141	135	0.5	35.46	D	42.7	113.0			
WBL	138	131	0.6	148.48	F	32.3	119.5			
WBT	321	286	2.0	36.05	D	27.9	123.4			
WBR	284	322	2.2	34.15	С	27.5	123.1			
NBL	309	237	4.4	43.29	D	32.3	141.1			
NBT	1425	1056	10.5	57.41	E	107.3	145.5			
NBR	172	184	0.9	56.80	E	107.8	146.2			
SBL	678	389	12.5	136.26	F	423.6	508.8			
SBT	1504	985	14.7	53.85	D	426.1	508.8			
SBR	93	67	2.9	49.32	D	425.9	508.7			
ALL	6209	4871	18.0	57.05	E	-	-			

	Confed	eration Parkwa	y - Square Or	ne Drive Sign	nalized Interse	ection			
	AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	72	72	0.0	22.86	С	1.6	23.5		
EBT	68	67	0.1	37.85	D	4.6	31.1		
EBR	43	36	1.1	21.81	С	4.3	30.6		
WBL	5	5	0.0	95.07	F	30.7	58.7		
WBT	75	73	0.2	65.54	E	30.7	58.7		
WBR	47	100	6.2	127.55	F	29.7	57.4		
NBL	5	4	0.5	55.17	E	0.0	3.7		
NBT	1788	1313	12.1	75.00	E	205.1	263.6		
NBR	38	45	1.1	63.21	E	213.5	272.4		
SBL	5	3	1.0	47.30	D	0.0	2.5		
SBT	1732	1215	13.5	10.77	В	19.2	152.2		
SBR	50	34	2.5	11.95	В	19.2	152.2		
ALL	3928	2967	16.4	46.56	D	-	-		

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
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			
0	0	0			
1	0	0			
			1	0	0

TN	1C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
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1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			0	1	0

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	0	1			
1	0	0			
0	0	1			
0	0	1			
1	0	0			
			0	0	1

TIV	IC GEH Sumn	nary	Total Inte	rsection GEH	<b>Summary</b>
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	0	0			
1	0	0			
1	0	0			
0	0	0			
1	0	0			
0	1	0			
1	0	0			
0	0	1			
1	0	0			
1	0	0			
0	0	1			
1	0	0			
			0	0	1

	AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL	24	15	2.0	24.27	С	0.3	8.4		
EBT	1529	1182	9.4	30.67	С	68.4	190.4		
EBR	266	268	0.1	37.66	D	68.3	190.3		
WBL	214	159	4.0	21.21	С	3.9	46.3		
WBT	641	705	2.5	18.27	В	12.7	83.7		
WBR	16	20	0.9	19.57	В	12.3	83.2		
NBL	87	33	7.0	50.11	D	2.4	20.5		
NBT	11	13	0.6	55.17	E	4.2	31.8		
NBR	180	163	1.3	12.11	В	3.0	31.5		
SBL	3	2	0.6	65.80	E	0.5	13.4		
SBT	5	2	1.6	56.12	E	0.5	13.4		
SBR	16	17	0.2	8.87	Α	0.2	12.8		
ALL	2992	2579	7.8	26.40	С	-	-		

	Livir	ng Arts Drive - S	quare One D	rive Signali	zed Intersection	n				
Movement		AM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	128	53	7.9	26.47	С	2.0	42.8			
EBT	79	132	5.2	27.97	С	6.4	51.4			
EBR	40	32	1.3	15.36	В	5.9	50.9			
WBL	52	56	0.5	29.99	С	2.0	29.5			
WBT	22	30	1.6	24.15	С	1.7	41.4			
WBR	79	115	3.7	9.23	Α	1.2	40.7			
NBL	13	39	5.1	0.91	Α	0.0	6.1			
NBT	251	220	2.0	10.12	В	2.9	41.1			
NBR	36	38	0.3	6.56	Α	2.3	40.8			
SBL	46	39	1.1	12.61	В	0.4	16.0			
SBT	209	202	0.5	8.29	Α	2.4	38.9			
SBR	21	7	3.7	6.73	Α	1.8	38.6			
ALL	976	963	0.4	14.31	В	-	-			

	Duke	of York Bouleva	ra - Kathburr	i Koad Signa	anzed intersed	tion				
Movement	AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C			
EBL	180	123	4.6	31.68	С	5.0	45.7			
EBT	1359	1179	5.1	30.13	С	40.6	192.5			
EBR	96	36	7.4	20.61	С	40.6	192.5			
WBL	157	177	1.5	32.24	С	6.6	56.7			
WBT	665	674	0.3	7.55	Α	5.7	67.5			
WBR	50	49	0.1	17.15	В	5.6	67.1			
NBL	78	86	0.9	29.55	С	3.5	32.1			
NBT	148	200	3.9	34.75	С	7.9	43.6			
NBR	96	38	7.1	18.10	В	7.7	43.3			
SBL	92	94	0.2	31.77	С	3.9	53.9			
SBT	339	359	1.1	45.94	D	23.3	88.5			
SBR	128	127	0.1	16.54	В	23.1	88.3			
ALL	3388	3142	4.3	26.59	С	-	-			

	Duke o	f York Boulevar	d - Square Oi	ne Drive Sigr	nalized Interse	ction					
Movement		AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	47	82	4.4	35.45	D	5.5	42.0				
EBT	46	48	0.3	29.87	С	5.5	42.0				
EBR	68	75	0.8	13.98	В	0.3	19.0				
WBL	55	53	0.3	30.12	С	2.0	24.6				
WBT	97	118	2.0	30.30	С	5.7	40.7				
WBR	52	27	4.0	17.57	В	0.2	21.8				
NBL	10	40	6.0	18.66	В	0.6	16.3				
NBT	223	213	0.7	12.01	В	3.9	55.3				
NBR	40	39	0.2	8.21	Α	7.5	71.5				
SBL	116	100	1.5	14.35	В	1.5	28.5				
SBT	480	425	2.6	13.04	В	8.9	119.6				
SBR	45	44	0.1	10.25	В	11.5	128.5				
ALL	1279	1264	0.4	17.47	В	-	-				

		AM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL								
EBT	1096	988	3.3	4.41	Α	1.2	60.1	
EBR	98	127	2.7	4.02	Α	1.2	60.1	
WBL	5	4	0.5	3.53	Α	0.2	21.8	
WBT	764	631	5.0	1.37	Α	0.2	21.8	
WBR								
NBL	134	123	1.0	23.82	С	3.9	52.1	
NBT								
NBR	5	6	0.4	16.65	С	3.9	52.1	
SBL								
SBT								
SBR								
ALL	2102	1879	5.0	4.67	Α	-	-	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			0	1	0

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	AM GEH			AM GEH		
1-5	5-10	>10	1-5	5-10	>10	
0	1	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			1	0	0	

TN	1C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
0	1	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TN	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TIV	1C GEH Sumn	nary	Total Inte	rsection GEH	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
			1	0	0	

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2041 - Roundabout Intersection - PM

	Elo	ra Drive West	- Rathburn Ro	ad Signaliz	ed Intersection	n		
		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C	
EBL	49	48	0.1	25.42	С	0.9	17.8	
EBT	812	788	0.8	13.31	В	9.1	57.7	
EBR	145	146	0.1	3.04	А	9.1	57.7	
WBL	126	85	4.0	28.05	С	2.7	34.5	
WBT	1517	1003	14.5	14.59	В	13.0	105.2	
WBR	26	17	1.9	4.46	Α	13.0	105.2	
NBL	131	128	0.3	18.13	В	3.1	41.3	
NBT	30	31	0.2	15.79	В	0.8	24.5	
NBR	66	63	0.4	6.05	А	0.7	26.5	
SBL	19	19	0.0	16.98	В	0.4	10.1	
SBT	17	16	0.2	18.88	В	0.5	16.2	
SBR	45	45	0.0	6.95	Α	0.3	16.7	
ALL	2983	2389	11.5	13.97	В	-	-	

	Ele	ora Drive East -	Rathburn Ro	ad Signalize	d Intersection	1	
				PM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	7	7	0.0	18.93	В	0.1	6.5
EBT	695	658	1.4	9.56	Α	6.0	76.9
EBR	40	0	8.9	0.00	Α	5.3	76.6
WBL	70	51	2.4	11.53	В	0.4	25.6
WBT	1512	982	15.0	10.03	В	9.6	84.3
WBR	85	53	3.9	7.27	Α	9.0	83.9
NBL	24	26	0.4	18.49	В	0.6	14.8
NBT	5		3.2		Α		
NBR	10	9	0.3	5.06	Α	0.4	14.3
SBL	32	33	0.2	21.02	С	0.9	13.4
SBT	1		1.4		Α		
SBR	4	2	1.2	6.13	Α	0.2	12.8
ALL	2485	1821	14.3	10.15	В	-	-

	Confed	leration Parkw	ay - Rathburn	Road Signa	alized Intersec	tion		
		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	134	130	0.3	39.04	D	6.4	59.0	
EBT	549	529	0.9	29.91	С	17.3	102.2	
EBR	79	75	0.5	25.38	С	16.7	101.9	
WBL	167	133	2.8	55.71	E	8.0	122.2	
WBT	1155	771	12.4	61.01	E	99.8	187.3	
WBR	524	330	9.4	60.72	E	99.4	187.0	
NBL	336	203	8.1	65.12	E	23.7	143.5	
NBT	2008	1245	18.9	51.08	D	96.7	148.0	
NBR	157	113	3.8	49.12	D	97.2	148.7	
SBL	548	304	11.8	193.38	F	419.8	510.0	
SBT	1619	972	18.0	58.06	E	438.2	509.9	
SBR	274	179	6.3	53.35	D	438.8	510.4	
ALL	7550	4984	32.4	61.08	E	-	-	

	Confed	eration Parkwa	y - Square Or	ne Drive Sigr	nalized Interse	ction		
		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	74	69	0.6	82.18	F	6.0	36.7	
EBT	79	71	0.9	43.61	D	5.4	39.2	
EBR	29	28	0.2	24.63	С	11.3	52.2	
WBL	5	3	1.0	54.19	D	0.0	0.0	
WBT	67	53	1.8	76.79	E	22.0	57.0	
WBR	32	76	6.0	116.05	F	31.0	69.0	
NBL	5	2	1.6	31.80	С	0.0	1.4	
NBT	2396	1431	22.1	69.86	E	200.7	264.2	
NBR	38	21	3.1	63.41	E	210.7	274.6	
SBL	5	3	1.0	40.77	D	0.0	3.9	
SBT	1749	1100	17.2	8.49	Α	10.5	146.7	
SBR	116	76	4.1	8.09	Α	12.3	154.5	
ALL	4595	2933	27.1	45.67	D	-	-	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	0	1			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	0	0			
1	0	0			
0	0	0			
-			0	0	1

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	PM GEH			PM GEH		
1-5	5-10	>10	1-5	>10		
0	0	0				
1	0	0				
0	1	0				
1	0	0				
0	0	1				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			0	0	1	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary		
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	0	1					
0	1	0					
0	1	0					
0	0	1					
1	0	0					
0	0	1					
0	0	1					
0	1	0					
			0	0	1		

TIV	1C GEH Sumn	nary	Total Inte	Total Intersection GEH Summary				
	PM GEH			PM GEH				
1-5	5-10	>10	1-5	5-10	>10			
1	0	0						
1	0	0						
1	0	0						
1	0	0						
1	0	0						
0	1	0						
1	0	0						
0	0	1						
1	0	0						
1	0	0						
0	0	1						
1	0	0						
			0	0	1			

	Living Arts Drive - Rathburn Road Signalized Intersection								
Movement	PM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL	34	24	1.9	77.73	E	1.7	14.3		
EBT	1119	800	10.3	46.47	D	42.0	161.3		
EBR	100	99	0.1	44.35	D	41.7	161.2		
WBL	221	107	8.9	35.82	D	2.6	33.2		
WBT	1567	1084	13.3	79.23	E	137.3	216.6		
WBR	20	16	0.9	67.46	E	136.8	216.1		
NBL	239	108	9.9	130.23	F	28.2	79.8		
NBT	11	8	1.0	70.37	E	13.8	70.0		
NBR	244	191	3.6	14.81	В	13.1	69.7		
SBL	36	38	0.3	65.61	E	4.9	31.8		
SBT	20	22	0.4	61.01	E	4.9	31.8		
SBR	40	43	0.5	38.65	D	3.4	31.1		
ALL	3651	2540	20.0	61.88	E	-	-		

	Livi	ng Arts Drive - S	Square One D	rive Signali:	zed Intersection	on			
Movement		PM							
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	57	32	3.7	28.24	С	1.0	17.2		
EBT	93	87	0.6	24.38	С	3.3	48.2		
EBR	47	19	4.9	7.91	Α	3.0	47.7		
WBL	27	63	5.4	28.66	С	2.4	39.7		
WBT	158	128	2.5	23.32	С	4.8	59.7		
WBR	71	33	5.3	17.77	В	4.0	59.0		
NBL	43	41	0.3	1.79	Α	0.0	7.3		
NBT	249	242	0.4	14.38	В	6.6	81.9		
NBR	42	35	1.1	6.89	Α	5.1	95.4		
SBL	74	43	4.1	11.62	В	0.4	13.3		
SBT	291	192	6.4	6.16	Α	1.9	38.8		
SBR	61	64	0.4	3.72	Α	1.5	38.4		
ALL	1213	979	7.1	14.57	В	-	-		

	Duke of York Boulevard - Rathburn Road Signalized Intersection									
		PM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	181	131	4.0	207.28	F	53.2	159.8			
EBT	1150	816	10.7	39.05	D	37.0	178.0			
EBR	37	91	6.8	23.34	С	37.0	178.0			
WBL	262	198	4.2	46.17	D	11.9	148.9			
WBT	1460	1009	12.8	91.89	F	126.5	178.2			
WBR	114	80	3.5	64.67	E	126.2	177.8			
NBL	246	148	7.0	191.30	F	59.6	162.8			
NBT	621	520	4.2	56.33	E	52.4	161.0			
NBR	177	143	2.7	48.08	D	52.1	160.6			
SBL	134	105	2.7	144.77	F	34.7	164.3			
SBT	606	449	6.8	157.61	F	139.8	168.4			
SBR	102	96	0.6	172.54	F	139.5	168.2			
ALL	5090	3786	19.6	88.53	F	-	-			

)	Duke o	f York Bouleva	rd - Square Or	ne Drive Sign	nalized Interse	ction			
		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	10	5	1.8	39.24	D	5.5	49.2		
EBT	86	77	1.0	30.79	С	5.5	49.2		
EBR	112	82	3.0	20.98	С	11.2	63.1		
WBL	75	64	1.3	37.64	D	2.8	28.8		
WBT	109	71	4.0	71.53	E	34.4	145.4		
WBR	226	249	1.5	81.58	F	39.3	167.6		
NBL	82	62	2.4	60.48	E	2.1	26.5		
NBT	808	588	8.3	77.34	E	246.2	311.3		
NBR	92	67	2.8	67.73	E	259.4	325.8		
SBL	297	203	5.9	27.58	С	5.8	78.8		
SBT	612	445	7.3	22.65	С	21.5	155.0		
SBR	66	92	2.9	21.31	С	25.8	164.0		
ALL	2575	2005	11.9	51.62	D	-	-		

Square One Drive Extension - Rathburn Road Roundabout Intersection								
	PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL								
EBT	743	666	2.9	4.67	Α	1.3	51.1	
EBR	155	197	3.2	4.39	Α	1.3	51.1	
WBL	5	4	0.5	3.39	Α	1.9	89.1	
WBT	1541	1005	15.0	2.89	Α	1.9	89.1	
WBR								
NBL	128	108	1.8	14.58	В	1.3	45.3	
NBT								
NBR	5	6	0.4	8.59	Α	1.3	45.3	
SBL								
SBT								
SBR								
ALL	2577	1986	12.4	4.29	Α	-	-	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
0	0	1				
1	0	0				
0	1	0				
0	0	1				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			0	0	1	

TM	C GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
0	1	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
			0	1	0		

TM	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5 5-10 >1			
1	0	0				
0	0	1				
0	1	0				
1	0	0				
0	0	1				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
			0	0	1	

TM	IC GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
0	1	0					
0	1	0					
1	0	0					
			0	0	1		

TIV	1C GEH Sumn	nary	Total Inte	rsection GEH	Summary	
	PM GEH			PM GEH		
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
0	0	1				
1	0	0				
1	0	0				
			0	0	1	

APPENDIX F4
DETAILED TMC RESULTS
T-INTERSECTION (RIRO)

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2021 - T Intersection - AM

	Elo	ra Drive West -	Rathburn Ro	oad Signalize	ed Intersectio	n			
	AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	27	27	0.0	13.45	В	0.3	11.4		
EBT	810	821	0.4	9.04	Α	6.5	68.6		
EBR	92	91	0.1	4.32	Α	6.5	68.6		
WBL	110	112	0.2	21.96	С	2.9	44.4		
WBT	586	610	1.0	9.75	Α	5.5	61.6		
WBR	8	7	0.4	3.14	Α	5.5	61.6		
NBL	87	78	1.0	41.65	D	4.7	41.2		
NBT	19	17	0.5	39.83	D	1.7	27.1		
NBR	50	55	0.7	10.26	В	1.6	29.1		
SBL	77	57	2.4	38.99	D	3.3	27.6		
SBT	52	34	2.7	38.13	D	2.6	31.2		
SBR	74	52	2.8	11.85	В	1.9	31.7		
ALL	1992	1961	0.7	12.87	В	-	-		

	Elora I	Orive East - Rath	iburn Road -	<ul> <li>Unsignalized</li> </ul>	Intersection	RIRO				
Movement	AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max			
EBL										
EBT	827	824	0.1	0.63	Α	0.1	27.2			
EBR	23	0	6.8	0.00	Α	0.1	27.2			
WBL										
WBT	538	520	0.8	0.45	Α	0.0	16.9			
WBR	22	18	0.9	1.09	Α	0.0	16.9			
NBL										
NBT										
NBR	27	28	0.2	1.89	Α	0.1	7.1			
SBL										
SBT										
SBR	5	58	9.4	1.53	Α	0.1	11.4			
ALL	1442	1448	0.2	0.63	Α	-	-			

	Confed	leration Parkw	ay - Rathburr	Road Sign	alized Intersed	tion				
		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	133	123	0.9	33.13	С	4.8	45.1			
EBT	698	724	1.0	32.84	С	27.0	111.8			
EBR	107	105	0.2	30.28	С	26.5	111.5			
WBL	107	105	0.2	62.55	E	7.5	61.9			
WBT	250	221	1.9	32.54	С	15.4	93.8			
WBR	217	251	2.2	28.07	С	15.0	93.5			
NBL	235	233	0.1	40.86	D	16.6	116.8			
NBT	1124	1043	2.5	52.83	D	77.6	142.7			
NBR	136	176	3.2	51.18	D	78.1	143.3			
SBL	519	454	2.9	97.79	F	285.6	507.2			
SBT	1164	1074	2.7	51.35	D	272.5	507.2			
SBR	71	76	0.6	45.24	D	272.2	507.3			
ALL	4761	4585	2.6	49.83	D	-	-			

	Confed	eration Parkwa	y - Square Or	ne Drive Sigr	nalized Interse	ction				
		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	72	71	0.1	16.11	В	1.1	23.6			
EBT	56	49	1.0	33.17	С	2.9	30.1			
EBR	33	30	0.5	16.87	В	4.5	41.6			
WBL	5	5	0.0	64.95	E	15.0	52.7			
WBT	58	58	0.0	56.14	E	15.0	52.7			
WBR	35	83	6.2	77.23	E	21.3	62.9			
NBL	5	6	0.4	31.40	С	0.0	4.0			
NBT	1387	1303	2.3	46.28	D	78.0	229.3			
NBR	32	47	2.4	39.61	D	84.2	238.1			
SBL	5	5	0.0	42.50	D	0.0	2.4			
SBT	1332	1240	2.6	10.32	В	17.5	152.1			
SBR	47	36	1.7	10.39	В	17.5	152.1			
ALL	3067	2933	2.4	30.35	С	-	-			

TM	C GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
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			
1	0	0			
			1	0	0

TM	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
			1	0	0

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
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	0	0			
			1	0	0

TN	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
0	0	0			
0	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
0	0	0			
1	0	0			
1	0	0			
			1	0	0

	Liv	ing Arts Drive -	Rathburn Ro	ad Signalize	ed Intersection	n			
Movement	AM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL	19	11	2.1	22.99	С	0.3	9.9		
EBT	1109	1053	1.7	21.02	С	32.4	173.4		
EBR	224	264	2.6	28.58	С	32.3	173.2		
WBL	172	125	3.9	19.63	В	2.9	41.0		
WBT	490	544	2.4	13.05	В	7.2	67.6		
WBR	12	14	0.6	12.62	В	6.6	67.0		
NBL	72	26	6.6	55.71	E	2.1	21.1		
NBT	9	10	0.3	44.13	D	3.4	29.9		
NBR	141	125	1.4	8.36	Α	2.1	29.7		
SBL	2	2	0.0	39.90	D	0.2	7.6		
SBT	0	1	1.4	58.77	E	0.2	7.6		
SBR	12	13	0.3	4.98	Α	0.0	7.1		
ALL	2262	2188	1.6	19.56	В	-	-		

	Livi	ng Arts Drive - S	iquare One D	rive Signali	zed Intersection	on					
Movement		AM									
Wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	105	50	6.2	28.36	С	2.0	24.5				
EBT	60	100	4.5	27.00	С	4.2	41.6				
EBR	31	26	0.9	9.43	Α	3.8	41.1				
WBL	39	42	0.5	30.24	С	1.5	19.2				
WBT	16	23	1.6	25.78	С	1.8	39.6				
WBR	76	109	3.4	10.59	В	1.4	38.9				
NBL	10	29	4.3	0.63	Α	0.0	4.6				
NBT	201	177	1.7	10.56	В	2.4	38.8				
NBR	27	25	0.4	5.61	Α	1.8	38.5				
SBL	37	33	0.7	11.79	В	0.4	12.2				
SBT	163	162	0.1	8.75	Α	2.1	36.4				
SBR	17	8	2.5	4.01	А	1.5	36.0				
ALL	782	784	0.1	14.35	В	-	-				

	Duke o	of York Bouleva	ırd - Rathburı	n Road Sign	alized Intersed	tion					
Movement		AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C				
EBL	137	94	4.0	33.79	С	4.2	37.4				
EBT	1043	1039	0.1	34.13	С	36.1	166.9				
EBR	73	38	4.7	19.99	В	36.1	166.9				
WBL	119	137	1.6	27.74	С	4.3	44.4				
WBT	518	521	0.1	20.83	С	10.6	68.8				
WBR	38	39	0.2	15.16	В	10.4	68.5				
NBL	59	65	0.8	24.04	С	2.1	27.4				
NBT	113	154	3.5	32.52	С	5.9	36.3				
NBR	73	33	5.5	14.96	В	5.7	36.0				
SBL	70	71	0.1	26.52	С	2.6	26.0				
SBT	258	273	0.9	36.89	D	14.3	72.5				
SBR	97	95	0.2	9.29	Α	14.1	72.2				
ALL	2598	2559	0.8	29.13	С	-	-				

	Duke o	f York Boulevai	rd - Square Or	ne Drive Sigr	nalized Interse	ction					
Movement		AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	36	63	3.8	34.91	С	4.2	31.4				
EBT	37	39	0.3	30.40	С	4.2	31.4				
EBR	51	54	0.4	12.05	В	0.2	7.8				
WBL	42	38	0.6	29.09	С	1.4	17.2				
WBT	91	111	2.0	30.20	С	5.1	39.1				
WBR	39	17	4.2	18.89	В	0.0	0.0				
NBL	8	29	4.9	18.54	В	0.5	16.5				
NBT	169	170	0.1	9.99	Α	2.4	35.2				
NBR	131	29	11.4	6.95	Α	5.7	51.4				
SBL	89	82	0.8	12.82	В	1.2	28.2				
SBT	365	330	1.9	11.30	В	5.9	76.0				
SBR	34	35	0.2	8.41	Α	8.1	84.9				
ALL	1092	997	2.9	16.38	В	-	-				

				AM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL											
EBT	850	818	1.1	12.47	В	9.1	96.2				
EBR	86	107	2.1	4.89	Α	0.1	20.2				
WBL	16	21	1.2	14.47	В	0.2	10.3				
WBT	527	557	1.3	9.15	Α	4.5	53.0				
WBR											
NBL	176	171	0.4	45.66	D	12.9	68.3				
NBT											
NBR	5	6	0.4	39.04	D	19.0	78.7				
SBL											
SBT											
SBR											
ALL	1660	1680	0.5	14.38	В	-	-				

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	AM GEH			AM GEH		
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
0	0	0				
1	0	0				
1	0	0				
			1	0	0	

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
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1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			1	0	0	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
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				
1	0	0				
1	0	0				
1	0	0				
			1	0	0	

TN	IC GEH Sumn	nary	Total Intersection GEH Summary			
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
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	0	1				
1	0	0				
1	0	0				
1	0	0				
			1	0	0	

TN	1C GEH Sumn	nary	Total Inte	rsection GEH	l Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			1	0	0	

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2021 - T Intersection - PM

	Elo	ra Drive West -	Rathburn Ro	ad Signalize	ed Intersection	n		
	PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max	
EBL	43	42	0.2	30.18	С	1.0	21.5	
EBT	617	620	0.1	15.53	В	8.4	53.6	
EBR	110	115	0.5	3.06	Α	8.4	53.6	
WBL	96	86	1.0	29.69	С	3.0	38.0	
WBT	1191	1039	4.6	18.07	В	16.7	115.	
WBR	20	17	0.7	4.16	Α	16.7	115.	
NBL	100	93	0.7	11.49	В	1.3	26.:	
NBT	23	22	0.2	11.33	В	0.3	13.	
NBR	50	52	0.3	3.96	Α	0.2	15.7	
SBL	39	27	2.1	10.52	В	0.3	10.:	
SBT	13	11	0.6	14.04	В	0.2	10.4	
SBR	34	23	2.1	4.92	Α	0.0	10.9	
ALL	2336	2147	4.0	16.17	В	-	-	

Elora Drive East - Rathburn Road Unsignalized Intersection RIRO									
Movement	PM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max		
EBL									
EBT	537	531	0.3	0.64	Α	0.0	37.2		
EBR	31	0	7.9	0.00	Α	0.0	37.2		
WBL									
WBT	1223	1046	5.3	2.00	Α	0.3	34.4		
WBR	65	54	1.4	1.35	Α	0.3	34.4		
NBL									
NBT									
NBR	8	7	0.4	1.39	Α	0.0	3.3		
SBL									
SBT									
SBR	3	25	5.9	4.83	Α	0.1	9.5		
ALL	1867	1663	4.9	1.58	Α	-	-		

0	Confed	deration Parkw	ay - Rathburr	Road Sign	alized Intersec	tion			
		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	102	101	0.1	38.87	D	4.8	40.3		
EBT	402	404	0.1	29.72	С	12.5	76.9		
EBR	60	52	1.1	25.38	С	12.1	76.6		
WBL	132	140	0.7	42.30	D	5.3	66.6		
WBT	897	771	4.4	56.84	E	80.5	185.4		
WBR	402	332	3.7	62.32	E	80.1	185.1		
NBL	256	200	3.7	61.83	E	22.8	143.3		
NBT	1568	1238	8.8	50.53	D	91.6	149.0		
NBR	123	114	0.8	47.27	D	92.1	149.6		
SBL	418	317	5.3	166.94	F	322.1	508.3		
SBT	1283	1052	6.8	59.37	E	335.6	508.3		
SBR	209	187	1.6	58.41	E	335.5	508.2		
ALL	5852	4908	12.9	59.96	E	-	-		

	Confed	eration Parkwa	y - Square Or	ne Drive Sigr	nalized Interse	ction			
		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	74	69	0.6	80.90	F	6.2	36.3		
EBT	62	55	0.9	54.38	D	5.1	37.0		
EBR	22	19	0.7	28.18	С	10.8	50.0		
WBL	5	4	0.5	16.48	В	0.0	0.0		
WBT	56	56	0.0	64.05	E	15.2	57.0		
WBR	24	60	5.6	116.38	F	23.3	69.0		
NBL	5	4	0.5	54.09	D	0.0	0.0		
NBT	1850	1446	10.0	66.59	E	186.8	263.7		
NBR	30	23	1.4	52.91	D	196.5	274.1		
SBL	5	5	0.0	49.29	D	0.1	6.1		
SBT	1365	1141	6.3	9.03	Α	12.0	146.0		
SBR	111	97	1.4	8.04	Α	13.9	153.8		
ALL	3609	2979	11.0	43.23	D	-	-		

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	PM GEH			PM GEH		
1-5	5-10	>10	1-5	5-10	>10	
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	0	0				
			1	0	0	

TM	IC GEH Sumn	nary	Total Inte	rsection GEH	Summary	
	PM GEH			PM GEH		
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
0	1	0				
0	1	0				
1	0	0				
1	0	0				
0	1	0				
			1	0	0	

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
0	1	0				
0	1	0				
1	0	0				
			0	0	1	

TIV	1C GEH Sumn	nary	Total Inte	rsection GEF	I Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	>10		
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	0	0				
0	1	0				
1	0	0				
0	1	0				
1	0	0				
0	0	0				
0	1	0				
1	0	0				
			0	0	1	

	Living Arts Drive - Rathburn Road Signalized Intersection								
Movement	PM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL	26	21	1.0	53.64	D	1.1	16.5		
EBT	832	712	4.3	33.17	С	24.1	112.1		
EBR	86	92	0.6	29.50	С	23.8	112.0		
WBL	173	116	4.7	32.81	С	2.9	31.9		
WBT	1197	1123	2.2	58.42	E	103.3	215.4		
WBR	15	15	0.0	54.33	D	102.8	214.9		
NBL	203	90	9.3	46.32	D	5.4	50.8		
NBT	9	7	0.7	44.50	D	10.0	69.0		
NBR	202	172	2.2	12.45	В	9.1	68.8		
SBL	27	30	0.6	47.15	D	2.4	21.8		
SBT	15	19	1.0	35.02	D	2.4	21.8		
SBR	31	32	0.2	21.07	С	1.3	21.1		
ALL	2816	2429	7.6	44.08	D	-	-		

	Livi	ng Arts Drive - S	quare One D	rive Signali:	zed Intersection	on		
Movement	PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	47	31	2.6	31.69	С	1.1	18.2	
EBT	71	65	0.7	24.44	С	2.4	34.8	
EBR	36	13	4.6	6.19	Α	2.2	34.3	
WBL	21	60	6.1	24.42	С	2.0	36.5	
WBT	120	121	0.1	24.46	С	4.6	48.4	
WBR	62	33	4.2	13.72	В	3.7	47.7	
NBL	33	28	0.9	1.03	Α	0.0	5.0	
NBT	194	198	0.3	9.19	А	2.3	38.4	
NBR	32	27	0.9	4.13	Α	0.8	52.2	
SBL	66	48	2.4	11.52	В	0.5	17.1	
SBT	234	197	2.5	7.89	А	2.4	39.7	
SBR	51	63	1.6	4.08	Α	1.9	39.3	
ALL	967	884	2.7	13.41	В	-	-	

	Duke of York Boulevard - Rathburn Road Signalized Intersection									
Movement		PM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	138	112	2.3	221.27	F	48.6	167.1			
EBT	895	717	6.3	38.04	D	38.3	185.0			
EBR	28	77	6.8	22.07	С	38.3	185.0			
WBL	199	211	0.8	36.99	D	11.8	152.2			
WBT	1121	1078	1.3	66.22	E	93.6	177.9			
WBR	86	89	0.3	45.66	D	93.3	177.6			
NBL	187	127	4.8	105.72	F	23.4	138.5			
NBT	472	517	2.0	48.54	D	33.5	158.8			
NBR	134	146	1.0	38.77	D	33.2	158.5			
SBL	102	106	0.4	77.58	E	9.3	99.0			
SBT	461	437	1.1	87.15	F	58.2	147.2			
SBR	78	92	1.5	76.40	E	58.0	146.9			
ALL	3901	3709	3.1	63.23	E	-	-			

Duke of York Boulevard - Square One Drive Signalized Intersection									
Movement		PM							
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	8	4	1.6	40.24	D	4.4	35.6		
EBT	75	75	0.0	29.83	С	4.4	35.6		
EBR	85	60	2.9	16.62	В	9.7	49.6		
WBL	57	47	1.4	31.55	С	1.9	23.2		
WBT	90	61	3.3	32.72	С	7.2	74.0		
WBR	172	195	1.7	25.53	С	8.7	88.7		
NBL	62	64	0.3	23.48	С	1.1	22.0		
NBT	615	616	0.0	23.91	С	37.7	255.1		
NBR	70	70	0.0	20.92	С	39.1	268.4		
SBL	226	185	2.9	31.82	С	6.3	97.8		
SBT	466	454	0.6	13.93	В	12.6	164.1		
SBR	50	88	4.6	12.20	В	15.4	173.0		
ALL	1976	1919	1.3	22.32	С	-	-		

	PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL								
EBT	569	526	1.8	11.02	В	5.0	55.9	
EBR	138	164	2.1	5.58	Α	0.5	35.9	
WBL	54	47	1.0	1.69	Α	0.0	0.0	
WBT	1172	1018	4.7	11.39	В	11.9	107.3	
WBR								
NBL	135	131	0.3	20.03	С	3.9	42.7	
NBT								
NBR	5	6	0.4	11.33	В	5.9	52.2	
SBL								
SBT								
SBR								
ALL	2073	1892	4.1	11.14	В	-	-	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			0	1	0	

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
0	1	0				
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1	0	0				
1	0	0				
1	0	0				
			1	0	0	

TM	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5 5-10 >			
1	0	0				
0	1	0				
0	1	0				
1	0	0				
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1	0	0				
1	0	0				
1	0	0				
1	0	0				
			1	0	0	

TM	1C GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH		PM GEH				
1-5	5-10	>10	1-5	>10			
1	0	0					
0	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	0	0					
1	0	0					
1	0	0					
1	0	0					
			1	0	0		

TN	AC GEH Sumn	nary	Total Inte	rsection GEH	l Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			1	0	0	

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2031 - T Intersection - AM

	Elo	ra Drive West	- Rathburn Ro	ad Signalize	ed Intersection	1					
Marramant		AM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0				
EBL	31	31	0.0	12.02	В	0.3	12.7				
EBT	900	913	0.4	10.33	В	8.3	72.6				
EBR	104	102	0.2	4.71	Α	8.3	72.6				
WBL	125	121	0.4	24.99	С	3.6	47.6				
WBT	652	650	0.1	9.51	Α	5.6	62.3				
WBR	9	9	0.0	3.08	Α	5.6	62.3				
NBL	99	88	1.1	42.68	D	5.6	39.3				
NBT	21	21	0.0	43.99	D	2.3	35.4				
NBR	57	60	0.4	14.04	В	2.3	37.4				
SBL	87	65	2.5	43.94	D	4.2	35.7				
SBT	59	38	3.0	38.64	D	3.1	36.8				
SBR	84	60	2.8	12.74	В	2.5	37.3				
ALL	2228	2158	1.5	13.96	В	-	-				

	Elora I	Orive East - Rath	burn Road -	<ul> <li>Unsignalized</li> </ul>	Intersection I	RIRO				
Movement	AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max			
EBL										
EBT	926	919	0.2	0.69	Α	0.1	40.7			
EBR	26	0	7.2	0.00	Α	0.1	40.7			
WBL										
WBT	607	548	2.5	0.45	Α	0.0	13.5			
WBR	25	21	0.8	0.99	Α	0.0	13.5			
NBL										
NBT										
NBR	31	33	0.4	2.51	Α	0.1	10.1			
SBL										
SBT										
SBR	6	68	10.2	1.62	Α	0.1	9.2			
ALL	1621	1589	0.8	0.69	Α	-	-			

)	Confe	deration Parkw	ay - Rathburr	Road Sign	alized Intersec	tion	
				AM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	151	144	0.6	38.22	D	7.1	77.8
EBT	780	804	0.9	32.92	С	30.6	112.7
EBR	121	116	0.5	29.98	С	30.1	112.4
WBL	120	113	0.6	75.41	E	11.1	88.9
WBT	280	247	2.0	35.41	D	19.9	118.5
WBR	245	281	2.2	31.91	С	19.4	118.2
NBL	266	240	1.6	44.05	D	20.2	129.7
NBT	1251	1056	5.7	57.18	E	90.6	145.1
NBR	151	181	2.3	58.31	E	91.1	145.7
SBL	586	434	6.7	115.14	F	396.7	510.7
SBT	1307	1042	7.7	52.79	D	395.2	510.7
SBR	80	72	0.9	48.70	D	395.1	510.6
ALL	5338	4730	8.6	53.21	D	-	-

	Confede	eration Parkwa	y - Square Or	ne Drive Sigr	nalized Interse	ection			
	AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL	72	71	0.1	24.39	С	1.6	24.7		
EBT	61	57	0.5	36.27	D	4.0	39.3		
EBR	37	32	0.9	23.46	С	5.8	50.9		
WBL	5	5	0.0	93.37	F	26.4	58.1		
WBT	65	66	0.1	67.17	E	26.4	58.1		
WBR	40	92	6.4	116.16	F	34.1	68.2		
NBL	5	5	0.0	58.86	E	0.0	3.7		
NBT	1556	1322	6.2	69.98	E	177.9	263.6		
NBR	35	45	1.6	50.94	D	186.0	272.4		
SBL	5	5	0.0	37.29	D	0.0	2.5		
SBT	1500	1230	7.3	10.27	В	16.8	151.4		
SBR	48	36	1.9	9.41	Α	16.8	151.4		
ALL	3429	2966	8.2	43.29	D	-	-		

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
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1	0	0			
0	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TIV	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	>10	
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
0	0	1			
			1	0	0

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
0	1	0			
0	1	0			
1	0	0			
			0	1	0

TIV	1C GEH Sumn	nary	Total Inte	rsection GEH	I Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
0	0	0			
1	0	0			
0	1	0			
0	0	0			
0	1	0			
1	0	0			
0	0	0			
0	1	0			
1	0	0			
			0	1	0

	Liv	ing Arts Drive -	Rathburn Ro	ad Signalize	ed Intersection	1			
Movement	AM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL	21	12	2.2	29.33	С	0.3	9.0		
EBT	1254	1117	4.0	30.06	С	55.5	189.2		
EBR	242	266	1.5	36.35	D	55.4	189.1		
WBL	190	142	3.7	20.51	С	3.5	46.8		
WBT	553	610	2.4	15.85	В	9.6	71.7		
WBR	14	16	0.5	13.62	В	9.1	71.2		
NBL	78	28	6.9	59.71	E	2.5	21.7		
NBT	10	11	0.3	48.00	D	3.6	30.5		
NBR	157	138	1.6	10.79	В	2.4	30.2		
SBL	2	2	0.0	47.14	D	0.2	6.4		
SBT	1	1	0.0	38.70	D	0.2	6.4		
SBR	14	14	0.0	5.48	Α	0.0	5.9		
ALL	2536	2357	3.6	25.58	С	-	-		

	Livi	ng Arts Drive - S	Square One D	rive Signali:	zed Intersection	on			
Movement	AM								
Wiovernent	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	115	52	6.9	27.30	С	1.9	27.5		
EBT	68	112	4.6	25.40	С	4.6	39.6		
EBR	35	29	1.1	12.26	В	4.1	39.1		
WBL	45	48	0.4	28.97	С	1.6	26.6		
WBT	19	27	1.7	25.76	С	1.6	35.5		
WBR	77	111	3.5	8.81	Α	1.1	34.8		
NBL	11	34	4.8	0.87	Α	0.0	6.0		
NBT	222	193	2.0	9.76	А	2.4	35.8		
NBR	31	34	0.5	5.45	Α	1.8	35.4		
SBL	41	36	0.8	12.77	В	0.4	13.6		
SBT	182	181	0.1	8.27	А	2.1	36.2		
SBR	19	9	2.7	3.05	Α	1.6	35.9		
ALL	865	866	0.0	13.59	В	-	-		

	Duke	of York Bouleva	ırd - Rathburı	n Road Sign	alized Intersed	tion				
Movement		AM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	155	107	4.2	42.11	D	6.2	42.0			
EBT	1176	1104	2.1	33.68	С	41.0	187.2			
EBR	83	35	6.2	23.57	С	41.0	187.2			
WBL	135	155	1.7	29.25	С	5.3	44.4			
WBT	580	585	0.2	21.06	С	11.9	77.7			
WBR	43	41	0.3	17.80	В	11.7	77.4			
NBL	67	75	0.9	26.81	С	2.6	30.0			
NBT	128	178	4.0	32.26	С	6.6	39.8			
NBR	83	34	6.4	18.29	В	6.4	39.4			
SBL	79	80	0.1	25.54	С	2.7	26.6			
SBT	292	308	0.9	37.68	D	16.5	86.6			
SBR	110	109	0.1	9.67	Α	16.3	86.4			
ALL	2931	2811	2.2	29.59	С	-	-			

	Duke o	f York Bouleva	rd - Square Or	ne Drive Sigr	alized Interse	ction	
				AM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	41	75	4.5	34.29	С	4.6	39.4
EBT	41	41	0.0	30.55	С	4.6	39.4
EBR	58	63	0.6	12.73	В	0.1	16.3
WBL	47	44	0.4	29.98	С	1.6	18.4
WBT	94	114	2.0	32.03	С	5.8	45.5
WBR	45	20	4.4	20.06	С	0.2	21.0
NBL	9	33	5.2	13.88	В	0.4	15.3
NBT	192	189	0.2	11.53	В	3.3	53.0
NBR	35	34	0.2	7.51	Α	6.9	69.2
SBL	100	89	1.1	14.12	В	1.3	28.6
SBT	414	370	2.2	12.12	В	7.0	97.4
SBR	38	39	0.2	9.31	Α	9.4	106.3
ALL	1114	1111	0.1	17.10	В	-	-

	Square	One Drive Exten	sion - Rathb		ialized inters	ection	
Movement				AM			
Wioveilleilt	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL							
EBT	952	913	1.3	12.64	В	10.4	103.4
EBR	91	117	2.5	6.52	Α	0.1	22.7
WBL	19	22	0.7	12.96	В	0.2	10.9
WBT	594	592	0.1	9.02	Α	4.8	57.2
WBR							
NBL	191	186	0.4	48.23	D	14.5	85.2
NBT							
NBR	5	6	0.4	25.82	С	20.6	95.6
SBL							
SBT							
SBR							
ALL	1852	1836	0.4	14.74	В	-	-

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	AM GEH			AM GEH		
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
0	0	0				
0	0	0				
0	0	0				
			1	0	0	

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	AM GEH			AM GEH		
1-5	5-10	>10	1-5	5-10	>10	
0	1	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	0	0	

TM	IC GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TN	IC GEH Sumn	nary	Total Inte	rsection GEH	Summary		
	AM GEH			AM GEH	GEH		
1-5	5-10	>10	1-5 5-10				
1	0	0					
0	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
			1	0	0		

TN	1C GEH Sumn	nary	Total Inte	rsection GEH	l Summary		
	AM GEH			AM GEH			
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
			1	0	0		

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2031 - T Intersection - PM

	Elo	ra Drive West	- Rathburn Ro	ad Signalize	ed Intersectio	n		
	PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C	
EBL	48	47	0.1	26.67	С	0.8	15.0	
EBT	683	683	0.0	13.41	В	8.1	50.3	
EBR	125	127	0.2	2.87	Α	8.1	50.3	
WBL	109	85	2.4	24.39	С	2.3	29.4	
WBT	1328	1023	8.9	15.89	В	15.2	140.1	
WBR	22	16	1.4	5.16	Α	15.2	140.1	
NBL	113	105	0.8	15.82	В	2.1	28.3	
NBT	26	26	0.0	16.93	В	0.8	24.6	
NBR	57	57	0.0	6.26	Α	0.7	26.6	
SBL	45	29	2.6	19.18	В	0.7	14.8	
SBT	15	14	0.3	19.40	В	0.4	16.2	
SBR	38	26	2.1	6.80	Α	0.1	16.8	
ALL	2609	2238	7.5	14.59	В	-	-	

	Elora Drive East - Rathburn Road Unsignalized Intersection RIRO								
Movement	PM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL									
EBT	603	590	0.5	2.20	Α	0.3	46.9		
EBR	35	0	8.4	0.00	Α	0.3	46.9		
WBL									
WBT	1374	1032	9.9	1.99	Α	0.3	40.3		
WBR	73	51	2.8	1.36	Α	0.3	40.3		
NBL									
NBT									
NBR	9	8	0.3	1.49	Α	0.0	4.8		
SBL									
SBT									
SBR	4	30	6.3	3.85	Α	0.1	9.6		
ALL	2098	1711	8.9	2.07	Α	-	-		

	Confed	leration Parkw	ay - Rathburn	Road Signa	alized Intersed	tion		
		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0	
EBL	115	113	0.2	42.76	D	6.5	53.8	
EBT	451	450	0.0	43.28	D	18.4	84.6	
EBR	68	59	1.1	27.11	С	17.9	84.3	
WBL	147	141	0.5	50.77	D	7.4	123.0	
WBT	1005	773	7.8	57.33	E	92.8	187.5	
WBR	453	336	5.9	56.29	E	92.4	187.2	
NBL	290	201	5.7	61.37	E	21.8	145.8	
NBT	1754	1222	13.8	51.89	D	95.7	149.0	
NBR	138	111	2.4	60.77	E	96.2	149.6	
SBL	473	286	9.6	215.21	F	406.9	509.6	
SBT	1425	952	13.7	59.24	E	412.5	509.6	
SBR	236	170	4.6	55.08	E	412.4	509.5	
ALL	6555	4814	23.1	63.58	E	-	-	

	Confede	eration Parkwa	y - Square Or	e Drive Sign	nalized Interse	ction		
		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	74	70	0.5	80.67	F	5.8	33.9	
EBT	69	67	0.2	47.11	D	5.3	43.2	
EBR	25	23	0.4	21.11	С	11.0	56.2	
WBL	5	3	1.0	75.34	E	0.6	16.4	
WBT	60	56	0.5	69.88	E	20.3	55.7	
WBR	28	65	5.4	127.70	F	29.1	67.7	
NBL	5	3	1.0	47.80	D	0.0	2.6	
NBT	2080	1423	15.7	69.43	E	197.2	264.3	
NBR	33	23	1.9	65.06	E	207.1	274.7	
SBL	5	4	0.5	39.10	D	0.0	1.2	
SBT	1527	1067	12.8	8.86	Α	10.9	147.8	
SBR	113	79	3.5	7.49	Α	12.7	155.6	
ALL	4024	2883	19.4	45.91	D	-	-	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
0	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
0	0	0				
0	0	0				
1	0	0				
1	0	0				
1	0	0				
			0	1	0	

TM	IC GEH Sumn	nary	Total Inte	rsection GEH	Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	>10	
1	0	0			
0	1	0			
0	1	0			
1	0	0			
1	0	0			
0	1	0			
	•		0	1	0

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
0	1	0				
0	1	0				
0	0	1				
1	0	0				
0	1	0				
0	0	1				
1	0	0				
			0	0	1	

TN	AC GEH Sumn	nary	Total Inte	rsection GEH	l Summary		
	PM GEH			PM GEH			
1-5	5-10	>10	1-5 5-10 >10				
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
0	0	1					
1	0	0					
1	0	0					
0	0	1					
1	0	0					
•	•	•	0	0	1		

	Liv	ing Arts Drive -	Rathburn Ro	ad Signalize	ed Intersection	n		
Movement	PM							
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0	
EBL	30	21	1.8	82.12	F	1.5	17.0	
EBT	940	712	7.9	53.89	D	46.2	142.6	
EBR	92	89	0.3	48.32	D	46.0	142.5	
WBL	193	114	6.4	33.77	С	3.5	67.7	
WBT	1353	1116	6.7	71.97	E	125.8	216.1	
WBR	17	14	0.8	54.59	D	125.3	215.6	
NBL	218	96	9.7	105.34	F	18.3	77.5	
NBT	10	7	1.0	58.36	E	13.3	68.3	
NBR	220	182	2.7	15.89	В	12.3	68.0	
SBL	31	33	0.4	71.79	E	4.4	31.1	
SBT	17	20	0.7	56.33	E	4.4	31.1	
SBR	35	38	0.5	38.55	D	2.9	30.5	
ALL	3156	2442	13.5	60.48	E	-	-	

)	Livir	ng Arts Drive - S	Square One D	rive Signali:	zed Intersection	n			
Movement		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	51	31	3.1	32.55	С	1.1	22.7		
EBT	80	78	0.2	24.53	С	2.9	36.7		
EBR	41	17	4.5	6.66	Α	2.6	36.2		
WBL	24	62	5.8	26.71	С	2.2	40.9		
WBT	136	128	0.7	24.56	С	5.0	53.8		
WBR	66	33	4.7	18.17	В	4.1	53.1		
NBL	37	33	0.7	1.64	Α	0.0	8.2		
NBT	217	223	0.4	11.61	В	3.3	52.5		
NBR	36	29	1.2	5.70	Α	2.0	66.2		
SBL	69	44	3.3	11.33	В	0.4	14.0		
SBT	258	192	4.4	5.45	Α	1.7	42.0		
SBR	55	63	1.0	3.79	Α	1.3	41.6		
ALL	1070	933	4.3	13.96	В	-	-		

	Duke o	f York Bouleva	ard - Rathburr	Road Sign	alized Intersed	tion		
Movement	PM							
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0	
EBL	156	114	3.6	264.84	F	63.9	161.9	
EBT	1002	734	9.1	37.98	D	43.4	155.1	
EBR	32	79	6.3	20.29	С	43.4	155.1	
WBL	225	207	1.2	44.45	D	13.1	128.1	
WBT	1264	1054	6.2	81.03	F	117.1	177.9	
WBR	98	85	1.4	62.26	E	116.8	177.6	
NBL	212	136	5.8	174.11	F	46.0	161.0	
NBT	535	535	0.0	53.28	D	45.9	161.7	
NBR	152	150	0.2	46.63	D	45.6	161.3	
SBL	115	110	0.5	125.65	F	34.7	163.6	
SBT	522	463	2.7	132.65	F	109.7	164.8	
SBR	88	100	1.2	142.86	F	109.5	164.6	
ALL	4401	3767	9.9	81.84	F	-	-	

Duke of York Boulevard - Square One Drive Signalized Intersection										
Movement		PM								
iviovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	9	4	2.0	36.56	D	5.3	47.1			
EBT	80	75	0.6	32.22	С	5.3	47.1			
EBR	97	71	2.8	20.29	С	11.0	61.1			
WBL	64	54	1.3	31.99	С	2.1	22.2			
WBT	98	67	3.4	43.41	D	12.9	87.3			
WBR	194	217	1.6	42.05	D	15.8	106.7			
NBL	71	65	0.7	45.30	D	1.9	23.2			
NBT	696	630	2.6	58.61	E	164.7	309.4			
NBR	79	72	0.8	49.71	D	172.4	324.0			
SBL	256	194	4.1	27.85	С	5.0	66.6			
SBT	527	463	2.9	23.03	С	22.9	160.1			
SBR	57	92	4.1	20.40	С	27.2	169.0			
ALL	2228	2004	4.9	39.50	D	-	-			

Square One Drive Extension - Rathburn Road Signalized Intersection								
	PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL								
EBT	639	585	2.2	10.10	В	5.2	70.0	
EBR	145	185	3.1	5.46	Α	0.4	47.2	
WBL	61	49	1.6	1.77	Α	0.0	0.0	
WBT	1317	1007	9.1	11.46	В	11.8	107.4	
WBR								
NBL	142	135	0.6	22.07	С	4.5	73.5	
NBT								
NBR	5	5	0.0	14.15	В	6.4	83.0	
SBL								
SBT								
SBR								
ALL	2309	1966	7.4	10.98	В	-	-	

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
0	1	0				
1	0	0				
0	1	0				
0	1	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			0	0	1	

TM	C GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
1	0	0					
1	0	0					
0	1	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		

TM	IC GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH			PM GEH			
1-5	5-10	>10	1-5 5-10 >:				
1	0	0					
0	1	0					
0	1	0					
1	0	0					
0	1	0					
1	0	0					
0	1	0					
0	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
			0	1	0		

TIV	IC GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH			PM GEH			
1-5	5-10	>10	1-5 5-10 >10				
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	0	0					
			1	0	0		

TN	1C GEH Sumn	nary	Total Inte	rsection GEH	l Summary		
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
0	0	0					
			0	1	0		

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2041 - T Intersection - AM

	Elo	ra Drive West -	Rathburn Ro	ad Signalize	ed Intersection	n			
	AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL	36	39	0.5	14.90	В	0.4	13.5		
EBT	1024	1030	0.2	9.99	Α	9.2	81.3		
EBR	121	123	0.2	5.12	Α	9.2	81.3		
WBL	145	131	1.2	31.87	С	5.3	54.0		
WBT	743	692	1.9	9.48	Α	5.8	63.4		
WBR	10	9	0.3	1.82	Α	5.8	63.4		
NBL	115	103	1.1	41.09	D	6.4	45.7		
NBT	24	25	0.2	37.02	D	2.2	32.9		
NBR	66	65	0.1	12.03	В	2.2	34.9		
SBL	101	74	2.9	38.56	D	4.2	30.3		
SBT	69	45	3.2	37.40	D	3.6	38.5		
SBR	98	66	3.5	14.51	В	3.0	39.1		
ALL	2552	2402	3.0	14.02	В	-	-		

	Elora I	Drive East - Rath	nburn Road -	<ul> <li>Unsignalized</li> </ul>	Intersection	RIRO			
Movement	AM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max		
EBL									
EBT	1063	1035	0.9	1.04	Α	0.0	39.3		
EBR	30	0	7.7	0.00	Α	0.0	39.3		
WBL									
WBT	701	576	4.9	0.48	Α	0.1	21.6		
WBR	29	24	1.0	1.68	Α	0.1	21.6		
NBL									
NBT									
NBR	36	39	0.5	3.20	Α	0.1	9.6		
SBL									
SBT									
SBR	7	79	11.0	1.94	Α	0.1	11.7		
ALL	1866	1753	2.7	0.95	Α	-	-		

	Confed	eration Parkw	ay - Rathburr	n Road Signa	alized Interse	ction			
	AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0		
EBL	175	165	0.8	36.42	D	7.4	102.7		
EBT	893	908	0.5	35.43	D	38.3	112.3		
EBR	141	131	0.9	33.12	С	37.8	112.0		
WBL	138	134	0.3	133.47	F	28.8	131.4		
WBT	321	283	2.2	36.45	D	25.8	134.2		
WBR	284	320	2.1	34.49	С	25.4	133.9		
NBL	309	238	4.3	43.69	D	23.3	142.4		
NBT	1425	1062	10.3	57.52	E	89.8	145.7		
NBR	172	188	1.2	56.15	E	90.3	146.3		
SBL	678	398	12.1	130.75	F	423.2	510.4		
SBT	1504	1009	14.0	52.55	D	428.8	510.5		
SBR	93	69	2.7	48.19	D	428.8	510.5		
ALL	6133	4905	16.5	55.49	E	-	-		

	Confed	eration Parkwa	y - Square Or	ne Drive Sigr	nalized Interse	ction			
	AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0		
EBL	72	74	0.2	22.86	С	1.7	25.8		
EBT	68	66	0.2	41.40	D	4.9	38.7		
EBR	43	37	0.9	21.02	С	7.5	50.3		
WBL	5	5	0.0	72.58	E	29.2	57.9		
WBT	75	73	0.2	62.43	E	29.2	57.9		
WBR	47	101	6.3	120.19	F	37.7	68.0		
NBL	5	4	0.5	57.40	E	0.1	4.8		
NBT	1788	1321	11.8	74.56	E	203.4	265.2		
NBR	38	45	1.1	59.69	E	211.8	274.0		
SBL	5	3	1.0	33.87	С	0.0	3.9		
SBT	1732	1236	12.9	10.55	В	17.5	152.3		
SBR	50	35	2.3	11.33	В	17.5	152.3		
ALL	3928	3000	15.8	45.74	D	-	-		

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
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	0	0			
			1	0	0

TM	IC GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
0	0	1			
			1	0	0

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	0	1			
1	0	0			
0	0	1			
0	0	1			
1	0	0			
			0	0	1

TIV	IC GEH Sumn	nary	Total Inte	rsection GEH	<b>Summary</b>
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
0	0	0			
1	0	0			
0	1	0			
1	0	0			
0	0	1			
1	0	0			
1	0	0			
0	0	1			
1	0	0			
			0	0	1

	Liv	ing Arts Drive -	Rathburn Ro	ad Signalize	ed Intersection	n			
Movement	AM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL	24	15	2.0	25.76	С	0.3	10.1		
EBT	1452	1187	7.3	30.53	С	66.5	192.0		
EBR	266	271	0.3	35.93	D	66.3	191.9		
WBL	214	158	4.1	22.42	С	4.3	48.8		
WBT	641	701	2.3	17.76	В	12.3	89.4		
WBR	16	20	0.9	19.39	В	11.7	88.9		
NBL	87	33	7.0	50.53	D	2.5	20.4		
NBT	11	13	0.6	55.29	E	4.3	33.8		
NBR	180	162	1.4	12.07	В	3.2	33.6		
SBL	3	2	0.6	65.85	E	0.5	13.4		
SBT	1	2	0.8	56.11	E	0.5	13.4		
SBR	16	17	0.2	8.84	Α	0.2	12.8		
ALL	2911	2581	6.3	26.14	С	-	-		

	Livi	ng Arts Drive - S	Square One D	rive Signaliz	ed Intersection	n			
Movement	AM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	128	53	7.9	27.54	С	2.3	40.4		
EBT	79	132	5.2	27.51	С	6.3	51.3		
EBR	40	32	1.3	14.61	В	5.9	50.8		
WBL	52	56	0.5	29.70	С	1.9	28.3		
WBT	22	31	1.7	22.00	С	1.7	42.3		
WBR	79	115	3.7	9.28	Α	1.2	41.6		
NBL	13	39	5.1	0.95	Α	0.0	5.0		
NBT	251	220	2.0	10.07	В	2.9	41.4		
NBR	36	38	0.3	6.56	Α	2.3	41.1		
SBL	46	39	1.1	11.66	В	0.4	13.8		
SBT	209	204	0.3	8.76	Α	2.5	40.9		
SBR	21	7	3.7	3.96	Α	2.0	40.6		
ALL	976	966	0.3	14.23	В	-	-		

	Duke o	of York Bouleva	ırd - Rathburi	n Road Sign	alized Intersed	tion				
Movement		AM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0			
EBL	180	124	4.5	33.81	С	5.4	45.0			
EBT	1359	1184	4.9	30.22	С	40.4	186.8			
EBR	96	34	7.7	21.13	С	40.4	186.8			
WBL	157	176	1.5	29.87	С	6.0	52.6			
WBT	665	665	0.0	18.64	В	11.9	86.4			
WBR	50	49	0.1	16.05	В	11.7	86.2			
NBL	78	87	1.0	28.62	С	3.4	29.8			
NBT	148	204	4.2	34.93	С	8.0	43.8			
NBR	96	38	7.1	19.71	В	7.8	43.4			
SBL	92	94	0.2	31.31	С	3.9	53.9			
SBT	339	359	1.1	45.87	D	23.3	88.7			
SBR	128	127	0.1	15.34	В	23.1	88.5			
ALL	3388	3141	4.3	28.93	С	-	-			

	Duke o	f York Bouleva	rd - Square Or	e Drive Sigr	alized Interse	ction	
				AM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	47	82	4.4	35.15	D	5.6	41.5
EBT	46	48	0.3	31.02	С	5.6	41.5
EBR	68	75	0.8	14.55	В	0.3	18.4
WBL	55	53	0.3	30.12	С	2.0	24.6
WBT	97	118	2.0	30.31	С	5.7	40.7
WBR	52	27	4.0	17.44	В	0.2	10.6
NBL	10	40	6.0	19.32	В	0.7	19.2
NBT	223	220	0.2	12.43	В	4.2	60.5
NBR	40	40	0.0	8.29	Α	8.0	75.2
SBL	116	98	1.7	13.82	В	1.4	27.5
SBT	480	424	2.6	12.93	В	8.8	109.1
SBR	45	44	0.1	10.57	В	11.4	118.0
ALL	1279	1269	0.3	17.53	В	-	-

	square	One Drive Exten	sion - Rathb	urn koad Sign	iaiizea Inters	ection	
Movement	AM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL							
EBT	1093	1033	1.8	13.20	В	12.9	126.1
EBR	98	127	2.7	7.76	Α	0.4	30.3
WBL	22	23	0.2	17.24	В	0.3	13.2
WBT	686	628	2.3	9.18	Α	5.1	61.1
WBR							
NBL	212	199	0.9	47.84	D	15.5	91.3
NBT							
NBR	5	1	2.3	7.83	Α	21.8	101.7
SBL							
SBT							
SBR							
ALL	2116	2011	2.3	15.07	С	-	-

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	AM GEH			AM GEH		
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			0	1	0	

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	AM GEH			AM GEH		
1-5	5-10	>10	1-5	5-10	>10	
0	1	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			1	0	0	

TN	AC GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH		AM GEH		
1-5	5-10	>10	1-5	>10	
1	0	0			
1	0	0			
0	1	0			
1	0	0			
0	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TN	1C GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
0	0	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TN	C CEII C		Total Into	manation CEL	C
I IV	IC GEH Sumn	пагу	Total inte	rsection GEH	Summary
	AM GEH				
1-5	5-10	>10	1-5	>10	
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2041 - T Intersection - PM

	Elo	ra Drive West	- Rathburn Ro	ad Signaliz	ed Intersection	n		
Marramant	PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C	
EBL	56	57	0.1	20.64	С	0.9	17.2	
EBT	773	782	0.3	13.31	В	9.1	57.2	
EBR	145	144	0.1	3.07	А	9.1	57.2	
WBL	126	83	4.2	27.22	С	2.6	31.0	
WBT	1517	1027	13.7	13.50	В	11.9	85.4	
WBR	26	16	2.2	3.00	Α	11.9	85.4	
NBL	131	128	0.3	18.04	В	3.1	41.3	
NBT	30	31	0.2	15.76	В	0.8	24.5	
NBR	66	63	0.4	5.95	А	0.7	26.5	
SBL	52	34	2.7	17.70	В	0.7	17.2	
SBT	17	14	0.8	15.46	В	0.3	12.1	
SBR	45	32	2.1	6.39	Α	0.1	12.7	
ALL	2984	2411	11.0	13.44	В	-	-	

	Elora [	Orive East - Ratl	hburn Road -	<ul> <li>Unsignalized</li> </ul>	Intersection I	RIRO			
		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL									
EBT	695	677	0.7	0.48	Α	0.0	33.0		
EBR	40	0	8.9	0.00	Α	0.0	33.0		
WBL									
WBT	1583	1027	15.4	2.10	А	0.2	30.1		
WBR	85	50	4.3	1.53	Α	0.2	30.1		
NBL									
NBT									
NBR	10	9	0.3	1.20	А	0.0	3.5		
SBL									
SBT									
SBR	4	35	7.0	3.96	Α	0.1	9.7		
ALL	2417	1798	13.5	1.51	Α	-	-		

		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	134	125	0.8	41.52	D	6.5	51.4		
EBT	518	517	0.0	30.38	С	15.8	88.6		
EBR	79	73	0.7	22.44	С	15.4	88.3		
WBL	167	132	2.9	54.69	D	7.3	94.2		
WBT	1155	765	12.6	60.52	E	100.6	189.2		
WBR	524	335	9.1	63.09	E	100.2	188.9		
NBL	336	202	8.2	60.32	E	20.2	100.3		
NBT	2008	1247	18.9	51.11	D	97.4	148.3		
NBR	157	113	3.8	51.19	D	97.9	148.9		
SBL	548	298	12.2	194.93	F	413.7	509.3		
SBT	1619	993	17.3	59.17	E	435.7	509.2		
SBR	274	174	6.7	55.38	E	435.6	509.1		
ALL	7519	4974	32.2	61.39	E	-	-		

	Confed	eration Parkwa	y - Square Or	ne Drive Sigr	nalized Interse	ction		
		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	74	69	0.6	82.39	F	6.0	36.7	
EBT	79	74	0.6	41.07	D	5.3	41.4	
EBR	29	28	0.2	23.10	С	10.7	54.4	
WBL	5	3	1.0	36.01	D	0.0	2.3	
WBT	67	55	1.5	76.53	E	23.3	56.8	
WBR	32	76	6.0	124.19	F	32.6	68.8	
NBL	5	2	1.6	25.44	С	0.0	2.5	
NBT	2396	1434	22.0	69.80	E	200.7	263.0	
NBR	38	21	3.1	62.43	E	210.7	273.3	
SBL	5	3	1.0	41.36	D	0.0	2.6	
SBT	1749	1123	16.5	8.96	Α	11.4	146.6	
SBR	116	69	4.9	8.64	Α	13.2	154.4	
ALL	4595	2957	26.7	45.78	D	-	-	

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	PM GEH			PM GEH		
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	0	1				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			0	0	1	

TM	IC GEH Sumn	nary	Total Inte	rsection GEH	Summary
	PM GEH				
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
0	1	0			
0	0	1			
1	0	0			
1	0	0			
0	1	0			
			0	0	1

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	>10		
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	0	1				
0	1	0				
0	1	0				
0	0	1				
1	0	0				
0	0	1				
0	0	1				
0	1	0				
			0	0	1	

TIV	1C GEH Sumn	nary	Total Inte	rsection GEH	<b>Summary</b>		
	PM GEH		PM GEH				
1-5	5-10	>10	1-5 5-10 >				
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
0	0	1					
1	0	0					
1	0	0					
0	0	1					
1	0	0					
			0	0	1		

		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0		
EBL	34	26	1.5	81.40	F	2.3	20.8		
EBT	1088	782	10.0	48.59	D	42.6	148.9		
EBR	100	94	0.6	46.60	D	42.4	148.8		
WBL	221	105	9.1	38.57	D	3.3	68.4		
WBT	1567	1074	13.6	80.59	F	138.5	216.9		
WBR	20	15	1.2	78.39	E	138.0	216.4		
NBL	239	111	9.7	109.39	F	20.8	77.3		
NBT	11	9	0.6	58.97	E	15.6	71.0		
NBR	244	202	2.8	13.26	В	14.8	70.7		
SBL	36	38	0.3	67.58	E	4.7	31.8		
SBT	20	22	0.4	61.18	E	4.7	31.8		
SBR	40	43	0.5	39.26	D	3.2	31.1		
ALL	3620	2521	19.8	62.37	E	-	-		

	Livi	ng Arts Drive - S	Square One D	rive Signali:	zed Intersection	n			
Movement		PM							
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	57	33	3.6	29.62	С	1.1	16.0		
EBT	93	88	0.5	25.15	С	3.4	46.6		
EBR	47	19	4.9	6.68	Α	3.1	46.1		
WBL	27	62	5.2	27.43	С	2.2	35.0		
WBT	158	126	2.7	25.55	С	5.2	53.9		
WBR	71	33	5.3	18.02	В	4.4	53.2		
NBL	43	41	0.3	2.76	Α	0.0	5.8		
NBT	249	250	0.1	11.87	В	4.7	67.7		
NBR	42	37	0.8	8.46	Α	2.7	80.8		
SBL	74	50	3.0	11.94	В	0.5	16.6		
SBT	291	195	6.2	6.23	Α	1.9	37.2		
SBR	61	65	0.5	4.40	Α	1.5	36.8		
ALL	1213	999	6.4	14.34	В	-	-		

	Duke o	of York Bouleva	ırd - Rathburi	n Road Signa	alized Interse	ction			
Movement		PM							
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	181	132	3.9	222.70	F	56.7	180.0		
EBT	1150	815	10.7	38.13	D	42.8	163.6		
EBR	37	86	6.2	17.92	В	42.8	163.6		
WBL	262	196	4.4	45.87	D	12.3	126.1		
WBT	1460	998	13.2	94.38	F	126.4	178.3		
WBR	114	80	3.5	68.19	E	126.2	178.0		
NBL	246	146	7.1	208.62	F	63.9	162.9		
NBT	621	521	4.2	54.17	D	46.7	160.5		
NBR	177	143	2.7	46.48	D	46.5	160.1		
SBL	134	104	2.8	146.20	F	30.5	165.6		
SBT	606	447	6.9	158.92	F	139.8	167.6		
SBR	102	95	0.7	176.26	F	139.6	167.4		
ALL	5090	3763	19.9	90.08	F	-	-		

)	Duke o	f York Bouleva	rd - Square Or	e Drive Sigr	alized Interse	ction			
		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	10	5	1.8	41.39	D	5.8	48.7		
EBT	86	82	0.4	31.57	С	5.8	48.7		
EBR	112	85	2.7	20.27	С	11.9	62.7		
WBL	75	64	1.3	54.67	D	3.3	44.5		
WBT	109	70	4.1	96.31	F	51.4	161.6		
WBR	226	244	1.2	104.14	F	59.2	183.8		
NBL	82	62	2.4	57.39	E	2.0	27.1		
NBT	808	590	8.2	76.47	E	249.7	312.5		
NBR	92	67	2.8	71.85	E	261.9	327.0		
SBL	297	201	6.1	26.63	С	5.8	82.3		
SBT	612	440	7.5	22.57	С	21.4	162.0		
SBR	66	90	2.7	20.57	С	25.6	170.9		
ALL	2575	2000	12.0	55.40	E	-	-		

				D14			
Movement		, ,		PM		1	
	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C
EBL							
EBT	736	671	2.5	6.50	Α	3.7	34.5
EBR	155	203	3.6	3.60	Α	0.2	24.3
WBL	70	53	2.2	2.43	Α	0.0	0.0
WBT	1517	1004	14.4	11.30	В	11.9	110.2
WBR							
NBL	152	134	1.5	20.09	С	4.0	57.2
NBT							
NBR	5	6	0.4	6.84	Α	5.9	66.7
SBL							
SBT							
SBR							
ALL	2635	2071	11.6	9.32	Α	-	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
0	0	1				
1	0	0				
0	1	0				
0	0	1				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			0	0	1	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
			0	1	0	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	>10		
1	0	0				
0	0	1				
0	1	0				
1	0	0				
0	0	1				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
			0	0	1	

TN	1C GEH Sumn	nary	Total Inte	rsection GEH	Summary		
	PM GEH			PM GEH			
1-5	5-10	>10	1-5 5-10 >1				
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
0	1	0					
0	1	0					
1	0	0					
			0	0	1		

TM	IC GEH Sumn	narv	Total Inte	rsection GEH	Summary	
	PM GEH	iui y	Total lite	PM GEH		
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
0	0	1				
1	0	0				
1	0	0				
			0	0	1	

## APPENDIX F5 DETAILED TMC RESULTS ROUNDABOUT INTERSECTION (RIRO)

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2021 - Roundabout Intersection - AM

	Elo	ra Drive West	- Rathburn Ro	ad Signaliz	ed Intersection	1					
		AM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	27	27	0.0	13.09	В	0.3	11.4				
EBT	810	821	0.4	9.07	Α	6.6	68.6				
EBR	92	91	0.1	4.32	Α	6.6	68.6				
WBL	110	110	0.0	21.77	С	2.8	40.5				
WBT	586	611	1.0	9.78	Α	5.6	54.8				
WBR	8	7	0.4	2.48	Α	5.6	54.8				
NBL	87	78	1.0	41.65	D	4.7	41.2				
NBT	19	17	0.5	39.83	D	1.7	27.1				
NBR	50	55	0.7	10.23	В	1.6	29.1				
SBL	77	57	2.4	38.99	D	3.3	27.6				
SBT	52	34	2.7	38.13	D	2.6	31.2				
SBR	74	52	2.8	11.84	В	1.9	31.7				
ALL	1992	1960	0.7	12.86	В	-	-				

	Elora	Drive East - Rath	ıburn Road -	<ul> <li>Unsignalized</li> </ul>	Intersection	RIRO				
Movement	AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0			
EBL										
EBT	827	823	0.1	0.71	Α	0.1	17.1			
EBR	23	0	6.8	0.00	Α	0.1	17.1			
WBL										
WBT	538	521	0.7	0.78	Α	0.1	19.8			
WBR	22	18	0.9	1.05	Α	0.1	19.8			
NBL										
NBT										
NBR	27	28	0.2	2.60	Α	0.1	9.5			
SBL										
SBT										
SBR	5	58	9.4	1.63	Α	0.1	10.6			
ALL	1442	1448	0.2	0.81	Α	-	-			

	Confed	deration Parkw	ay - Rathbur	n Road Signa	alized Intersed	tion				
	AM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	133	121	1.1	38.25	D	5.9	64.9			
EBT	698	716	0.7	38.19	D	31.4	113.0			
EBR	107	106	0.1	35.68	D	31.0	112.7			
WBL	107	105	0.2	64.06	E	7.7	58.2			
WBT	250	221	1.9	32.65	С	15.1	93.6			
WBR	217	252	2.3	28.04	С	14.6	93.3			
NBL	235	234	0.1	40.38	D	16.5	114.0			
NBT	1124	1042	2.5	54.06	D	91.1	145.5			
NBR	135	176	3.3	50.87	D	91.6	146.2			
SBL	519	446	3.3	100.06	F	300.8	508.0			
SBT	1164	1067	2.9	52.62	D	283.9	508.0			
SBR	71	76	0.6	48.23	D	283.7	508.0			
ALL	4760	4562	2.9	51.72	D	-	-			

	Confede	eration Parkwa	y - Square Oi	ne Drive Sign	nalized Interse	ction				
		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	72	71	0.1	17.60	В	1.1	21.4			
EBT	56	49	1.0	31.42	С	2.7	27.5			
EBR	33	30	0.5	15.51	В	2.4	27.0			
WBL	5	5	0.0	56.58	E	15.9	54.9			
WBT	58	58	0.0	60.16	E	15.9	54.9			
WBR	35	82	6.1	82.38	F	14.8	53.7			
NBL	5	6	0.4	23.11	С	0.1	3.9			
NBT	1387	1306	2.2	47.72	D	84.5	236.9			
NBR	32	47	2.4	36.85	D	90.8	245.7			
SBL	5	6	0.4	43.31	D	0.0	5.0			
SBT	1332	1234	2.7	10.72	В	17.7	151.4			
SBR	47	36	1.7	10.96	В	17.7	151.4			
ALL	3067	2930	2.5	31.35	С	-	-			

TM	C GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	0	0			
1	0	0			
1	0	0			
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

TM	IC GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
			1	0	0

TM	IC GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
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	0	0			
			1	0	0

TIV	IC GEH Sumn	nary	Total Inte	rsection GEH	<b>Summary</b>
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
0	0	0			
0	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

	Liv	ing Arts Drive -	Rathburn Ro	ad Signalize	ed Intersection	1				
Marramant	AM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	19	15	1.0	23.50	С	0.3	10.1			
EBT	1109	1040	2.1	20.29	С	30.1	173.9			
EBR	224	259	2.3	26.64	С	30.0	173.8			
WBL	172	125	3.9	17.64	В	2.5	38.5			
WBT	490	545	2.4	13.91	В	7.8	60.6			
WBR	12	14	0.6	11.77	В	7.4	60.1			
NBL	72	26	6.6	55.40	E	2.1	21.1			
NBT	9	10	0.3	44.15	D	3.4	29.2			
NBR	141	125	1.4	8.27	Α	2.1	28.9			
SBL	2	2	0.0	39.93	D	0.2	7.6			
SBT	1	1	0.0	58.72	E	0.2	7.6			
SBR	12	13	0.3	5.95	Α	0.0	7.1			
ALL	2263	2175	1.9	19.05	В	-	-			

	Livi	ng Arts Drive - S	quare One D	rive Signali:	zed Intersection	on				
Movement	AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	105	50	6.2	26.87	С	1.8	28.0			
EBT	60	100	4.5	26.77	С	4.2	42.5			
EBR	31	26	0.9	10.06	В	3.7	42.0			
WBL	39	42	0.5	29.34	С	1.4	19.0			
WBT	16	23	1.6	25.33	С	1.8	39.8			
WBR	76	109	3.4	10.62	В	1.4	39.1			
NBL	10	29	4.3	0.57	Α	0.0	3.4			
NBT	201	177	1.7	10.57	В	2.4	38.8			
NBR	27	25	0.4	5.62	Α	1.8	38.5			
SBL	37	33	0.7	12.54	В	0.4	12.3			
SBT	163	161	0.2	8.33	Α	1.9	37.1			
SBR	17	8	2.5	2.94	Α	1.4	36.8			
ALL	782	783	0.0	14.13	В	-	-			

	Duke (	of York Bouleva	ird - Rathburr	i Road Sign	alized Interse	ction				
Movement	AM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C			
EBL	137	93	4.1	30.64	С	3.9	40.3			
EBT	1043	1026	0.5	33.73	С	34.9	153.9			
EBR	73	38	4.7	18.24	В	34.9	153.9			
WBL	119	137	1.6	27.65	С	4.3	44.2			
WBT	518	524	0.3	8.16	Α	5.0	54.5			
WBR	38	39	0.2	17.33	В	4.8	54.1			
NBL	59	65	0.8	24.08	С	2.1	27.4			
NBT	113	154	3.5	32.27	С	5.8	36.3			
NBR	73	34	5.3	15.04	В	5.6	36.0			
SBL	70	71	0.1	26.37	С	2.6	26.0			
SBT	258	273	0.9	37.09	D	14.4	72.5			
SBR	97	95	0.2	10.15	В	14.2	72.2			
ALL	2598	2549	1.0	26.24	С	-	-			

	Duke o	f York Bouleva	rd - Square Or	ne Drive Sigr	alized Interse	ction					
		AM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	36	64	4.0	35.13	D	4.1	32.6				
EBT	37	38	0.2	29.89	С	4.1	32.6				
EBR	51	54	0.4	11.07	В	0.2	9.0				
WBL	42	38	0.6	29.10	С	1.4	17.2				
WBT	91	111	2.0	30.20	С	5.1	39.1				
WBR	39	17	4.2	18.89	В	0.0	0.0				
NBL	8	29	4.9	19.12	В	0.5	16.5				
NBT	169	170	0.1	9.99	Α	2.4	35.2				
NBR	31	29	0.4	6.93	Α	5.7	51.4				
SBL	89	82	0.8	12.89	В	1.2	28.2				
SBT	365	330	1.9	11.60	В	6.1	75.0				
SBR	34	35	0.2	9.37	Α	8.5	83.8				
ALL	992	997	0.2	16.48	В	-	-				

Square One Drive Extension - Rathburn Road Roundabout Intersection								
		AM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL								
EBT	850	818	1.1	3.68	Α	0.6	53.4	
EBR	86	107	2.1	3.22	Α	0.6	53.4	
WBL	16	20	0.9	3.49	Α	0.3	25.1	
WBT	527	559	1.4	1.43	Α	0.3	25.1	
WBR								
NBL	176	169	0.5	18.59	С	3.6	47.8	
NBT								
NBR	5	6	0.4	14.18	В	3.6	47.8	
SBL								
SBT								
SBR								
ALL	1660	1679	0.5	4.44	Α	-	-	

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	AM GEH			AM GEH		
1-5	5-10	>10	1-5 5-10 >1			
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
0	0	0				
0	0	0				
1	0	0				
			1	0	0	

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	AM GEH			AM GEH		
1-5	5-10	>10	1-5	5-10	>10	
0	1	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	0	0	

TN	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
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			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TM	1C GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	>10	
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	0	0			
			1	0	0

TIV	1C GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS

2021 - Roundabout Intersection - PM

				D14			
Movement	Obs	80-4-11-4	CELL	PM	100	40	
	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max (
EBL	43	43	0.0	29.52	С	0.8	16.0
EBT	617	620	0.1	15.66	В	8.4	50.9
EBR	110	116	0.6	2.78	Α	8.4	50.9
WBL	96	86	1.0	29.26	С	3.0	34.4
WBT	1191	1040	4.5	18.13	В	17.1	131.5
WBR	20	17	0.7	3.76	Α	17.1	131.5
NBL	100	92	0.8	11.80	В	1.3	24.4
NBT	23	22	0.2	10.76	В	0.3	19.4
NBR	50	53	0.4	4.28	Α	0.2	21.4
SBL	39	27	2.1	12.68	В	0.4	11.2
SBT	13	12	0.3	11.26	В	0.2	11.4
SBR	34	23	2.1	4.65	Α	0.0	11.9
ALL	2336	2151	3.9	16.21	В	-	-

	Elora E	Drive East - Ratl	nburn Road -	<ul> <li>Unsignalized</li> </ul>	Intersection I	RIRO		
		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL								
EBT	537	528	0.4	0.63	А	0.3	19.4	
EBR	31	0	7.9	0.00	А	0.3	19.4	
WBL								
WBT	1223	1048	5.2	1.25	А	0.2	30.0	
WBR	65	53	1.6	1.28	А	0.2	30.0	
NBL								
NBT								
NBR	8	7	0.4	1.62	А	0.0	3.7	
SBL								
SBT								
SBR	3	25	5.9	2.46	А	0.1	7.3	
ALL	1867	1661	4.9	1.07	Α	-	-	

	Confe	deration Parkw	ay - Rathburn	Road Sign	alized Intersed	tion		
		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	102	103	0.1	35.62	D	4.4	41.3	
EBT	402	403	0.0	30.37	С	12.6	77.7	
EBR	60	52	1.1	25.90	С	12.0	77.4	
WBL	132	143	0.9	43.54	D	7.0	92.7	
WBT	897	779	4.1	53.15	D	74.7	187.6	
WBR	402	334	3.5	58.60	E	74.3	187.3	
NBL	256	200	3.7	62.25	E	23.0	128.1	
NBT	1568	1238	8.8	50.33	D	94.2	148.3	
NBR	123	114	0.8	48.19	D	94.7	149.0	
SBL	418	321	5.0	170.24	F	331.5	510.3	
SBT	1283	1060	6.5	60.49	E	340.8	510.3	
SBR	209	186	1.6	58.37	E	340.6	510.2	
ALL	5852	4933	12.5	59.67	E	-	-	

	Confed	eration Parkwa	ıy - Square Oı	ne Drive Sigr	nalized Interse	ction		
		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	74	68	0.7	82.09	F	6.2	36.3	
EBT	62	55	0.9	56.63	E	5.2	37.5	
EBR	22	19	0.7	25.67	С	11.0	50.4	
WBL	5	4	0.5	30.38	С	0.0	1.2	
WBT	56	57	0.1	63.75	E	16.4	55.9	
WBR	24	59	5.4	119.98	F	24.4	67.9	
NBL	5	4	0.5	47.40	D	0.0	1.3	
NBT	1850	1449	9.9	66.15	E	186.8	264.3	
NBR	30	23	1.4	51.73	D	196.5	274.7	
SBL	5	5	0.0	39.69	D	0.0	1.3	
SBT	1365	1149	6.1	8.97	Α	11.9	146.3	
SBR	111	96	1.5	8.37	Α	13.8	154.1	
ALL	3609	2988	10.8	43.02	D	-	-	

TM	C GEH Sumn	nary	Total Inte	al Intersection GEH Summary			
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	5-10	>10		
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					
1	0	0					
			1	0	0		

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	PM GEH				
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
0	1	0			
0	1	0			
1	0	0			
1	0	0			
0	1	0			
			1	0	0

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
0	1	0				
0	1	0				
1	0	0				
			0	0	1	

TN	1C GEH Sumn	nary	Total Inte	rsection GEF	I Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	>10		
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
0	1	0				
1	0	0				
0	0	0				
0	1	0				
1	0	0				
			0	0	1	

	Liv	ing Arts Drive -	Rathburn Ro	ad Signalize	ed Intersectio	n		
Movement	PM							
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C	
EBL	26	21	1.0	56.18	E	1.1	15.6	
EBT	832	718	4.1	43.47	D	33.4	150.2	
EBR	86	92	0.6	35.37	D	33.0	150.0	
WBL	173	115	4.8	33.75	С	3.6	42.1	
WBT	1197	1131	1.9	58.10	E	102.7	215.9	
WBR	15	14	0.3	49.06	D	102.1	215.3	
NBL	203	89	9.4	45.60	D	5.5	48.5	
NBT	9	6	1.1	29.22	С	10.2	69.9	
NBR	202	173	2.1	12.78	В	9.4	69.6	
SBL	27	30	0.6	44.30	D	2.6	25.2	
SBT	15	18	0.7	41.79	D	2.6	25.2	
SBR	31	34	0.5	20.32	С	1.4	24.5	
ALL	2816	2441	7.3	47.17	D	-	-	

	Livi	ng Arts Drive - S	quare One D	rive Signali:	zed Intersection	on		
Movement	PM							
Wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	47	30	2.7	31.52	С	1.1	19.8	
EBT	71	65	0.7	25.17	С	2.5	38.9	
EBR	36	14	4.4	6.32	Α	2.3	38.3	
WBL	21	59	6.0	24.39	С	1.9	31.7	
WBT	120	119	0.1	25.89	С	4.8	42.0	
WBR	62	32	4.4	12.39	В	3.8	41.4	
NBL	33	29	0.7	1.25	Α	0.0	5.9	
NBT	194	199	0.4	9.30	Α	2.4	40.4	
NBR	32	26	1.1	4.48	Α	0.8	54.1	
SBL	66	48	2.4	10.02	В	0.4	13.5	
SBT	234	197	2.5	8.00	Α	2.5	40.2	
SBR	51	62	1.5	3.40	А	2.0	39.9	
ALL	967	880	2.9	13.47	В	-	-	

	Dunc	of York Bouleva	ru - Rutiibuii		anzeu mierse	CLIOII			
Movement		PM							
WOVEINGHE	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL	138	108	2.7	281.67	F	63.8	168.3		
EBT	895	723	6.0	38.56	D	51.3	198.4		
EBR	28	77	6.8	21.74	С	51.3	198.4		
WBL	199	211	0.8	39.99	D	12.3	126.6		
WBT	1121	1083	1.1	64.21	E	91.9	177.1		
WBR	86	87	0.1	51.60	D	91.6	176.8		
NBL	187	127	4.8	114.28	F	23.7	133.8		
NBT	472	520	2.2	47.11	D	31.6	152.8		
NBR	134	145	0.9	36.84	D	31.3	152.5		
SBL	102	107	0.5	71.70	E	11.5	118.7		
SBT	461	435	1.2	80.12	F	52.0	138.9		
SBR	78	92	1.5	78.26	E	51.8	138.7		
ALL	3901	3715	3.0	63.67	E	-	-		

	Duke o	f York Bouleva	rd - Square Or	ne Drive Sign	nalized Interse	ction			
		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	8	4	1.6	33.66	С	4.4	43.7		
EBT	75	74	0.1	29.74	С	4.4	43.7		
EBR	85	60	2.9	17.11	В	9.7	57.6		
WBL	57	48	1.2	32.99	С	2.0	18.7		
WBT	90	60	3.5	34.96	С	7.6	73.5		
WBR	172	195	1.7	25.46	С	8.4	87.1		
NBL	62	63	0.1	19.32	В	0.8	16.5		
NBT	615	619	0.2	24.01	С	36.7	240.0		
NBR	70	71	0.1	20.83	С	40.0	253.9		
SBL	226	185	2.9	33.00	С	6.8	84.8		
SBT	466	450	0.7	14.19	В	12.4	157.4		
SBR	50	88	4.6	12.28	В	15.1	166.3		
ALL	1976	1917	1.3	22.50	С	-	-		

	PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL								
EBT	859	522	12.8	4.02	Α	0.9	48.0	
EBR	138	165	2.2	4.09	Α	0.9	48.0	
WBL	54	48	0.8	4.66	Α	1.7	68.8	
WBT	1172	1018	4.7	2.82	Α	1.7	68.8	
WBR								
NBL	135	133	0.2	12.96	В	1.5	46.6	
NBT								
NBR	5	6	0.4	6.03	Α	1.5	46.6	
SBL								
SBT								
SBR								
ALL	2363	1892	10.2	4.03	Α	-	-	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			0	1	0	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary		
	PM GEH		PM GEH				
1-5	5-10	>10	1-5 5-10 >1				
1	0	0					
1	0	0					
1	0	0					
0	1	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		

TM	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5 5-10 >:			
1	0	0				
0	1	0				
0	1	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	

TIV	IC GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH		PM GEH				
1-5	5-10	>10	1-5 5-10 >1				
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	0	0					
			1	0	0		

TN	/IC GEH Summ	nary	Total Inte	rsection GEH	I Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	0	1				
0	1	0				
			0	0	1	

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2031 - Roundabout Intersection - AM

	Elora Drive West - Rathburn Road Signalized Intersection										
Movement	AM										
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C				
EBL	31	31	0.0	13.23	В	0.3	12.7				
EBT	900	913	0.4	10.32	В	8.3	72.6				
EBR	104	102	0.2	4.70	Α	8.3	72.6				
WBL	125	119	0.5	24.33	С	3.4	47.2				
WBT	652	647	0.2	9.84	Α	5.9	61.7				
WBR	9	9	0.0	2.31	Α	5.9	61.7				
NBL	99	88	1.1	42.68	D	5.6	39.3				
NBT	21	21	0.0	44.00	D	2.3	35.4				
NBR	57	60	0.4	13.95	В	2.3	37.4				
SBL	87	65	2.5	43.94	D	4.2	35.7				
SBT	59	38	3.0	38.64	D	3.1	36.8				
SBR	84	60	2.8	12.84	В	2.5	37.3				
ALL	2228	2153	1.6	14.03	В	-	-				

	Elora [	Drive East - Rath	nburn Road -	<ul> <li>Unsignalized</li> </ul>	Intersection I	RIRO					
Movement		AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL											
EBT	926	917	0.3	0.80	А	0.1	30.1				
EBR	26	0	7.2	0.00	Α	0.1	30.1				
WBL											
WBT	607	548	2.5	0.79	Α	0.1	16.8				
WBR	25	21	0.8	1.19	Α	0.1	16.8				
NBL											
NBT											
NBR	31	33	0.4	3.38	Α	0.1	9.2				
SBL											
SBT											
SBR	6	68	10.2	1.60	Α	0.1	9.3				
ALL	1621	1587	0.8	0.89	Α	-	-				

	Confe	deration Parkw	ay - Rathburn	Road Sign	alized Intersed	tion	
				AM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0
EBL	151	142	0.7	41.90	D	7.8	77.2
EBT	780	795	0.5	37.80	D	36.0	112.4
EBR	121	115	0.6	34.47	С	35.5	112.1
WBL	120	113	0.6	75.27	E	11.0	84.3
WBT	280	248	2.0	35.66	D	20.0	108.3
WBR	245	282	2.3	32.36	С	19.5	108.0
NBL	266	239	1.7	44.18	D	31.9	141.2
NBT	1251	1057	5.7	56.35	E	104.4	143.5
NBR	151	180	2.3	56.58	E	104.9	144.1
SBL	586	436	6.6	112.16	F	393.9	509.5
SBT	1307	1047	7.6	53.52	D	392.4	509.4
SBR	80	73	0.8	47.77	D	392.4	509.3
ALL	5338	4727	8.6	53.98	D	-	-

	Confed	eration Parkwa	y - Square Or	ne Drive Sigr	alized Interse	ction					
		AM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	72	71	0.1	23.88	С	1.5	23.7				
EBT	61	57	0.5	31.49	С	3.5	33.2				
EBR	37	32	0.9	22.87	С	3.1	32.8				
WBL	5	5	0.0	58.87	E	26.1	60.7				
WBT	65	66	0.1	70.35	E	26.1	60.7				
WBR	40	91	6.3	113.91	F	25.0	59.5				
NBL	5	5	0.0	56.14	E	0.0	5.0				
NBT	1556	1327	6.0	69.07	E	175.9	266.3				
NBR	35	46	1.7	55.86	E	183.4	275.1				
SBL	5	5	0.0	27.59	С	0.0	1.4				
SBT	1500	1235	7.2	10.67	В	18.8	152.4				
SBR	48	36	1.9	11.67	В	18.8	152.4				
ALL	3429	2976	8.0	42.93	D	-	-				

TM	C GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	0	0			
1	0	0			
0	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TN	1C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	>10	
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
0	0	1			
			1	0	0

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
0	1	0			
0	1	0			
1	0	0			
			0	1	0

TIV	1C GEH Sumn	nary	Total Inte	rsection GEH	I Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
0	0	0			
1	0	0			
0	1	0			
0	0	0			
0	1	0			
1	0	0			
0	0	0			
0	1	0			
1	0	0			
			0	1	0

	Liv	ing Arts Drive -	Rathburn Ro	ad Signalize	ed Intersection	1			
Movement	AM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL	21	12	2.2	28.74	С	0.3	9.0		
EBT	1254	1111	4.2	28.96	С	51.9	191.0		
EBR	242	266	1.5	34.44	С	51.7	190.9		
WBL	190	142	3.7	19.96	В	3.2	44.7		
WBT	553	610	2.4	16.43	В	10.1	68.3		
WBR	14	16	0.5	15.63	В	9.6	67.8		
NBL	78	28	6.9	60.96	E	2.6	21.7		
NBT	10	11	0.3	47.98	D	3.5	30.5		
NBR	157	138	1.6	10.73	В	2.3	30.2		
SBL	2	2	0.0	49.72	D	0.2	6.4		
SBT	1	1	0.0	38.94	D	0.2	6.4		
SBR	14	14	0.0	6.08	А	0.0	5.9		
ALL	2536	2351	3.7	24.98	С	-	-		

	Livi	ng Arts Drive - S	Square One D	rive Signali:	zed Intersection	n				
Movement		AM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	115	52	6.9	28.33	С	2.0	27.8			
EBT	68	113	4.7	25.48	С	4.6	40.1			
EBR	35	29	1.1	11.96	В	4.1	39.6			
WBL	45	48	0.4	29.89	С	1.7	24.7			
WBT	19	27	1.7	26.13	С	1.7	35.5			
WBR	77	111	3.5	8.98	Α	1.2	34.8			
NBL	11	34	4.8	0.79	Α	0.0	4.9			
NBT	222	193	2.0	9.76	Α	2.4	35.8			
NBR	31	34	0.5	5.49	Α	1.8	35.4			
SBL	41	37	0.6	13.08	В	0.4	11.3			
SBT	182	180	0.1	8.41	Α	2.1	31.9			
SBR	19	9	2.7	4.60	Α	1.5	31.5			
ALL	865	867	0.1	13.81	В	-	-			

	Duke	of York Bouleva	rd - Rathbur	n Road Sign	alized Intersed	tion					
Movement		AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	155	105	4.4	34.20	С	4.8	37.9				
EBT	1176	1100	2.3	33.17	С	39.8	183.5				
EBR	83	35	6.2	21.74	С	39.8	183.5				
WBL	135	155	1.7	29.23	С	5.4	45.3				
WBT	580	586	0.2	8.23	Α	5.6	63.9				
WBR	43	42	0.2	18.33	В	5.5	63.5				
NBL	67	75	0.9	26.82	С	2.6	30.0				
NBT	128	177	4.0	32.37	С	6.6	39.2				
NBR	83	35	6.2	17.90	В	6.4	38.8				
SBL	79	80	0.1	25.79	С	2.7	26.6				
SBT	292	308	0.9	37.68	D	16.5	88.0				
SBR	110	109	0.1	10.14	В	16.4	87.8				
ALL	2931	2807	2.3	26.40	С	-	-				

	Duke o	f York Bouleva	d - Square Or	ne Drive Sigr	alized Interse	ction					
		AM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	41	75	4.5	34.62	С	5.0	46.7				
EBT	41	42	0.2	32.31	С	5.0	46.7				
EBR	58	63	0.6	14.67	В	0.3	23.6				
WBL	47	44	0.4	30.09	С	1.6	18.4				
WBT	94	114	2.0	32.03	С	5.8	45.5				
WBR	45	20	4.4	20.06	С	0.2	21.0				
NBL	9	33	5.2	13.96	В	0.4	15.3				
NBT	192	189	0.2	11.53	В	3.3	53.0				
NBR	35	34	0.2	7.52	Α	6.9	69.2				
SBL	100	88	1.2	15.10	В	1.4	25.9				
SBT	414	370	2.2	12.27	В	7.2	104.1				
SBR	38	39	0.2	9.67	Α	9.7	113.0				
ALL	1114	1111	0.1	17.46	В	-	-				

Square One Drive Extension - Rathburn Road Roundabout Intersection							
Movement				AM			
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C
EBL							
EBT	952	913	1.3	4.60	Α	1.4	64.1
EBR	91	117	2.5	3.94	Α	1.4	64.1
WBL	19	22	0.7	3.98	Α	0.4	26.8
WBT	594	594	0.0	1.66	Α	0.4	26.8
WBR							
NBL	191	184	0.5	21.98	С	5.1	59.8
NBT							
NBR	5	6	0.4	17.42	С	5.1	59.8
SBL							
SBT							
SBR							
ALL	1852	1836	0.4	5.38	Α	_	-

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
0	0	0			
0	0	0			
0	0	0			
			1	0	0

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	1	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	0	0

TM	C GEH Sumn	nary	Total Inte	rsection GEH	ection GEH Summary			
	AM GEH			AM GEH				
1-5	5-10	>10	1-5	5-10	>10			
1	0	0						
1	0	0						
0	1	0						
1	0	0						
1	0	0						
1	0	0						
1	0	0						
1	0	0						
0	1	0						
1	0	0						
1	0	0						
1	0	0						
			1	0	0			

TN	1C GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TM	IC GEH Sumn	narv	Total Inte	rsection GEH	l Summary	
	AM GEH		AM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
0	0	0				
1	0	0				
1	0	0				
			1	0	0	

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS
2031 - Roundabout Intersection - PM

	Elo	ra Drive West -	- Rathburn Ro	ad Signaliz	ed Intersection	n		
Marramant		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C	
EBL	48	48	0.0	26.60	С	0.8	13.7	
EBT	683	685	0.1	13.30	В	7.9	50.7	
EBR	125	124	0.1	2.95	Α	7.9	50.7	
WBL	109	85	2.4	22.11	С	2.1	30.2	
WBT	1328	1042	8.3	14.13	В	13.0	107.8	
WBR	22	17	1.1	3.73	Α	13.0	107.8	
NBL	113	106	0.7	16.63	В	2.3	33.9	
NBT	26	26	0.0	14.90	В	0.6	17.1	
NBR	57	56	0.1	5.58	Α	0.5	19.1	
SBL	45	29	2.6	19.30	В	0.7	17.4	
SBT	15	13	0.5	16.87	В	0.3	13.6	
SBR	38	26	2.1	6.19	Α	0.1	14.2	
ALL	2609	2257	7.1	13.66	В	-	-	

Elora Drive East - Rathburn Road Unsignalized Intersection RIRO								
Movement				PM				
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max	
EBL								
EBT	603	592	0.5	0.60	Α	0.3	21.7	
EBR	35	0	8.4	0.00	Α	0.3	21.7	
WBL								
WBT	1374	1047	9.4	1.51	Α	0.3	43.1	
WBR	73	50	2.9	1.73	Α	0.3	43.1	
NBL								
NBT								
NBR	9	8	0.3	2.38	Α	0.0	6.0	
SBL								
SBT								
SBR	4	30	6.3	2.75	Α	0.1	8.6	
ALL	2098	1727	8.5	1.23	Α	-	-	

	Confed	deration Parkw	ay - Rathburn	Road Signa	alized Intersec	tion		
		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C	
EBL	115	112	0.3	36.00	D	4.7	44.5	
EBT	451	453	0.1	27.13	С	13.1	71.5	
EBR	68	61	0.9	23.12	С	12.4	71.2	
WBL	147	143	0.3	52.89	D	8.8	152.9	
WBT	1005	781	7.5	57.28	E	94.5	188.6	
WBR	453	335	5.9	55.39	E	94.2	188.3	
NBL	290	199	5.8	61.24	E	21.1	142.3	
NBT	1754	1247	13.1	50.67	D	95.4	148.8	
NBR	138	111	2.4	50.61	D	95.9	149.5	
SBL	473	315	8.0	184.08	F	398.5	510.0	
SBT	1425	1037	11.1	58.67	E	409.4	510.0	
SBR	236	178	4.0	53.26	D	409.4	509.9	
ALL	6555	4972	20.9	59.91	E	-	-	

	Confed	eration Parkwa	y - Square Or	ne Drive Sigr	nalized Interse	ction		
		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	74	70	0.5	80.37	F	5.8	31.3	
EBT	69	66	0.4	48.62	D	5.4	33.6	
EBR	25	23	0.4	22.44	С	11.3	46.6	
WBL	5	3	1.0	24.58	С	0.0	1.3	
WBT	60	57	0.4	65.21	E	20.0	56.6	
WBR	28	65	5.4	125.74	F	28.6	68.6	
NBL	5	3	1.0	48.18	D	0.0	1.3	
NBT	2080	1441	15.2	68.37	E	197.3	262.6	
NBR	33	22	2.1	51.05	D	207.2	273.0	
SBL	5	5	0.0	42.30	D	0.0	2.5	
SBT	1527	1151	10.3	9.30	А	12.3	146.1	
SBR	113	83	3.0	8.39	Α	14.2	153.9	
ALL	4024	2989	17.5	44.40	D	-	-	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
0	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			0	1	0

TM	IC GEH Sumn	nary	Total Intersection GEH Summary			
	PM GEH			PM GEH		
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
0	1	0				
0	1	0				
1	0	0				
1	0	0				
0	1	0				
	•		0	1	0	

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
0	1	0				
0	1	0				
0	0	1				
1	0	0				
0	1	0				
0	0	1				
1	0	0				
			0	0	1	

TN	AC GEH Sumn	nary	Total Inte	rsection GEF	l Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	>10		
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
0	0	1				
1	0	0				
0	0	0				
0	0	1				
1	0	0				
			0	0	1	

	Liv	ing Arts Drive -	Rathburn Ro	ad Signalize	ed Intersection	1		
Movement	PM							
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C	
EBL	30	22	1.6	83.57	F	1.9	19.7	
EBT	940	740	6.9	39.42	D	32.9	137.7	
EBR	92	92	0.0	41.82	D	32.6	137.6	
WBL	193	113	6.5	31.54	С	2.3	34.8	
WBT	1353	1124	6.5	72.39	E	129.5	216.4	
WBR	17	13	1.0	62.79	E	129.0	215.9	
NBL	218	97	9.6	103.71	F	17.5	75.2	
NBT	10	7	1.0	53.77	D	12.1	70.2	
NBR	220	183	2.6	9.21	Α	11.2	70.0	
SBL	31	33	0.4	58.04	E	4.3	31.1	
SBT	17	20	0.7	59.65	E	4.3	31.1	
SBR	35	37	0.3	40.72	D	2.9	30.5	
ALL	3156	2481	12.7	55.36	E	-	-	

	Livi	ng Arts Drive - S	quare One D	rive Signali:	zed Intersection	on		
Marramant	PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C	
EBL	51	32	2.9	29.55	С	1.1	18.1	
EBT	80	77	0.3	24.61	С	2.9	36.5	
EBR	41	17	4.5	6.98	Α	2.6	36.0	
WBL	24	65	6.1	28.04	С	2.3	32.4	
WBT	136	127	0.8	23.94	С	4.9	58.6	
WBR	66	32	4.9	14.99	В	3.9	57.9	
NBL	37	33	0.7	1.56	Α	0.0	6.0	
NBT	217	223	0.4	9.75	Α	2.8	41.3	
NBR	36	31	0.9	5.84	Α	1.2	52.9	
SBL	69	45	3.2	12.49	В	0.5	16.3	
SBT	258	198	4.0	5.87	Α	1.9	40.4	
SBR	55	64	1.2	4.28	Α	1.5	40.1	
ALL	1070	944	4.0	13.46	В	-	-	

	Duke	of York Bouleva	i a - itatiibai		anzeu mierse	Ction			
Movement		PM							
Wiovelliene	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0		
EBL	156	121	3.0	264.31	F	58.5	185.4		
EBT	1002	764	8.0	37.30	D	32.4	164.3		
EBR	32	80	6.4	21.09	С	32.4	164.3		
WBL	225	204	1.4	39.63	D	9.8	102.0		
WBT	1264	1061	6.0	81.15	F	116.7	179.1		
WBR	98	86	1.3	55.62	E	116.5	178.8		
NBL	212	135	5.8	182.01	F	47.3	160.7		
NBT	535	534	0.0	53.21	D	43.8	159.9		
NBR	152	151	0.1	45.48	D	43.6	159.6		
SBL	115	112	0.3	116.67	F	29.6	155.5		
SBT	522	466	2.5	123.31	F	99.3	159.4		
SBR	88	100	1.2	141.93	F	99.0	159.2		
ALL	4401	3814	9.2	80.15	F	-	-		

	Duke o	f York Boulevar	d - Square Oi	ne Drive Sigr	nalized Interse	ction			
Movement		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	9	4	2.0	35.72	D	4.5	50.7		
EBT	80	77	0.3	28.08	С	4.5	50.7		
EBR	97	72	2.7	17.14	В	9.9	64.7		
WBL	64	55	1.2	32.25	С	2.2	27.1		
WBT	98	67	3.4	39.87	D	13.0	86.0		
WBR	194	219	1.7	44.75	D	16.6	99.7		
NBL	71	65	0.7	44.94	D	1.8	24.3		
NBT	696	628	2.6	60.37	E	173.9	309.0		
NBR	79	72	0.8	52.49	D	183.4	323.5		
SBL	256	199	3.8	25.56	С	5.3	78.6		
SBT	527	461	3.0	22.76	С	21.4	167.6		
SBR	57	93	4.2	18.48	В	25.5	176.5		
ALL	2228	2012	4.7	39.61	D	-	-		

		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL									
EBT	639	587	2.1	4.07	Α	1.1	49.0		
EBR	145	183	3.0	4.12	Α	1.1	49.0		
WBL	61	50	1.5	5.12	Α	2.8	87.3		
WBT	1317	1019	8.7	3.42	Α	2.8	87.3		
WBR									
NBL	142	135	0.6	15.33	С	2.0	54.4		
NBT									
NBR	5	6	0.4	6.14	Α	2.0	54.4		
SBL									
SBT									
SBR									
ALL	2309	1980	7.1	4.54	Α	-	-		

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	>10		
1	0	0				
0	1	0				
0	0	0				
0	1	0				
0	1	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			0	0	1	

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	>10		
1	0	0				
1	0	0				
1	0	0				
0	1	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	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	>10		
1	0	0				
0	1	0				
0	1	0				
1	0	0				
0	1	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			0	1	0	

TM	1C GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH		PM GEH				
1-5	5-10	>10	1-5	>10			
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	0	0					
			1	0	0		

TN	AC GEH Sumn	nary	Total Inte	rsection GEH	l Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
0	1	0				
1	0	0				
0	0	1				
0	1	0				
•			0	1	0	

Project: Square One Drive EA Project # 1650-11005 Task: Traffic Analysis

Summary of Intersection TMCs and LOS 2041 - Roundabout Intersection - AM

	EIC	ra Drive West	- Kathburn Ko	au Signalize	ea intersection	1			
Movement	AM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C		
EBL	36	39	0.5	15.98	В	0.5	14.3		
EBT	1024	1030	0.2	9.99	Α	9.2	81.3		
EBR	121	123	0.2	5.13	Α	9.2	81.3		
WBL	145	130	1.3	31.17	С	5.3	50.4		
WBT	743	689	2.0	9.58	Α	6.0	57.8		
WBR	10	9	0.3	1.70	Α	6.0	57.8		
NBL	115	103	1.1	41.09	D	6.4	45.7		
NBT	24	25	0.2	37.02	D	2.2	32.9		
NBR	66	65	0.1	12.03	В	2.2	34.9		
SBL	101	74	2.9	38.55	D	4.2	30.3		
SBT	69	45	3.2	37.39	D	3.6	38.5		
SBR	98	66	3.5	14.19	В	3.0	39.1		
ALL	2552	2398	3.1	14.02	В	-	-		

	Elora [	Orive East - Rath	ıburn Road -	<ul> <li>Unsignalized</li> </ul>	Intersection	RIRO				
Marramant	AM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max 0			
EBL										
EBT	1063	1038	0.8	1.10	Α	0.2	27.8			
EBR	30	0	7.7	0.00	Α	0.2	27.8			
WBL										
WBT	701	576	4.9	0.80	Α	0.1	16.7			
WBR	29	24	1.0	1.09	Α	0.1	16.7			
NBL										
NBT										
NBR	36	39	0.5	3.08	Α	0.1	10.3			
SBL										
SBT										
SBR	7	78	10.9	1.68	Α	0.1	11.6			
ALL	1866	1755	2.6	1.07	Α	-	-			

	Confed	eration Parkw	ay - Rathburn	Road Signa	alized Intersec	tion				
		AM								
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	175	163	0.9	41.11	D	8.6	102.0			
EBT	893	901	0.3	38.02	D	42.8	114.4			
EBR	141	129	1.0	36.91	D	42.4	114.1			
WBL	138	133	0.4	122.13	F	25.1	103.7			
WBT	321	285	2.1	35.82	D	25.5	122.0			
WBR	284	322	2.2	34.48	С	25.1	121.7			
NBL	309	236	4.4	43.26	D	28.4	126.1			
NBT	1425	1055	10.5	57.10	E	106.1	143.4			
NBR	172	185	1.0	59.68	E	106.6	144.0			
SBL	678	401	11.9	131.82	F	421.9	510.4			
SBT	1504	1002	14.2	53.27	D	425.2	510.4			
SBR	93	68	2.8	49.10	D	425.2	510.4			
ALL	6133	4880	16.9	56.22	E	-	-			

	Confede	eration Parkwa	y - Square Or	ne Drive Sign	nalized Interse	ction					
		AM									
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q				
EBL	72	72	0.0	22.96	С	1.7	24.8				
EBT	68	67	0.1	38.93	D	4.7	32.7				
EBR	43	36	1.1	21.68	С	4.3	32.2				
WBL	5	5	0.0	73.85	E	29.8	58.9				
WBT	75	75	0.0	63.70	E	29.8	58.9				
WBR	47	104	6.6	114.58	F	28.8	57.7				
NBL	5	4	0.5	41.07	D	0.0	4.7				
NBT	1788	1310	12.1	74.99	E	205.2	266.3				
NBR	38	45	1.1	60.27	E	213.6	275.2				
SBL	5	3	1.0	46.75	D	0.0	2.6				
SBT	1732	1227	13.1	10.77	В	20.1	154.0				
SBR	50	35	2.3	12.45	В	20.1	154.0				
ALL	3928	2983	16.1	45.93	D	-	-				

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
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	0	0			
	<u> </u>			0	0

TM	IC GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
0	0	1			
			1	0	0

TM	C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	0	1			
1	0	0			
0	0	1			
0	0	1			
1	0	0			
			0	0	1

TIV	1C GEH Sumn	nary	Total Inte	rsection GEH	Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
0	0	0			
1	0	0			
1	0	0			
0	0	0			
0	0	0			
0	1	0			
1	0	0			
0	0	1			
1	0	0			
1	0	0			
0	0	1			
1	0	0			
			0	0	1

	Liv	ing Arts Drive -	Rathburn Ro	ad Signalize	ed Intersection	n				
Movement	AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C			
EBL	24	14	2.3	25.35	С	0.3	9.0			
EBT	1452	1184	7.4	30.89	С	68.2	191.4			
EBR	266	267	0.1	36.90	D	68.1	191.3			
WBL	214	159	4.0	20.37	С	3.8	50.4			
WBT	641	705	2.5	18.32	В	12.8	84.4			
WBR	16	20	0.9	19.53	В	12.3	83.9			
NBL	87	32	7.1	50.52	D	2.4	20.4			
NBT	11	13	0.6	55.20	E	4.1	31.5			
NBR	180	162	1.4	11.46	В	3.0	31.2			
SBL	3	2	0.6	65.50	E	0.5	13.4			
SBT	1	2	0.8	56.13	E	0.5	13.4			
SBR	16	17	0.2	8.79	Α	0.2	12.8			
ALL	2911	2577	6.4	26.35	С	-	-			

	Livi	ng Arts Drive - S	quare One D	rive Signali:	zed Intersection	on				
Movement	AM									
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q			
EBL	128	53	7.9	25.60	С	1.9	38.7			
EBT	79	131	5.1	28.05	С	6.5	50.4			
EBR	40	32	1.3	16.10	В	6.0	49.9			
WBL	52	56	0.5	29.53	С	1.9	28.3			
WBT	22	30	1.6	24.23	С	1.6	39.3			
WBR	79	115	3.7	9.14	Α	1.1	38.6			
NBL	13	39	5.1	0.94	А	0.0	4.8			
NBT	251	220	2.0	10.11	В	2.9	41.4			
NBR	36	38	0.3	6.56	Α	2.3	41.1			
SBL	46	39	1.1	10.93	В	0.4	11.2			
SBT	209	203	0.4	8.51	А	2.4	37.3			
SBR	21	7	3.7	7.68	Α	1.9	37.0			
ALL	976	963	0.4	14.22	В	-	-			

	Duke o	of York Bouleva	ırd - Rathburı	n Road Signa	alized Intersed	ction	
Marramant				AM			
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q
EBL	180	124	4.5	30.48	С	4.8	46.2
EBT	1359	1182	5.0	30.78	С	41.5	191.0
EBR	96	34	7.7	21.56	С	41.5	191.0
WBL	157	177	1.5	32.73	С	6.7	54.8
WBT	665	674	0.3	7.51	Α	5.7	67.4
WBR	50	49	0.1	17.21	В	5.6	67.1
NBL	78	86	0.9	29.65	С	3.5	30.9
NBT	148	200	3.9	34.80	С	7.9	44.6
NBR	96	38	7.1	18.13	В	7.7	44.2
SBL	92	94	0.2	32.16	С	4.0	53.9
SBT	339	359	1.1	46.08	D	23.3	88.7
SBR	128	127	0.1	16.77	В	23.1	88.5
ALL	3388	3144	4.3	26.87	С	-	-

	Duke o	f York Boulevai	rd - Square Or	ne Drive Sign	nalized Interse	ction			
Movement	AM								
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	47	82	4.4	35.98	D	5.5	36.0		
EBT	46	47	0.1	29.84	С	5.5	36.0		
EBR	68	75	0.8	13.86	В	0.1	12.9		
WBL	55	53	0.3	30.14	С	2.0	24.6		
WBT	97	118	2.0	30.30	С	5.7	40.7		
WBR	52	27	4.0	17.54	В	0.2	21.8		
NBL	10	40	6.0	18.40	В	0.6	16.3		
NBT	223	213	0.7	11.97	В	3.9	55.3		
NBR	40	39	0.2	8.14	Α	7.6	71.5		
SBL	116	99	1.6	14.01	В	1.4	27.5		
SBT	480	425	2.6	13.03	В	8.9	119.6		
SBR	45	44	0.1	9.37	Α	11.5	128.5		
ALL	1279	1262	0.5	17.42	В	-	-		

Square One Drive Extension - Rathburn Road Roundabout Intersection								
				AM				
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL								
EBT	1093	1033	1.8	5.47	Α	1.8	65.7	
EBR	98	128	2.8	4.99	Α	1.8	65.7	
WBL	22	23	0.2	3.97	Α	0.5	27.4	
WBT	686	630	2.2	1.78	Α	0.5	27.4	
WBR								
NBL	212	200	0.8	31.37	D	9.5	69.4	
NBT								
NBR	5	6	0.4	25.51	D	9.5	69.4	
SBL								
SBT								
SBR								
ALL	2116	2020	2.1	6.90	Α	-	-	

TM	C GEH Sumn	nary	Total Inte	otal Intersection GEH Summary			
	AM GEH			AM GEH			
1-5	5-10	>10	1-5 5-10 >1				
1	0	0					
0	1	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
			0	1	0		

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	AM GEH			AM GEH		
1-5	5-10	>10	1-5	5-10	>10	
0	1	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			1	0	0	

TN	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TN	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	AM GEH			AM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	1	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			1	0	0

TM	IC GEH Sumn	nary	Total Intersection GEH Summary			
	AM GEH	•	AM GEH			
1-5	5-10	>10	1-5	>10		
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			1	0	0	

Project: Square One Drive EA
Project # 1650-11005
Task: Traffic Analysis
Summary of Intersection TMCs and LOS

2041 - Roundabout Intersection - PM

	Elora Drive West - Rathburn Road Signalized Intersection									
				PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max (			
EBL	56	57	0.1	25.71	С	1.1	19.0			
EBT	773	782	0.3	13.29	В	9.0	57.2			
EBR	145	144	0.1	3.09	Α	9.0	57.2			
WBL	126	84	4.1	23.23	С	2.0	28.5			
WBT	1517	1041	13.3	13.56	В	12.5	104.6			
WBR	26	17	1.9	3.63	Α	12.5	104.6			
NBL	131	128	0.3	18.04	В	3.1	41.3			
NBT	30	31	0.2	15.80	В	0.8	24.5			
NBR	66	63	0.4	5.95	Α	0.7	26.5			
SBL	52	34	2.7	17.70	В	0.7	17.2			
SBT	17	14	0.8	15.45	В	0.3	11.7			
SBR	45	32	2.1	7.00	Α	0.1	12.2			
ALL	2984	2427	10.7	13.45	В	-	-			

	Elora Drive East - Rathburn Road Unsignalized Intersection RIRO									
Movement				PM						
wovement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C			
EBL										
EBT	695	673	0.8	0.62	Α	0.3	24.1			
EBR	40	0	8.9	0.00	Α	0.3	24.1			
WBL										
WBT	1583	1041	15.0	1.40	Α	0.2	29.3			
WBR	85	53	3.9	1.42	Α	0.2	29.3			
NBL										
NBT										
NBR	10	9	0.3	1.89	Α	0.0	5.4			
SBL										
SBT										
SBR	4	35	7.0	2.50	Α	0.1	10.8			
ALL	2417	1811	13.2	1.13	Α	-	-			

	Confed	deration Parkw	ay - Rathburn	Road Sign	alized Interse	ction		
		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max C	
EBL	134	126	0.7	39.04	D	6.2	55.3	
EBT	518	513	0.2	28.34	С	15.6	83.8	
EBR	79	73	0.7	25.72	С	15.0	83.5	
WBL	167	136	2.5	53.66	D	7.2	95.5	
WBT	1155	780	12.1	59.30	E	98.9	188.2	
WBR	524	337	9.0	60.08	E	98.4	187.9	
NBL	336	201	8.2	57.75	E	18.4	85.1	
NBT	2008	1235	19.2	51.30	D	96.3	148.3	
NBR	157	112	3.9	54.30	D	96.8	148.9	
SBL	548	305	11.8	193.73	F	422.1	509.7	
SBT	1619	970	18.0	56.87	E	437.2	509.6	
SBR	274	179	6.3	53.85	D	437.2	509.5	
ALL	7519	4967	32.3	60.41	E	-	-	

	Confed	eration Parkwa	y - Square Or	ne Drive Sigr	nalized Interse	ection		
		PM						
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	74	69	0.6	81.70	F	6.0	36.7	
EBT	79	74	0.6	41.65	D	5.2	38.8	
EBR	29	27	0.4	22.64	С	10.8	51.8	
WBL	5	3	1.0	27.58	С	0.0	1.2	
WBT	67	55	1.5	67.11	E	20.1	58.1	
WBR	32	76	6.0	124.94	F	29.0	70.1	
NBL	5	2	1.6	49.42	D	0.0	1.2	
NBT	2396	1417	22.4	70.99	E	201.6	264.2	
NBR	38	21	3.1	57.63	E	211.6	274.6	
SBL	5	3	1.0	53.87	D	0.0	4.0	
SBT	1749	1098	17.3	9.11	Α	11.0	144.7	
SBR	116	77	4.0	7.46	Α	12.9	152.5	
ALL	4595	2922	27.3	46.28	D	-	-	

TM	C GEH Sumn	nary	Total Inte	rsection GEH	l Summary
	PM GEH			PM GEH	
1-5	5-10	>10	1-5	5-10	>10
1	0	0			
1	0	0			
1	0	0			
1	0	0			
0	0	1			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
1	0	0			
			0	0	1

TM	IC GEH Sumn	nary	Total Inte	Total Intersection GEH Summary			
	PM GEH			PM GEH			
1-5	5-10	>10	1-5	5-10	>10		
1	0	0					
0	1	0					
0	0	1					
1	0	0					
1	0	0					
0	1	0					
			0	0	1		

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	0	1				
0	1	0				
0	1	0				
0	0	1				
1	0	0				
0	0	1				
0	0	1				
0	1	0				
			0	0	1	

TN	AC GEH Sumn	nary	Total Inte	rsection GEH	l Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5 5-10 >1			
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
0	0	1				
1	0	0				
1	0	0				
0	0	1				
1	0	0				
•	•	•	0	0	1	

	Liv	ing Arts Drive -	Rathburn Ro	ad Signalize	d Intersection	1		
Marramant	PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	34	26	1.5	84.33	F	2.2	15.7	
EBT	1088	786	9.9	44.10	D	39.1	155.7	
EBR	100	95	0.5	44.31	D	38.9	155.6	
WBL	221	107	8.9	34.82	С	2.1	31.6	
WBT	1567	1095	12.9	78.74	E	140.9	216.4	
WBR	20	14	1.5	75.72	E	140.3	215.9	
NBL	239	114	9.4	115.21	F	24.1	77.6	
NBT	11	8	1.0	62.88	E	13.8	73.4	
NBR	244	200	3.0	12.72	В	12.9	73.1	
SBL	36	38	0.3	61.29	E	4.7	31.8	
SBT	20	22	0.4	60.98	E	4.7	31.8	
SBR	40	43	0.5	37.95	D	3.2	31.1	
ALL	3620	2548	19.3	60.26	E	-	-	

Living Arts Drive - Square One Drive Signalized Intersection								
Movement	PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q	
EBL	57	33	3.6	29.40	С	1.1	20.5	
EBT	93	88	0.5	25.07	С	3.4	46.7	
EBR	47	19	4.9	7.36	Α	3.1	46.2	
WBL	27	62	5.2	26.17	С	2.1	38.7	
WBT	158	127	2.6	22.34	С	4.3	49.7	
WBR	71	33	5.3	14.05	В	3.4	49.0	
NBL	43	41	0.3	1.60	Α	0.0	7.3	
NBT	249	249	0.0	12.30	В	4.1	55.6	
NBR	42	37	0.8	7.10	Α	2.4	69.0	
SBL	74	47	3.5	11.39	В	0.4	14.0	
SBT	291	194	6.2	5.72	Α	1.8	43.0	
SBR	61	63	0.3	3.79	Α	1.4	42.7	
ALL	1213	993	6.6	13.61	В	-	-	

Duke of York Boulevard - Rathburn Road Signalized Intersection									
Marramant		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	181	127	4.4	227.35	F	52.5	178.0		
EBT	1150	819	10.5	37.75	D	38.3	162.6		
EBR	37	89	6.6	22.88	С	38.3	162.6		
WBL	262	197	4.3	48.02	D	13.5	125.4		
WBT	1460	1020	12.5	90.98	F	125.9	178.5		
WBR	114	81	3.3	69.40	E	125.6	178.2		
NBL	246	146	7.1	200.67	F	61.2	162.0		
NBT	621	517	4.4	56.23	E	52.9	160.7		
NBR	177	142	2.8	46.71	D	52.6	160.4		
SBL	134	108	2.4	140.35	F	32.7	165.7		
SBT	606	454	6.6	154.44	F	139.2	166.9		
SBR	102	96	0.6	180.36	F	139.0	166.7		
ALL	5090	3796	19.4	88.86	F	-	-		

	Duke of York Boulevard - Square One Drive Signalized Intersection								
		PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max Q		
EBL	10	5	1.8	37.21	D	5.7	50.8		
EBT	86	81	0.5	30.89	С	5.7	50.8		
EBR	112	84	2.8	20.53	С	11.7	64.8		
WBL	75	64	1.3	49.84	D	15.2	63.2		
WBT	109	70	4.1	85.11	F	48.6	155.8		
WBR	226	245	1.2	101.79	F	55.2	178.0		
NBL	82	62	2.4	56.86	E	1.9	27.8		
NBT	808	581	8.6	77.77	E	244.9	312.7		
NBR	92	66	2.9	76.16	E	258.1	327.3		
SBL	297	204	5.9	27.61	С	6.1	79.4		
SBT	612	445	7.3	23.68	С	22.4	152.7		
SBR	66	92	2.9	20.35	С	26.7	161.6		
ALL	2575	1999	12.0	55.17	E	-	-		

	PM							
Movement	Obs	Modelled	GEH	Delay	LOS	Avg Q	Max	
EBL								
EBT	736	668	2.6	4.47	Α	1.4	54.0	
EBR	155	203	3.6	4.56	Α	1.4	54.0	
WBL	70	56	1.8	4.51	Α	2.0	76.5	
WBT	1517	1016	14.1	3.06	Α	2.0	76.5	
WBR								
NBL	152	135	1.4	15.17	С	1.9	50.0	
NBT								
NBR	5	6	0.4	8.25	Α	1.9	50.0	
SBL								
SBT								
SBR								
ALL	2635	2084	11.3	4.50	Α	-	-	

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
0	1	0				
1	0	0				
0	1	0				
0	0	1				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
1	0	0				
			0	0	1	

TM	C GEH Sumn	nary	Total Intersection GEH Summary			
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
0	1	0				
1	0	0				
0	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
			0	1	0	

TM	IC GEH Sumn	nary	Total Inte	rsection GEH	l Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5 5-10 >1			
1	0	0				
0	0	1				
0	1	0				
1	0	0				
0	0	1				
1	0	0				
0	1	0				
1	0	0				
1	0	0				
1	0	0				
0	1	0				
1	0	0				
			0	0	1	

TIV	1C GEH Sumn	nary	Total Intersection GEH Summary				
	PM GEH		PM GEH				
1-5	5-10	>10	1-5	>10			
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
1	0	0					
0	1	0					
1	0	0					
0	1	0					
0	1	0					
1	0	0					
			0	0	1		

TN	AC GEH Summ	nary	Total Inte	rsection GEF	l Summary	
	PM GEH		PM GEH			
1-5	5-10	>10	1-5	5-10	>10	
1	0	0				
1	0	0				
1	0	0				
1	0	0				
0	0	1				
0	1	0				
			0	0	1	

## APPENDIX G SUPPLEMENTARY INTERSECTION ANALYSIS

	<b>→</b>	•	•	<b>←</b>	4
Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	910	86	21	586	181
v/c Ratio	0.42	0.09	0.07	0.27	0.34
Control Delay	15.8	7.5	12.6	13.8	40.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.8	7.5	12.6	13.8	40.1
Queue Length 50th (m)	67.7	5.7	2.3	38.8	38.9
Queue Length 95th (m)	82.1	12.9	6.3	49.1	59.9
Internal Link Dist (m)	76.0			244.8	62.4
Turn Bay Length (m)		15.0	15.0		
Base Capacity (vph)	2147	974	298	2147	537
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	0.09	0.07	0.27	0.34
Intersection Summary					

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Movement         EBT         EBR         WBL         WBT         NBL         NBR           Lane Configurations         1
Lane Configurations       ††       †
Fraffic Volume (vph)       910       86       21       586       176       5         Future Volume (vph)       910       86       21       586       176       5         deal Flow (vphpl)       1900       1900       1900       1900       1900
Future Volume (vph) 910 86 21 586 176 5 deal Flow (vphpl) 1900 1900 1900 1900 1900
deal Flow (vphpl) 1900 1900 1900 1900 1900
Fotal Lost time (s) 7.0 7.0 7.0 7.0 7.0
Lane Util. Factor 0.95 1.00 1.00 0.95 1.00
Frt 1.00 0.85 1.00 1.00
Flt Protected 1.00 1.00 0.95 1.00 0.95
Satd. Flow (prot) 3579 1601 1789 3579 1789
Flt Permitted 1.00 1.00 0.26 1.00 0.95
Satd. Flow (perm) 3579 1601 497 3579 1789
Peak-hour factor, PHF 1.00 1.00 1.00 1.00 1.00
Adj. Flow (vph) 910 86 21 586 176 5
RTOR Reduction (vph) 0 14 0 0 1 0
ane Group Flow (vph) 910 72 21 586 180 0
Furn Type NA Perm Perm NA Prot
Protected Phases 2 6 8
Permitted Phases 2 6
Actuated Green, G (s) 84.0 84.0 84.0 42.0
Effective Green, g (s) 84.0 84.0 84.0 42.0
Actuated g/C Ratio 0.60 0.60 0.60 0.30
Clearance Time (s) 7.0 7.0 7.0 7.0
ane Grp Cap (vph) 2147 960 298 2147 536
//s Ratio Prot c0.25 0.16 c0.10
v/s Ratio Perm 0.05 0.04
v/c Ratio 0.42 0.08 0.07 0.27 0.34
Jniform Delay, d1 15.0 11.7 11.7 13.4 38.1
Progression Factor 1.00 1.00 1.00 1.00
ncremental Delay, d2 0.6 0.2 0.5 0.3 1.7
Delay (s) 15.6 11.9 12.2 13.7 39.8
Level of Service B B B D
Approach Delay (s) 15.3 13.7 39.8
Approach LOS B B D
ntersection Summary
HCM 2000 Control Delay 17.2 HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio 0.39
Actuated Cycle Length (s) 140.0 Sum of lost time (s) 14.0
ntersection Capacity Utilization 46.9% ICU Level of Service A
Analysis Period (min) 15
Critical Lane Group

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	•	_	_	←	•	<b>†</b>	<b>\</b>	1	
					`	'		•	
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	72	89	5	93	5	1419	5	1379	
v/c Ratio	0.30	0.26	0.02	0.27	0.02	0.56	0.03	0.54	
Control Delay	53.0	40.4	47.0	41.1	6.2	10.5	6.2	10.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.0	40.4	47.0	41.1	6.2	10.5	6.2	10.2	
Queue Length 50th (m)	17.4	16.6	1.2	17.6	0.4	88.8	0.4	84.5	
Queue Length 95th (m)	32.6	32.7	5.1	34.0	1.7	104.4	1.7	99.7	
Internal Link Dist (m)		90.3		72.5		92.3		89.8	
Turn Bay Length (m)	15.0		15.0		15.0		15.0		
Base Capacity (vph)	243	345	244	345	211	2549	199	2545	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.30	0.26	0.02	0.27	0.02	0.56	0.03	0.54	
Intersection Summary									
intersection suffilliary									

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	٠	<b>→</b>	•	•	+	•	1	<b>†</b>	<b>/</b>	<b>/</b>	<b>+</b>	✓
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	Ť	ĵ.		7	ĵ.		Ť	<b>∱</b> β		7	<b>∱</b> β	
Traffic Volume (vph)	72	56	33	5	58	35	5	1387	32	5	1332	47
Future Volume (vph)	72	56	33	5	58	35	5	1387	32	5	1332	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.94		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	1779		1789	1777		1789	3566		1789	3560	
Flt Permitted	0.70	1.00		0.70	1.00		0.16	1.00		0.15	1.00	
Satd. Flow (perm)	1312	1779		1317	1777		295	3566		279	3560	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	72	56	33	5	58	35	5	1387	32	5	1332	47
RTOR Reduction (vph)	0	15	0	0	15	0	0	1	0	0	2	0
Lane Group Flow (vph)	72	74	0	5	78	0	5	1418	0	5	1377	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	26.0	26.0		26.0	26.0		100.0	100.0		100.0	100.0	
Effective Green, g (s)	26.0	26.0		26.0	26.0		100.0	100.0		100.0	100.0	
Actuated g/C Ratio	0.19	0.19		0.19	0.19		0.71	0.71		0.71	0.71	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lane Grp Cap (vph)	243	330		244	330		210	2547		199	2542	
v/s Ratio Prot		0.04			0.04			c0.40			0.39	
v/s Ratio Perm	c0.05			0.00			0.02			0.02		
v/c Ratio	0.30	0.22		0.02	0.23		0.02	0.56		0.03	0.54	
Uniform Delay, d1	49.1	48.4		46.6	48.5		5.8	9.5		5.8	9.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.1	1.6		0.2	1.7		0.2	0.9		0.2	8.0	
Delay (s)	52.2	50.0		46.7	50.2		6.0	10.4		6.1	10.2	
Level of Service	D	D		D	D		Α	В		Α	В	
Approach Delay (s)		51.0			50.0			10.4			10.1	
Approach LOS		D			D			В			В	
Intersection Summary												
HCM 2000 Control Delay			13.7	H	CM 2000	Level of S	Service		В			
HCM 2000 Volume to Capa	icity ratio		0.50									
Actuated Cycle Length (s)			140.0		um of los				14.0			
Intersection Capacity Utiliza	ation		61.7%	IC	U Level	of Service	!		В			
Analysis Period (min)			15									
c Critical Lane Group												

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	<b>→</b>	•	•	<b>←</b>	•
Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	598	138	59	1191	140
v/c Ratio	0.25	0.12	0.11	0.50	0.34
Control Delay	9.4	2.8	8.8	12.2	47.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	9.4	2.8	8.8	12.2	47.7
Queue Length 50th (m)	31.9	3.1	5.4	79.3	32.5
Queue Length 95th (m)	40.2	10.0	10.9	94.2	52.4
Internal Link Dist (m)	76.0			244.8	62.4
Turn Bay Length (m)		15.0	15.0		
Base Capacity (vph)	2403	1108	522	2403	409
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.25	0.12	0.11	0.50	0.34
Intersection Summary					

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→ <b>→ ← ← ←</b>	
Movement EBT EBR WBL WBT NBL NBR	
Lane Configurations	
Traffic Volume (vph) 598 138 59 1191 135 5	
Future Volume (vph) 598 138 59 1191 135 5	
Ideal Flow (vphpl) 1900 1900 1900 1900 1900	
Total Lost time (s) 7.0 7.0 7.0 7.0 7.0	
Lane Util. Factor 0.95 1.00 1.00 0.95 1.00	
Frt 1.00 0.85 1.00 1.00	
Flt Protected 1.00 1.00 0.95 1.00 0.95	
Satd. Flow (prot) 3579 1601 1789 3579 1788	
Flt Permitted 1.00 1.00 0.41 1.00 0.95	
Satd. Flow (perm) 3579 1601 779 3579 1788	
Peak-hour factor, PHF 1.00 1.00 1.00 1.00 1.00	
Adj. Flow (vph) 598 138 59 1191 135 5	
RTOR Reduction (vph) 0 34 0 0 1 0	
Lane Group Flow (vph) 598 104 59 1191 139 0	
Turn Type NA Perm Perm NA Prot	
Protected Phases 2 6 8	
Permitted Phases 2 6	
Actuated Green, G (s) 94.0 94.0 94.0 32.0	
Effective Green, g (s) 94.0 94.0 94.0 32.0	
Actuated g/C Ratio 0.67 0.67 0.67 0.23	
Clearance Time (s) 7.0 7.0 7.0 7.0 7.0	
Lane Grp Cap (vph) 2403 1074 523 2403 408	
v/s Ratio Prot 0.17 c0.33 c0.08	
v/s Ratio Perm 0.07 0.08	
v/c Ratio 0.25 0.10 0.11 0.50 0.34	
Uniform Delay, d1 9.1 8.1 8.2 11.3 45.2	
Progression Factor 1.00 1.00 1.00 1.00	
Incremental Delay, d2 0.2 0.2 0.4 0.7 2.3	
Delay (s) 9.3 8.3 8.6 12.1 47.4	
Level of Service A A A B D	
Approach Delay (s) 9.1 11.9 47.4	
Approach LOS A B D	
Intersection Summary	
HCM 2000 Control Delay 13.3 HCM 2000 Level of Service B	
HCM 2000 Volume to Capacity ratio 0.46	
Actuated Cycle Length (s) 140.0 Sum of lost time (s) 14.0	
Intersection Capacity Utilization 52.4% ICU Level of Service A	
Analysis Period (min) 15	

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	EDI	CDT	WDI	WDT	NDI	NDT	CDI	CDT	
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	74	84	5	80	5	1880	5	1376	
v/c Ratio	0.37	0.30	0.03	0.29	0.02	0.70	0.05	0.51	
Control Delay	59.7	49.2	51.4	47.2	4.8	11.0	5.6	7.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	59.7	49.2	51.4	47.2	4.8	11.0	5.6	7.9	
Queue Length 50th (m)	18.7	18.1	1.2	16.6	0.3	127.8	0.3	72.0	
Queue Length 95th (m)	34.7	34.4	5.3	32.7	1.5	149.5	1.6	84.7	
Internal Link Dist (m)		90.3		72.5		92.3		89.8	
Turn Bay Length (m)	15.0		15.0		15.0		15.0		
Base Capacity (vph)	199	280	198	280	234	2679	110	2681	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.37	0.30	0.03	0.29	0.02	0.70	0.05	0.51	
l., l.,									
Intersection Summary									

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ň	î»		ħ	ĵ.		ň	ħβ		ň	ħβ	
Traffic Volume (vph)	74	62	22	5	56	24	5	1850	30	5	1365	11
Future Volume (vph)	74	62	22	5	56	24	5	1850	30	5	1365	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.95		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	1809		1789	1799		1789	3570		1789	3574	
Flt Permitted	0.70	1.00		0.70	1.00		0.17	1.00		0.08	1.00	
Satd. Flow (perm)	1328	1809		1323	1799		312	3570		146	3574	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	74	62	22	5	56	24	5	1850	30	5	1365	11
RTOR Reduction (vph)	0	9	0	0	11	0	0	1	0	0	1	0
Lane Group Flow (vph)	74	75	0	5	69	0	5	1879	0	5	1376	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	21.0	21.0		21.0	21.0		105.0	105.0		105.0	105.0	
Effective Green, g (s)	21.0	21.0		21.0	21.0		105.0	105.0		105.0	105.0	
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.75	0.75		0.75	0.75	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lane Grp Cap (vph)	199	271		198	269		234	2677		109	2680	
v/s Ratio Prot		0.04			0.04			c0.53			0.38	
v/s Ratio Perm	c0.06			0.00			0.02			0.03		
v/c Ratio	0.37	0.28		0.03	0.26		0.02	0.70		0.05	0.51	
Uniform Delay, d1	53.6	52.8		50.8	52.6		4.4	9.2		4.5	7.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.3	2.5		0.2	2.3		0.2	1.6		8.0	0.7	
Delay (s)	58.8	55.3		51.0	54.9		4.6	10.8		5.3	7.8	
Level of Service	Е	Ε		D	D		Α	В		Α	Α	
Approach Delay (s)		56.9			54.7			10.8			7.8	
Approach LOS		Е			D			В			Α	
Intersection Summary												
HCM 2000 Control Delay			12.8	H	CM 2000	Level of S	Service		В			
HCM 2000 Volume to Capac	city ratio		0.65									
Actuated Cycle Length (s)			140.0		um of lost				14.0			
Intersection Capacity Utiliza	tion		74.5%	IC	U Level	of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

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	<b>→</b>	•	•	•	4
Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	1021	91	24	661	196
v/c Ratio	0.47	0.09	0.09	0.30	0.37
Control Delay	16.0	7.6	12.7	13.7	41.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.0	7.6	12.7	13.7	41.6
Queue Length 50th (m)	77.7	6.2	2.7	44.1	43.0
Queue Length 95th (m)	93.4	13.5	7.1	55.0	65.5
Internal Link Dist (m)	76.0			244.8	62.4
Turn Bay Length (m)		15.0	15.0		
Base Capacity (vph)	2172	985	258	2172	525
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.47	0.09	0.09	0.30	0.37
Intersection Summary					

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Movement	EBT	EBR	WBL	WBT	NBL	NBR			
Lane Configurations	<b>^</b>	7	ሻ	<b>↑</b>	W.	NDIX			
Traffic Volume (vph)	1021	91	24	661	191	5			
Future Volume (vph)	1021	91	24	661	191	5			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0	1700			
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00				
Frt	1.00	0.85	1.00	1.00	1.00				
Flt Protected	1.00	1.00	0.95	1.00	0.95				
Satd. Flow (prot)	3579	1601	1789	3579	1790				
Flt Permitted /	1.00	1.00	0.23	1.00	0.95				
Satd. Flow (perm)	3579	1601	427	3579	1790				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00			
Adj. Flow (vph)	1021	91	24	661	191	5			
RTOR Reduction (vph)	0	13	0	0	1	0			
Lane Group Flow (vph)	1021	78	24	661	195	0			
Turn Type	NA	Perm	Perm	NA	Prot				
Protected Phases	2			6	8				
Permitted Phases		2	6						
Actuated Green, G (s)	85.0	85.0	85.0	85.0	41.0				
Effective Green, g (s)	85.0	85.0	85.0	85.0	41.0				
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.29				
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0				
Lane Grp Cap (vph)	2172	972	259	2172	524				
v/s Ratio Prot	c0.29			0.18	c0.11				
v/s Ratio Perm		0.05	0.06						
v/c Ratio	0.47	0.08	0.09	0.30	0.37				
Uniform Delay, d1	15.1	11.4	11.4	13.3	39.3				
Progression Factor	1.00	1.00	1.00	1.00	1.00				
Incremental Delay, d2	0.7	0.2	0.7	0.4	2.0				
Delay (s)	15.9	11.5	12.2	13.6	41.3				
Level of Service	В	В	В	В	D				
Approach Delay (s)	15.5			13.6	41.3				
Approach LOS	В			В	D				
Intersection Summary									
HCM 2000 Control Delay			17.4	H	CM 2000	Level of Service	) 	В	
HCM 2000 Volume to Capac	city ratio		0.44						
Actuated Cycle Length (s)	_		140.0	Sı	um of lost	time (s)		14.0	
Intersection Capacity Utilizat	tion		50.8%		CU Level c			Α	
Analysis Period (min)			15						
c Critical Lane Group									

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Lana Craun	EDI	EDT	\\/DI	\M/DT	NIDI	NDT	CDI	CDT	
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	72	98	5	105	5	1591	5	1548	
v/c Ratio	0.33	0.31	0.02	0.33	0.03	0.61	0.03	0.60	
Control Delay	55.7	43.6	48.8	44.7	5.8	10.5	5.8	10.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	55.7	43.6	48.8	44.7	5.8	10.5	5.8	10.2	
Queue Length 50th (m)	17.7	19.2	1.2	21.0	0.3	101.9	0.3	97.2	
Queue Length 95th (m)	33.3	36.6	5.2	38.8	1.6	119.4	1.7	113.8	
Internal Link Dist (m)		90.3		72.5		92.3		89.8	
Turn Bay Length (m)	15.0		15.0		15.0		15.0		
Base Capacity (vph)	220	320	224	320	172	2600	161	2596	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.33	0.31	0.02	0.33	0.03	0.61	0.03	0.60	
Intersection Summary									
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	1>		ሻ	ĵ∍		ሻ	<b>∱</b> ⊅		ሻ	<b>∱</b> β	
Traffic Volume (vph)	72	61	37	5	65	40	5	1556	35	5	1500	48
Future Volume (vph)	72	61	37	5	65	40	5	1556	35	5	1500	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.94		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	1777		1789	1776		1789	3567		1789	3562	
Flt Permitted	0.68	1.00		0.69	1.00		0.13	1.00		0.12	1.00	
Satd. Flow (perm)	1288	1777		1306	1776		237	3567		222	3562	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	72	61	37	5	65	40	5	1556	35	5	1500	48
RTOR Reduction (vph)	0	16	0	0	16	0	0	1	0	0	2	0
Lane Group Flow (vph)	72	82	0	5	89	0	5	1590	0	5	1546	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	24.0	24.0		24.0	24.0		102.0	102.0		102.0	102.0	
Effective Green, g (s)	24.0	24.0		24.0	24.0		102.0	102.0		102.0	102.0	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.73	0.73		0.73	0.73	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lane Grp Cap (vph)	220	304		223	304		172	2598		161	2595	
v/s Ratio Prot		0.05			0.05			c0.45			0.43	
v/s Ratio Perm	c0.06			0.00			0.02			0.02		
v/c Ratio	0.33	0.27		0.02	0.29		0.03	0.61		0.03	0.60	
Uniform Delay, d1	50.9	50.4		48.2	50.6		5.3	9.3		5.3	9.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.9	2.2		0.2	2.4		0.3	1.1		0.4	1.0	
Delay (s)	54.8	52.6		48.4	53.0		5.6	10.4		5.6	10.1	
Level of Service	D	D		D	D		Α	В		Α	В	
Approach Delay (s)		53.5			52.8			10.4			10.1	
Approach LOS		D			D			В			В	
Intersection Summary												
HCM 2000 Control Delay			13.8	H	CM 2000	Level of S	Service		В			
HCM 2000 Volume to Capa	city ratio		0.56									
Actuated Cycle Length (s)	_		140.0	Sı	um of lost	t time (s)			14.0			
Intersection Capacity Utiliza	ntion		66.4%	IC	:U Level	of Service			С			
Analysis Period (min)			15									
c Critical Lane Group												

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Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	672	145	66	1338	147
v/c Ratio	0.27	0.13	0.13	0.54	0.40
Control Delay	8.5	2.6	8.1	11.5	51.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	8.5	2.6	8.1	11.5	51.3
Queue Length 50th (m)	34.0	3.5	5.7	87.9	35.3
Queue Length 95th (m)	42.3	10.1	11.4	103.6	56.2
Internal Link Dist (m)	76.0			244.8	62.4
Turn Bay Length (m)		15.0	15.0		
Base Capacity (vph)	2479	1140	498	2479	371
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.27	0.13	0.13	0.54	0.40
Intersection Summary					

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Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	<b>^</b>	7	ሻ	<b>^</b>	W			
Traffic Volume (vph)	672	145	66	1338	142	5		
Future Volume (vph)	672	145	66	1338	142	5		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0			
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00			
Frt	1.00	0.85	1.00	1.00	1.00			
Flt Protected	1.00	1.00	0.95	1.00	0.95			
Satd. Flow (prot)	3579	1601	1789	3579	1788			
Flt Permitted	1.00	1.00	0.38	1.00	0.95			
Satd. Flow (perm)	3579	1601	719	3579	1788			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Adj. Flow (vph)	672	145	66	1338	142	5		
RTOR Reduction (vph)	0	31	0	0	1	0		
Lane Group Flow (vph)	672	114	66	1338	146	0		
Turn Type	NA	Perm	Perm	NA	Prot			
Protected Phases	2			6	8			
Permitted Phases		2	6					
Actuated Green, G (s)	97.0	97.0	97.0	97.0	29.0			
Effective Green, g (s)	97.0	97.0	97.0	97.0	29.0			
Actuated g/C Ratio	0.69	0.69	0.69	0.69	0.21			
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0			
Lane Grp Cap (vph)	2479	1109	498	2479	370			
v/s Ratio Prot	0.19			c0.37	c0.08			
v/s Ratio Perm		0.07	0.09					
v/c Ratio	0.27	0.10	0.13	0.54	0.40			
Uniform Delay, d1	8.1	7.1	7.3	10.5	47.9			
Progression Factor	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.3	0.2	0.6	0.8	3.1			
Delay (s)	8.4	7.3	7.8	11.4	51.1			
Level of Service	Α	Α	Α	В	D			
Approach Delay (s)	8.2			11.2	51.1			
Approach LOS	Α			В	D			
Intersection Summary								
HCM 2000 Control Delay			12.7	H	CM 2000	Level of Service	В	
HCM 2000 Volume to Capa	city ratio		0.51					
Actuated Cycle Length (s)			140.0		um of lost	. ,	14.0	
Intersection Capacity Utiliza	ition		56.8%	IC	CU Level c	of Service	В	
Analysis Period (min)			15					
c Critical Lane Group								

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	
	74	94	5	88	5	2113	5 5	1640	
Lane Group Flow (vph)									
v/c Ratio	0.42	0.37	0.03	0.35	0.03	0.77	0.07	0.60	
Control Delay	63.3	53.2	53.2	50.2	4.6	12.0	6.4	8.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	63.3	53.2	53.2	50.2	4.6	12.0	6.4	8.3	
Queue Length 50th (m)	19.0	21.1	1.2	18.7	0.3	155.2	0.3	90.6	
Queue Length 95th (m)	35.3	38.9	5.4	35.6	1.4	181.4	1.6	106.3	
Internal Link Dist (m)		90.3		72.5		92.3		89.8	
Turn Bay Length (m)	15.0		15.0		15.0		15.0		
Base Capacity (vph)	178	254	177	255	168	2729	74	2711	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.42	0.37	0.03	0.35	0.03	0.77	0.07	0.60	
Intersection Summary									
intersection Summary									

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	ĵ»		ሻ	ĵ»		ň	ħβ		ሻ	<b>∱</b> }	
Traffic Volume (vph)	74	69	25	5	60	28	5	2080	33	5	1527	113
Future Volume (vph)	74	69	25	5	60	28	5	2080	33	5	1527	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.95		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	1808		1789	1794		1789	3570		1789	3542	
Flt Permitted	0.70	1.00		0.70	1.00		0.12	1.00		0.05	1.00	
Satd. Flow (perm)	1318	1808		1311	1794		221	3570		99	3542	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	74	69	25	5	60	28	5	2080	33	5	1527	113
RTOR Reduction (vph)	0	10	0	0	12	0	0	1	0	0	4	0
Lane Group Flow (vph)	74	84	0	5	76	0	5	2112	0	5	1636	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	19.0	19.0		19.0	19.0		107.0	107.0		107.0	107.0	
Effective Green, g (s)	19.0	19.0		19.0	19.0		107.0	107.0		107.0	107.0	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.76	0.76		0.76	0.76	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lane Grp Cap (vph)	178	245		177	243		168	2728		75	2707	
v/s Ratio Prot		0.05			0.04			c0.59			0.46	
v/s Ratio Perm	c0.06			0.00			0.02			0.05		
v/c Ratio	0.42	0.34		0.03	0.31		0.03	0.77		0.07	0.60	
Uniform Delay, d1	55.4	54.9		52.5	54.6		4.0	9.5		4.1	7.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.0	3.8		0.3	3.3		0.3	2.2		1.7	1.0	
Delay (s)	62.4	58.7		52.8	57.9		4.3	11.7		5.8	8.2	
Level of Service	E	Е		D	Е		Α	В		Α	Α	
Approach Delay (s)		60.3			57.7			11.7			8.2	
Approach LOS		Е			E			В			Α	
Intersection Summary												
HCM 2000 Control Delay			13.4	H	CM 2000	Level of S	Service		В			
HCM 2000 Volume to Capa	icity ratio		0.72									
Actuated Cycle Length (s)			140.0	Sı	um of lost	time (s)			14.0			
Intersection Capacity Utiliza	ation		81.0%	IC	:U Level	of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

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Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	1172	98	27	764	403
v/c Ratio	0.64	0.12	0.19	0.42	0.59
Control Delay	26.5	13.4	22.8	21.9	34.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	26.5	13.4	22.8	21.9	34.1
Queue Length 50th (m)	120.1	10.0	3.9	66.9	78.2
Queue Length 95th (m)	142.7	19.8	10.7	82.3	111.9
Internal Link Dist (m)	76.0			244.8	62.4
Turn Bay Length (m)		15.0	15.0		
Base Capacity (vph)	1840	835	141	1840	687
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.64	0.12	0.19	0.42	0.59
Intersection Summary					

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Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	<b>^</b>	7	ሻ	<b>^</b>	W			
Traffic Volume (vph)	1172	98	27	764	191	212		
Future Volume (vph)	1172	98	27	764	191	212		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Total Lost time (s)	7.0	7.0	7.0	7.0	7.0			
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00			
Frt	1.00	0.85	1.00	1.00	0.93			
Flt Protected	1.00	1.00	0.95	1.00	0.98			
Satd. Flow (prot)	3579	1601	1789	3579	1709			
Flt Permitted	1.00	1.00	0.15	1.00	0.98			
Satd. Flow (perm)	3579	1601	275	3579	1709			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00		
Adj. Flow (vph)	1172	98	27	764	191	212		
RTOR Reduction (vph)	0	12	0	0	28	0		
Lane Group Flow (vph)	1172	86	27	764	375	0		
Turn Type	NA	Perm	Perm	NA	Prot			
Protected Phases	2			6	8			
Permitted Phases		2	6					
Actuated Green, G (s)	72.0	72.0	72.0	72.0	54.0			
Effective Green, g (s)	72.0	72.0	72.0	72.0	54.0			
Actuated g/C Ratio	0.51	0.51	0.51	0.51	0.39			
Clearance Time (s)	7.0	7.0	7.0	7.0	7.0			
Lane Grp Cap (vph)	1840	823	141	1840	659			
v/s Ratio Prot	c0.33			0.21	c0.22			
v/s Ratio Perm		0.05	0.10					
v/c Ratio	0.64	0.10	0.19	0.42	0.57			
Uniform Delay, d1	24.6	17.5	18.3	21.0	33.8			
Progression Factor	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	1.7	0.3	3.0	0.7	3.5			
Delay (s)	26.3	17.7	21.3	21.7	37.4			
Level of Service	С	В	С	С	D			
Approach Delay (s)	25.6			21.7	37.4			
Approach LOS	С			С	D			
Intersection Summary								
HCM 2000 Control Delay			26.3	H	CM 2000	Level of Service	!	
HCM 2000 Volume to Capa	city ratio		0.61					
Actuated Cycle Length (s)			140.0		um of lost			
Intersection Capacity Utiliza	tion		67.7%	IC	U Level o	of Service		
Analysis Period (min)			15					
c Critical Lane Group								

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	72	111	5	122	5	1826	5	1782	
v/c Ratio	0.39	0.38	0.03	0.41	0.04	0.69	0.04	0.67	
Control Delay	59.9	47.8	50.6	49.5	5.6	11.2	5.8	10.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	59.9	47.8	50.6	49.5	5.6	11.2	5.8	10.8	
Queue Length 50th (m)	18.1	23.0	1.2	25.9	0.3	124.5	0.3	118.4	
Queue Length 95th (m)	34.2	41.8	5.3	45.9	1.6	145.2	1.6	138.4	
Internal Link Dist (m)		90.3		72.5		92.3		89.8	
Turn Bay Length (m)	15.0		15.0		15.0		15.0		
Base Capacity (vph)	186	294	195	294	126	2651	115	2649	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.39	0.38	0.03	0.41	0.04	0.69	0.04	0.67	
Intersection Summary									

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	¥	ĵ»		¥	ĵ»		¥	<b>∱</b> }		¥	ħβ	
Traffic Volume (vph)	72	68	43	5	75	47	5	1788	38	5	1732	50
Future Volume (vph)	72	68	43	5	75	47	5	1788	38	5	1732	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.94		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	1774		1789	1775		1789	3567		1789	3563	
Flt Permitted	0.63	1.00		0.66	1.00		0.09	1.00		0.08	1.00	
Satd. Flow (perm)	1186	1774		1247	1775		169	3567		157	3563	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	72	68	43	5	75	47	5	1788	38	5	1732	50
RTOR Reduction (vph)	0	16	0	0	16	0	0	1	0	0	2	0
Lane Group Flow (vph)	72	95	0	5	106	0	5	1825	0	5	1780	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	22.0	22.0		22.0	22.0		104.0	104.0		104.0	104.0	
Effective Green, g (s)	22.0	22.0		22.0	22.0		104.0	104.0		104.0	104.0	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.74	0.74		0.74	0.74	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lane Grp Cap (vph)	186	278		195	278		125	2649		116	2646	
v/s Ratio Prot		0.05			0.06			c0.51			0.50	
v/s Ratio Perm	c0.06			0.00			0.03			0.03		
v/c Ratio	0.39	0.34		0.03	0.38		0.04	0.69		0.04	0.67	
Uniform Delay, d1	52.9	52.6		49.9	52.9		4.8	9.5		4.8	9.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.0	3.3		0.2	3.9		0.6	1.5		0.7	1.4	
Delay (s)	58.9	55.9		50.2	56.8		5.4	11.0		5.5	10.6	
Level of Service	Е	Ε		D	Е		Α	В		Α	В	
Approach Delay (s)		57.1			56.6			11.0			10.6	
Approach LOS		Е			Е			В			В	
Intersection Summary												
HCM 2000 Control Delay			14.4	H	CM 2000	Level of S	Service		В			
HCM 2000 Volume to Capac	city ratio		0.64									
Actuated Cycle Length (s)			140.0		um of lost				14.0			
Intersection Capacity Utiliza	tion		79.1%	IC	U Level	of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

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Lane Group	EBT	EBR	WBL	WBT	NBL
Lane Group Flow (vph)	775	155	75	1541	157
v/c Ratio	0.31	0.14	0.17	0.62	0.42
Control Delay	8.8	3.2	8.6	13.0	52.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	8.8	3.2	8.6	13.0	52.0
Queue Length 50th (m)	40.6	4.9	6.7	111.3	37.9
Queue Length 95th (m)	49.8	11.8	13.0	130.4	60.0
Internal Link Dist (m)	76.0			244.8	62.4
Turn Bay Length (m)		15.0	15.0		
Base Capacity (vph)	2479	1138	439	2479	371
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.31	0.14	0.17	0.62	0.42
Intersection Summary					

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Movement		-	•	•	•	<b>~</b>	<i>&gt;</i>		
Lane Configurations   ↑↑   ↑   ↑   ↑   ↑   ↑   ↑   ↑   ↑ ↑   ↑ ↑   ↑ ↑   ↑	Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Traffic Volume (vph)         775         155         75         1541         152         5           Future Volume (vph)         775         155         75         1541         152         5           Ideal Flow (yphpl)         1900         1900         1900         1900         1900           Total Lost time (s)         7.0         7.0         7.0         7.0         7.0           Fit         1.00         0.95         1.00         1.00         1.00           Fit Permitted         1.00         0.85         1.00         0.95         1.00           Sald, Flow (prot)         3579         1601         1789         3579         1789           Fle Permitted         1.00         1.00         0.95         1.00         0.95           Sald, Flow (perm)         3579         1601         635         3579         1789           Flee Permitted         1.00         1.00         1.00         0.95         5           Sald, Flow (poh)         775         155         75         1541         152         5           ROR Reduction (vph)         0         29         0         0         1         0         0           Lane Group Fl									
Future Volume (vph)							5		
Ideal Flow (vphpl)	` 1 /								
Total Lost time (s) 7.0 7.0 7.0 7.0 7.0 7.0   Lane Util. Factor 0.95 1.00 1.00 0.95 1.00   Fit		1900	1900	1900	1900	1900	1900		
Frt		7.0	7.0	7.0	7.0	7.0			
Fit Protected		0.95	1.00	1.00	0.95	1.00			
Satd. Flow (prot)         3579         1601         1789         3579         1789           Fli Permitted         1.00         1.00         0.34         1.00         0.95           Satd. Flow (perm)         3579         1601         635         3579         1789           Peak-hour factor, PHF         1.00         1.00         1.00         1.00         1.00           Adj. Flow (vph)         775         155         75         1541         152         5           RTOR Reduction (vph)         0         29         0         0         1         0           Lane Group Flow (vph)         775         126         75         1541         156         0           Turn Type         NA         Perm         NA         Prot         NA         Prot           Protected Phases         2         6         8         8         9           Permitted Phases         2         6         8         9         0         1<	Frt	1.00	0.85	1.00	1.00	1.00			
Fit Permitted 1.00 1.00 0.34 1.00 0.95 Satd. Flow (perm) 3579 1601 635 3579 1789  Peak-hour factor, PHF 1.00 1.00 1.00 1.00 1.00 1.00 1.00 Adj. Flow (yrh) 775 155 75 1541 152 5 RTOR Reduction (yrh) 0 29 0 0 0 1 0 Lane Group Flow (yrh) 775 126 75 1541 156 0  Turn Type NA Perm Perm NA Prot Protected Phases 2 6 8  Actuated Green, G (s) 97.0 97.0 97.0 97.0 29.0 Effective Green, g (s) 97.0 97.0 97.0 97.0 29.0 Actuated g/C Ratio 0.69 0.69 0.69 0.69 0.21 Clearance Time (s) 7.0 7.0 7.0 7.0 7.0 Lane Group Flow (hyh) 2479 1109 439 2479 370  v/s Ratio Prot 0.22 v/s Ratio Prot 0.22 v/s Ratio Derm 0.08 0.12 v/c Ratio 0.31 0.11 0.17 0.62 0.42 Uniform Delay, d1 8.4 7.2 7.5 11.6 48.2 Progression Factor 1.00 1.00 1.00 1.00 1.00 Incremental Delay, d2 0.3 0.2 0.8 1.2 3.5 Delay (s) 8.8 7.4 8.3 12.8 51.7 Level of Service A A A B B D  Intersection Summary  HCM 2000 Control Delay 13.5 HCM 2000 Level of Service B  HCM 2000 Volume to Capacity ratio Analysis Period (min) 15	Flt Protected	1.00	1.00	0.95	1.00	0.95			
Satd. Flow (perm)         3579         1601         635         3579         1789           Peak-hour factor, PHF         1.00         1.00         1.00         1.00         1.00           AdJ. Flow (vph)         775         155         75         1541         152         5           RTOR Reduction (vph)         775         126         75         1541         156         0           Lane Group Flow (vph)         775         126         75         1541         156         0           Turn Type         NA         Perm         Perm         NA         Prot         Prot           Premitted Phases         2         6         8         Permeted Green, G (s)         97.0         97.0         97.0         29.0           Effective Green, g (s)         97.0         97.0         97.0         29.0         Protected Phases         2         6         8         Protected Phases         2         6         8         Protected Green, G (s)         97.0         97.0         97.0         29.0         Protected Green, G (s)         97.0         97.0         97.0         29.0         Protected Green, G (s)         97.0         97.0         97.0         29.0         Protected Green, G (s)         97.0 <td>Satd. Flow (prot)</td> <td>3579</td> <td>1601</td> <td>1789</td> <td>3579</td> <td>1789</td> <td></td> <td></td> <td></td>	Satd. Flow (prot)	3579	1601	1789	3579	1789			
Peak-hour factor, PHF         1.00         1.00         1.00         1.00         1.00         1.00         Adj. Flow (vph)         775         155         75         1541         152         5         RTOR Reduction (vph)         0         29         0         0         1         0         0         1         0 </td <td>Flt Permitted</td> <td>1.00</td> <td>1.00</td> <td>0.34</td> <td>1.00</td> <td>0.95</td> <td></td> <td></td> <td></td>	Flt Permitted	1.00	1.00	0.34	1.00	0.95			
Peak-hour factor, PHF         1.00         1.00         1.00         1.00         1.00         1.00         Adj. Flow (vph)         775         155         75         1541         152         5           RTOR Reduction (vph)         0         29         0         0         1         0           Lane Group Flow (vph)         775         126         75         1541         156         0           Turn Type         NA         Perm         Perm         NA         Prot           Protected Phases         2         6         8           Permitted Phases         2         6         8           Permitted Phases         2         6         8           Actuated Green, G (s)         97.0         97.0         97.0         29.0           Effective Green, g (s)         97.0         97.0         97.0         29.0           Actuated g/C Ratio         0.69         0.69         0.69         0.21           Clearance Time (s)         7.0         7.0         7.0         7.0           Lane Grp Cap (vph)         2479         1109         439         2479         370           V/s Ratio Perm         0.22         0.0         0.1         0.0 <td>Satd. Flow (perm)</td> <td>3579</td> <td>1601</td> <td>635</td> <td>3579</td> <td>1789</td> <td></td> <td></td> <td></td>	Satd. Flow (perm)	3579	1601	635	3579	1789			
Adj. Flow (vph)       775       155       75       1541       152       5         RTOR Reduction (vph)       0       29       0       0       1       0         Lane Group Flow (vph)       775       126       75       1541       156       0         Turn Type       NA       Perm       NA       Protected Phases       2       6       8         Protected Phases       2       6       8         Actuated Green, G (s)       97.0       97.0       97.0       29.0         Effective Green, g (s)       97.0       97.0       97.0       29.0         Clearance Time (s)       7.0       7.0       7.0       7.0         0         Lane Gry Cap (vph)       2479       1109       439       2479       370         Vis Ratio Perm       0.08       0.12       0.43       0.09         Vis Ratio Perm       0.31		1.00	1.00	1.00	1.00	1.00	1.00		
RTOR Reduction (vph) 0 29 0 0 1 0 1 0 Lane Group Flow (vph) 775 126 75 1541 156 0 Turn Type NA Perm Perm NA Prot Protected Phases 2 6 8 Permitted Phases 2 6 Actuated Green, G (s) 97.0 97.0 97.0 97.0 29.0 Effective Green, g (s) 97.0 97.0 97.0 97.0 29.0 Actuated g/C Ratio 0.69 0.69 0.69 0.69 0.21 Clearance Time (s) 7.0 7.0 7.0 7.0 7.0 7.0 Lane Grp Cap (vph) 2479 1109 439 2479 370 vol. 8 Ratio Prot 0.22 c0.43 c0.09 v/s Ratio Perm 0.08 0.12 v/c Ratio 0.31 0.11 0.17 0.62 0.42 Uniform Delay, d1 8.4 7.2 7.5 11.6 48.2 Progression Factor 1.00 1.00 1.00 1.00 1.00 Incremental Delay, d2 0.3 0.2 0.8 1.2 3.5 Delay (s) 8.8 7.4 8.3 12.8 51.7 Level of Service A A A B D Approach Delay (s) 8.5 Approach LOS A B D D Intersection Summary  HCM 2000 Control Delay (s) 13.5 HCM 2000 Level of Service B HCM 2000 Volume to Capacity Itilization Analysis Period (min) 15	•								
Lane Group Flow (vph)         775         126         75         1541         156         0           Turn Type         NA         Perm         Perm         NA         Prot           Protected Phases         2         6         8           Actuated Green, G (s)         97.0         97.0         97.0         29.0           Effective Green, g (s)         97.0         97.0         97.0         29.0           Actuated g/C Ratio         0.69         0.69         0.69         0.69         0.69         0.69           Clearance Time (s)         7.0         7.0         7.0         7.0         7.0         7.0           Lane Grp Cap (vph)         2479         1109         439         2479         370         <									
Turn Type	· 1 /					156			
Protected Phases         2         6         8           Permitted Phases         2         6         8           Actuated Green, G (s)         97.0         97.0         97.0         29.0           Effective Green, g (s)         97.0         97.0         97.0         29.0           Actuated g/C Ratio         0.69         0.69         0.69         0.69         0.21           Clearance Time (s)         7.0         7.0         7.0         7.0         7.0           Lane Grp Cap (vph)         2479         1109         439         2479         370           v/s Ratio Prot         0.22         0.43         0.09         0.49         0.49         0.09           v/s Ratio Perm         0.08         0.12         0.42         0.42         0.09         0.42         0.09         0.42         0.09         0.42         0.09         0.42         0.09         0.42         0.09         0.42         0.09         0.42         0.09         0.42         0.09         0.42         0.09         0.42         0.09         0.42         0.09         0.42         0.09         0.09         0.09         0.09         0.09         0.09         0.09         0.09         0.09		NA	Perm	Perm	NA	Prot			
Permitted Phases									
Actuated Green, G (s) 97.0 97.0 97.0 97.0 29.0  Effective Green, g (s) 97.0 97.0 97.0 97.0 29.0  Actuated g/C Ratio 0.69 0.69 0.69 0.69 0.21  Clearance Time (s) 7.0 7.0 7.0 7.0 7.0  Lane Grp Cap (vph) 2479 1109 439 2479 370  v/s Ratio Prot 0.22 0.43 0.09  v/s Ratio Perm 0.08 0.12  v/c Ratio 0.31 0.11 0.17 0.62 0.42  Uniform Delay, d1 8.4 7.2 7.5 11.6 48.2  Progression Factor 1.00 1.00 1.00 1.00 1.00  Incremental Delay, d2 0.3 0.2 0.8 1.2 3.5  Delay (s) 8.8 7.4 8.3 12.8 51.7  Level of Service A A A B D  Approach Delay (s) 8.5 12.6 51.7  Approach LOS A B D  Intersection Summary  HCM 2000 Control Delay 13.5 HCM 2000 Level of Service B  HCM 2000 Volume to Capacity ratio 0.58  Actuated Cycle Length (s) 140.0 Sum of lost time (s) 14.0  Intersection Capacity Utilization 63.0% ICU Level of Service B  Analysis Period (min) 15			2	6					
Effective Green, g (s)       97.0       97.0       97.0       29.0         Actuated g/C Ratio       0.69       0.69       0.69       0.69       0.21         Clearance Time (s)       7.0       7.0       7.0       7.0       7.0         Lane Grp Cap (vph)       2479       1109       439       2479       370         v/s Ratio Prot       0.22       c0.43       c0.09         v/s Ratio Perm       0.08       0.12         v/c Ratio       0.31       0.11       0.17       0.62       0.42         Uniform Delay, d1       8.4       7.2       7.5       11.6       48.2         Progression Factor       1.00       1.00       1.00       1.00       1.00         Incremental Delay, d2       0.3       0.2       0.8       1.2       3.5         Delay (s)       8.8       7.4       8.3       12.8       51.7         Level of Service       A       A       A       B       D         Approach LOS       A       B       D         Intersection Summary       13.5       HCM 2000 Level of Service       B         HCM 2000 Volume to Capacity ratio       0.58         Actuated Cycle Length (s)	Actuated Green, G (s)	97.0			97.0	29.0			
Actuated g/C Ratio 0.69 0.69 0.69 0.69 0.21  Clearance Time (s) 7.0 7.0 7.0 7.0 7.0  Lane Grp Cap (vph) 2479 1109 439 2479 370  v/s Ratio Prot 0.22 c0.43 c0.09  v/s Ratio Perm 0.08 0.12  v/c Ratio 0.31 0.11 0.17 0.62 0.42  Uniform Delay, d1 8.4 7.2 7.5 11.6 48.2  Progression Factor 1.00 1.00 1.00 1.00 1.00  Incremental Delay, d2 0.3 0.2 0.8 1.2 3.5  Delay (s) 8.8 7.4 8.3 12.8 51.7  Level of Service A A A B D  Approach Delay (s) 8.5 12.6 51.7  Approach LOS A B D  Intersection Summary  HCM 2000 Control Delay 13.5 HCM 2000 Level of Service B  HCM 2000 Volume to Capacity ratio 0.58  Actuated Cycle Length (s) 14.0 ICU Level of Service B  Analysis Period (min) 15					97.0	29.0			
Clearance Time (s)         7.0         20.0         8.0         7.0         8.0         9.0				0.69	0.69	0.21			
Lane Grp Cap (vph) 2479 1109 439 2479 370  v/s Ratio Prot 0.22 c0.43 c0.09  v/s Ratio Perm 0.08 0.12  v/c Ratio 0.31 0.11 0.17 0.62 0.42  Uniform Delay, d1 8.4 7.2 7.5 11.6 48.2  Progression Factor 1.00 1.00 1.00 1.00  Incremental Delay, d2 0.3 0.2 0.8 1.2 3.5  Delay (s) 8.8 7.4 8.3 12.8 51.7  Level of Service A A A B D  Approach Delay (s) 8.5 12.6 51.7  Approach LOS A B D  Intersection Summary  HCM 2000 Control Delay 13.5 HCM 2000 Level of Service B  HCM 2000 Volume to Capacity ratio 0.58  Actuated Cycle Length (s) 14.0 Sum of lost time (s) 14.0  Intersection Capacity Utilization 63.0% ICU Level of Service B  Analysis Period (min) 15					7.0				
v/s Ratio Prot       0.22       c0.43       c0.09         v/s Ratio Perm       0.08       0.12         v/c Ratio       0.31       0.11       0.17       0.62       0.42         Uniform Delay, d1       8.4       7.2       7.5       11.6       48.2         Progression Factor       1.00       1.00       1.00       1.00         Incremental Delay, d2       0.3       0.2       0.8       1.2       3.5         Delay (s)       8.8       7.4       8.3       12.8       51.7         Level of Service       A       A       A       B       D         Approach Delay (s)       8.5       12.6       51.7         Approach LOS       A       B       D         Intersection Summary         HCM 2000 Control Delay       13.5       HCM 2000 Level of Service       B         HCM 2000 Volume to Capacity ratio       0.58         Actuated Cycle Length (s)       140.0       Sum of lost time (s)       14.0         Intersection Capacity Utilization       63.0%       ICU Level of Service       B         Analysis Period (min)       15									
v/s Ratio Perm       0.08       0.12         v/c Ratio       0.31       0.11       0.17       0.62       0.42         Uniform Delay, d1       8.4       7.2       7.5       11.6       48.2         Progression Factor       1.00       1.00       1.00       1.00         Incremental Delay, d2       0.3       0.2       0.8       1.2       3.5         Delay (s)       8.8       7.4       8.3       12.8       51.7         Level of Service       A       A       A       B       D         Approach Delay (s)       8.5       12.6       51.7         Approach LOS       A       B       D         Intersection Summary         HCM 2000 Control Delay       13.5       HCM 2000 Level of Service       B         HCM 2000 Volume to Capacity ratio       0.58         Actuated Cycle Length (s)       140.0       Sum of lost time (s)       14.0         Intersection Capacity Utilization       63.0%       ICU Level of Service       B         Analysis Period (min)       15									
v/c Ratio       0.31       0.11       0.17       0.62       0.42         Uniform Delay, d1       8.4       7.2       7.5       11.6       48.2         Progression Factor       1.00       1.00       1.00       1.00         Incremental Delay, d2       0.3       0.2       0.8       1.2       3.5         Delay (s)       8.8       7.4       8.3       12.8       51.7         Level of Service       A       A       A       B       D         Approach Delay (s)       8.5       12.6       51.7         Approach LOS       A       B       D         Intersection Summary         HCM 2000 Control Delay       13.5       HCM 2000 Level of Service       B         HCM 2000 Volume to Capacity ratio       0.58         Actuated Cycle Length (s)       140.0       Sum of lost time (s)       14.0         Intersection Capacity Utilization       63.0%       ICU Level of Service       B         Analysis Period (min)       15			0.08	0.12					
Uniform Delay, d1 8.4 7.2 7.5 11.6 48.2  Progression Factor 1.00 1.00 1.00 1.00 1.00  Incremental Delay, d2 0.3 0.2 0.8 1.2 3.5  Delay (s) 8.8 7.4 8.3 12.8 51.7  Level of Service A A A B D  Approach Delay (s) 8.5 12.6 51.7  Approach LOS A B D  Intersection Summary  HCM 2000 Control Delay 13.5 HCM 2000 Level of Service B  HCM 2000 Volume to Capacity ratio 0.58  Actuated Cycle Length (s) 140.0 Sum of lost time (s) 14.0  Intersection Capacity Utilization 63.0% ICU Level of Service B  Analysis Period (min) 15		0.31			0.62	0.42			
Progression Factor         1.00         1.00         1.00         1.00           Incremental Delay, d2         0.3         0.2         0.8         1.2         3.5           Delay (s)         8.8         7.4         8.3         12.8         51.7           Level of Service         A         A         B         D           Approach Delay (s)         8.5         12.6         51.7           Approach LOS         A         B         D    Intersection Summary  HCM 2000 Control Delay  HCM 2000 Volume to Capacity ratio  O.58  Actuated Cycle Length (s)  Intersection Capacity (s)  Intersection Capacity Utilization  Analysis Period (min)  15         HCM 2000 Level of Service  B									
Incremental Delay, d2	<b>,</b>								
Delay (s)         8.8         7.4         8.3         12.8         51.7           Level of Service         A         A         A         B         D           Approach Delay (s)         8.5         12.6         51.7           Approach LOS         A         B         D           Intersection Summary           HCM 2000 Control Delay         13.5         HCM 2000 Level of Service         B           HCM 2000 Volume to Capacity ratio         0.58           Actuated Cycle Length (s)         140.0         Sum of lost time (s)         14.0           Intersection Capacity Utilization         63.0%         ICU Level of Service         B           Analysis Period (min)         15									
Level of Service A A A B D  Approach Delay (s) 8.5 12.6 51.7  Approach LOS A B D  Intersection Summary  HCM 2000 Control Delay 13.5 HCM 2000 Level of Service B  HCM 2000 Volume to Capacity ratio 0.58  Actuated Cycle Length (s) 140.0 Sum of lost time (s) 14.0  Intersection Capacity Utilization 63.0% ICU Level of Service B  Analysis Period (min) 15	,								
Approach Delay (s) 8.5 12.6 51.7 Approach LOS A B D  Intersection Summary HCM 2000 Control Delay 13.5 HCM 2000 Level of Service B HCM 2000 Volume to Capacity ratio 0.58 Actuated Cycle Length (s) 140.0 Sum of lost time (s) 14.0 Intersection Capacity Utilization 63.0% ICU Level of Service B Analysis Period (min) 15									
Approach LOS A B D  Intersection Summary  HCM 2000 Control Delay 13.5 HCM 2000 Level of Service B  HCM 2000 Volume to Capacity ratio 0.58  Actuated Cycle Length (s) 140.0 Sum of lost time (s) 14.0  Intersection Capacity Utilization 63.0% ICU Level of Service B  Analysis Period (min) 15	Approach Delay (s)								
HCM 2000 Control Delay 13.5 HCM 2000 Level of Service B HCM 2000 Volume to Capacity ratio 0.58 Actuated Cycle Length (s) 140.0 Sum of lost time (s) 14.0 Intersection Capacity Utilization 63.0% ICU Level of Service B Analysis Period (min) 15	11 3 1 7								
HCM 2000 Control Delay 13.5 HCM 2000 Level of Service B HCM 2000 Volume to Capacity ratio 0.58 Actuated Cycle Length (s) 140.0 Sum of lost time (s) 14.0 Intersection Capacity Utilization 63.0% ICU Level of Service B Analysis Period (min) 15	Intersection Summary								
HCM 2000 Volume to Capacity ratio0.58Actuated Cycle Length (s)140.0Sum of lost time (s)14.0Intersection Capacity Utilization63.0%ICU Level of ServiceBAnalysis Period (min)15				13.5	H	CM 2000	Level of Service	В	
Actuated Cycle Length (s) 140.0 Sum of lost time (s) 14.0 Intersection Capacity Utilization 63.0% ICU Level of Service B Analysis Period (min) 15		ity ratio				2000			
Intersection Capacity Utilization 63.0% ICU Level of Service B Analysis Period (min) 15		.,			Sı	um of lost	time (s)	14.0	
Analysis Period (min) 15		ion							
						, _5.076			
CHILCAL CALIC GLOUD	c Critical Lane Group								

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	•	<b>→</b>	•	•	•	<b>†</b>	<b>\</b>	Ţ	
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Group Flow (vph)	74	108	5	99	5	2434	5	1865	
v/c Ratio	0.45	0.45	0.03	0.41	0.04	0.88	0.09	0.68	
Control Delay	65.7	57.0	54.2	53.7	4.6	16.7	8.0	9.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	65.7	57.0	54.2	53.7	4.6	16.7	8.0	9.2	
Queue Length 50th (m)	19.2	25.1	1.2	21.9	0.3	221.0	0.3	112.7	
Queue Length 95th (m)	35.7	44.6	5.5	40.3	1.4	261.5	1.8	132.0	
Internal Link Dist (m)		90.3		72.5		92.3		89.8	
Turn Bay Length (m)	15.0		15.0		15.0		15.0		
Base Capacity (vph)	166	242	159	242	123	2755	54	2738	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.45	0.45	0.03	0.41	0.04	0.88	0.09	0.68	
Intersection Summary									

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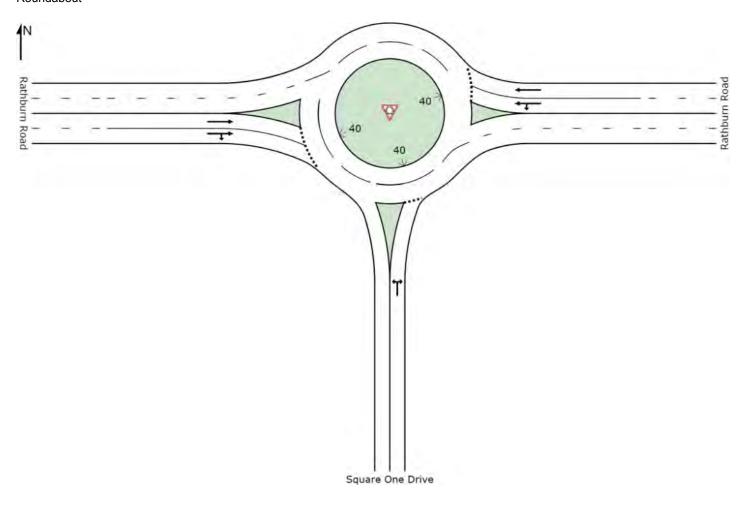
	۶	<b>→</b>	•	•	<b>←</b>	4	4	<b>†</b>	~	<b>/</b>	<b>+</b>	✓
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	¥	ĵ»		¥	ĵ,		ň	<b>∱</b> β		¥	<b>↑</b> ↑	
Traffic Volume (vph)	74	79	29	5	67	32	5	2396	38	5	1749	116
Future Volume (vph)	74	79	29	5	67	32	5	2396	38	5	1749	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	0.95		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	1808		1789	1792		1789	3570		1789	3545	
Flt Permitted	0.69	1.00		0.66	1.00		0.08	1.00		0.04	1.00	
Satd. Flow (perm)	1298	1808		1238	1792		159	3570		70	3545	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	74	79	29	5	67	32	5	2396	38	5	1749	116
RTOR Reduction (vph)	0	10	0	0	12	0	0	1	0	0	3	0
Lane Group Flow (vph)	74	98	0	5	87	0	5	2433	0	5	1862	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	18.0	18.0		18.0	18.0		108.0	108.0		108.0	108.0	
Effective Green, g (s)	18.0	18.0		18.0	18.0		108.0	108.0		108.0	108.0	
Actuated g/C Ratio	0.13	0.13		0.13	0.13		0.77	0.77		0.77	0.77	
Clearance Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Lane Grp Cap (vph)	166	232		159	230		122	2754		54	2734	
v/s Ratio Prot		0.05			0.05			c0.68			0.53	
v/s Ratio Perm	c0.06			0.00			0.03			0.07		
v/c Ratio	0.45	0.42		0.03	0.38		0.04	0.88		0.09	0.68	
Uniform Delay, d1	56.4	56.2		53.4	55.9		3.8	11.5		3.9	7.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.4	5.6		0.4	4.7		0.6	4.6		3.4	1.4	
Delay (s)	64.8	61.8		53.7	60.5		4.4	16.0		7.3	9.1	
Level of Service	Ε	Е		D	Ε		Α	В		Α	Α	
Approach Delay (s)		63.0			60.2			16.0			9.1	
Approach LOS		Е			Е			В			Α	
Intersection Summary												
HCM 2000 Control Delay			16.1	H	CM 2000	Level of S	Service		В			
HCM 2000 Volume to Capac	city ratio		0.82									
Actuated Cycle Length (s)		140.0	• • • • • • • • • • • • • • • • • • • •				14.0					
Intersection Capacity Utilization			89.9%	IC	CU Level	of Service			Е			
Analysis Period (min)			15									
c Critical Lane Group												

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# **SITE LAYOUT**

# Site: 2021 - S1D/Rathburn - AM

New Site Roundabout



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Organisation: STANTEC CONSULTING LTD | Created: Wednesday, May 18, 2016 11:42:08 AM

Project: \\CD1215-F01\work\_group\01650\active\165011005 - Square\_One\_Drive\17\_traffic\Sidra Analysis\anl\_s1d\_rath\_20160518.sip6

Site: 2021 - S1D/Rathburn - AM

Roundabout

Lane Use a	nd Perforr	nance	)										
	Demand F		Con	Deg.	Lane	Average	Level of	95% Back of		Lane	Lane	Сар.	Prob.
	Total veh/h	HV %	Cap. veh/h	Satn v/c	Util. %	Delay sec	Service	Veh	Dist m	Config	Length m	Adj. %	Block. %
South: Squar			VCII/II	V/C	/0	366			'''		- '''	/0	/0
Lane 1 <sup>d</sup>	181	2.0	886	0.204	100	11.8	LOS B	0.8	5.7	Full	500	0.0	0.0
Approach	181	2.0		0.204		11.8	LOS B	0.8	5.7				
East: Rathbu	rn Road												
Lane 1	276	2.0	1284	0.215	100	3.8	LOSA	1.3	9.5	Full	500	0.0	0.0
Lane 2 <sup>d</sup>	334	2.0	1556	0.215	100	3.0	LOSA	1.4	9.9	Full	500	0.0	0.0
Approach	610	2.0		0.215		3.3	LOSA	1.4	9.9				
West: Rathbu	ırn Road												
Lane 1	462	2.0	1479	0.312	100	3.0	LOSA	1.8	12.8	Full	500	0.0	0.0
Lane 2 <sup>d</sup>	534	2.0	1712	0.312	100	3.0	LOSA	1.8	13.0	Full	500	0.0	0.0
Approach	996	2.0		0.312		3.0	LOSA	1.8	13.0				
Intersection	1787	2.0		0.312		4.0	LOSA	1.8	13.0				

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

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Site: 2021 - S1D/Rathburn - PM

Roundabout

Lane Use a	nd Perforr	nance	)										
	Demand F		Can	Deg.	Lane	Average	Level of	95% Back o		Lane	Lane	Сар.	Prob.
	Total veh/h	HV %	Cap. veh/h	Satn v/c	Util. %	Delay	Service	Veh	Dist	Config	Length	Adj. %	Block. %
South: Squar			ven/n	V/C	%	sec			m		m_	%	%
Lane 1 <sup>d</sup>	140	2.0	972	0.144	100	11.0	LOS B	0.6	4.0	Full	500	0.0	0.0
			312		100					ı un	300	0.0	
Approach	140	2.0		0.144		11.0	LOS B	0.6	4.0				
East: Rathbu	rn Road												
Lane 1	566	2.0	1347	0.420	100	3.9	LOSA	3.2	22.7	Full	500	0.0	0.0
Lane 2 <sup>d</sup>	684	2.0	1628	0.420	100	3.0	LOSA	3.3	23.4	Full	500	0.0	0.0
Approach	1250	2.0		0.420		3.4	LOSA	3.3	23.4				
West: Rathbu	ırn Road												
Lane 1	344	2.0	1408	0.244	100	3.1	LOSA	1.3	9.2	Full	500	0.0	0.0
Lane 2 <sup>d</sup>	392	2.0	1603	0.244	100	3.2	LOSA	1.3	9.4	Full	500	0.0	0.0
Approach	736	2.0		0.244		3.1	LOSA	1.3	9.4				
Intersection	2126	2.0		0.420		3.8	LOSA	3.3	23.4				

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

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Site: 2031 - S1D/Rathburn - AM

Roundabout

Lane Use a	nd Perforr	mance	)										
	Demand F Total	HV	Сар.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back of Veh	Queue Dist	Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
South: Squar	re One Drive	9											
Lane 1 <sup>d</sup>	196	2.0	852	0.230	100	12.1	LOS B	0.9	6.5	Full	500	0.0	0.0
Approach	196	2.0		0.230		12.1	LOS B	0.9	6.5				
East: Rathbu	ırn Road												
Lane 1	311	2.0	1265	0.246	100	3.9	LOSA	1.6	11.2	Full	500	0.0	0.0
Lane 2 <sup>d</sup>	379	2.0	1538	0.246	100	3.0	LOSA	1.6	11.7	Full	500	0.0	0.0
Approach	690	2.0		0.246		3.5	LOSA	1.6	11.7				
West: Rathbu	urn Road												
Lane 1	516	2.0	1471	0.351	100	3.0	LOSA	2.1	15.2	Full	500	0.0	0.0
Lane 2 <sup>d</sup>	596	2.0	1701	0.351	100	3.0	LOSA	2.2	15.5	Full	500	0.0	0.0
Approach	1112	2.0		0.351		3.0	LOSA	2.2	15.5				
Intersection	1998	2.0		0.351		4.1	LOSA	2.2	15.5				

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

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Site: 2031 - S1D/Rathburn - PM

Roundabout

Lane Use a	nd Perforr	nance	)										
	Demand F		Can	Deg.	Lane	Average	Level of	95% Back o		Lane	Lane	Сар.	Prob.
	Total veh/h	HV %	Cap. veh/h	Satn v/c	Util. %	Delay	Service	Veh	Dist	Config	Length	Adj. %	Block. %
South: Squar			ven/n	V/C	%	sec			m		m	%	%
Lane 1 <sup>d</sup>	147	2.0	941	0.156	100	11.2	LOS B	0.6	4.4	Full	500	0.0	0.0
			371		100					ı uli	300	0.0	0.0
Approach	147	2.0		0.156		11.2	LOS B	0.6	4.4				
East: Rathbu	rn Road												
Lane 1	634	2.0	1337	0.474	100	4.0	LOSA	3.8	27.4	Full	500	0.0	0.0
Lane 2 <sup>d</sup>	768	2.0	1619	0.474	100	3.0	LOSA	4.0	28.2	Full	500	0.0	0.0
Approach	1402	2.0		0.474		3.5	LOSA	4.0	28.2				
West: Rathbu	ırn Road												
Lane 1	382	2.0	1398	0.273	100	3.1	LOSA	1.5	10.8	Full	500	0.0	0.0
Lane 2 <sup>d</sup>	435	2.0	1593	0.273	100	3.2	LOSA	1.5	11.0	Full	500	0.0	0.0
Approach	817	2.0		0.273		3.2	LOSA	1.5	11.0				
Intersection	2366	2.0		0.474		3.9	LOSA	4.0	28.2				

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

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Site: 2041 - S1D/Rathburn - AM

Roundabout

Lane Use a	Lane Use and Performance												
	Demand F Total	lows HV	Сар.	Deg. Satn	Lane Util.	Average Delay	Level of Service	95% Back o Veh	f Queue Dist	Lane Config	Lane Length	Cap. Adj.	Prob. Block.
	veh/h	%	veh/h	v/c	%	sec			m		m	%	%
South: Squar	re One Drive	9											
Lane 1 <sup>d</sup>	217	2.0	814	0.267	100	12.6	LOS B	1.1	7.8	Full	500	0.0	0.0
Approach	217	2.0		0.267		12.6	LOS B	1.1	7.8				
East: Rathbu	ırn Road												
Lane 1	356	2.0	1238	0.288	100	4.0	LOSA	1.9	13.6	Full	500	0.0	0.0
Lane 2 <sup>d</sup>	435	2.0	1513	0.288	100	3.2	LOSA	2.0	14.3	Full	500	0.0	0.0
Approach	791	2.0		0.288		3.5	LOSA	2.0	14.3				
West: Rathbu	urn Road												
Lane 1	588	2.0	1477	0.398	100	3.0	LOSA	2.6	18.7	Full	500	0.0	0.0
Lane 2 <sup>d</sup>	682	2.0	1713	0.398	100	3.0	LOSA	2.7	19.0	Full	500	0.0	0.0
Approach	1270	2.0		0.398		3.0	LOSA	2.7	19.0				
Intersection	2278	2.0		0.398		4.1	LOSA	2.7	19.0				

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

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Site: 2041 - S1D/Rathburn - PM

Roundabout

Lane Use a	nd Perforr	nance	)										
	Demand F		Can	Deg.	Lane	Average	Level of	95% Back of		Lane	Lane	Сар.	Prob.
	Total veh/h	HV %	Cap. veh/h	Satn v/c	Util. %	Delay	Service	Veh	Dist	Config	Length	Adj. %	Block. %
South: Squar			ven/n	V/C	70	sec			m		m	70	70
Lane 1 <sup>d</sup>	157	2.0	900	0.174	100	11.5	LOS B	0.7	5.0	Full	500	0.0	0.0
Approach	157	2.0		0.174		11.5	LOS B	0.7	5.0				
East: Rathbu	rn Road												
Lane 1	730	2.0	1323	0.552	100	4.2	LOSA	5.0	35.3	Full	500	0.0	0.0
Lane 2 <sup>d</sup>	886	2.0	1606	0.552	100	3.2	LOSA	5.1	36.3	Full	500	0.0	0.0
Approach	1616	2.0		0.552		3.6	LOSA	5.1	36.3				
West: Rathbu	ırn Road												
Lane 1	434	2.0	1385	0.314	100	3.2	LOSA	1.8	13.2	Full	500	0.0	0.0
Lane 2 <sup>d</sup>	496	2.0	1580	0.314	100	3.2	LOSA	1.9	13.5	Full	500	0.0	0.0
Approach	930	2.0		0.314		3.2	LOSA	1.9	13.5				
Intersection	2703	2.0		0.552		4.0	LOSA	5.1	36.3				

Level of Service (LOS) Method: Delay (HCM 2000).

Roundabout LOS Method: Same as Signalised Intersections.

Lane LOS values are based on average delay per lane.

Intersection and Approach LOS values are based on average delay for all lanes.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

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Project: \CD1215-F01\work\_group\01650\active\165011005 - Square\_One\_Drive\17\_traffic\Sidra Analysis\anl\_s1d\_rath\_20160518.sip6

### Intersection: 2: Private/Elora Drive E & Rathburn Road

Movement	NB	SB
Directions Served	R	R
Maximum Queue (m)	16.9	8.7
Average Queue (m)	5.6	1.6
95th Queue (m)	13.9	7.0
Link Distance (m)	52.2	77.9
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	WB	WB	NB
Directions Served	T	TR	LT	T	LR
Maximum Queue (m)	26.3	13.3	14.8	7.0	25.7
Average Queue (m)	5.2	1.1	3.3	0.3	12.0
95th Queue (m)	18.0	7.0	11.6	3.7	21.7
Link Distance (m)	82.1	82.1	71.0	71.0	66.5
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

## Intersection: 7: Confederation Parkway & Square One Drive

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR	
Maximum Queue (m)	36.1	63.7	15.1	57.5	31.6	118.6	120.1	31.5	118.1	122.2	
Average Queue (m)	16.0	19.7	1.6	24.7	1.8	111.6	111.6	1.6	91.8	91.1	
95th Queue (m)	31.1	42.2	8.8	48.9	15.7	133.9	134.2	13.8	133.3	135.2	
Link Distance (m)		102.9		85.3		108.3	108.3		113.8	113.8	
Upstream Blk Time (%)		0				65	68		3	3	
Queuing Penalty (veh)		0				0	0		23	20	
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	30	27		35		67			25		
Queuing Penalty (veh)	27	19		2		3			1		

# Intersection: 10: Confederation Parkway & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	Т	TR	L	T	TR	L	T	TR	L	T	TR
Maximum Queue (m)	61.5	108.7	112.4	91.6	82.5	89.5	94.9	123.7	121.1	96.4	91.5	90.3
Average Queue (m)	28.6	75.8	75.7	80.9	36.7	45.9	76.8	115.1	114.4	86.7	43.5	36.5
95th Queue (m)	53.6	107.5	107.9	105.0	74.8	93.9	123.9	138.2	137.3	105.5	93.4	87.8
Link Distance (m)		175.6	175.6	82.4	82.4	82.4		113.8	113.8	83.1	83.1	83.1
Upstream Blk Time (%)				66	2	10		36	38	67	8	6
Queuing Penalty (veh)				0	0	0		265	284	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)		0					1	48				
Queuing Penalty (veh)		0					8	114				

### **Network Summary**

Network wide Queuing Penalty: 766

### Intersection: 2: Private DW/Elora Drive E & Rathburn Road

Movement	NB	SB
Directions Served	R	R
Maximum Queue (m)	8.1	8.6
Average Queue (m)	1.9	1.0
95th Queue (m)	7.4	5.5
Link Distance (m)	60.0	61.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	WB	WB	NB
Directions Served	T	TR	LT	Т	LR
Maximum Queue (m)	20.9	16.6	21.3	18.6	30.0
Average Queue (m)	4.8	1.8	6.7	1.5	10.8
95th Queue (m)	16.0	9.1	17.9	11.4	21.2
Link Distance (m)	82.1	82.1	70.6	70.6	66.5
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

# Intersection: 7: Confederation Parkway & Square One Drive

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR	
Maximum Queue (m)	39.5	54.9	11.3	39.8	33.1	123.1	125.5	8.6	111.4	114.6	
Average Queue (m)	17.9	19.7	1.8	17.4	2.0	114.2	114.4	0.6	81.8	82.0	
95th Queue (m)	35.2	39.5	7.6	34.3	16.8	119.0	120.0	4.1	120.3	122.7	
Link Distance (m)		102.9		85.1		108.3	108.3		113.4	113.4	
Upstream Blk Time (%)						70	70		0	0	
Queuing Penalty (veh)						0	0		1	2	
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	32	25	1	28		67			20		
Queuing Penalty (veh)	27	19	0	1		3			1		

# Intersection: 11: Confederation Parkway & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	Т	TR	L	Т	TR	L	Т	TR	L	T	TR
Maximum Queue (m)	56.8	71.2	74.9	119.8	124.1	128.1	94.9	126.2	125.2	133.1	129.5	123.8
Average Queue (m)	25.4	41.1	41.6	48.8	118.4	120.5	69.6	116.7	116.0	122.4	109.6	83.2
95th Queue (m)	46.8	61.8	64.1	120.4	125.2	124.0	123.4	121.1	120.1	131.8	161.9	155.0
Link Distance (m)		178.2	178.2	115.2	115.2	115.2		113.4	113.4	118.0	118.0	118.0
Upstream Blk Time (%)				5	49	78		34	36	71	25	12
Queuing Penalty (veh)				0	0	0		329	347	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)							2	46				
Queuing Penalty (veh)							18	117				

### **Network Summary**

Network wide Queuing Penalty: 865

### Intersection: 2: Private DW/Elora Drive E & Rathburn Road

Movement	NB	SB
Directions Served	R	R
Maximum Queue (m)	19.5	9.0
Average Queue (m)	6.1	1.7
95th Queue (m)	14.5	7.4
Link Distance (m)	52.3	81.8
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	WB	WB	NB
Directions Served	T	TR	LT	T	LR
Maximum Queue (m)	37.2	22.9	18.4	17.3	37.1
Average Queue (m)	7.1	1.3	4.0	0.6	15.4
95th Queue (m)	23.5	9.8	13.2	7.8	28.2
Link Distance (m)	82.1	82.1	70.7	70.7	66.5
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

# Intersection: 7: Confederation Parkway & Square One Drive

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR	
Maximum Queue (m)	38.4	62.3	16.3	58.3	33.2	121.2	119.8	41.5	117.8	121.8	
Average Queue (m)	16.9	23.7	2.0	26.1	2.6	113.3	113.0	2.7	92.1	94.7	
95th Queue (m)	32.7	45.7	10.9	49.1	18.9	117.2	118.2	17.8	128.6	130.5	
Link Distance (m)		102.9		85.2		108.3	108.3		115.2	115.2	
Upstream Blk Time (%)						66	63		2	2	
Queuing Penalty (veh)						0	0		12	18	
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	31	33	0	37	0	68			22		
Queuing Penalty (veh)	30	24	0	2	0	3			1		

# Intersection: 10: Confederation Parkway & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	Т	TR	L	Т	TR	L	T	TR	L	Т	TR
Maximum Queue (m)	81.2	119.2	121.9	113.0	108.7	102.6	94.9	126.8	120.4	151.8	144.7	145.8
Average Queue (m)	33.0	83.3	83.3	93.2	52.5	51.6	81.2	117.8	117.0	143.2	133.4	83.3
95th Queue (m)	58.6	109.4	110.7	133.4	101.9	100.4	121.8	121.9	119.2	147.4	181.0	169.4
Link Distance (m)		177.5	177.5	105.4	105.4	105.4		115.2	115.2	137.8	137.8	137.8
Upstream Blk Time (%)				57	4	3		37	39	72	26	8
Queuing Penalty (veh)				0	0	0		309	324	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)	0	1					2	50				
Queuing Penalty (veh)	0	1					12	134				

### **Network Summary**

Network wide Queuing Penalty: 870

### Intersection: 2: Private DW/Elora Drive E & Rathburn Road

Movement	WB	NB	SB
Directions Served	T	R	R
Maximum Queue (m)	3.4	8.2	8.8
Average Queue (m)	0.1	2.1	1.0
95th Queue (m)	2.4	8.0	5.6
Link Distance (m)	180.5	41.3	76.7
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	WB	WB	NB
Directions Served	T	TR	LT	T	LR
Maximum Queue (m)	29.0	12.1	21.7	23.8	24.2
Average Queue (m)	5.2	1.1	7.7	1.6	10.8
95th Queue (m)	17.7	7.3	18.7	12.0	19.7
Link Distance (m)	82.1	82.1	66.3	66.3	66.5
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

# Intersection: 7: Confederation Parkway & Square One Drive

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	TR	L	Т	TR	_
Maximum Queue (m)	39.8	63.4	10.1	50.2	39.6	124.1	122.6	34.4	109.6	110.8	
Average Queue (m)	20.5	26.5	0.9	22.2	2.7	114.1	114.0	1.9	76.4	79.3	
95th Queue (m)	38.4	51.7	5.5	40.9	20.0	118.8	118.2	14.0	113.2	114.2	
Link Distance (m)		102.9		85.3		108.3	108.3		115.3	115.3	
Upstream Blk Time (%)						71	68		0	0	
Queuing Penalty (veh)						0	0		0	2	
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	37	37	0	35		66		0	19		
Queuing Penalty (veh)	35	27	0	2		3		2	1		

# Intersection: 10: Confederation Parkway & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	Т	TR	L	Ţ	TR	L	T	TR	L	T	TR
Maximum Queue (m)	64.7	71.6	69.4	126.2	134.2	136.1	94.9	125.5	121.7	167.7	164.0	164.7
Average Queue (m)	34.4	43.1	43.1	60.5	125.1	127.6	76.8	117.9	117.3	159.4	154.3	112.8
95th Queue (m)	64.2	61.6	61.8	140.4	134.1	132.1	123.5	122.0	120.2	163.1	192.7	195.6
Link Distance (m)		180.5	180.5	121.9	121.9	121.9		115.3	115.3	154.1	154.1	154.1
Upstream Blk Time (%)				9	48	78		33	35	79	39	6
Queuing Penalty (veh)				0	0	0		358	383	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)							4	46				
Queuing Penalty (veh)							38	133				

### **Network Summary**

Network wide Queuing Penalty: 985

### Intersection: 2: Private DW/Elora Drive E & Rathburn Road/Rathburn Road

Movement	NB	SB
Directions Served	R	R
Maximum Queue (m)	13.6	8.4
Average Queue (m)	5.6	1.5
95th Queue (m)	12.6	6.7
Link Distance (m)	46.7	73.1
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	WB	WB	NB
Directions Served	T	TR	LT	T	LR
Maximum Queue (m)	52.1	32.2	18.6	8.5	40.3
Average Queue (m)	10.4	2.4	3.1	0.3	17.9
95th Queue (m)	34.0	14.8	12.1	4.5	31.2
Link Distance (m)	82.1	82.1	67.4	67.4	66.5
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	0				
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

# Intersection: 7: Confederation Parkway & Square One Drive

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR	
Maximum Queue (m)	39.8	70.2	15.0	50.9	5.2	120.5	121.9	8.2	113.8	114.4	
Average Queue (m)	21.2	30.1	1.4	27.9	0.3	113.4	113.5	0.5	80.3	81.0	
95th Queue (m)	39.3	58.1	8.2	46.0	2.9	116.5	117.0	4.0	114.3	115.4	
Link Distance (m)		102.9		85.3		108.3	108.3		115.1	115.1	
Upstream Blk Time (%)		0				69	68		0	0	
Queuing Penalty (veh)		0				0	0		3	2	
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	38	39		47		69		0	21		
Queuing Penalty (veh)	42	28		2		3		1	1		

# Intersection: 10: Confederation Parkway & Rathburn Road/Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	Т	TR	L	T	TR	L	T	TR	L	T	TR
Maximum Queue (m)	112.8	137.0	139.7	104.5	100.4	103.0	94.9	126.9	125.0	125.1	116.6	114.1
Average Queue (m)	38.8	95.1	95.3	100.0	54.6	58.1	79.1	117.9	117.3	116.0	85.8	39.0
95th Queue (m)	78.6	126.7	129.4	105.0	114.1	114.8	121.1	122.3	121.1	120.3	156.8	98.7
Link Distance (m)		178.2	178.2	96.1	96.1	96.1		115.1	115.1	110.4	110.4	110.4
Upstream Blk Time (%)				93	9	9		40	42	78	17	1
Queuing Penalty (veh)				0	0	0		379	398	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)		3					8	53				
Queuing Penalty (veh)		6					56	163				

### **Network Summary**

Network wide Queuing Penalty: 1083

# Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	WB	WB	NB
Directions Served	Т	TR	LT	T	LR
Maximum Queue (m)	29.2	16.8	25.3	23.4	24.4
Average Queue (m)	6.6	2.3	8.7	1.1	11.8
95th Queue (m)	20.0	10.9	20.8	8.6	21.6
Link Distance (m)	82.1	82.1	70.6	70.6	66.5
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

### Intersection: 7: Confederation Parkway & Square One Drive

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR	
Maximum Queue (m)	38.2	106.8	9.7	88.0	6.8	122.7	120.9	8.8	24.3	30.4	
Average Queue (m)	36.2	103.9	0.6	84.7	0.5	113.3	113.4	1.0	8.9	9.7	
95th Queue (m)	37.9	108.7	8.2	90.3	3.6	116.8	117.4	5.3	20.4	23.9	
Link Distance (m)		102.9		85.3		108.3	108.3		116.1	116.1	
Upstream Blk Time (%)		100		100		60	57				
Queuing Penalty (veh)		0		0		0	0				
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	100			100		58			4		
Queuing Penalty (veh)	108			5		3			0		

# Intersection: 10: Confederation Parkway & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	Т	TR	L	Т	TR	L	Т	TR
Maximum Queue (m)	99.6	80.0	84.0	89.3	103.7	109.9	94.9	126.4	123.8	158.3	156.4	149.0
Average Queue (m)	55.4	51.1	52.1	30.7	96.4	101.1	75.9	118.5	118.0	149.8	146.6	93.7
95th Queue (m)	101.9	73.4	76.4	72.0	108.7	105.2	123.3	122.5	120.9	154.0	173.2	178.2
Link Distance (m)		179.3	179.3	95.6	95.6	95.6		116.1	116.1	144.4	144.4	144.4
Upstream Blk Time (%)				2	35	76		49	50	78	38	6
Queuing Penalty (veh)				0	0	0		611	628	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)	2						5	62				
Queuing Penalty (veh)	4						53	207				

# Intersection: 12: Private DW/Elora Drive E & Rathburn Road

Movement	NB	SB
Directions Served	R	R
Maximum Queue (m)	9.1	10.6
Average Queue (m)	2.4	1.1
95th Queue (m)	8.8	6.1
Link Distance (m)	54.2	63.7
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

### **Network Summary**

Network wide Queuing Penalty: 1620

### Intersection: 2: Private/Elora Drive E & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	
Directions Served	L	T	TR	L	T	TR	LT	R	LTR	
Maximum Queue (m)	13.8	86.1	73.4	9.3	19.8	29.4	30.6	19.1	31.7	
Average Queue (m)	0.6	52.8	42.6	1.9	4.4	11.1	12.8	5.1	12.4	
95th Queue (m)	8.0	80.0	70.2	7.2	13.9	23.8	25.7	14.0	26.9	
Link Distance (m)		71.9	71.9		171.9	171.9	52.0	52.0	77.9	
Upstream Blk Time (%)		2	0							
Queuing Penalty (veh)		8	1							
Storage Bay Dist (m)	40.0			40.0						
Storage Blk Time (%)		13								
Queuing Penalty (veh)		0								

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	WB	WB	NB
Directions Served	T	TR	LT	T	LR
Maximum Queue (m)	23.2	5.7	15.7	6.9	24.7
Average Queue (m)	6.4	0.3	2.7	0.2	10.0
95th Queue (m)	18.7	3.5	10.5	4.8	19.7
Link Distance (m)	83.2	83.2	71.9	71.9	66.5
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

# Intersection: 7: Confederation Parkway & Square One Drive

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	TR	L	Т	TR	_
Maximum Queue (m)	35.4	43.8	10.2	46.3	33.2	118.1	119.6	23.4	119.9	118.6	
Average Queue (m)	17.2	19.2	1.2	22.0	1.7	113.3	113.3	1.2	98.7	98.0	
95th Queue (m)	32.2	37.7	6.1	40.4	13.7	116.2	116.8	11.2	133.6	132.6	
Link Distance (m)		102.9		85.3		108.3	108.3		113.8	113.8	
Upstream Blk Time (%)						66	68		4	4	
Queuing Penalty (veh)						0	0		29	24	
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	31	23	0	35		67			25		
Queuing Penalty (veh)	27	16	0	2		3			1		

# Intersection: 10: Confederation Parkway & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	Т	TR	L	T	TR	L	Т	TR	L	T	TR
Maximum Queue (m)	44.7	92.6	93.6	92.7	83.1	89.2	94.9	123.2	118.8	96.3	89.6	92.6
Average Queue (m)	19.2	57.2	57.8	85.7	33.6	44.1	76.8	116.8	116.1	87.6	55.4	50.5
95th Queue (m)	38.0	81.0	81.8	94.1	74.0	94.9	123.3	120.2	118.4	96.0	103.2	100.5
Link Distance (m)		171.9	171.9	82.4	82.4	82.4		113.8	113.8	83.1	83.1	83.1
Upstream Blk Time (%)				92	2	8		36	38	67	10	9
Queuing Penalty (veh)				0	0	0		266	282	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)							1	48				
Queuing Penalty (veh)							8	113				

### **Network Summary**

Network wide Queuing Penalty: 782

### Intersection: 2: Private DW/Elora Drive E & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	
Directions Served	L	Т	TR	L	Т	TR	LT	R	LTR	
Maximum Queue (m)	8.3	52.9	35.4	54.7	75.4	79.8	13.3	9.1	13.9	
Average Queue (m)	0.9	26.3	16.1	10.0	53.8	56.3	3.1	1.3	5.0	
95th Queue (m)	4.7	43.9	31.1	33.8	74.1	76.2	10.4	6.2	13.5	
Link Distance (m)		71.5	71.5		174.8	174.8	59.8	59.8	61.6	
Upstream Blk Time (%)		0								
Queuing Penalty (veh)		0								
Storage Bay Dist (m)	40.0			40.0						
Storage Blk Time (%)		1			10					
Queuing Penalty (veh)		0			5					

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	WB	WB	NB	
Directions Served	T	TR	LT	T	LR	
Maximum Queue (m)	14.9	7.0	40.7	42.4	23.8	
Average Queue (m)	2.3	0.2	8.5	3.7	8.3	
95th Queue (m)	10.3	3.0	27.4	22.2	17.9	
Link Distance (m)	83.2	83.2	71.5	71.5	66.5	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

# Intersection: 7: Confederation Parkway & Square One Drive

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR	
Maximum Queue (m)	37.8	54.2	11.4	43.1	31.5	123.1	124.0	24.9	113.4	113.2	
Average Queue (m)	20.0	21.6	1.4	19.7	3.0	114.0	114.4	1.4	81.1	81.5	
95th Queue (m)	36.7	43.5	6.9	37.4	21.3	118.6	120.1	11.5	120.1	118.7	
Link Distance (m)		102.9		85.1		108.3	108.3		113.4	113.4	
Upstream Blk Time (%)						71	71		0	0	
Queuing Penalty (veh)						0	0		2	3	
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	36	31	1	31	0	67		0	20		
Queuing Penalty (veh)	30	23	1	2	1	3		1	1		

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	Т	TR	L	T	TR	L	T	TR	L	T	TR
Maximum Queue (m)	49.4	60.6	62.1	120.0	128.0	131.3	94.9	122.6	119.1	131.2	131.8	127.6
Average Queue (m)	23.5	34.9	34.6	47.7	118.3	120.9	67.5	116.3	115.8	122.8	110.8	84.9
95th Queue (m)	45.5	53.1	53.7	117.5	127.1	125.6	122.7	119.7	118.2	132.7	161.1	153.8
Link Distance (m)		174.8	174.8	115.2	115.2	115.2		113.4	113.4	118.0	118.0	118.0
Upstream Blk Time (%)				5	44	77		34	36	70	26	16
Queuing Penalty (veh)				0	0	0		333	349	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)							1	46				
Queuing Penalty (veh)							5	117				

### **Network Summary**

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	Т	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	6.3	86.3	80.1	10.3	13.9	19.0	40.4	15.1	38.9
Average Queue (m)	0.5	53.8	44.0	2.3	2.3	7.6	15.1	5.4	15.8
95th Queue (m)	3.7	82.8	70.4	7.8	8.4	17.1	31.0	14.2	31.7
Link Distance (m)		71.6	71.6		173.7	173.7	52.1	52.1	81.8
Upstream Blk Time (%)		2	1				0		
Queuing Penalty (veh)		10	3				0		
Storage Bay Dist (m)	40.0			40.0					
Storage Blk Time (%)		12							
Queuing Penalty (veh)		0							

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	WB	NB
Directions Served	Ţ	TR	LT	LR
Maximum Queue (m)	33.4	14.4	15.6	29.0
Average Queue (m)	8.6	0.9	3.1	11.8
95th Queue (m)	23.2	6.4	11.5	23.6
Link Distance (m)	83.2	83.2	71.6	66.5
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	TR	L	Т	TR	_
Maximum Queue (m)	39.4	53.0	15.0	58.8	33.2	123.3	121.5	33.8	117.4	121.1	
Average Queue (m)	17.8	22.6	1.2	25.1	1.8	113.8	113.5	1.9	94.6	96.4	
95th Queue (m)	33.7	44.1	7.8	44.1	15.3	118.6	117.2	13.8	126.2	127.7	
Link Distance (m)		102.9		85.2		108.3	108.3		115.2	115.2	
Upstream Blk Time (%)				0		68	69		2	3	
Queuing Penalty (veh)				0		0	0		12	20	
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	31	29		41		68		0	22		
Queuing Penalty (veh)	30	21		2		3		3	1		

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	Т	TR									
Maximum Queue (m)	53.1	87.9	88.3	112.8	111.2	115.9	94.9	124.9	121.1	152.7	147.4	142.9
Average Queue (m)	24.5	59.6	8.06	105.9	59.4	57.0	80.2	117.6	117.1	143.1	131.4	76.0
95th Queue (m)	47.6	83.0	83.6	127.6	124.3	116.7	123.6	121.2	119.6	147.8	181.4	153.6
Link Distance (m)		173.7	173.7	105.4	105.4	105.4		115.2	115.2	137.8	137.8	137.8
Upstream Blk Time (%)				84	9	5		39	41	76	24	1
Queuing Penalty (veh)				0	0	0		324	344	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)							1	52				
Queuing Penalty (veh)							9	138				

### **Network Summary**

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	
Directions Served	L	T	TR	L	T	TR	LT	R	LTR	
Maximum Queue (m)	8.6	51.9	47.1	54.5	74.2	78.3	17.5	8.0	19.9	
Average Queue (m)	1.2	28.5	19.8	13.3	55.2	60.4	4.1	1.6	5.9	
95th Queue (m)	5.9	44.1	36.0	41.1	74.4	78.4	12.7	6.8	15.4	
Link Distance (m)		67.3	67.3		177.2	177.2	41.1	41.1	76.7	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)	40.0			40.0						
Storage Blk Time (%)		1			11					
Queuing Penalty (veh)		0			7					

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	WB	WB	NB
Directions Served	Т	TR	LT	T	LR
Maximum Queue (m)	19.7	12.2	45.9	45.2	24.4
Average Queue (m)	3.6	0.4	10.3	4.8	10.3
95th Queue (m)	13.9	6.5	30.7	24.9	20.4
Link Distance (m)	83.2	83.2	67.3	67.3	66.5
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR	_
Maximum Queue (m)	39.8	58.2	8.7	44.1	39.9	122.3	124.1	18.2	110.4	116.4	
Average Queue (m)	19.8	23.7	1.0	22.8	2.4	114.0	114.2	1.4	75.9	77.8	
95th Queue (m)	37.5	44.7	5.3	39.6	18.6	118.2	119.1	9.4	115.7	116.5	
Link Distance (m)		102.9		85.3		108.3	108.3		115.3	115.3	
Upstream Blk Time (%)						70	70		0	0	
Queuing Penalty (veh)						0	0		0	2	
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	33	35		35	0	66		0	18		
Queuing Penalty (veh)	31	26		2	1	3		1	1		

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR									
Maximum Queue (m)	59.5	61.0	61.5	126.5	130.8	132.9	94.9	125.0	125.4	165.7	165.6	164.4
Average Queue (m)	28.5	38.2	37.8	60.2	124.6	126.8	74.8	118.1	117.9	159.0	156.7	115.8
95th Queue (m)	54.4	56.5	55.3	139.7	135.1	129.8	124.0	122.5	122.0	164.6	180.7	201.0
Link Distance (m)		177.2	177.2	121.9	121.9	121.9		115.3	115.3	154.1	154.1	154.1
Upstream Blk Time (%)				7	48	76		34	36	76	41	12
Queuing Penalty (veh)				0	0	0		366	389	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)							3	46				
Queuing Penalty (veh)							24	134				

### **Network Summary**

### Intersection: 2: Private DW/Elora Drive E & Rathburn Road/Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	Т	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	5.6	83.3	78.5	12.7	22.6	25.8	43.8	17.8	45.8
Average Queue (m)	0.3	58.2	48.4	2.4	4.3	9.0	17.8	5.7	18.9
95th Queue (m)	2.8	83.1	75.6	9.3	14.5	21.5	35.9	13.8	36.7
Link Distance (m)		68.4	68.4		175.6	175.6	46.6	46.6	73.1
Upstream Blk Time (%)		3	1				0		
Queuing Penalty (veh)		16	6				0		
Storage Bay Dist (m)	40.0			40.0					
Storage Blk Time (%)		14							
Queuing Penalty (veh)		0							

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	WB	WB	NB
Directions Served	T	TR	LT	Т	LR
Maximum Queue (m)	52.3	34.6	15.6	8.8	29.3
Average Queue (m)	13.1	2.2	2.8	0.3	12.6
95th Queue (m)	34.8	16.6	10.6	4.5	23.7
Link Distance (m)	83.2	83.2	68.4	68.4	66.5
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR	_
Maximum Queue (m)	39.8	67.3	15.0	62.9	26.4	120.0	120.2	8.1	117.5	117.4	
Average Queue (m)	19.6	26.3	1.5	28.6	1.3	113.6	113.6	0.9	79.9	81.4	
95th Queue (m)	35.8	53.1	8.7	51.8	13.1	117.3	117.0	5.1	119.3	120.5	
Link Distance (m)		102.9		85.3		108.3	108.3		115.1	115.1	
Upstream Blk Time (%)						68	69		1	0	
Queuing Penalty (veh)						0	0		6	4	
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	35	33	0	44	0	69		0	20		
Queuing Penalty (veh)	39	24	0	2	0	3		2	1		

### Intersection: 10: Confederation Parkway & Rathburn Road/Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR									
Maximum Queue (m)	79.3	104.3	110.5	106.4	100.6	101.4	94.9	125.7	123.8	122.5	117.1	114.4
Average Queue (m)	26.5	66.6	68.0	99.5	49.2	52.2	80.6	117.7	117.1	115.8	91.9	52.9
95th Queue (m)	55.5	97.3	100.9	107.6	106.7	106.7	122.2	121.6	120.9	119.3	155.4	117.6
Link Distance (m)		175.6	175.6	96.1	96.1	96.1		115.1	115.1	110.4	110.4	110.4
Upstream Blk Time (%)				91	8	5		41	43	81	21	1
Queuing Penalty (veh)				0	0	0		389	408	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)		1					4	53				
Queuing Penalty (veh)		1					25	165				

### **Network Summary**

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	WB	WB	NB
Directions Served	Ţ	TR	LT	T	LR
Maximum Queue (m)	18.4	5.9	37.2	33.6	25.2
Average Queue (m)	4.3	0.5	8.4	2.9	10.8
95th Queue (m)	14.7	5.1	26.1	19.1	20.7
Link Distance (m)	83.2	83.2	71.6	71.6	66.5
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

### Intersection: 7: Confederation Parkway & Square One Drive

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR	
Maximum Queue (m)	37.2	104.0	1.6	89.5	24.9	118.7	120.9	8.8	22.5	26.4	
Average Queue (m)	36.2	103.2	0.1	85.0	1.0	113.3	113.6	8.0	9.1	10.1	
95th Queue (m)	38.0	108.5	1.3	90.3	10.8	116.8	117.2	4.6	19.6	24.0	
Link Distance (m)		102.9		85.3		108.3	108.3		115.5	115.5	
Upstream Blk Time (%)		100		100		58	57				
Queuing Penalty (veh)		0		0		0	0				
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	100			100		58			3		
Queuing Penalty (veh)	108			5		3			0		

## Intersection: 10: Confederation Parkway & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	Т	TR	L	Т	TR	L	Т	TR	L	Т	TR
Maximum Queue (m)	100.7	74.6	80.7	96.5	102.5	108.6	94.9	129.3	124.8	159.2	155.6	151.4
Average Queue (m)	61.8	48.9	49.5	31.3	94.8	100.9	78.8	118.2	117.4	149.9	146.3	98.6
95th Queue (m)	110.0	69.2	69.1	73.5	112.1	104.4	120.4	123.1	121.1	154.8	171.2	180.9
Link Distance (m)		174.1	174.1	95.6	95.6	95.6		115.5	115.5	144.4	144.4	144.4
Upstream Blk Time (%)				3	35	76		48	50	82	34	5
Queuing Penalty (veh)				0	0	0		607	626	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)	2						5	61				
Queuing Penalty (veh)	5						54	206				

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	
Directions Served	L	T	TR	L	T	TR	LT	R	LTR	
Maximum Queue (m)	8.9	59.5	48.5	40.6	68.2	67.2	18.8	10.4	19.0	
Average Queue (m)	1.4	34.5	23.9	7.0	42.2	43.7	5.3	2.1	6.6	
95th Queue (m)	6.6	52.0	39.9	23.5	62.2	67.2	14.5	8.4	16.4	
Link Distance (m)		71.6	71.6		174.1	174.1	53.8	53.8	63.7	
Upstream Blk Time (%)		0								
Queuing Penalty (veh)		0								
Storage Bay Dist (m)	40.0			40.0						
Storage Blk Time (%)		3			7					
Queuing Penalty (veh)		0			5					

### **Network Summary**

Movement	EB	NB	SB
Directions Served	TR	R	R
Maximum Queue (m)	1.2	18.1	8.8
Average Queue (m)	0.0	5.4	1.7
95th Queue (m)	0.8	13.8	7.2
Link Distance (m)	80.9	52.0	77.9
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	R	L	T	Т	LR
Maximum Queue (m)	93.0	82.5	39.9	13.7	39.8	41.5	66.6
Average Queue (m)	63.2	44.2	11.0	2.6	16.3	22.2	32.3
95th Queue (m)	89.6	77.0	32.2	10.1	33.6	38.9	60.3
Link Distance (m)	90.2	90.2			80.9	80.9	68.4
Upstream Blk Time (%)	1	0					1
Queuing Penalty (veh)	0	0					0
Storage Bay Dist (m)			15.0	15.0			
Storage Blk Time (%)		23	0	1	15		
Queuing Penalty (veh)		19	2	2	2		

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	Т	TR	L	T	TR	
Maximum Queue (m)	38.6	53.3	15.7	44.2	33.1	117.5	124.4	25.0	119.5	120.1	
Average Queue (m)	18.2	23.4	1.5	21.9	1.5	113.1	113.3	2.2	95.1	94.4	
95th Queue (m)	35.0	44.9	9.0	39.0	13.4	115.3	119.2	16.8	135.5	136.7	
Link Distance (m)		102.9		85.3		108.3	108.3		113.8	113.8	
Upstream Blk Time (%)						68	68		4	3	
Queuing Penalty (veh)						0	0		25	24	
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	31	28	1	36		67			25		
Queuing Penalty (veh)	28	20	1	2		3			1		

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	Т	TR	L	Т	TR
Maximum Queue (m)	52.8	92.1	93.5	91.7	75.9	87.1	94.9	124.6	120.9	96.7	88.9	91.1
Average Queue (m)	26.5	64.1	62.9	85.7	31.0	40.0	75.6	117.0	116.2	87.7	55.7	50.2
95th Queue (m)	47.8	87.6	86.8	95.1	67.0	84.9	123.0	121.1	119.2	96.9	102.0	102.2
Link Distance (m)		175.6	175.6	82.4	82.4	82.4		113.8	113.8	83.1	83.1	83.1
Upstream Blk Time (%)				89	1	4		36	38	65	9	9
Queuing Penalty (veh)				0	0	0		268	285	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)							1	49				
Queuing Penalty (veh)							3	114				

### **Network Summary**

Movement	NB	SB
Directions Served	R	R
Maximum Queue (m)	7.8	8.7
Average Queue (m)	2.2	1.1
95th Queue (m)	7.9	5.8
Link Distance (m)	59.7	61.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	R	L	T	T	LR
Maximum Queue (m)	69.5	48.6	25.3	18.5	27.5	32.8	62.4
Average Queue (m)	34.9	17.1	8.7	6.3	11.1	18.5	28.9
95th Queue (m)	58.5	39.1	19.7	15.7	23.9	30.9	50.6
Link Distance (m)	90.2	90.2			80.7	80.7	68.4
Upstream Blk Time (%)	0						0
Queuing Penalty (veh)	0						0
Storage Bay Dist (m)			15.0	15.0			
Storage Blk Time (%)		8	1	2	5		
Queuing Penalty (veh)		11	2	10	3		

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	TR	L	Т	TR	_
Maximum Queue (m)	37.7	49.1	15.0	47.2	29.8	119.9	123.0	7.7	108.0	112.1	
Average Queue (m)	18.5	20.0	1.8	17.7	2.2	113.7	113.8	0.5	79.3	80.7	
95th Queue (m)	33.9	39.4	9.1	36.9	18.3	117.0	118.1	3.8	114.6	114.2	
Link Distance (m)		102.9		85.1		108.3	108.3		113.4	113.4	
Upstream Blk Time (%)						71	70		0	0	
Queuing Penalty (veh)						0	0		0	0	
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	34	29	0	27		66			20		
Queuing Penalty (veh)	28	22	0	1		3			1		

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	Т	TR	L	T	TR	L	Т	TR
Maximum Queue (m)	49.9	61.5	57.4	119.5	127.8	130.3	94.9	123.5	118.7	132.7	125.6	128.9
Average Queue (m)	24.5	33.9	31.2	51.5	118.1	121.2	71.9	116.6	115.9	123.3	112.3	83.3
95th Queue (m)	45.4	52.6	52.0	126.2	130.1	126.1	123.8	120.4	118.3	127.7	156.9	154.2
Link Distance (m)		178.2	178.2	115.2	115.2	115.2		113.4	113.4	118.0	118.0	118.0
Upstream Blk Time (%)				5	44	77		33	36	72	26	13
Queuing Penalty (veh)				0	0	0		325	348	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)							1	46				
Queuing Penalty (veh)							7	117				

### **Network Summary**

Movement	EB	NB	SB
Directions Served	TR	R	R
Maximum Queue (m)	1.4	16.6	9.0
Average Queue (m)	0.0	6.1	1.4
95th Queue (m)	1.0	14.5	6.7
Link Distance (m)	80.5	52.1	81.8
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	R	L	T	Т	LR
Maximum Queue (m)	94.8	93.2	40.0	14.0	38.4	41.6	72.7
Average Queue (m)	69.8	51.4	11.2	3.2	17.6	24.5	37.6
95th Queue (m)	102.0	87.1	31.8	11.0	35.5	41.9	65.4
Link Distance (m)	90.2	90.2			80.5	80.5	68.4
Upstream Blk Time (%)	2	1					1
Queuing Penalty (veh)	0	0					0
Storage Bay Dist (m)			15.0	15.0			
Storage Blk Time (%)		23	0	1	18		
Queuing Penalty (veh)		21	2	2	4		

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR	_
Maximum Queue (m)	39.8	56.3	15.0	49.2	33.2	116.9	120.8	41.5	117.6	119.2	
Average Queue (m)	15.8	23.4	1.4	22.6	2.2	113.2	113.4	2.3	93.0	94.4	
95th Queue (m)	32.8	44.8	8.2	42.7	18.1	115.1	116.6	17.2	129.0	130.6	
Link Distance (m)		102.9		85.2		108.3	108.3		115.2	115.2	
Upstream Blk Time (%)						68	68		2	2	
Queuing Penalty (veh)						0	0		14	18	
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	22	33		32		67		0	22		
Queuing Penalty (veh)	21	24		2		3		2	1		

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	Ţ	TR	L	T	TR	L	T	TR
Maximum Queue (m)	64.0	100.4	98.3	112.3	110.3	112.3	94.9	123.7	121.8	151.5	148.7	146.2
Average Queue (m)	28.8	68.1	66.4	103.2	48.6	46.7	75.3	117.6	117.2	143.2	129.8	80.3
95th Queue (m)	53.8	95.5	94.6	133.1	112.8	106.2	122.7	121.1	120.0	147.2	188.0	163.9
Link Distance (m)		177.5	177.5	105.4	105.4	105.4		115.2	115.2	137.8	137.8	137.8
Upstream Blk Time (%)				85	6	2		37	39	75	25	3
Queuing Penalty (veh)				0	0	0		308	328	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)	0	0					1	50				
Queuing Penalty (veh)	0	0					9	133				

### **Network Summary**

Movement	WB	NB	SB
Directions Served	T	R	R
Maximum Queue (m)	2.7	9.4	8.7
Average Queue (m)	0.1	1.8	1.2
95th Queue (m)	1.9	7.4	6.0
Link Distance (m)	180.5	41.1	76.7
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	R	L	T	T	LR
Maximum Queue (m)	72.9	58.7	32.0	16.9	26.7	31.0	59.5
Average Queue (m)	37.0	21.1	8.7	5.8	9.8	16.5	29.8
95th Queue (m)	62.0	44.6	23.0	14.4	22.9	29.1	52.7
Link Distance (m)	90.2	90.2			76.4	76.4	68.4
Upstream Blk Time (%)							0
Queuing Penalty (veh)							0
Storage Bay Dist (m)			15.0	15.0			
Storage Blk Time (%)		10	1	1	4		
Queuing Penalty (veh)		14	3	8	3		

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	Т	TR	L	T	TR	_
Maximum Queue (m)	39.7	56.1	16.3	52.9	39.8	122.5	121.5	5.2	111.5	114.5	
Average Queue (m)	20.0	24.6	1.8	22.9	1.8	113.9	113.8	0.7	79.0	81.3	
95th Queue (m)	37.6	47.9	9.1	43.0	16.5	118.1	117.5	4.5	110.0	112.7	
Link Distance (m)		102.9		85.3		108.3	108.3		115.3	115.3	
Upstream Blk Time (%)						69	70		0	0	
Queuing Penalty (veh)						0	0		0	1	
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	36	33	0	38		65			19		
Queuing Penalty (veh)	33	25	0	2		3			1		

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	Т	TR	L	T	TR	L	T	TR	L	T	TR
Maximum Queue (m)	48.2	59.8	56.1	127.5	133.5	134.0	94.9	127.6	122.0	167.4	164.2	159.9
Average Queue (m)	23.3	37.9	35.9	55.9	125.2	127.2	76.6	118.0	117.6	159.6	156.8	116.5
95th Queue (m)	40.7	55.2	53.1	133.3	132.8	130.8	123.4	122.6	120.8	164.2	178.8	194.1
Link Distance (m)		180.5	180.5	121.9	121.9	121.9		115.3	115.3	154.1	154.1	154.1
Upstream Blk Time (%)				8	48	78		33	36	80	39	8
Queuing Penalty (veh)				0	0	0		356	387	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)							2	46				
Queuing Penalty (veh)							18	133				

### **Network Summary**

### Intersection: 2: Private DW/Elora Drive E & Rathburn Road/Rathburn Road

Movement	NB	SB
Directions Served	R	R
Maximum Queue (m)	15.4	8.2
Average Queue (m)	5.7	1.3
95th Queue (m)	13.0	6.2
Link Distance (m)	46.5	73.1
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	R	L	T	T	LR
Maximum Queue (m)	96.4	92.0	40.0	20.5	35.0	39.7	70.6
Average Queue (m)	76.3	58.8	11.8	3.6	19.0	23.5	43.6
95th Queue (m)	105.9	89.0	34.8	13.1	33.1	37.0	71.3
Link Distance (m)	90.2	90.2			77.4	77.4	68.4
Upstream Blk Time (%)	4	1					2
Queuing Penalty (veh)	0	0					0
Storage Bay Dist (m)			15.0	15.0			
Storage Blk Time (%)		24	1	1	19		
Queuing Penalty (veh)		24	3	3	4		

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	TR	L	Т	TR	_
Maximum Queue (m)	37.6	81.0	23.7	61.6	33.2	123.9	121.6	23.4	114.4	117.0	
Average Queue (m)	18.9	29.7	2.0	29.7	2.3	113.9	113.2	1.1	79.3	81.9	
95th Queue (m)	35.6	58.9	11.3	50.5	17.3	118.4	116.9	10.9	121.6	122.9	
Link Distance (m)		102.9		85.3		108.3	108.3		115.1	115.1	
Upstream Blk Time (%)						70	68		0	1	
Queuing Penalty (veh)						0	0		2	5	
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	31	40	0	48	0	69			21		
Queuing Penalty (veh)	35	29	1	2	0	3			1		

### Intersection: 10: Confederation Parkway & Rathburn Road/Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	Т	TR	L	Т	TR	L	T	TR	L	T	TR
Maximum Queue (m)	55.2	99.2	102.2	108.2	101.4	102.4	94.9	128.6	122.1	124.1	116.5	113.6
Average Queue (m)	29.4	72.6	71.8	100.5	48.9	46.6	77.8	118.0	117.3	115.9	89.1	46.0
95th Queue (m)	50.5	100.2	100.4	105.3	110.8	101.7	122.4	123.2	120.1	119.9	159.0	111.3
Link Distance (m)		178.2	178.2	96.1	96.1	96.1		115.1	115.1	110.4	110.4	110.4
Upstream Blk Time (%)				97	11	4		40	42	79	18	1
Queuing Penalty (veh)				0	0	0		381	401	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)		0					7	53				
Queuing Penalty (veh)		0					47	163				

### **Network Summary**

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	R	L	T	T	LR
Maximum Queue (m)	75.4	55.8	31.2	39.7	87.0	89.2	65.2
Average Queue (m)	39.3	22.8	9.1	13.1	71.0	70.3	30.1
95th Queue (m)	62.9	46.0	22.2	34.3	89.4	92.1	52.5
Link Distance (m)	90.2	90.2			80.7	80.7	68.4
Upstream Blk Time (%)					2	3	0
Queuing Penalty (veh)					20	22	0
Storage Bay Dist (m)			15.0	15.0			
Storage Blk Time (%)		9	1	6	22		
Queuing Penalty (veh)		14	2	49	16		

### Intersection: 7: Confederation Parkway & Square One Drive

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	Т	TR	L	T	TR	
Maximum Queue (m)	38.6	104.9	8.0	91.9	15.0	120.7	120.4	9.4	22.2	23.2	
Average Queue (m)	36.6	102.8	0.3	86.1	1.3	113.7	113.5	1.1	8.4	8.0	
95th Queue (m)	38.8	106.1	5.7	91.2	11.2	117.2	117.1	6.0	18.7	20.8	
Link Distance (m)		102.9		85.3		108.3	108.3		115.6	115.6	
Upstream Blk Time (%)		100		100		61	59				
Queuing Penalty (veh)		0		0		0	0				
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	100			100		58		1	4		
Queuing Penalty (veh)	108			5		3		5	0		

## Intersection: 10: Confederation Parkway & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	Т	TR	L	Т	TR	L	T	TR	L	Т	TR
Maximum Queue (m)	83.8	104.2	94.2	89.0	104.3	111.2	94.9	126.0	123.7	159.2	156.5	152.7
Average Queue (m)	49.9	54.7	52.1	27.9	95.5	100.9	79.0	118.3	117.9	150.1	144.5	102.2
95th Queue (m)	95.3	85.5	78.5	66.8	112.4	104.9	123.7	122.3	122.6	154.6	178.1	184.7
Link Distance (m)		176.8	176.8	95.6	95.6	95.6		115.6	115.6	144.4	144.4	144.4
Upstream Blk Time (%)				1	35	76		49	49	81	40	4
Queuing Penalty (veh)				0	0	0		611	615	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)	1						10	61				
Queuing Penalty (veh)	4						105	205				

Movement	EB	EB	WB	WB	NB	SB
Directions Served	T	TR	Ţ	TR	R	R
Maximum Queue (m)	2.7	2.4	21.3	26.9	8.9	10.4
Average Queue (m)	0.1	0.1	2.1	3.3	2.4	1.0
95th Queue (m)	1.9	1.7	11.2	15.6	8.7	5.8
Link Distance (m)	80.7	80.7	176.8	176.8	53.6	63.7
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

### **Network Summary**

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	
Directions Served	L	T	TR	L	T	TR	LT	R	LTR	
Maximum Queue (m)	3.1	21.3	18.2	8.4	19.9	26.9	38.2	15.4	33.3	
Average Queue (m)	0.1	8.0	5.8	1.4	4.7	10.3	12.5	5.0	13.4	
95th Queue (m)	1.7	18.4	15.5	6.2	14.0	22.5	27.9	13.3	27.6	
Link Distance (m)		80.9	80.9		171.9	171.9	52.0	52.0	78.0	
Upstream Blk Time (%)							0			
Queuing Penalty (veh)							0			
Storage Bay Dist (m)	40.0			40.0						
Storage Blk Time (%)										
Queuing Penalty (veh)										

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	R	L	T	T	LR
Maximum Queue (m)	95.0	89.4	40.0	16.0	33.9	32.4	65.0
Average Queue (m)	65.2	46.6	11.1	4.6	16.4	16.4	32.6
95th Queue (m)	93.2	78.0	32.5	13.6	30.2	31.1	56.6
Link Distance (m)	90.2	90.2			80.9	80.9	68.4
Upstream Blk Time (%)	1	0					0
Queuing Penalty (veh)	0	0					0
Storage Bay Dist (m)			15.0	15.0			
Storage Blk Time (%)		22	0	2	15		
Queuing Penalty (veh)		19	1	7	3		

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	Т	TR	L	Т	TR	_
Maximum Queue (m)	35.9	42.4	15.0	49.8	33.2	123.0	120.1	34.5	117.8	119.5	
Average Queue (m)	17.7	19.6	1.4	23.3	1.7	113.7	113.5	2.2	97.4	96.3	
95th Queue (m)	32.5	36.3	8.3	40.1	13.7	117.9	117.5	16.0	131.8	132.5	
Link Distance (m)		102.9		85.3		108.3	108.3		113.8	113.8	
Upstream Blk Time (%)						67	68		3	4	
Queuing Penalty (veh)						0	0		22	25	
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	31	27		38		67		1	25		
Queuing Penalty (veh)	28	20		2		3		5	1		

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	Т	TR	L	T	TR
Maximum Queue (m)	51.0	104.9	106.9	91.5	82.2	87.0	94.9	125.1	119.9	95.9	93.4	91.1
Average Queue (m)	26.5	68.3	69.6	86.2	28.7	37.5	73.4	117.0	116.0	88.3	54.9	49.8
95th Queue (m)	46.4	97.1	100.9	91.1	67.5	82.5	124.1	121.5	118.5	92.2	102.0	99.2
Link Distance (m)		171.9	171.9	82.4	82.4	82.4		113.8	113.8	83.1	83.1	83.1
Upstream Blk Time (%)				95	1	3		36	38	68	7	7
Queuing Penalty (veh)				0	0	0		268	286	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)		0					1	49				
Queuing Penalty (veh)		0					6	114				

### **Network Summary**

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	
Directions Served	L	T	TR	L	T	TR	LT	R	LTR	
Maximum Queue (m)	4.1	45.7	35.8	54.8	80.3	80.4	14.8	11.6	18.2	
Average Queue (m)	0.5	21.5	10.2	10.6	51.9	54.1	4.0	1.5	4.5	
95th Queue (m)	3.2	38.9	25.2	34.8	77.0	76.9	12.1	7.0	13.7	
Link Distance (m)		80.7	80.7		174.8	174.8	59.8	59.8	61.6	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)	40.0			40.0						
Storage Blk Time (%)		1			10					
Queuing Penalty (veh)		0			5					

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	R	L	T	Т	LR
Maximum Queue (m)	75.2	49.0	26.7	31.0	56.8	56.3	62.7
Average Queue (m)	36.5	17.6	8.6	8.6	30.4	31.0	29.0
95th Queue (m)	60.3	38.2	18.6	22.9	52.6	53.1	52.4
Link Distance (m)	90.2	90.2			80.7	80.7	68.4
Upstream Blk Time (%)	0						0
Queuing Penalty (veh)	0						0
Storage Bay Dist (m)			15.0	15.0			
Storage Blk Time (%)		6	1	4	24		
Queuing Penalty (veh)		9	2	22	14		

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	TR	L	Т	TR	_
Maximum Queue (m)	37.3	61.6	17.4	49.6	31.6	121.9	121.4	49.8	108.9	113.1	
Average Queue (m)	18.5	23.0	1.6	18.4	1.4	113.9	113.7	4.1	76.2	77.7	
95th Queue (m)	35.7	47.9	9.1	36.8	14.5	118.1	117.4	23.7	111.2	113.3	
Link Distance (m)		102.9		85.1		108.3	108.3		113.4	113.4	
Upstream Blk Time (%)						71	68		0	0	
Queuing Penalty (veh)						0	0		1	1	
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	32	28	0	31		67		0	20		
Queuing Penalty (veh)	27	21	0	2		3		2	1		

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	L	Т	TR
Maximum Queue (m)	55.2	52.6	51.6	119.0	123.6	130.5	94.9	124.7	120.7	132.4	126.1	126.4
Average Queue (m)	25.9	33.6	33.5	49.3	118.1	121.0	76.6	116.5	115.9	123.1	107.3	77.3
95th Queue (m)	47.7	47.8	49.0	118.7	126.7	125.9	125.9	120.4	118.7	130.0	163.5	151.7
Link Distance (m)		174.8	174.8	115.2	115.2	115.2		113.4	113.4	118.0	118.0	118.0
Upstream Blk Time (%)				6	44	77		34	36	73	21	11
Queuing Penalty (veh)				0	0	0		332	348	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)							2	46				
Queuing Penalty (veh)							14	117				

### **Network Summary**

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	
Directions Served	L	T	TR	L	T	TR	LT	R	LTR	
Maximum Queue (m)	1.6	12.1	11.1	10.5	14.7	20.1	37.6	15.7	43.8	
Average Queue (m)	0.1	1.5	1.7	2.2	2.7	8.0	15.6	5.2	17.5	
95th Queue (m)	1.2	6.9	7.5	7.7	9.7	18.4	30.7	13.9	34.1	
Link Distance (m)		80.5	80.5		173.7	173.7	52.1	52.1	81.8	
Upstream Blk Time (%)							0			
Queuing Penalty (veh)							0			
Storage Bay Dist (m)	40.0			40.0						
Storage Blk Time (%)										
Queuing Penalty (veh)										

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	R	L	T	T	LR
Maximum Queue (m)	96.0	92.2	40.0	25.4	42.7	42.8	68.1
Average Queue (m)	73.2	51.4	10.1	5.3	23.6	24.5	36.6
95th Queue (m)	105.0	85.6	31.2	16.2	39.2	39.6	61.7
Link Distance (m)	90.2	90.2			80.5	80.5	68.4
Upstream Blk Time (%)	3	0					0
Queuing Penalty (veh)	0	0					0
Storage Bay Dist (m)			15.0	15.0			
Storage Blk Time (%)		22	0	3	24		
Queuing Penalty (veh)		20	2	9	6		

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	TR	L	Т	TR	_
Maximum Queue (m)	39.5	62.3	13.2	49.3	14.6	118.8	120.8	22.7	117.9	119.2	
Average Queue (m)	17.4	24.2	8.0	24.2	8.0	113.4	113.5	1.3	95.2	97.8	
95th Queue (m)	34.1	47.3	7.1	43.1	8.3	116.2	117.6	10.9	129.6	129.3	
Link Distance (m)		102.9		85.2		108.3	108.3		115.2	115.2	
Upstream Blk Time (%)						65	69		2	2	
Queuing Penalty (veh)						0	0		14	17	
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	31	31		41	0	68			22		
Queuing Penalty (veh)	30	22		2	1	3			1		

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	Т	TR									
Maximum Queue (m)	67.6	101.5	107.7	111.2	109.9	113.3	94.9	124.6	120.6	151.6	146.3	143.1
Average Queue (m)	29.6	68.5	69.3	109.0	54.2	54.4	80.1	117.5	117.1	143.3	134.3	82.3
95th Queue (m)	55.3	96.0	99.8	114.6	119.6	112.8	124.5	120.9	119.5	147.0	179.0	159.7
Link Distance (m)		173.7	173.7	105.4	105.4	105.4		115.2	115.2	137.8	137.8	137.8
Upstream Blk Time (%)				94	8	4		38	41	77	29	3
Queuing Penalty (veh)				0	0	0		321	345	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)		0					2	52				
Queuing Penalty (veh)		0					11	139				

### **Network Summary**

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	
Directions Served	L	Т	TR	L	Т	TR	LT	R	LTR	
Maximum Queue (m)	7.6	46.5	35.8	47.8	73.5	78.0	17.4	8.0	20.6	
Average Queue (m)	1.7	20.6	11.2	10.4	52.3	56.6	5.0	1.8	5.8	
95th Queue (m)	6.8	40.1	27.1	31.3	72.1	75.6	13.7	7.1	15.3	
Link Distance (m)		76.4	76.4		177.2	177.2	41.1	41.1	76.7	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)	40.0			40.0						
Storage Blk Time (%)		0			10					
Queuing Penalty (veh)		0			6					

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	R	L	T	T	LR
Maximum Queue (m)	71.0	58.4	28.4	29.6	51.1	52.6	64.9
Average Queue (m)	38.6	19.6	8.7	9.2	23.1	24.1	29.2
95th Queue (m)	61.3	44.0	21.5	21.6	42.6	42.3	53.1
Link Distance (m)	90.2	90.2			76.4	76.4	68.4
Upstream Blk Time (%)	0						0
Queuing Penalty (veh)	0						0
Storage Bay Dist (m)			15.0	15.0			
Storage Blk Time (%)		9	1	7	17		
Queuing Penalty (veh)		13	3	45	11		

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	T	TR	L	Т	TR	_
Maximum Queue (m)	39.7	57.4	8.8	47.5	29.9	123.8	124.2	18.2	114.1	115.9	
Average Queue (m)	19.3	23.5	0.8	21.1	1.7	114.0	114.1	1.1	73.3	77.2	
95th Queue (m)	35.8	47.9	4.6	38.3	16.5	118.8	119.2	10.7	112.8	116.6	
Link Distance (m)		102.9		85.3		108.3	108.3		115.3	115.3	
Upstream Blk Time (%)						71	70		0	0	
Queuing Penalty (veh)						0	0		1	2	
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	33	34		37		66		0	18		
Queuing Penalty (veh)	31	25		2		3		2	1		

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	Т	TR	L	Т	TR	L	T	TR	L	T	TR
Maximum Queue (m)	61.9	63.7	64.5	126.0	128.2	135.1	94.9	124.8	122.1	166.7	167.4	160.7
Average Queue (m)	30.4	38.5	37.5	52.0	125.1	127.7	73.1	117.8	117.4	159.3	156.1	114.4
95th Queue (m)	60.6	59.0	56.8	128.0	133.2	132.1	124.0	121.6	120.5	162.9	181.5	199.0
Link Distance (m)		177.2	177.2	121.9	121.9	121.9		115.3	115.3	154.1	154.1	154.1
Upstream Blk Time (%)				5	49	76		33	35	78	38	8
Queuing Penalty (veh)				0	0	0		361	386	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)	0						2	46				
Queuing Penalty (veh)	1						16	133				

### **Network Summary**

### Intersection: 2: Private DW/Elora Drive E & Rathburn Road/Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	1.4	40.3	45.7	7.9	17.3	26.0	44.3	14.2	49.6
Average Queue (m)	0.0	12.8	22.6	1.7	3.9	8.3	19.3	5.1	18.8
95th Queue (m)	1.0	29.5	38.4	6.8	12.5	19.6	38.1	12.5	36.2
Link Distance (m)		77.4	77.4		175.6	175.6	46.6	46.6	73.1
Upstream Blk Time (%)							0		
Queuing Penalty (veh)							0		
Storage Bay Dist (m)	40.0			40.0					
Storage Blk Time (%)		0							
Queuing Penalty (veh)		0							

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	R	L	T	T	LR
Maximum Queue (m)	96.3	98.8	40.0	37.3	49.2	50.8	74.2
Average Queue (m)	90.9	80.3	16.2	7.1	29.6	29.5	60.4
95th Queue (m)	105.4	107.4	41.8	22.0	45.6	45.3	85.7
Link Distance (m)	90.2	90.2			77.4	77.4	68.4
Upstream Blk Time (%)	16	7					11
Queuing Penalty (veh)	0	0					0
Storage Bay Dist (m)			15.0	15.0			
Storage Blk Time (%)		34	1	7	28		
Queuing Penalty (veh)		34	4	28	7		

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	Т	TR	L	Т	TR	_
Maximum Queue (m)	39.8	72.7	21.2	56.3	25.0	123.3	119.6	31.6	114.1	114.8	
Average Queue (m)	20.1	27.2	1.5	28.7	1.2	113.6	113.4	1.6	74.9	76.4	
95th Queue (m)	37.5	55.0	10.0	50.6	12.9	117.9	116.8	13.4	113.2	114.2	
Link Distance (m)		102.9		85.3		108.3	108.3		115.1	115.1	
Upstream Blk Time (%)		0				69	69		0	0	
Queuing Penalty (veh)		0				0	0		3	3	
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	39	34		43		69			20		
Queuing Penalty (veh)	43	25		2		3			1		

### Intersection: 10: Confederation Parkway & Rathburn Road/Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	TR	L	Т	TR
Maximum Queue (m)	58.7	101.6	101.1	105.2	99.4	95.4	94.9	128.3	121.3	122.2	118.8	114.6
Average Queue (m)	28.3	68.5	69.5	99.9	37.8	42.8	75.8	117.8	117.1	115.6	91.3	49.2
95th Queue (m)	49.7	97.1	97.6	105.2	91.2	92.8	122.4	123.0	119.8	118.6	156.0	118.2
Link Distance (m)		175.6	175.6	96.1	96.1	96.1		115.1	115.1	110.4	110.4	110.4
Upstream Blk Time (%)				96	5	2		41	43	81	19	1
Queuing Penalty (veh)				0	0	0		388	406	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)		0					2	54				
Queuing Penalty (veh)		0					16	166				

### **Network Summary**

### Intersection: 4: Square One Drive Extension & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB
Directions Served	T	T	R	L	T	T	LR
Maximum Queue (m)	83.1	64.6	38.7	37.8	52.6	51.0	66.4
Average Queue (m)	44.6	25.8	10.1	11.8	36.1	35.6	36.3
95th Queue (m)	72.7	52.4	24.3	28.6	50.5	49.7	61.2
Link Distance (m)	90.2	90.2			80.7	80.7	68.4
Upstream Blk Time (%)	0	0					1
Queuing Penalty (veh)	0	0					0
Storage Bay Dist (m)			15.0	15.0			
Storage Blk Time (%)		11	1	8	23		
Queuing Penalty (veh)		17	4	59	17		

### Intersection: 7: Confederation Parkway & Square One Drive

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	
Directions Served	L	TR	L	TR	L	Т	TR	L	T	TR	
Maximum Queue (m)	37.0	104.7	15.9	90.2	33.2	123.3	123.4	7.0	22.8	26.2	
Average Queue (m)	36.3	102.6	0.5	84.6	1.3	114.0	114.0	0.6	9.9	9.2	
95th Queue (m)	39.3	109.0	8.0	89.6	13.0	118.5	118.7	4.1	20.1	21.9	
Link Distance (m)		102.9		85.3		108.3	108.3		116.1	116.1	
Upstream Blk Time (%)		100		100		60	60				
Queuing Penalty (veh)		0		0		0	0				
Storage Bay Dist (m)	15.0		15.0		15.0			15.0			
Storage Blk Time (%)	100			100		58			4		
Queuing Penalty (veh)	108			5		3			0		

## Intersection: 10: Confederation Parkway & Rathburn Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	Т	TR	L	Т	TR	L	Т	TR	L	Т	TR
Maximum Queue (m)	94.8	96.8	98.3	99.2	107.3	107.5	94.9	126.0	123.1	155.5	157.3	150.5
Average Queue (m)	60.7	74.8	62.9	34.3	95.0	100.8	77.6	118.6	118.0	149.5	140.4	88.9
95th Queue (m)	124.5	162.6	125.5	80.7	114.8	104.0	122.9	122.6	120.9	153.3	191.5	175.9
Link Distance (m)		174.6	174.6	95.6	95.6	95.6		116.1	116.1	144.4	144.4	144.4
Upstream Blk Time (%)		12	0	3	30	75		49	51	83	33	3
Queuing Penalty (veh)		44	1	0	0	0		617	636	0	0	0
Storage Bay Dist (m)	110.0						65.0					
Storage Blk Time (%)	20						4	62				
Queuing Penalty (veh)	55						40	207				

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	
Directions Served	L	Т	TR	L	T	TR	LT	R	LTR	
Maximum Queue (m)	19.2	59.6	51.1	37.9	64.6	69.3	16.6	8.8	16.7	
Average Queue (m)	2.3	35.4	23.6	6.2	41.0	41.2	5.6	2.1	5.8	
95th Queue (m)	15.6	71.9	60.5	19.8	61.4	63.1	14.4	8.1	14.9	
Link Distance (m)		80.7	80.7		174.6	174.6	53.4	53.4	63.7	
Upstream Blk Time (%)		2	0							
Queuing Penalty (veh)		6	1							
Storage Bay Dist (m)	40.0			40.0						
Storage Blk Time (%)		13			7					
Queuing Penalty (veh)		1			5					

### **Network Summary**