

**TRAFFIC IMPACT STUDY**

**AIRSTAR HOLDINGS INC.  
7211 & 7233 AIRPORT ROAD**

**CITY OF MISSISSAUGA, REGION OF PEEL**

**PREPARED BY:**

**C.F. CROZIER & ASSOCIATES INC.  
2800 HIGH POINT DRIVE, SUITE 100  
MILTON, ON L9T 6P4**

**DECEMBER 2017**

**CFCA FILE NO. 1190-4286**

The material in this report reflects best judgment in light of the information available at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. C.F. Crozier & Associates Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.



Revision Number	Date	Comments
Rev.0	December 2017	Issued for First Submission

## 1.0 EXECUTIVE SUMMARY

C.F. Crozier & Associates Inc. (Crozier) was retained by Airstar Holdings Inc. to undertake a Traffic Impact Study for a proposed senior's residential apartment development located at 7211 & 7233 Airport Road, in the City of Mississauga. The Traffic Impact Study (TIS) is in support of the Site Plan Application (SPA).

The proposed development consists of a senior's apartment with 119 dwelling units and a commercial section of 119 square metres (1,281 square feet). A total of 181 parking spaces, including 67 spaces at grade level and 114 spaces underground are proposed. One right-in/right-out access to Airport Road (Site Access A) and one full moves access to Collett Road (Site Access B) are proposed.

Intersection analyses of the 2017 existing traffic volumes indicate that the boundary road network has ample capacity to support future traffic volume growth.

Under 2027 future background traffic conditions, the intersection of Airport Road at Morning Star Drive is projected to operate at a Level of Service "B" and "D" during the weekday a.m. and p.m. peak hours, respectively. The intersection of Airport Road at Beverley Street/Victory Crescent is projected to operate at a Level of Service "A" and "B" during weekday a.m. and p.m. peak hours, respectively. The intersections of Airport Road at the 7256 Airport Road Northern and Southern Driveway Accesses are projected to operate at a Level of Service "D" and "E" during the weekday a.m. and p.m. peak hours, respectively. The Level of Service "F" during the weekday p.m. peak hour is attributed to the left-turning vehicles out of the accesses. The delay is due to the high volume of conflicting southbound and northbound through volumes along Airport Road.

The proposed development is expected to generate a total of 26 primary trips to the boundary road system in the weekday a.m. peak hour and 35 primary trips in the weekday p.m. peak hour.

Under 2027 total traffic conditions, the addition of site generated traffic is projected to have negligible impacts on the boundary road network as the levels of service are projected to be the same as the 2027 future background. Minimal increments are projected for the average vehicle delay and volume to capacity ratios, with a maximum volume to capacity of 1.05 at the intersection of Airport Road and Morning Star Drive (the same as the 2027 future background).

The analysis undertaken herein was prepared using the most recent Site Plan dated November 16<sup>th</sup>, 2017. Any minor changes to the plan will not materially affect the conclusions contained within this report.

The Site Plan Application (SPA) can be supported from a traffic operations perspective as the boundary road system can accommodate the increase in traffic volumes attributable to the proposed development.

## TABLE OF CONTENTS

1.0	EXECUTIVE SUMMARY .....	II
2.0	INTRODUCTION .....	1
3.0	EXISTING CONDITIONS.....	1
3.1	Development Lands .....	1
3.2	Boundary Road Network .....	1
3.3	Traffic Data .....	2
3.4	Cycling Routes.....	3
3.5	Public Transit .....	3
3.6	Traffic Modeling .....	3
3.7	Volume Balancing.....	3
3.8	Intersection Operations .....	4
4.0	DEVELOPMENT PROPOSAL .....	5
5.0	FUTURE BACKGROUND CONDITIONS.....	5
5.1	Study Horizons.....	5
5.2	Intersection Operations .....	5
6.0	SITE GENERATED TRAFFIC .....	8
6.1	ITE Trip Generation.....	8
6.2	Trip Distribution and Assignment .....	9
6.3	Existing Residential Developments Trip Redistribution .....	9
7.0	TOTAL TRAFFIC CONDITIONS .....	9
7.1	Intersection Operations .....	9
7.2	Safety Analysis.....	13
7.3	Travel Demand Management Plans .....	13
8.0	CONCLUSIONS.....	14



## LIST OF FIGURES

<b>Figure 1:</b>	Site Location
<b>Figure 2:</b>	Site Plan
<b>Figure 3:</b>	2017 Existing Traffic Volumes
<b>Figure 4:</b>	2022 Future Background Traffic Volumes
<b>Figure 5:</b>	2027 Future Background Traffic Volumes
<b>Figure 6:</b>	Site Primary Trip Distribution
<b>Figure 7:</b>	Site Primary Trip Assignment
<b>Figure 8:</b>	Collett Road Traffic Redistribution
<b>Figure 9:</b>	2022 Collett Road Traffic Reassignment
<b>Figure 10:</b>	2027 Collett Road Traffic Reassignment
<b>Figure 11:</b>	2022 Total Traffic Volumes
<b>Figure 12:</b>	2027 Total Traffic Volumes

## LIST OF APPENDICES

<b>Appendix A:</b>	Correspondence
<b>Appendix B:</b>	City of Mississauga Zoning By-Law Excerpts and Maps
<b>Appendix C:</b>	Traffic Data and Signal Timings
<b>Appendix D:</b>	Levels of Service Definitions
<b>Appendix E:</b>	Detailed Capacity Analyses

## 2.0 INTRODUCTION

C.F. Crozier & Associates Inc. (Crozier) was retained by Airstar Holdings Inc. to undertake a Traffic Impact Study for a proposed senior's residential apartment development located at 7211 & 7233 Airport Road, in the City of Mississauga. The Traffic Impact Study (TIS) is in support of the Site Plan Application (SPA). The purpose of the study is to assess the impacts of the proposed development on the boundary road network and to recommend required mitigation measures, if warranted.

Correspondence between Nawfal Kammah (Crozier), Rani Kol (Region of Peel) and Giancarlo Tedesco (City of Mississauga) confirmed the requirements of the TIS study elements and has been included in **Appendix A**.

The study has been completed in accordance with the procedures set out in the Region of Peel's Traffic Impact Study guidelines with the associated analysis and findings outlined herein.

## 3.0 EXISTING CONDITIONS

### 3.1 Development Lands

There is currently no development on the subject lands. The subject property at 7211 & 7233 Airport Road is zoned in the City of Mississauga Zoning By-Law as a Residential Zone (R3). Relevant zoning map excerpts have been included in the **Appendix B**.

The subject property is located on the east side of Airport Road, between the intersections of Airport Road at Morning Star Drive and Airport Road at Beverley Street/Victory Crescent. The subject lands are bounded by residential developments to the north and south, Victory Park to the east and Airport Road to the west. Refer to **Figure 1** for the site location.

### 3.2 Boundary Road Network

Airport Road is a north-south roadway with a six-lane cross-section. The segment of Airport Road at the site frontage consists of three through lanes in each direction and a centre median separating opposing flows. Airport Road is under the jurisdiction of the Region of Peel and is defined as an urban main street per the Region of Peel's Road Characterization Study with a posted speed limit of 50 km/h. Airport Road has a concrete sidewalk located on each side of the roadway at the site frontage.

Morning Star Drive is an east-west roadway with a two lane cross-section, one lane in each direction. Morning Star Drive is under the jurisdiction of the City of Mississauga and is defined as a major collector as per Schedule 5 of the City of Mississauga Official Plan, with a posted speed limit of 50 km/h. Morning Star Drive has concrete sidewalks located on both sides of the roadway, separate from the roadway by a boulevard strip.

Beverley Street Drive is an east-west roadway with a two lane cross-section, one lane in each direction. Beverley Street is under the jurisdiction of the City of Mississauga and is defined as a local roadway as per Schedule 5 of the City of Mississauga Official Plan, with an assumed speed limit of 50 km/h per municipal regulation. Beverley Street has a concrete sidewalk located on the south side, separated from the roadway by a boulevard strip.

Victory Crescent is an east-west roadway with a two lane cross-section, one lane in each direction. Victory Crescent is under the jurisdiction of the City of Mississauga and is defined as a local roadway as per Schedule 5 of the City of Mississauga Official Plan, with an assumed speed limit of 50 km/h per municipal regulation. Victory Crescent has a concrete sidewalk located on the north side.

The four-legged intersection of Airport Road at Morning Star Drive is signalized. The northbound and southbound approaches (Airport Road) both consist of an exclusive left-turn lane, an exclusive right-turn lane and three through lanes. The westbound approach (Morning Star Drive) has an exclusive left-turn lane and a shared through/right-turn lane. The eastbound approach is the access to a Sikh Temple and has a shared left/through/right-turn lane.

The four legged intersection of Airport Road at Beverley Street/Victory Crescent is signalized. The northbound and southbound approaches (Airport Road) both consist of an exclusive left-turn lane, two through lanes and a shared through/right-turn lane. The eastbound approach (Beverley Street) and westbound approach (Victory Crescent) both consist of a shared left/through/right-turn lane.

The three legged intersection of Airport Road at the 7256 Airport Road Northern Driveway Access is one-way stop-controlled. The eastbound approach (Driveway Access) is stop controlled and consists of one egress lane and one ingress lane. The southbound approach (Airport Road) consists of two through lanes and a shared through/right-turn lane. The northbound approach (Airport Road) consists of three through lanes, and an exclusive left-turn lane.

The three legged intersection of Airport Road at the 7256 Airport Road Southern Driveway Access is one-way stop-controlled. The eastbound approach (Driveway Access) is stop controlled and consists of one egress lane and one ingress lane. The southbound approach (Airport Road) consists of two through lanes and a shared through/right-turn lane. The northbound approach (Airport Road) consists of two through lanes and a shared through/left-turn lane.

### 3.3 Traffic Data

Comments from the Region of Peel and City of Mississauga regarding the Terms of Reference sent by Crozier were received after counts has been received. The comments stated that additional study intersections were to be analyzed. Therefore, the counts surveyed at the intersection of Airport Road at Morning Star Drive were completed in July while the remaining counts at Airport Road at Beverley Street/Victory Crescent and at the 7256 Airport Road Driveway Accesses were completed in October.

Turning movement counts at the intersection of Airport Road at Morning Star Drive were conducted by Ontario Traffic Inc. on Thursday, July 28, 2016. The weekday a.m. peak hour for the intersection occurred between 7:30 a.m. and 8:30 a.m. The weekday p.m. peak hour for the intersection occurred between 3:45 p.m. and 4:45 p.m.

Turning movement counts at the intersection of Airport Road at Beverley Street/Victory Crescent were conducted by Ontario Traffic Inc. on Thursday, October 20<sup>th</sup>, 2016. The weekday a.m. peak hour for the intersection occurred between 7:30 a.m. and 8:30 a.m. The weekday p.m. peak hour for the intersection occurred between 4:30 p.m. and 5:30 p.m.

Turning movement counts at the 7256 Airport Road Northern and Southern Driveway Accesses were conducted by Ontario Traffic Inc. on Thursday, October 20<sup>th</sup>, 2016. The weekday a.m. peak hour for both driveways occurred between 7:45 a.m. and 9:00 a.m. The weekday p.m. peak hour for both driveways occurred between 4:45 p.m. and 6:15 p.m.

Traffic data contained in **Appendix C** provides a summary of the turning movement counts.

### 3.4 Cycling Routes

At the site frontage, Airport Road is characterized as one of the "Primary On-Road/Boulevard Routes (Regional)" as per Schedule 7 "Long Term Cycling Routes" of the City of Mississauga's Official Plan.

The "Proposed Mississauga Cycling Route Network" Map classifies Morning Star Drive as one of the "Proposed Secondary Routes".

Relevant maps are included in **Appendix B**.

### 3.5 Public Transit

The City of Mississauga Official Plan Schedule 6 "Long Term Transit Network" designates Airport Road as a "Transit Priority Corridor".

Multiple Mississauga Transit (MiWay) bus routes have a stop near the site frontage. Route 7 – Airport runs Monday to Sunday and has a stop at the intersection of Airport Road at Morning Star Drive, with a weekday peak hour headway of 20 minutes. Route 30 – Woodbine runs Monday to Saturday and has a stop at the intersection of Airport Road at Beverley Street/Victory Crescent, with a weekday peak hour headway of 30 minutes. Route 24 – Northwest runs Monday to Friday during peak periods and has a stop at the intersection of Airport Road at Beverley Street/Victory Crescent, with a headway of 30 minutes.

The Toronto Transit Commission (TTC) also provides service in the area Monday to Friday. Route 52 – Lawrence West has a stop at the intersection of Airport Road at Morning Star with a weekday peak hour headway of approximately 18 minutes.

Finally, Brampton Transit also provides service in the area Monday to Sunday. Routes 5A – Bovaird and Route 30 – Airport Road both have a stop at the intersection of Airport Road at Morning Star Drive and have weekday peak hour headways of 30 minutes and 10 minutes, respectively. All route maps are included in **Appendix B**.

### 3.6 Traffic Modeling

The assessment of intersections is based on the method outlined in the "Highway Capacity Manual, 2010" using Synchro 8 modeling software. Intersections are assessed using a Level of Service metric, with ranges of delay assigned a letter from "A" to "F". For stop-controlled intersections, a Level of Service "A" or "B" would typically be measured during off-peak hours when lesser traffic volumes are on the roadways. Levels of Service "C" through "F" would typically be measured in the commuter peak hours when greater vehicle volumes cause longer travel times. The Level of Service (LOS) definitions for signalized intersections are included in **Appendix D**.

### 3.7 Volume Balancing

Turning movement counts at the intersection of Airport Road at Morning Star Drive were surveyed approximately three months prior to the turning movement counts at the remaining study intersections. This difference yields unbalanced traffic volumes along the boundary road network. Therefore, in order to balance the traffic volumes and apply a conservative approach to the analysis, traffic volumes at the intersection of Airport Road at Morning Star Drive were increased. Specific turning movements at the intersection were increased based on the intersection's existing traffic distribution and the traffic volume discrepancies between the surveyed counts at the intersections of Airport Road at Morning Star Drive and Airport Road at Beverley Street/Victory Crescent.

### 3.8 Intersection Operations

The traffic operations at the intersections of Airport Road at Morning Star Drive, Airport Road at Beverley Street/Victory Crescent and the 7256 Airport Road driveways were analyzed on the basis of the traffic volumes balanced. Signal timing plans for the intersections of Airport Road at Morning Star Drive and Airport Road at Beverley Street/Victory Crescent were provided by the Region of Peel and are included in **Appendix C**. Detailed capacity analyses are included in **Appendix E**.

The operations of the critical intersection were analyzed on the basis of the traffic volumes illustrated in **Figure 3**. **Table 1** outlines the existing traffic levels of service.

**Table 1: 2017 Existing Levels of Service**

Intersection	Control	Peak Hour	Level of Service	Average Delay per Vehicle(s)	Max V/C Ratio (Approach)	V/C Ratio(s) > 0.90 (Approach)	95 <sup>th</sup> %ile Queues > Storage Length
Airport Road at Morning Star Drive	Signal	A.M.	B	14.6	0.74 (WBL)	None	54.5 m (WBL) 63.3 m (SBL)
		P.M.	C	20.4	0.82 (NBT)	None	46.5 m (WBL) 75.6 m (SBL) 66.1 (NBR)
Airport Road at Beverley Street/Victory Street	Signal	A.M.	A	5.1	0.46 (EB)	None	None
		P.M.	A	9.1	0.60 (EB)	None	16.3 (NBL)
7256 Airport Road Northern Driveway Access	Stop	A.M.	A	0	None	None	None
		P.M.	D	27.8	0.04 (EB)	None	None
7256 Airport Road Southern Driveway Access	Stop	A.M.	C	20.7	0.05 (EB)	None	None
		P.M.	C	22.1	0.04 (EB)	None	None

Note: The Level of Service of a signalized intersection is based on the average control delay per vehicle.  
Signal Timings were provided by the Region of Peel.  
The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach.  
95<sup>th</sup> percentile queue lengths derived from SimTraffic reports using 10 minute seeding, 60 minute simulation and an average of three runs.

As indicated in **Table 1**, the intersection of Airport Road at Morning Star Drive operates at a Level of Service "C" or better during the a.m. and p.m. peak hours. A maximum volume-to-capacity ratio of 0.82 is observed during the weekday p.m. peak hour for the northbound through movement. All 95<sup>th</sup> percentile queue lengths extending past the storage lanes can be attributed to the significant through volumes along Airport Road preventing access of the auxiliary turning storage lanes.

The intersection of Airport Road at Beverley Street/Victory Crescent operates at a Level of Service "A" during the weekday a.m. and p.m. peak hours. A maximum volume-to-capacity ratio of 0.60 is observed during the weekday p.m. peak hour for the eastbound movement.

The intersection of Airport Road at the 7256 Airport Road Northern Driveway Access operates at a Level of Service "A" and "D" during the weekday a.m. and p.m. peak hours, respectively. A maximum volume-to-capacity ratio of 0.04 is observed during the weekday p.m. peak hour for the eastbound movement.

The intersection of Airport Road at the 7256 Airport Road Southern Driveway Access operates at a Level of Service "C" during the weekday a.m. and p.m. peak hours. A maximum volume-to-capacity ratio of 0.05 is observed during the weekday a.m. peak hour for the eastbound movement.

Operational analyses of the existing traffic volumes indicate that a reserve capacity is available for future traffic volume growth on the boundary road network.

## 4.0 DEVELOPMENT PROPOSAL

The proposed development consists of a senior residential development with a portion of the building allocated to commercial use. The residential development consists of senior apartments and includes 119 dwelling units. The commercial section has a Gross Floor Area (GFA) of 119 square metres (1,281 square feet). Parking is located on site and consists of a total of 181 proposed parking spaces, including 67 spaces at grade level and 114 spaces underground.

One right-in/right-out access to Airport Road (Site Access A) and one full moves access to Collett Road (Site Access B) are proposed. Refer to **Figure 2** for the Site Plan prepared by Chintan Virani Architect Inc., dated November 16<sup>th</sup>, 2017.

## 5.0 FUTURE BACKGROUND CONDITIONS

### 5.1 Study Horizons

As per the Region of Peel comments on the Terms of Reference sent by Crozier, study horizon years of 2022 and 2027 were selected to assess the full operations of the development on the boundary road network.

### 5.2 Intersection Operations

Traffic operations at the intersections of Airport Road at Morning Star Drive, Airport Road at Beverley Street/Victory Crescent and the 7256 Airport Road driveways were analyzed on the basis of the estimated future background traffic volumes in 2022 and 2027 which are illustrated in **Figures 4 and 5**, respectively. **Table 2 and 3** outline the 2022 and 2026 future background Levels of Service, respectively. Detailed capacity analysis worksheets are included in **Appendix E**.

**Table 2: 2022 Future Background Levels of Service**

Intersection	Control	Peak Hour	Level of Service	Average Delay per Vehicle(s)	Max V/C Ratio (Approach)	V/C Ratio(s) > 0.90 (Approach)	95 <sup>th</sup> %ile Queues > Storage Length
Airport Road at Morning Star Drive	Signal	A.M.	B	15.2	0.60 (WBL)	None	42.5 m (WBL) 76.0 m (SBL)
		P.M.	C	28.3	0.93 (NBT)	0.93 (NBT)	48.3 m (WBL) 68.1 m (SBL) 73.9 (NBR)
Airport Road at Beverley Street/Victory Street	Signal	A.M.	A	5.6	0.49 (SBT/R)	None	None
		P.M.	B	11.2	0.73 (NBT/R)	None	21.6 m (NBL)
7256 Airport Road Northern Driveway Access	Stop	A.M.	C	22.5	0.01 (EB)	None	None
		P.M.	D	32.5	0.04 (EB)	None	None
7256 Airport Road Southern Driveway Access	Stop	A.M.	C	23.4	0.06 (EB)	None	None
		P.M.	D	25.3	0.04 (EB)	None	None

Note: The Level of Service of a signalized intersection is based on the average control delay per vehicle. Signal Timings were optimized using the "Optimize Splits" function in Synchro 10.  
The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach.  
95<sup>th</sup> percentile queue lengths derived from SimTraffic reports using 10 minute seeding, 60 minute simulation and an average of three runs.

**Table 3: 2027 Future Background Levels of Service**

Intersection	Control	Peak Hour	Level of Service	Average Delay per Vehicle(s)	Max V/C Ratio (Approach)	V/C Ratio(s) > 0.90 (Approach)	95 <sup>th</sup> %ile Queues > Storage Length
Airport Road at Morning Star Drive	Signal	A.M.	B	14.4	0.69 (SBT)	None	44.7 m (WBL) 78.1 m (SBL)
		P.M.	D	44.2	1.05 (NBT)	1.05 (NBT)	54.3 m (WBL) 62.5 m (SBL) 72.6 (NBR)
Airport Road at Beverley Street/Victory Street	Signal	A.M.	A	7.2	0.61 (SBT/R)	None	None
		P.M.	B	13.0	0.79 (NBT/R)	None	21.9 m (NBL)
7256 Airport Road Northern Driveway Access	Stop	A.M.	D	25.6	0.01 (EB)	None	None
		P.M.	E	38.6	0.10 (EB)	None	None
7256 Airport Road Southern Driveway Access	Stop	A.M.	D	26.9	0.07 (EB)	None	None
		P.M.	E	49.4	0.09 (EB)	None	None

Note: The Level of Service of a signalized intersection is based on the average control delay per vehicle. Signal Timings were optimized using the "Optimize Splits" function in Synchro 10. The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach. 95<sup>th</sup> percentile queue lengths derived from SimTraffic reports using 10 minute seeding, 60 minute simulation and an average of three runs.

As indicated in **Table 3**, the intersection of Airport Road at Morning Star Drive is projected to operate at a Level of Service "B" and "D" during the weekday a.m. and p.m. peak hours, respectively. A maximum volume-to-capacity ratio of 1.05 is projected during the weekday p.m. peak hour for the northbound through movement. 95<sup>th</sup> percentile queue lengths are projected to exceed the storage lengths for the westbound and southbound left-turn movements during the weekday a.m. peak hour. 95<sup>th</sup> percentile queue lengths are projected to exceed the storage lengths for the westbound and southbound left-turn movements as well as the northbound right-turn movement during the weekday p.m. peak hour. All 95<sup>th</sup> percentile queue lengths extending past the storage lanes can be attributed to the significant through volumes along Airport Road preventing gaps in traffic flow.



The intersection of Airport Road at Beverley Street/Victory Crescent is projected to operate at a Level of Service "A" and "B" during the weekday a.m. and p.m. peak hours, respectively. A maximum volume-to-capacity ratio of 0.79 is projected during the weekday p.m. peak hour for the northbound through/right-turn movement. The 95<sup>th</sup> percentile queue length is projected to exceed the storage length for the northbound left-turn movement during the weekday p.m. peak hour. All 95<sup>th</sup> percentile queue lengths extending past the storage lanes can be attributed to the significant through volumes along Airport Road preventing gaps in traffic flow.

The intersections of Airport Road at 7256 Airport Road Northern and Southern Driveway Accesses are projected to operate at a Level of Service "D" and "E" during the weekday a.m. and p.m. peak hours, respectively. A maximum volume-to-capacity ratio of 0.10 is expected during the weekday p.m. peak hour for the eastbound movement. The Level of Service "E" during the weekday p.m. peak hour is attributed to the left-turning vehicles out of the accesses. The delay is due to the high volume of conflicting southbound and northbound through volumes along Airport Road.

## 6.0 SITE GENERATED TRAFFIC

The proposed development will result in additional vehicles on the boundary road network that would otherwise not exist. The development will also result in additional turning movements at the boundary road intersections.

### 6.1 ITE Trip Generation

To forecast the trips generated by the development, the ITE Trip Generation Manual, 9th Edition was used. It was determined that Category 252, "Senior Adult Housing-Attached" would be an accurate representation of the senior apartment dwellings and Category 820 "Shopping Centre" would be an accurate representation of the commercial area. Furthermore, no adjustment to account for transit usage or site synergy trips was applied.

The trips generated by the proposed development are tabulated in **Table 4**.

**Table 4: ITE Trip Generation**

Use	Dwelling Units/GFA	Peak Hour	Trips per Dwelling Unit	Number of Trips		
				Inbound	Outbound	Total
Senior Adult Housing-Attached (Code 252)	119	A.M.	0.20	8	16	24
		P.M.	0.25	16	14	30
Shopping Centre (Code 820)	1,280 ft <sup>2</sup>	A.M.	0.96	1	1	2
		P.M.	3.71	2	3	5

## 6.2 Trip Distribution and Assignment

Vehicles entering and exiting the proposed site were distributed based on existing traffic patterns. Trip distribution was applied and distributed among the site accesses based on ease of ingress and egress.

The site trip distribution for primary trips is illustrated in **Figures 6**. The trips generated by the proposed development were assigned to the boundary road network as per the noted trip distribution. The primary trip assignment is illustrated in **Figures 7**.

## 6.3 Existing Residential Developments Trip Redistribution

Under existing conditions, Collett Road is only accessible through the intersection of Airport Road at Morning Star Drive. The proposed site access to Airport Road, along with the extension of Collett Road onto the subject lands will allow a connection between Airport Road and the existing residential developments on Collett Road. Therefore, this proposed connection is anticipated to be used by commuters from the existing residential developments north of the site.

We assumed that an estimated 15 percent of the existing residential commuters turning right onto Morning Star Drive at the intersection of Airport Road at Morning Star Drive will be using the proposed site access to Airport Road in order to by-pass the intersection. Therefore, the proposed development is projected to cause a redistribution of existing trips on the boundary road network. The Collett Road trip redistribution is illustrated in **Figure 8**, and trip reassignment for the 2022 and 2027 future background conditions are illustrated in **Figures 9 and 10**, respectively.

## 7.0 TOTAL TRAFFIC CONDITIONS

### 7.1 Intersection Operations

Traffic operations at the intersections of Airport Road at Morning Star Drive, Airport Road at Beverley Street/Victory Crescent, the 7256 Airport Road driveways and the site accesses were assessed with the addition of the site generated traffic. The 2022 and 2027 total traffic volumes are illustrated in **Figures 11 and 12**, respectively. **Table 5 and 6** outline the 2022 and 2027 total traffic Levels of Service, respectively.

The intersection of Airport Road at the site access was modelled without the auxiliary right-turn lane leading to the site in order to have a more conservative analysis. Detailed capacity analysis worksheets are included in **Appendix E**.

**Table 5: 2022 Total Traffic Levels of Service**

Intersection	Control	Peak Hour	Level of Service	Average Delay per Vehicle(s)	Max V/C Ratio (Approach)	V/C Ratio(s) > 0.90 (Approach)	95 <sup>th</sup> %ile Queues > Storage Length
Airport Road at Morning Star Drive	Signal	A.M.	B	15.8	0.61 (SBT)	None	76.2 m (SBL) 44.5m (WBL)
		P.M.	C	29.0	0.94 (NBT)	0.94 (NBT)	62.9 m (SBL) 72.3m (NBR) 48.8m (WBL)
Airport Road at Beverley Street/Victory Street	Signal	A.M.	A	5.6	0.50 (SBT/R)	None	None
		P.M.	B	11.4	0.72 (NBT/R)	None	21.4 m (NBL)
7256 Airport Road Northern Driveway Access	Stop	A.M.	C	22.6	0.01 (EB)	None	None
		P.M.	D	32.5	0.04 (EB)	None	None
7256 Airport Road Southern Driveway Access	Stop	A.M.	C	23.6	0.06 (EB)	None	None
		P.M.	D	30.5	0.05 (EB)	None	None
Airport Road at Site Access A	Stop	A.M.	C	15.3	0.02 (WB)	None	None
		P.M.	D	32.7	0.07 (WB)	None	None
Morning Star Drive at Site Access B	Stop	A.M.	B	10.7	0.04 (NB)	None	None
		P.M.	B	12.2	0.07 (NB)	None	None

Note: The Level of Service of a signalized intersection is based on the average control delay per Signal Timings were optimized using the "Optimize Splits" function in Synchro 10.  
The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach.  
95<sup>th</sup> percentile queue lengths derived from SimTraffic reports using 10 minute seeding, 60 minute simulation and an average of three runs.

**Table 6: 2027 Total Traffic Levels of Service**

Intersection	Control	Peak Hour	Level of Service	Average Delay per Vehicle(s)	Max V/C Ratio (Approach)	V/C Ratio(s) > 0.90 (Approach)	95 <sup>th</sup> %ile Queues > Storage Length
Airport Road at Morning Star Drive	Signal	A.M.	B	18.0	0.70 (SBT)	None	79.5 m (SBL) 45.7m (WBL)
		P.M.	D	45.4	1.05 (NBT)	1.05 (NBT)	65.0 m (SBL) 73.3 (NBR) 55.1 (WBL)
Airport Road at Beverley Street/Victory Street	Signal	A.M.	A	7.2	0.61 (SBT/R)	None	None
		P.M.	B	13.1	0.79 (NBT/R)	None	24.6 m (NBL)
7256 Airport Road Northern Driveway Access	Stop	A.M.	D	27.5	0.01 (EB)	None	None
		P.M.	E	36.8	0.07 (EB)	None	None
7256 Airport Road Southern Driveway Access	Stop	A.M.	D	27.1	0.07 (EB)	None	None
		P.M.	E	39.3	0.05 (EB)	None	None
Airport Road at Site Access A	Stop	A.M.	D	16.5	0.02 (WB)	None	None
		P.M.	E	39.6	0.08 (WB)	None	None
Morning Star Drive at Site Access B	Stop	A.M.	B	11.0	0.04 (NB)	None	None
		P.M.	B	12.8	0.08 (NB)	None	None

Note: The Level of Service of a signalized intersection is based on the average control delay per vehicle. Signal Timings were optimized using the "Optimize Splits" function in Synchro 10.  
The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach.  
95<sup>th</sup> percentile queue lengths derived from SimTraffic reports using 10 minute seeding, 60 minute simulation and an average of three runs.

As indicated in **Table 6**, the addition of site generated traffic is projected to have negligible impacts on the boundary road network. The intersection of Airport Road at Morning Star Drive is projected to operate at the same Levels of Services as under 2027 Future Background conditions. The maximum increase in average delay per vehicle compared to 2027 future background traffic conditions is 3.6 seconds during the weekday a.m. peak hour. A maximum volume-to-capacity ratio of 1.05 is projected during the weekday p.m. peak hour for the northbound through movement. The 95<sup>th</sup> percentile queue length is projected to exceed the storage length for the southbound and westbound left-turn movement during the weekday a.m. peak hour. The 95<sup>th</sup> percentile queue lengths are projected to exceed the storage lengths for the southbound left-turn movement and the northbound right-turn movement during the weekday p.m. peak hour. Compared to 2027 future background traffic conditions, queue lengths are expected to grow marginally. However, due to the addition of site generated traffic and the redistribution of actuated green time to the minor approach, the westbound left-turn queue length during the weekday a.m. and p.m. peak hours is reduced.

The intersection of Airport Road at Beverley Street/Victory Crescent is projected to operate at the same Levels of Services as under 2027 Future Background conditions. The maximum increase in average delay per vehicle compared to 2027 future background traffic conditions is 0.1 seconds during the weekday p.m. peak hour. A maximum volume-to-capacity ratio of 0.79 is projected during the weekday p.m. peak hour for the northbound through/right-turn movement. The 95<sup>th</sup> percentile queue length is projected to exceed the storage length for the northbound left-turn movement during the weekday p.m. peak hour. Compared to 2026 future background traffic conditions, queue lengths are expected to grow marginally.

The intersections of Airport Road at the 7256 Airport Road Northern and Southern Driveway Accesses are projected to operate at the same Levels of Services as under 2027 Future Background conditions. The maximum increase in average delay per vehicle compared to 2027 future background traffic conditions is 1.9 seconds for the Northern Driveway Access during the weekday a.m. peak hour. A maximum volume-to-capacity ratio of 0.07 is expected for the Southern Driveway Access during the weekday p.m. peak hour for the eastbound movement.

The intersection of Airport Road at Site Access A is projected to operate at a Level of Service "C" and "E" during the weekday a.m. and p.m. peak hours, respectively. A maximum delay per vehicle for vehicles exiting the site of 39.6 seconds is projected during the weekday p.m. peak hour. A maximum volume-to-capacity ratio of 0.08 is expected during the weekday p.m. peak hour for the westbound movement. Due to the high volume of conflicting northbound through traffic, a Level of Service "E" is expected during the weekday p.m. peak hour for the right-turning vehicles out of the right-in/right-out access.

The intersection of Morning Star Drive at Site Access B is projected to operate at a Level of Service "B" during the weekday a.m. and p.m. peak hours. A maximum delay per vehicle for vehicles exiting the site of 12.8 seconds is projected during the weekday p.m. peak hour. A maximum volume-to-capacity ratio of 0.08 is expected during the weekday p.m. peak hour for the northbound movement.

## 7.2 Safety Analysis

A sightline review of the Airport Road site access was undertaken using the Transportation Association of Canada's Geometric Design Manual for Canadian Roads (TAC Manual). The minimum required turning sight distance was derived using a design speed of 60 km/h, assumed to correspond to the posted 50 km/h speed limit on Airport Road and Morning Star Drive. The minimum turning sight distance was met on both of Airport Road and Morning Star Drive as their sections along the site accesses are straight and flat. Given that Collett Road site access is straight, flat, with a short length between intersections, operational speed is expected to be low and drivers will have sufficient sight distances.

Therefore, no safety issues or sightline issues are anticipated at the site accesses. Additionally, no issues related with corner clearances, access conflicts, heavy truck movements and transit operational conflicts were identified.

## 7.3 Travel Demand Management Plans

Many effective travel demand measures available to the site are currently in place. The conveniently close proximity of transit, walking and cycling infrastructures make walking, public transit and cycling a viable transportation mode.

Multiple bus routes service the close proximity of the proposed site. MiWay Route 7 – Airport travels from the Mississauga City Centre Transit Terminal to the Westwood Mall. MiWay Route 30 – Woodbine travels from the Westwood Mall to the Woodbine Centre. MiWay Route 24 – Northwest travels from the Westwood Mall to the south of Mississauga and passes by the Pearson International Airport. All three routes travel in close proximity to the Malton GO Station. Additionally, the TTC Route 52 – Lawrence West travels between the Westwood Mall to Yonge Street in Toronto, and passes by the Weston GO Station. Brampton Transit Route 5A – Bovaird travels between the Mount Pleasant GO Station, the Trinity Common Terminal and the Westwood Mall. Finally Brampton Transit Route 30 – Airport Road travels between the AMB Distribution Centre and the Westwood Mall. Therefore, the site is accessible via transit services from three municipalities – the Cities of Toronto, Mississauga and Brampton. Commuters from the proposed development will have access to a vast portion of the City of Mississauga, and will be able to travel to the neighbouring cities and GO Stations. This accessibility to transit poses as an alternative to vehicular travel, which could potentially reduce the number of vehicular trips generated by the site.

Additionally, Airport Road is characterized as one of the “Primary On-Road/Boulevard Routes (Regional)” as per Schedule 7 “Long Term Cycling Routes” of the City of Mississauga's Official Plan. As well, Morning Star is one of the “Proposed Secondary Routes” as per the “Proposed Mississauga Cycling Route Network”. Therefore cycling is encouraged by the City for commuters of the proposed development.

Furthermore, a sidewalk is proposed along the Airport Road site access, connecting the proposed development to the existing sidewalk located west of the site on Airport Road.

Cycling options, walking facilities and multiple transit services exist in close proximity to the subject property and will encourage walking, cycling and public transit for commuting and utilitarian purposes. The noted existing non-auto facilities will make non-auto trips a viable mode of transportation.

## 8.0 CONCLUSIONS

Intersection analyses of the 2017 existing traffic volumes indicate that the boundary road network has capacity to support future traffic volume growth. Under 2017 existing conditions, all four study intersections (Airport Road at Morning Star Drive, Airport Road at Beverley Street/Victory Crescent, Airport Road at the 7256 Airport Road Northern, and Airport Road Southern Driveway) operate at a Level of Service "D" or better during the weekday a.m. and p.m. peak hours.

Under 2027 future background traffic conditions, the intersection of Airport Road at Morning Star Drive is projected to operate at a Level of Service "B" and "D" during the weekday a.m. and p.m. peak hours, respectively. The intersection of Airport Road at Beverley Street/Victory Crescent is projected to operate at a Level of Service "A" and "B" during weekday a.m. and p.m. peak hours, respectively. The intersections of Airport Road at the 7256 Airport Road Northern and Southern Driveway Accesses are projected to operate at a Level of Service "D" and "F" during the weekday a.m. and "D" and "E" during the weekday p.m. peak hours, respectively.

The proposed development is expected to generate a total of 26 trips to the boundary road system in the weekday a.m. peak hour and 35 trips in the weekday p.m. peak hour.

Under 2027 total traffic conditions, the addition of site generated traffic is projected to have negligible impacts on the boundary road network as the levels of service are projected to be the same as the 2027 future background. Minimal increments are projected for the average vehicle delay and volume to capacity ratios, with a maximum volume to capacity of 1.05 at the intersection of Airport Road and Morning Star Drive (the same as the 2027 future background).

The proposed accesses are projected to effectively and safely serve the site, with no issues related sightlines, corner clearances, access conflicts, heavy truck movements and transit operational conflicts.

The Site Plan Application can be supported from a traffic operations perspective as the boundary road system can accommodate the increase in traffic volumes attributable to the proposed development.

Respectfully submitted by,

**C.F. CROZIER & ASSOCIATES INC.**



R. Aaron Wignall  
Project Manager, Transportation

**C.F. CROZIER & ASSOCIATES INC.**



Peter Apasnore,  
MAsc., E.I.T, Transportation

I:\1100\1190-Airstar\4286-7211-7233 Airport Rd\Reports\2017.12.13-7211 Airport Road TIS.docx

# APPENDIX A

## Correspondence



## Nawfal Kammah

---

**From:** Giancarlo Tedesco <giancarlo.tedesco@mississauga.ca>  
**Sent:** Wednesday, August 31, 2016 10:22 AM  
**To:** Nawfal Kammah; Aaron Wignall  
**Cc:** Rani Kol  
**Subject:** RE: Revised Draft - Terms of Reference - 7211 & 7233 Airport Road - our file D-00705510E

Hello Nawfal,

We have reviewed the Terms of Reference supplied in addition to the Regions comments. We are pleased to supplement them with the following:

- The study shall be revised to recognize the required right-of-way modification to Colette Road. The City has requested that the applicant provides either a 20.0m municipal road allowance toward the extension of Collette Road, to Airport Road or alternatively accommodate a municipal terminus (ie: city standard Local cul-de-sac) within the applicant's lands.
- The study is required to include a Transportation Demand Management "TDM Lite" component which evaluates and prescribes measures in order to reduce single occupancy vehicle trips to and from the site.

We trust this information will be of assistance moving forward, please do not hesitate to contact us with any questions or concerns.

Regards,



**Giancarlo Tedesco, E.I.T., C.E.T.**

Traffic Planning Technologist  
T 905-615-3200 ext.5798  
[giancarlo.tedesco@mississauga.ca](mailto:giancarlo.tedesco@mississauga.ca)

City of Mississauga | Transportation and Works Department,  
Transportation and Infrastructure Planning Division  
201 City Centre Drive, Suite 800  
Mississauga, ON L5B 2T4

Please consider the environment before printing.

---

**From:** Kol, Rani [mailto:[rani.kol@peelregion.ca](mailto:rani.kol@peelregion.ca)]  
**Sent:** 2016/08/31 10:03 AM  
**To:** Nawfal Kammah  
**Cc:** [awignall@cfcrozier.ca](mailto:awignall@cfcrozier.ca); Giancarlo Tedesco  
**Subject:** Revised Draft - Terms of Reference - 7211 & 7233 Airport Road - our file D-00705510E

Nawfal,

This is in response to your request for Regional input to the proposed Terms of Reference for the Traffic Impact Study (TIS) associated with the proposed above noted development. We would like to offer the following comments with respect to analysis of Regional Roads:

### Full Description

The study should provide a full description of the proposed development. This will include, but not be limited to the following:

1. Municipal address;
2. Existing land uses that are permitted and use provisions in an Official Plan Amendment, Zoning By-law, etc.;
3. Proposed land uses;
4. Floor space including a summary of each type of use;
5. Anticipated date of occupancy;
6. Planned phasing of the development;
7. We request the intersection of Airport Road and Beverly Street/Victory Crescent to be included, as well as both accesses to 7256 Airport Road;
8. Number of lanes, width and configuration;
  - All design standards must be in accordance with those outlined in the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads and the Ministry of Transportation, Ontario (MTO) Geometric Design Standards for Ontario Highways.
9. Proposed access points and type of access;
  - Based on the comments provided by the City, the Region supports the following; The study shall be revised to recognize the required right-of-way modification to Colette Road. The City has requested that the applicant provides either a 20.0m municipal road allowance toward the extension of Collette Road, to Airport Road or alternatively accommodate a municipal terminus (ie: Cul-de-sac) within the applicant's lands.
  - Once the above has been addressed and updated within the Revised TIS, the Region will then be in a better position to provide detailed comments related to potential access to Airport Road.
  - Should an extension of Collett Road be investigated further, volumes from the existing residential development will need to be incorporated into the report.
  - Additional comments/requirements related to access will be provided through the review of the TIS.
10. Nearby transit facilities/stops;
11. Bike paths;
12. A combination of maps and other documentation which will identify all relevant information.

### **Traffic Volume Analysis**

Please include the following in the analysis:

1. 2021, 2026 horizon years are to be included;
2. We agree with the AM and PM peak periods;
3. Background, Site Generated and Total traffic volumes;
4. "Worst case" combination of site-related and background traffic;
5. Please contact Debbie Sheffield, Planner for Wards 3, 4, 6 and 7 in the City of Mississauga, at 905-615-3200 extension 3927 for details regarding the proposed developments in the area that would affect the five and ten year planning horizon;
6. Please contact Eric Chan, Principal Planner, Transportation Planning at extension 4417 to obtain the Growth Rates along Airport Road;
7. Please contact Josh Di Rocco, Traffic Operations at extension 7905 for most recent average annual daily traffic (AADT) and TMCs required for the study.
8. Please contact Rick Laing, Supervisor, Traffic Signals and Systems at extension 7859 for the most up-to-date Traffic Signal Timing Parameters and ensure that the information includes the appropriate walk/don't walk splits, recall modes and offsets.

### **Trip Generation and Distribution**

In trip distribution and trip generation analysis, some or all of the following should be included:

1. Trip generation surveys from similar developments in the Region which have similar operating characteristics as the proposed development;

2. Latest edition of the ITE trip generation rates are accepted (use the greater result of either the fitted curve equation when provided or the average growth rate);
3. A table summarizing findings; and
4. Trip distribution assumptions must be supported by one or more of the following:
  - Transportation Tomorrow Survey;
  - Origin-destination surveys;
  - Comprehensive travel surveys;
  - Existing/anticipated travel patterns;
  - Output from the Regional EMME/2 transportation planning model; and
  - Market studies.

### **Safety**

In addition, identification of potential safety or operational issues associated with the following must be reviewed:

1. Weaving;
2. Merging;
3. Corner clearances;
4. Sight distances;
5. Vehicle/pedestrian conflicts;
6. Traffic infiltration;
7. Access conflicts;
8. Cyclist movements; and
9. Heavy truck movement conflicts.

### **Final Report**

The following is a suggested study structure:

1. Site/development description;
2. Study area, including map;
3. Existing conditions – exhibit required;
4. Analysis periods;
5. Background, existing, future background and future total traffic demand –exhibit required;
6. Site generated traffic – exhibit required;
7. Improvement alternatives;
8. Traffic impacts for future background and total traffic with and without mitigation (tabular summaries);
9. Access considerations; and
10. Recommendations.

### **Appendix**

The following is to be included in the appendix:

1. Turning movement counts (include date counted) with breakdown of heavy vehicle counts;
2. Signal timing plan for signalized intersections; and
3. Electronic Synchro files (CD copy or sent concurrently with the TIS via email).

The traffic impact study should consist of a main document, supplemented by technical appendices containing detailed analyses as required.

The Region of Peel will require one (1) copy to be in electronic format and two (2) hard copies complete with the appropriate supporting documentation. This shall be submitted to the Traffic Engineering section of Public Works for our review and comment.

All information submitted to Regional staff in connection with any Traffic Impact Study will be considered to be in the public domain.

Also, for reference, the Region's generic terms of reference can be found at <https://www.peelregion.ca/pw/transportation/business/impact-study.htm>

Should you have any further questions or concerns regarding this matter, please feel free to contact me.

Sincerely,

**Rani Kol**

Technical Analyst, Traffic Development & Permits  
Transportation Division, Public Works

Tel: (905) 791-7800 ext. 7858

Fax: (905) 791-1442

**JULY 18, 2016**

**REFER TO FILE: 1190-4286**

**SENT BY EMAIL:**

**SEAN.CARRICK@PEELREGION.CA**

Peel Region  
10 Peel Centre Drive, Suite B. 4<sup>th</sup> Floor  
Brampton, ON L6T 4B9

**Attention: Sean Carrick**  
**Supervisor, Traffic Development & Permits**

**RE: PROPOSED TERMS OF REFERENCE**  
**7211 & 7233 AIRPORT ROAD - SENIORS RESIDENTIAL APARTMENTS**  
**CITY OF MISSISSAUGA, REGION OF PEEL**

Dear Sean,

Crozier & Associates is providing assistance to Weston Consulting in regards to a Traffic Impact Study for a proposed residential development. As per the attached Site Plan, the site is located in the northeast quadrant of the Airport Road and Victory Crescent intersection, municipally known as 7211 and 7233 Airport Road. The site has one proposed right-in right-out access to Airport Road and one direct access to Collett Road.

The proposed development is for 130 senior residential apartment units. Due to the scale of the development and the type of use being proposed for the above noted property, it can be approximated that 26 trips during the weekday a.m. peak hour and 33 trips during the weekday p.m. peak hour can be expected. Of note, no reductions have been applied to the trip generation.

The analysis will follow The Regional Municipality of Peel "Traffic Impact Study Guidelines". The following supplements the guidelines.

- The public roadway intersections to be analyzed will be Airport Road at Morning Star Drive.
- To reflect the residential use of the site, the weekday a.m. and p.m. peak hours will be analyzed.
- A five year study horizon of 2021 will be studied, which will capture the full-build out of the development.
- Future traffic growth will be calculated from historical growth or determined in consultation with the Region or City. Should a growth rate not be available, an industry standard of two percent will be applied to all through movements along Airport Road.
- Trip distribution will be based on existing travel patterns and traffic volumes.



The Traffic Impact Study will also examine other typical elements, such as functional design, sight distances at the site entrances, and travel demand measures.

We respectfully request your review and approval of these proposed Terms of Reference. Should you have any questions or require additional information, please don't hesitate to contact the undersigned.

Yours truly,

**C.F. CROZIER & ASSOCIATES INC.**



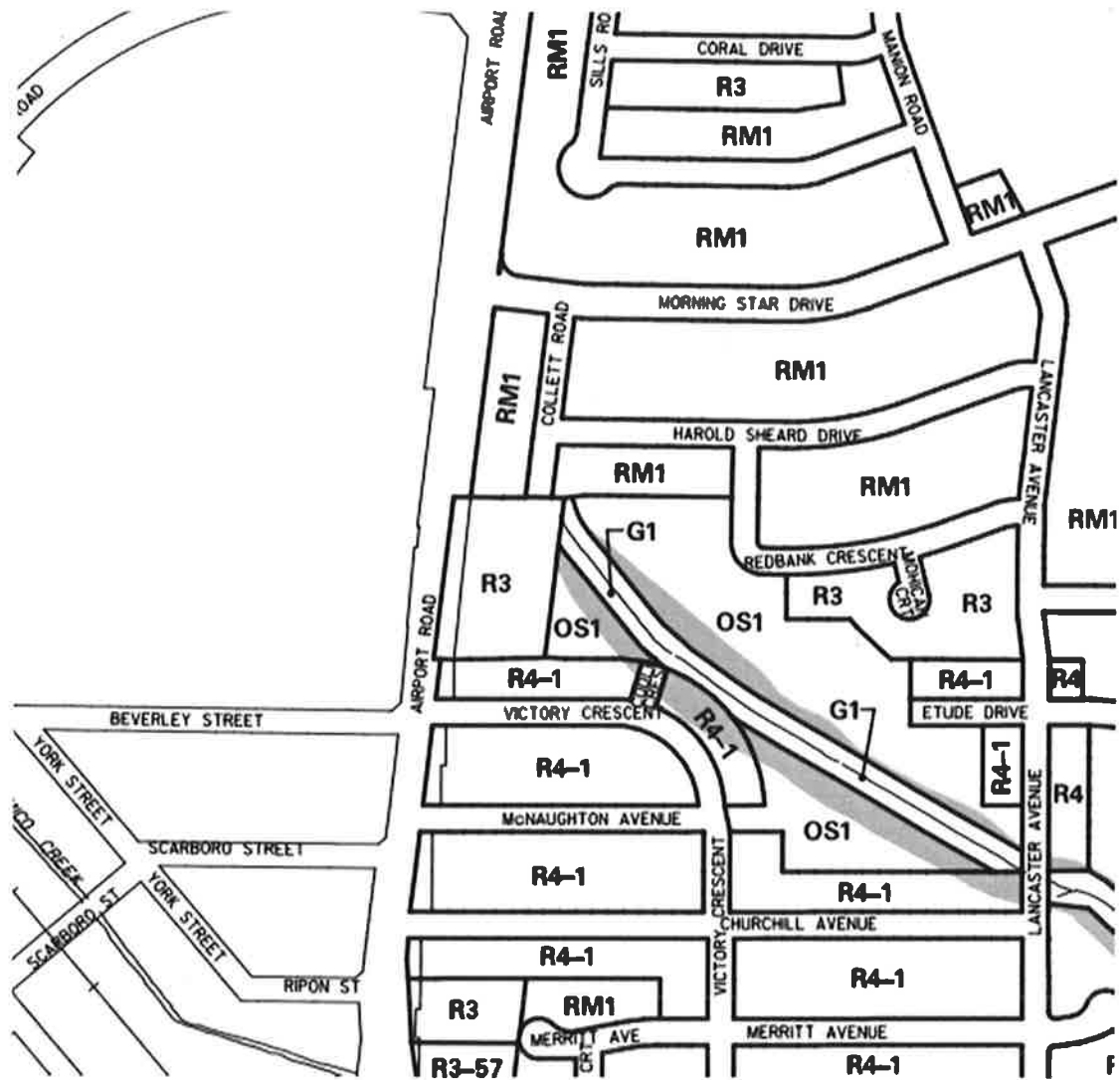
Aaron Wignall,  
Senior Transportation Technologist

#### Attachments

I:\1100\1190-Airstar\4286-7211-7233 Airport Rd\Proposals\7211 - 7233 Airport Road\2016.07.18-AirstarTOR(Peel).doc

# APPENDIX B

## City of Mississauga Zoning By-law Excerpts and Maps





## 4.2 R1 to R5 ZONES (DETACHED DWELLINGS - TYPICAL LOTS)

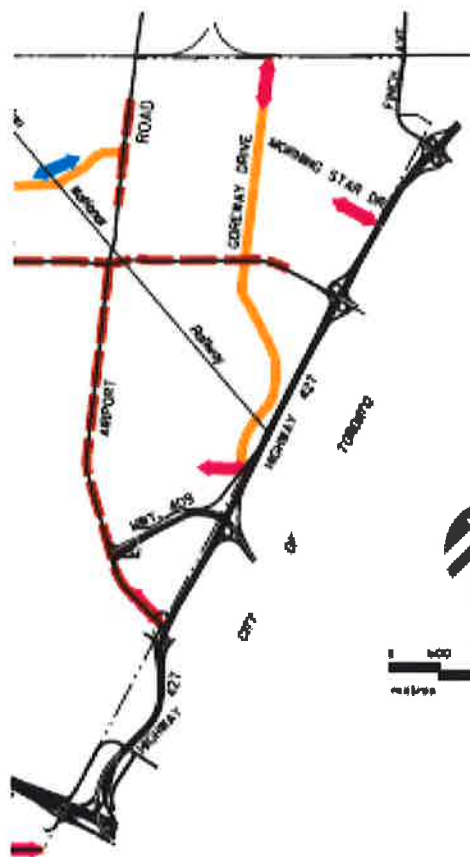
### 4.2.1 R1 to R5 Permitted Uses and Zone Regulations

All **buildings** and **structures** shall comply with the provisions contained in Parts 1 to 3 and Section 4.1 of this By-law, and the **uses** and zone regulations specified within the applicable zone column contained in Table 4.2.1 - R1 to R5 Permitted Uses and Zone Regulations.

Table 4.2.1 - R1 to R5 Permitted Uses and Zone Regulations

Column	A	B	C	D	E	F
Line 1.0	ZONES	R1	R2	R3	R4	R5
<b>PERMITTED USES</b>						
2.0	RESIDENTIAL					
2.1	Detached Dwelling	✓ <sup>(1)</sup>	✓ <sup>(1)</sup>	✓ <sup>(1)</sup>	✓ <sup>(1)</sup>	✓ <sup>(1)</sup>
<b>ZONE REGULATIONS</b>						
3.0	MINIMUM LOT AREA					
3.1	Interior lot	750 m <sup>2</sup>	695 m <sup>2</sup>	550 m <sup>2</sup>	365 m <sup>2</sup>	295 m <sup>2</sup>
3.2	Corner lot	835 m <sup>2</sup>	810 m <sup>2</sup>	720 m <sup>2</sup>	500 m <sup>2</sup>	415 m <sup>2</sup>
4.0	MINIMUM LOT FRONTAGE					
4.1	Interior lot	22.5 m	18.0 m	15.0 m	12.0 m	9.75 m
4.2	Corner lot	22.5 m	21.0 m	19.5 m	16.5 m	13.5 m
5.0	MAXIMUM LOT COVERAGE	25%	30%	35%	40%	40%
6.0	MINIMUM FRONT YARD					
6.1	Interior lot	9.0 m <sup>(2)(7)</sup>	9.0 m <sup>(2)</sup>	7.5 m <sup>(2)</sup>	6.0 m <sup>(2)</sup>	4.5 m <sup>(2)</sup>
6.2	Corner lot	7.5 m <sup>(2)</sup>	7.5 m <sup>(2)</sup>	6.0 m <sup>(2)</sup>	6.0 m <sup>(2)</sup>	4.5 m <sup>(2)</sup>
6.3	Front garage face - interior lot (0379-2009)	(8)	(8)	(8)	(8)	6.0 m
6.4	Front garage face - corner lot (0379-2009)	(8)	(8)	(8)	(8)	6.0 m
7.0	MINIMUM EXTERIOR SIDE YARD	7.5 m <sup>(2)</sup>	7.5 m <sup>(2)</sup>	6.0 m <sup>(2)</sup>	4.5 m <sup>(2)</sup>	4.5 m <sup>(2)</sup>
7.1	Front garage face (0379-2009)	(9)	(9)	(9)	6.0 m <sup>(2)</sup>	6.0 m <sup>(2)</sup>
8.0	MINIMUM INTERIOR SIDE YARD					
8.1	Interior lot	1.8 m on one side of the lot and 4.2 m on the other side <sup>(2)</sup>	1.8 m + 0.61 m for each additional storey or portion thereof above one (1) storey <sup>(2)</sup>	1.2 m + 0.61 m for each additional storey or portion thereof above one (1) storey <sup>(2)</sup>	1.2 m <sup>(2)</sup>	1.2 m on one side of the lot and 0.61 m on the other side <sup>(2)</sup>

Table 4.2.1 continued on next page



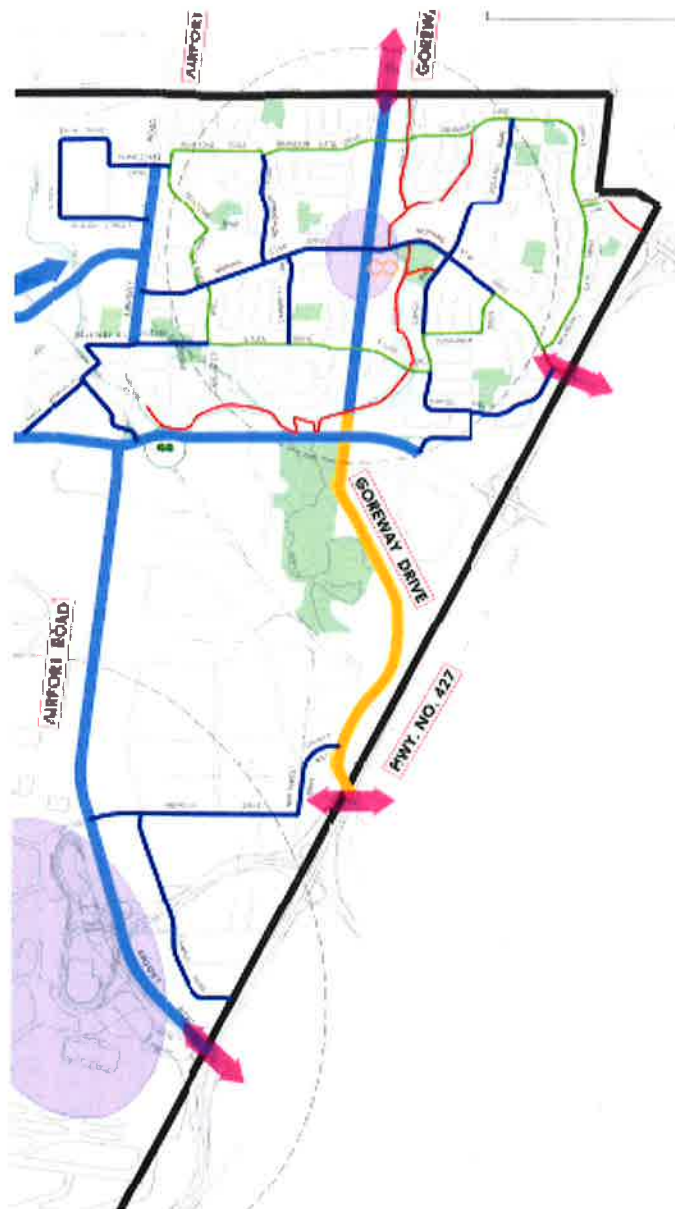
This Schedule has been replaced to include the new cycling network outlined in the approved Cycling Master Plan.



## Schedule 7 Long Term Cycling Routes

- Primary Off-Road Routes
- Primary On-Road / Boulevard Routes
- Primary On-Road / Boulevard Routes (Regional)
- Crossings
- Connections to Adjacent Municipalities

## Proposed Cycling Network



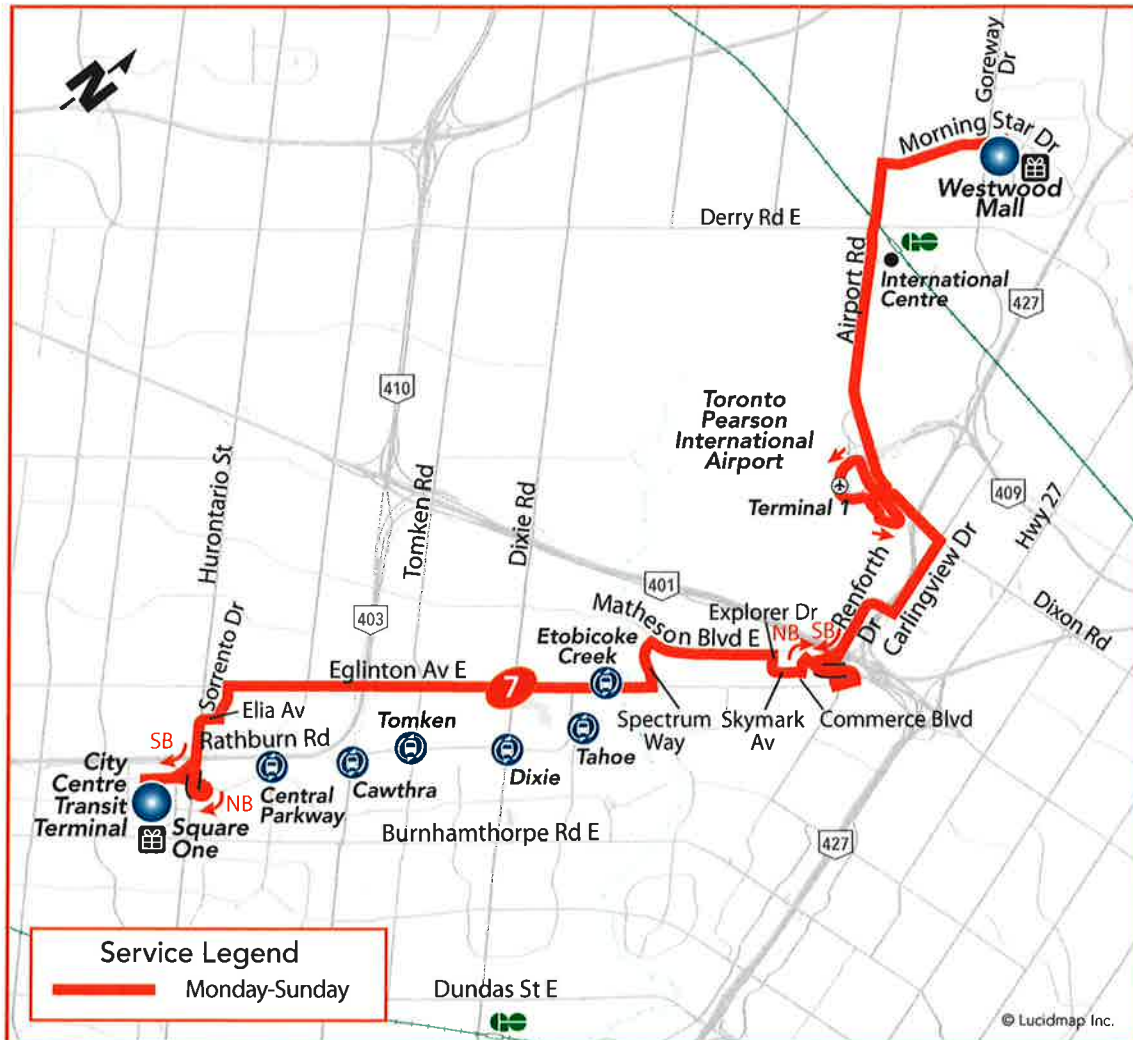
## Legend:

Proposed Secondary Routes	
Proposed Primary Off-Road Routes	
Proposed Primary Boulevard Routes	
Proposed Primary On-Road Routes	
Proposed DT21 Master Plan-Secondary Route	
Proposed DT21 Master Plan Off-Road Multi-use Trails	
Proposed Crossings	
Proposed Municipal Connections	
Special Study Area	
Ex. On-Road Shared Use Lanes	
Ex. On-Road Bike Lanes Routes	
Ex. Boulevard Trails	
Ex. Off-Road Multi-use Trails	
School	
Greenbelt	
City and Community Parkland	
Major City Destinations	
Cemetery	
Corporate Centre	
GO Station	
BRT Station	
Mississauga Transit Terminal	
1 km Radius from the edge of Node	
City Boundary	

# 7 Airport

## Monday-Sunday Service

Effective: January 4, 2016



### Legend

- |                    |                    |                                |                                    |                    |
|--------------------|--------------------|--------------------------------|------------------------------------|--------------------|
| Islington          | TTC Subway Station | Major Transit Terminal         | Shopping Centre                    | Public Library     |
| Clarkson           | GO Train Station   | Hospital                       | High School, University or College | Living Arts Centre |
| Transitway Station | Ice Rink           | Recreation or Community Centre | Civic Centre (City Hall)           |                    |



**Customer Service - We're here to help**



**Find a schedule or trip plan**

@MiWayHelps   
 [miway.ca/feedback](http://miway.ca/feedback)   
 905-615-INFO (4636)  
[miway.info@mississauga.ca](mailto:miway.info@mississauga.ca)   
 TTY: 905-615-3886



[m.miway.ca](http://m.miway.ca)



[miway.ca/planatrip](http://miway.ca/planatrip)

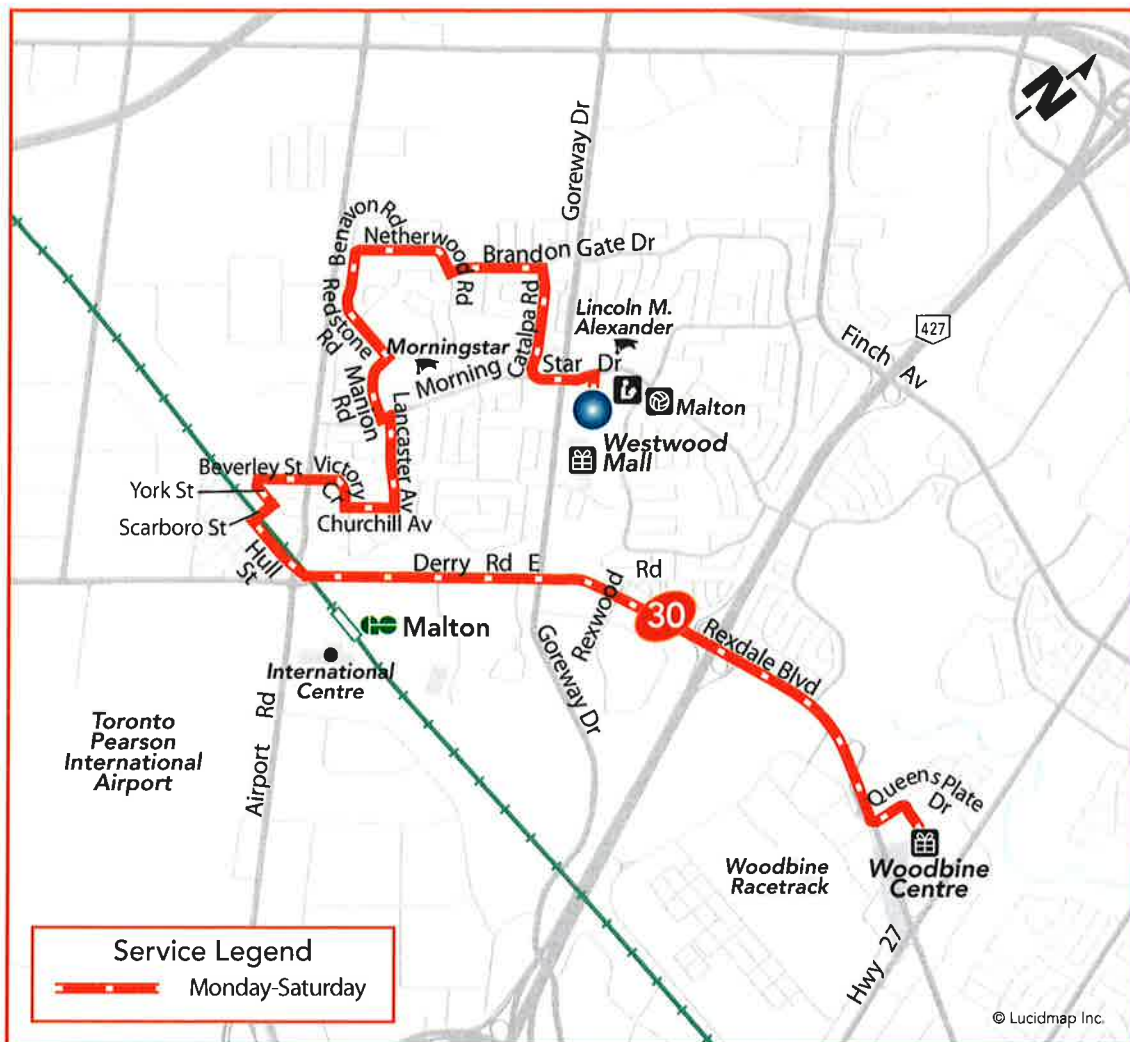


Call and enter a four-digit bus stop number.

# 30 Woodbine

## Monday-Saturday Service

Effective: January 28, 2013



### Legend

- |                    |                        |                                    |                          |
|--------------------|------------------------|------------------------------------|--------------------------|
| TTC Subway Station | Major Transit Terminal | Shopping Centre                    | Public Library           |
| GO Train Station   | Hospital               | High School, University or College | Living Arts Centre       |
| Transitway Station | Ice Rink               | Recreation or Community Centre     | Civic Centre (City Hall) |

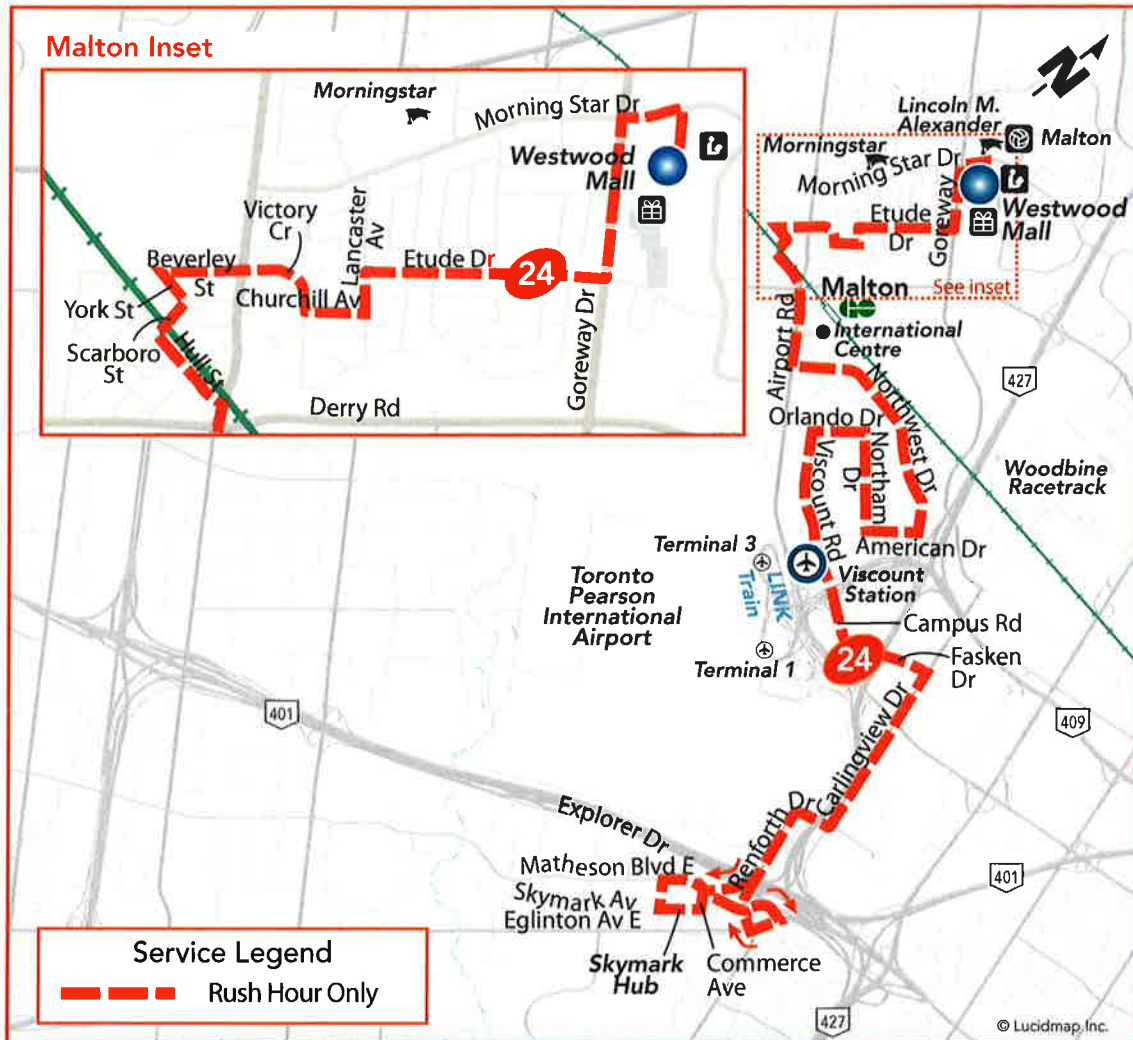
<b>Customer Service - We're here to help</b>	<b>Find a schedule or trip plan</b>
<p>  @MIWayHelps                         <a href="http://miway.ca/feedback">miway.ca/feedback</a>                         905-615-INFO (4636)                 </p> <p> <a href="mailto:miway.info@mississauga.ca">miway.info@mississauga.ca</a>                         TTY: 905-615-3886                 </p>	<p> <a href="http://m.miway.ca">m.miway.ca</a>                         <a href="http://miway.ca/planatrip">miway.ca/planatrip</a> </p> <p> <b>citylink</b>                          905-615-4BUS(4287)                          Call and enter a four-digit bus stop number.                     </p>



# 24 Northwest

## Monday-Friday Service

Effective: June 29, 2015

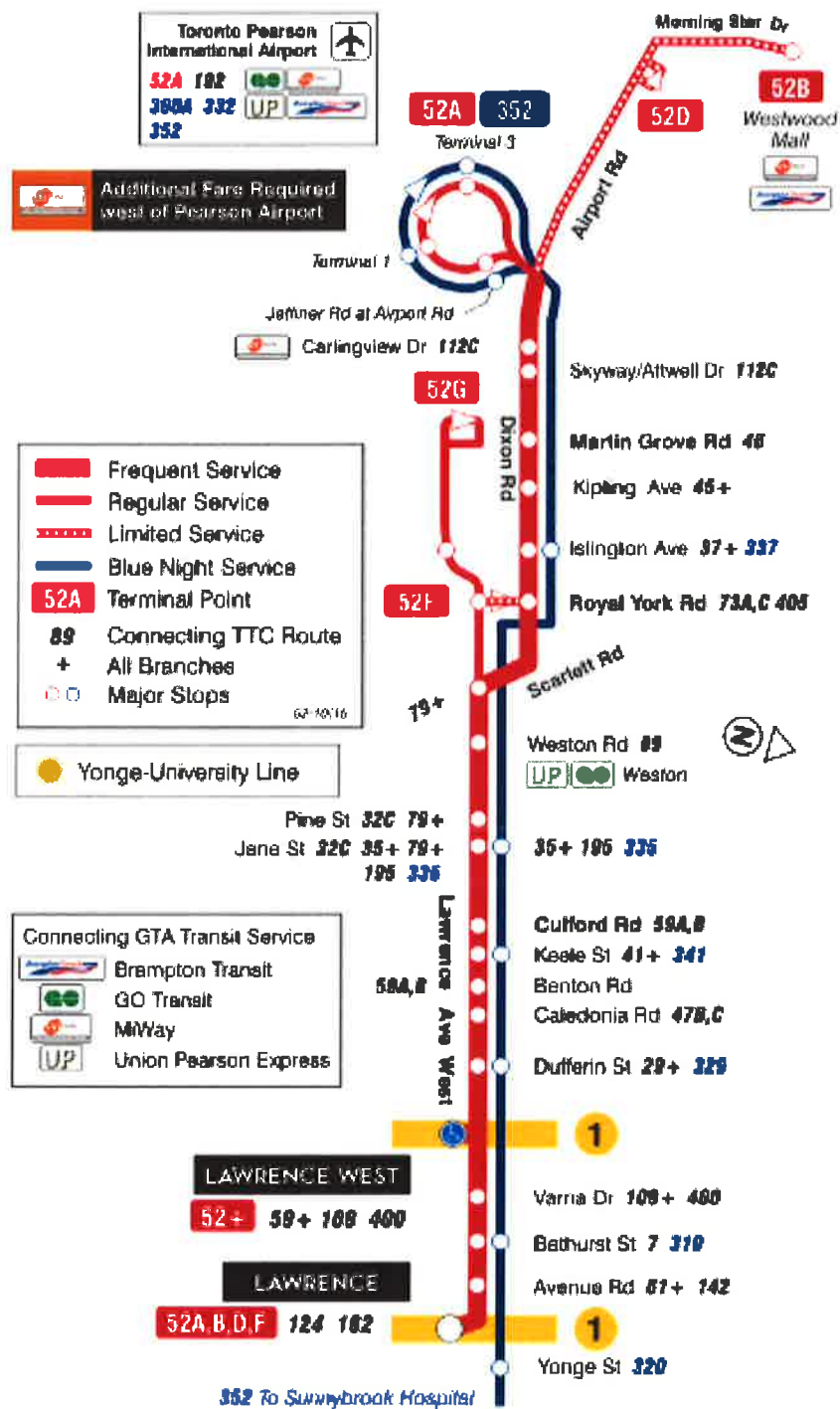


### Legend

- |                    |                        |                                    |                          |
|--------------------|------------------------|------------------------------------|--------------------------|
| TTC Subway Station | Major Transit Terminal | Shopping Centre                    | Public Library           |
| GO Train Station   | Hospital               | High School, University or College | Living Arts Centre       |
| Transitway Station | Ice Rink               | Recreation or Community Centre     | Civic Centre (City Hall) |

<b>Customer Service - We're here to help</b>	<b>Find a schedule or trip plan</b>
<p>  @MiWayHelps                         <a href="http://miway.ca/feedback">miway.ca/feedback</a>                         905-615-INFO (4636)                 </p> <p> <a href="mailto:miway.info@mississauga.ca">miway.info@mississauga.ca</a>                         TTY: 905-615-3886                 </p>	<p> <a href="http://m.miway.ca">m.miway.ca</a>                         <a href="http://miway.ca/planatrip">miway.ca/planatrip</a> </p> <p> <b>citylink</b>                      905-615-4BUS(4287)                      Call and enter a four-digit bus stop number.                 </p>

## TTC Route 52





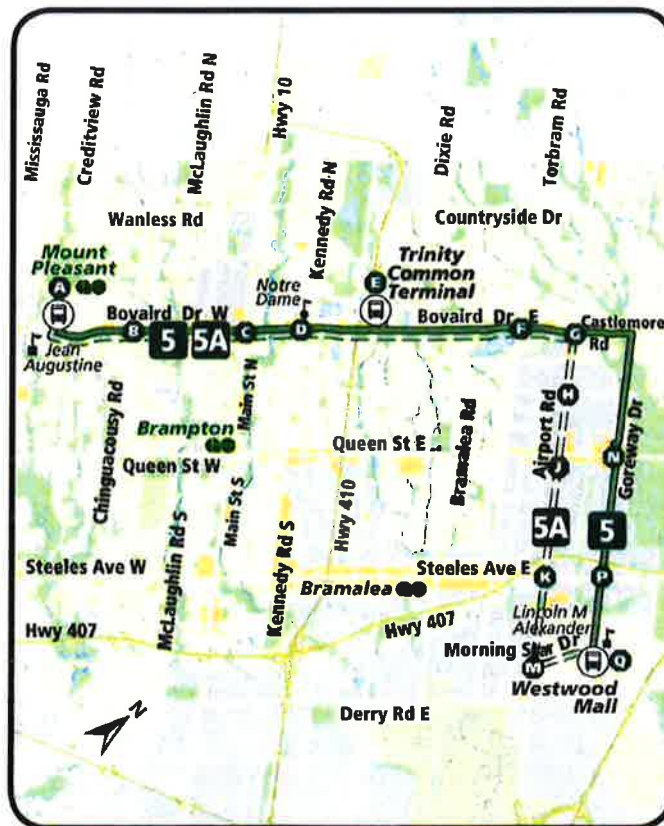
# 5/5A



## Bovaird

Monday – Sunday

Effective: September 6, 2016



[bramptontransit.com](http://bramptontransit.com)

905.874.2999







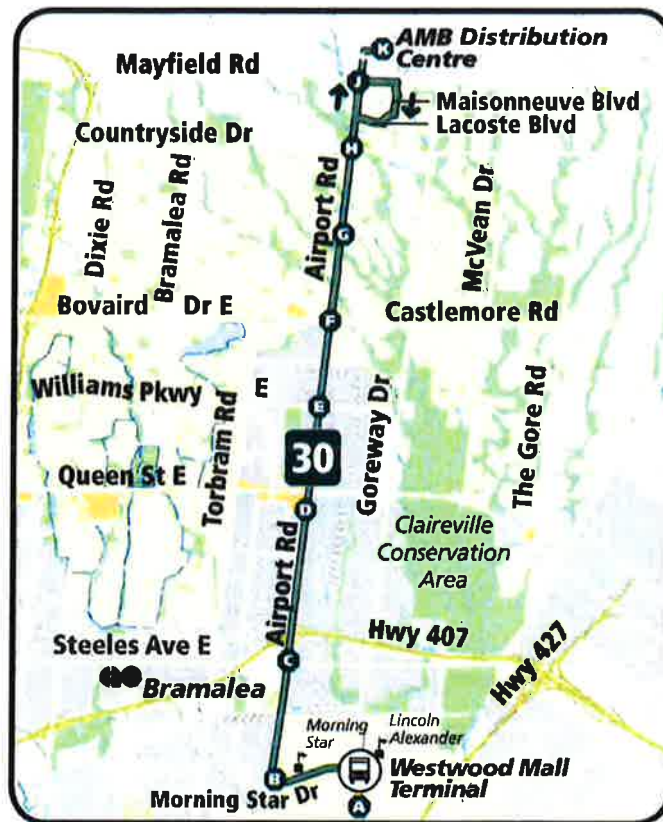
30



# Airport Road

Monday – Sunday

Effective: September 6, 2016



[bramptontransit.com](http://bramptontransit.com)

905.874.2999



# APPENDIX C

## Traffic Data, Signal Timings and AADT Data

# Morning Peak Diagram

## Specified Period

From: 7:00:00

To: 10:00:00

## One Hour Peak

From: 7:30:00

To: 8:30:00

## Municipality:

Site #: 1623400001

Intersection: Airport Rd & Morning Star Dr

TFR File #: 0

Count date: 28-Jul-16

## Weather conditions:

## Person(s) who counted:

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

Major Road: Airport Rd runs N/S

North Leg Total: 2530

North Entering: 1582

North Peds: 28

Peds Cross: 28

Heavys	0	0	0	0
Trucks	0	144	16	160
Cars	25	1298	99	1422
Totals	25	1442	115	



Heavys	0
Trucks	125
Cars	823
Totals	948

East Leg Total: 445

East Entering: 265

East Peds: 17

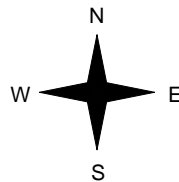
Peds Cross: 17

Heavys	Trucks	Cars	Totals
0	0	45	45



Morning Star Dr

Heavys	Trucks	Cars	Totals
0	0	13	13
0	0	13	13
0	0	19	19
0	0	45	



Airport Rd

Cars	Trucks	Heavys	Totals
100	13	0	113
11	0	0	11
116	25	0	141
227	38	0	

Morning Star Dr



Cars	Trucks	Heavys	Totals
152	28	0	180

Peds Cross: 28

West Peds: 5

West Entering: 45

West Leg Total: 90

Cars	1433
Trucks	169
Heavys	0
Totals	1602



Cars	9	710	40	759
Trucks	0	112	12	124
Heavys	0	0	0	0
Totals	9	822	52	

Peds Cross: 17

South Peds: 41

South Entering: 883

South Leg Total: 2485

## Comments

<h2>Afternoon Peak Diagram</h2>		<b>Specified Period</b> <b>From:</b> 15:00:00 <b>To:</b> 19:00:00	<b>One Hour Peak</b> <b>From:</b> 15:45:00 <b>To:</b> 16:45:00
<b>Municipality:</b> <b>Site #:</b> 1623400001 <b>Intersection:</b> Airport Rd & Morning Star Dr <b>TFR File #:</b> 0 <b>Count date:</b> 28-Jul-16		<b>Weather conditions:</b>  <b>Person(s) who counted:</b>	
<b>** Signalized Intersection **</b>		<b>Major Road:</b> Airport Rd runs N/S	

North Leg Total: 3018 North Entering: 1209 North Peds: 26 Peds Cross: ⚡	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Trucks</td><td>0</td><td>77</td><td>16</td><td>93</td></tr> <tr><td>Cars</td><td>17</td><td>867</td><td>232</td><td>1116</td></tr> <tr><td>Totals</td><td>17</td><td>944</td><td>248</td><td></td></tr> </table>	Heavys	0	0	0	0	Trucks	0	77	16	93	Cars	17	867	232	1116	Totals	17	944	248		<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Trucks</td><td>136</td></tr> <tr><td>Cars</td><td>1673</td></tr> <tr><td>Totals</td><td>1809</td></tr> </table>	Heavys	0	Trucks	136	Cars	1673	Totals	1809	East Leg Total: 683 East Entering: 268 East Peds: 4 Peds Cross: ⚡
Heavys	0	0	0	0																											
Trucks	0	77	16	93																											
Cars	17	867	232	1116																											
Totals	17	944	248																												
Heavys	0																														
Trucks	136																														
Cars	1673																														
Totals	1809																														

Heavys	Trucks	Cars	Totals
0	1	48	49

Morning Star Dr

Heavys	Trucks	Cars	Totals
0	0	15	15
0	0	25	25
0	0	23	23
0	0	63	

Airport Rd

N  
W — S — E

Airport Rd

Cars	Trucks	Heavys	Totals
144	12	0	156
13	1	0	14
93	5	0	98
250	18	0	

Morning Star Dr

Cars	Trucks	Heavys	Totals
390	25	0	415

Peds Cross: ⚡ West Peds: 21 West Entering: 63 West Leg Total: 112	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>983</td></tr> <tr><td>Trucks</td><td>82</td></tr> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Totals</td><td>1065</td></tr> </table>	Cars	983	Trucks	82	Heavys	0	Totals	1065	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>18</td><td>1514</td><td>133</td><td>1665</td></tr> <tr><td>Trucks</td><td>0</td><td>124</td><td>9</td><td>133</td></tr> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Totals</td><td>18</td><td>1638</td><td>142</td><td></td></tr> </table>	Cars	18	1514	133	1665	Trucks	0	124	9	133	Heavys	0	0	0	0	Totals	18	1638	142		Peds Cross: ⚡ South Peds: 65 South Entering: 1798 South Leg Total: 2863
Cars	983																														
Trucks	82																														
Heavys	0																														
Totals	1065																														
Cars	18	1514	133	1665																											
Trucks	0	124	9	133																											
Heavys	0	0	0	0																											
Totals	18	1638	142																												

### Comments

# Total Count Diagram

## Municipality:

**Site #:** 1623400001

**Intersection:** Airport Rd & Morning Star Dr

**TFR File #:** 0

**Count date:** 28-Jul-16

## Weather conditions:

## Person(s) who counted:

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

**Major Road:** Airport Rd runs N/S

North Leg Total: 18109

North Entering: 8752

North Peds: 264

Peds Cross:  $\bowtie$

	Heavys	Trucks	Cars	Totals
North	0	0	0	0
East	2	777	109	888
South	148	6505	1211	7864
West	150	7282	1320	



Heavys 0

Trucks 901

Cars 8456

Totals 9357

East Leg Total: 3949

East Entering: 1819

East Peds: 99

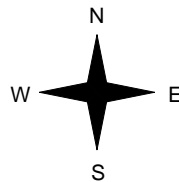
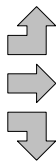
Peds Cross:  $\bowtie$

Heavys	Trucks	Cars	Totals
0	5	344	349



Morning Star Dr

Heavys	Trucks	Cars	Totals
0	2	111	113
0	0	107	107
0	3	126	129
0	5	344	



Airport Rd



Cars	Trucks	Heavys	Totals
898	74	0	972
85	2	0	87
685	75	0	760
1668	151	0	

Morning Star Dr



Cars	Trucks	Heavys	Totals
1917	213	0	2130

Peds Cross:  $\bowtie$

West Peds: 155

West Entering: 349

West Leg Total: 698

Cars	Trucks	Heavys	Totals
7316	855	0	8171



Cars	Trucks	Heavys	Totals
111	1	0	112
7447	825	0	8272
599	104	0	703
8157	930	0	

Peds Cross:  $\bowtie$

South Peds: 436

South Entering: 9087

South Leg Total: 17258

## Comments

# Traffic Count Summary

Intersection: Airport Rd & Morning Star Dr

Count Date: 28-Jul-16

Municipality:

North Approach Totals						North/South Total Approaches	South Approach Totals					
Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds		Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	5	0	5	0	18	7:00:00	0	12	1	13	0
8:00:00	113	1493	17	1623	27	2443	8:00:00	10	761	49	820	57
9:00:00	123	1327	26	1476	39	2329	9:00:00	9	795	49	853	43
10:00:00	150	904	19	1073	46	1761	10:00:00	15	618	55	688	57
15:00:00	1	4	0	5	0	16	15:00:00	0	11	0	11	0
16:00:00	262	942	13	1217	24	2780	16:00:00	21	1441	101	1563	70
17:00:00	238	970	17	1225	36	3046	17:00:00	16	1655	150	1821	55
18:00:00	203	873	27	1103	30	2815	18:00:00	17	1551	144	1712	72
19:00:00	227	763	31	1021	62	2626	19:00:00	24	1427	154	1605	82

East Approach Totals						East/West Total Approaches	West Approach Totals					
Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds		Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	2	2	0	2	7:00:00	0	0	0	0	0
8:00:00	145	11	109	265	19	307	8:00:00	13	16	13	42	13
9:00:00	113	13	119	245	16	295	9:00:00	19	10	21	50	8
10:00:00	79	15	114	208	24	264	10:00:00	23	15	18	56	34
15:00:00	3	0	4	7	0	7	15:00:00	0	0	0	0	0
16:00:00	85	11	158	254	0	302	16:00:00	8	14	26	48	18
17:00:00	90	11	139	240	4	290	17:00:00	17	19	14	50	20
18:00:00	117	15	119	251	9	300	18:00:00	15	19	15	49	27
19:00:00	128	11	208	347	27	401	19:00:00	18	14	22	54	35

## Calculated Values for Traffic Crossing Major Street

Hours Ending:	8:00	9:00	10:00	15:00	16:00	17:00	18:00	19:00
Crossing Values:	258	227	220	3	201	217	253	304

**Count Date: 28-Jul-16      Site #: 1623400001**

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	19	19	358	353	6	6	3	3	34	34	0	0	0	0	0	0	0	0	6	6
7:30:00	38	19	689	331	8	2	11	8	69	35	0	0	0	0	0	0	0	0	16	10
7:45:00	67	29	1050	361	15	7	16	5	101	32	0	0	0	0	0	0	0	0	23	7
8:00:00	93	26	1356	306	17	2	20	4	142	41	0	0	0	0	0	0	0	0	27	4
8:15:00	119	26	1675	319	25	8	25	5	172	30	0	0	0	0	0	0	0	0	33	6
8:30:00	137	18	1987	312	33	8	27	2	213	41	0	0	0	0	0	0	0	0	44	11
8:45:00	161	24	2272	285	39	6	32	5	246	33	1	1	0	0	0	0	0	0	54	10
9:00:00	201	40	2547	275	42	3	35	3	278	32	1	0	0	0	0	0	0	0	66	12
9:15:00	236	35	2787	240	52	10	38	3	324	46	1	0	0	0	0	0	0	0	73	7
9:30:00	262	26	2968	181	54	2	43	5	363	39	1	0	0	0	0	0	0	0	82	9
9:45:00	297	35	3139	171	59	5	46	3	397	34	1	0	0	0	0	0	0	0	100	18
10:00:00	335	38	3288	149	61	2	51	5	441	44	1	0	0	0	0	0	0	0	112	12
10:00:17	335	0	3288	0	61	0	51	0	441	0	1	0	0	0	0	0	0	0	112	0
10:00:18	336	1	3292	4	61	0	51	0	441	0	1	0	0	0	0	0	0	0	112	0
15:00:00	336	0	3292	0	61	0	51	0	441	0	1	0	0	0	0	0	0	0	112	0
15:15:00	410	74	3513	221	63	2	55	4	460	19	1	0	0	0	0	0	0	0	118	6
15:30:00	469	59	3697	184	67	4	57	2	496	36	1	0	0	0	0	0	0	0	128	10
15:45:00	519	50	3925	228	71	4	66	9	525	29	1	0	0	0	0	0	0	0	136	8
16:00:00	581	62	4135	210	74	3	68	2	540	15	1	0	0	0	0	0	0	0	136	0
16:15:00	636	55	4361	226	76	2	72	4	559	19	1	0	0	0	0	0	0	0	140	4
16:30:00	693	57	4550	189	84	8	76	4	581	22	1	0	0	0	0	0	0	0	154	14
16:45:00	751	58	4792	242	88	4	82	6	602	21	1	0	0	0	0	0	0	0	162	8
17:00:00	801	50	5021	229	91	3	86	4	624	22	1	0	0	0	0	0	0	0	172	10
17:15:00	848	47	5271	250	97	6	91	5	643	19	2	1	0	0	0	0	0	0	178	6
17:30:00	896	48	5463	192	101	4	93	2	665	22	2	0	0	0	0	0	0	0	182	4
17:45:00	948	52	5644	181	107	6	96	3	686	21	2	0	0	0	0	0	0	0	195	13
18:00:00	990	42	5815	171	117	10	100	4	703	17	2	0	0	0	0	0	0	0	202	7
18:15:00	1049	59	5990	175	126	9	102	2	720	17	2	0	0	0	0	0	0	0	222	20
18:30:00	1093	44	6182	192	133	7	105	3	732	12	2	0	0	0	0	0	0	0	232	10
18:45:00	1150	57	6349	167	137	4	108	3	752	20	2	0	0	0	0	0	0	0	250	18
19:00:00	1208	58	6504	155	148	11	109	1	777	25	2	0	0	0	0	0	0	0	264	14
19:00:06	1211	3	6505	1	148	0	109	0	777	0	2	0	0	0	0	0	0	0	264	0
19:00:26	1211	0	6505	0	148	0	109	0	777	0	2	0	0	0	0	0	0	0	264	0

**Count Date: 28-Jul-16      Site #: 1623400001**

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	32	32	3	3	20	18	3	3	0	0	3	3	0	0	0	0	0	0	8	8
7:30:00	58	26	6	3	43	23	12	9	0	0	6	3	0	0	0	0	0	0	12	4
7:45:00	92	34	9	3	74	31	14	2	0	0	7	1	0	0	0	0	0	0	17	5
8:00:00	125	33	11	2	98	24	20	6	0	0	13	6	0	0	0	0	0	0	19	2
8:15:00	155	30	13	2	124	26	35	15	0	0	16	3	0	0	0	0	0	0	24	5
8:30:00	174	19	17	4	143	19	37	2	0	0	19	3	0	0	0	0	0	0	29	5
8:45:00	197	23	22	5	162	19	37	0	0	0	22	3	0	0	0	0	0	0	35	6
9:00:00	219	22	24	2	205	43	39	2	0	0	25	3	0	0	0	0	0	0	35	0
9:15:00	242	23	32	8	234	29	41	2	0	0	27	2	0	0	0	0	0	0	38	3
9:30:00	255	13	36	4	256	22	43	2	0	0	30	3	0	0	0	0	0	0	46	8
9:45:00	274	19	38	2	279	23	44	1	0	0	34	4	0	0	0	0	0	0	51	5
10:00:00	291	17	39	1	309	30	46	2	0	0	35	1	0	0	0	0	0	0	59	8
10:00:17	291	0	39	0	309	0	46	0	0	0	35	0	0	0	0	0	0	0	59	0
10:00:18	291	0	39	0	309	0	46	0	0	0	35	0	0	0	0	0	0	0	59	0
15:00:00	294	3	39	0	313	4	46	0	0	0	35	0	0	0	0	0	0	0	59	0
15:15:00	308	14	41	2	351	38	48	2	0	0	37	2	0	0	0	0	0	0	59	0
15:30:00	338	30	45	4	375	24	50	2	0	0	39	2	0	0	0	0	0	0	59	0
15:45:00	350	12	45	0	411	36	50	0	0	0	40	1	0	0	0	0	0	0	59	0
16:00:00	372	22	50	5	463	52	53	3	0	0	43	3	0	0	0	0	0	0	59	0
16:15:00	402	30	55	5	492	29	55	2	1	1	44	1	0	0	0	0	0	0	61	2
16:30:00	428	26	56	1	521	29	55	0	1	0	49	5	0	0	0	0	0	0	61	0
16:45:00	443	15	58	2	555	34	55	0	1	0	52	3	0	0	0	0	0	0	63	2
17:00:00	456	13	60	2	589	34	59	4	1	0	56	4	0	0	0	0	0	0	63	0
17:15:00	473	17	67	7	607	18	59	0	1	0	56	0	0	0	0	0	0	0	63	0
17:30:00	497	24	68	1	634	27	61	2	1	0	58	2	0	0	0	0	0	0	63	0
17:45:00	531	34	69	1	670	36	63	2	1	0	59	1	0	0	0	0	0	0	72	9
18:00:00	568	37	75	6	702	32	64	1	1	0	62	3	0	0	0	0	0	0	72	0
18:15:00	610	42	75	0	765	63	68	4	1	0	66	4	0	0	0	0	0	0	75	3
18:30:00	634	24	81	6	808	43	71	3	2	1	69	3	0	0	0	0	0	0	80	5
18:45:00	663	29	81	0	864	56	72	1	2	0	72	3	0	0	0	0	0	0	92	12
19:00:00	685	22	85	4	898	34	75	3	2	0	74	2	0	0	0	0	0	0	99	7
19:00:06	685	0	85	0	898	0	75	0	2	0	74	0	0	0	0	0	0	0	99	0
19:00:26	685	0	85	0	898	0	75	0	2	0	74	0	0	0	0	0	0	0	99	0



**Count Date:** 28-Jul-16      **Site #:** 1623400001

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	11	11	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0
7:15:00	3	3	160	149	12	12	0	0	20	19	3	2	0	0	0	0	0	0	15	15
7:30:00	4	1	325	165	18	6	0	0	35	15	5	2	0	0	0	0	0	0	30	15
7:45:00	8	4	492	167	24	6	0	0	54	19	6	1	0	0	0	0	0	0	44	14
8:00:00	10	2	694	202	38	14	0	0	79	25	12	6	0	0	0	0	0	0	57	13
8:15:00	13	3	852	158	47	9	0	0	114	35	15	3	0	0	0	0	0	0	69	12
8:30:00	13	0	1035	183	58	11	0	0	147	33	17	2	0	0	0	0	0	0	71	2
8:45:00	15	2	1187	152	70	12	0	0	171	24	18	1	0	0	0	0	0	0	88	17
9:00:00	19	4	1366	179	80	10	0	0	202	31	19	1	0	0	0	0	0	0	100	12
9:15:00	23	4	1503	137	93	13	0	0	229	27	25	6	0	0	0	0	0	0	114	14
9:30:00	28	5	1630	127	102	9	0	0	259	30	27	2	0	0	0	0	0	0	127	13
9:45:00	31	3	1749	119	114	12	1	1	292	33	30	3	0	0	0	0	0	0	143	16
10:00:00	33	2	1860	111	119	5	1	0	326	34	35	5	0	0	0	0	0	0	157	14
10:00:17	33	0	1863	3	119	0	1	0	326	0	35	0	0	0	0	0	0	0	157	0
10:00:18	33	0	1863	0	119	0	1	0	326	0	35	0	0	0	0	0	0	0	157	0
15:00:00	33	0	1870	7	119	0	1	0	327	1	35	0	0	0	0	0	0	0	157	0
15:15:00	36	3	2141	271	131	12	1	0	369	42	46	11	0	0	0	0	0	0	178	21
15:30:00	40	4	2469	328	157	26	1	0	408	39	50	4	0	0	0	0	0	0	194	16
15:45:00	46	6	2805	336	181	24	1	0	446	38	50	0	0	0	0	0	0	0	205	11
16:00:00	54	8	3161	356	203	22	1	0	477	31	52	2	0	0	0	0	0	0	227	22
16:15:00	59	5	3553	392	249	46	1	0	503	26	54	2	0	0	0	0	0	0	239	12
16:30:00	60	1	3903	350	279	30	1	0	538	35	55	1	0	0	0	0	0	0	256	17
16:45:00	64	4	4319	416	314	35	1	0	570	32	59	4	0	0	0	0	0	0	270	14
17:00:00	70	6	4687	368	342	28	1	0	606	36	63	4	0	0	0	0	0	0	282	12
17:15:00	77	7	5045	358	364	22	1	0	633	27	69	6	0	0	0	0	0	0	297	15
17:30:00	81	4	5403	358	396	32	1	0	666	33	75	6	0	0	0	0	0	0	311	14
17:45:00	84	3	5751	348	428	32	1	0	685	19	80	5	0	0	0	0	0	0	334	23
18:00:00	87	3	6130	379	467	39	1	0	714	29	82	2	0	0	0	0	0	0	354	20
18:15:00	93	6	6501	371	511	44	1	0	742	28	85	3	0	0	0	0	0	0	376	22
18:30:00	100	7	6894	393	553	42	1	0	775	33	99	14	0	0	0	0	0	0	394	18
18:45:00	105	5	7185	291	574	21	1	0	802	27	102	3	0	0	0	0	0	0	415	21
19:00:00	111	6	7446	261	599	25	1	0	825	23	104	2	0	0	0	0	0	0	436	21
19:00:06	111	0	7446	0	599	0	1	0	825	0	104	0	0	0	0	0	0	0	436	0
19:00:26	111	0	7447	1	599	0	1	0	825	0	104	0	0	0	0	0	0	0	436	0

Count Date: 28-Jul-16 Site #: 1623400001

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	5	5	7	7	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	8	3	9	2	8	4	0	0	0	0	0	0	0	0	0	0	0	0	8	8
7:45:00	12	4	14	5	10	2	0	0	0	0	0	0	0	0	0	0	0	0	13	5
8:00:00	13	1	16	2	13	3	0	0	0	0	0	0	0	0	0	0	0	0	13	0
8:15:00	15	2	18	2	21	8	0	0	0	0	0	0	0	0	0	0	0	0	13	0
8:30:00	21	6	22	4	27	6	0	0	0	0	0	0	0	0	0	0	0	0	13	0
8:45:00	29	8	24	2	29	2	0	0	0	0	0	0	0	0	0	0	0	0	19	6
9:00:00	32	3	26	2	33	4	0	0	0	0	1	1	0	0	0	0	0	0	21	2
9:15:00	39	7	31	5	37	4	0	0	0	0	1	0	0	0	0	0	0	0	21	0
9:30:00	47	8	35	4	46	9	1	1	0	0	1	0	0	0	0	0	0	0	30	9
9:45:00	48	1	38	3	50	4	1	0	0	0	1	0	0	0	0	0	0	0	44	14
10:00:00	53	5	41	3	51	1	2	1	0	0	1	0	0	0	0	0	0	0	55	11
10:00:17	53	0	41	0	51	0	2	0	0	0	1	0	0	0	0	0	0	0	55	0
10:00:18	53	0	41	0	51	0	2	0	0	0	1	0	0	0	0	0	0	0	55	0
15:00:00	53	0	41	0	51	0	2	0	0	0	1	0	0	0	0	0	0	0	55	0
15:15:00	54	1	43	2	54	3	2	0	0	0	1	0	0	0	0	0	0	0	59	4
15:30:00	58	4	46	3	63	9	2	0	0	0	1	0	0	0	0	0	0	0	62	3
15:45:00	58	0	48	2	65	2	2	0	0	0	1	0	0	0	0	0	0	0	68	6
16:00:00	61	3	55	7	77	12	2	0	0	0	1	0	0	0	0	0	0	0	73	5
16:15:00	64	3	66	11	81	4	2	0	0	0	1	0	0	0	0	0	0	0	78	5
16:30:00	68	4	68	2	86	5	2	0	0	0	1	0	0	0	0	0	0	0	84	6
16:45:00	73	5	73	5	88	2	2	0	0	0	1	0	0	0	0	0	0	0	89	5
17:00:00	78	5	74	1	91	3	2	0	0	0	1	0	0	0	0	0	0	0	93	4
17:15:00	83	5	76	2	92	1	2	0	0	0	1	0	0	0	0	0	0	0	103	10
17:30:00	83	0	80	4	93	1	2	0	0	0	1	0	0	0	0	0	0	0	108	5
17:45:00	86	3	84	4	100	7	2	0	0	0	2	1	0	0	0	0	0	0	114	6
18:00:00	93	7	93	9	105	5	2	0	0	0	2	0	0	0	0	0	0	0	120	6
18:15:00	103	10	96	3	111	6	2	0	0	0	3	1	0	0	0	0	0	0	131	11
18:30:00	103	0	97	1	115	4	2	0	0	0	3	0	0	0	0	0	0	0	134	3
18:45:00	103	0	99	2	122	7	2	0	0	0	3	0	0	0	0	0	0	0	147	13
19:00:00	111	8	107	8	126	4	2	0	0	0	3	0	0	0	0	0	0	0	155	8
19:00:06	111	0	107	0	126	0	2	0	0	0	3	0	0	0	0	0	0	0	155	0
19:00:26	111	0	107	0	126	0	2	0	0	0	3	0	0	0	0	0	0	0	155	0

# Morning Peak Diagram

## Specified Period

From: 7:00:00

To: 10:00:00

## One Hour Peak

From: 7:30:00

To: 8:30:00

**Municipality:** Mississauga

**Site #:** 1630400001

**Intersection:** Airport Rd & Beverly St-Victory Cres

**TFR File #:** 5

**Count date:** 20-Oct-16

**Weather conditions:**

**Person(s) who counted:**

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

**Major Road:** Airport Rd runs N/S

North Leg Total: 2952

North Entering: 1789

North Peds: 7

Peds Cross:  $\times$

Heavys	0	0	0	0
Trucks	2	114	0	116
Cars	27	1638	8	1673
Totals	29	1752	8	

Heavys	0
Trucks	92
Cars	1071
Totals	1163

East Leg Total: 51

East Entering: 33

East Peds: 5

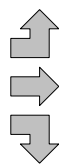
Peds Cross:  $\times$

Heavys	Trucks	Cars	Totals
0	3	40	43

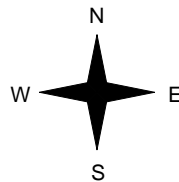


Beverly St

Heavys	Trucks	Cars	Totals
0	2	40	42
0	3	4	7
0	0	6	6
0	5	50	



Airport Rd



Cars	Trucks	Heavys	Totals
18	0	0	18
7	1	0	8
7	0	0	7
32	1	0	

Victory Cres



Cars	Trucks	Heavys	Totals
15	3	0	18

Peds Cross:  $\times$

West Peds: 8

West Entering: 55

West Leg Total: 98

Cars	1651
Trucks	114
Heavys	0
Totals	1765



Cars	6	1013	3	1022
Trucks	0	90	0	90
Heavys	0	0	0	0
Totals	6	1103	3	

Peds Cross:  $\times$

South Peds: 2

South Entering: 1112

South Leg Total: 2877

## Comments

<h2>Afternoon Peak Diagram</h2>		<b>Specified Period</b> <b>From:</b> 15:00:00 <b>To:</b> 19:00:00	<b>One Hour Peak</b> <b>From:</b> 16:30:00 <b>To:</b> 17:30:00
<b>Municipality:</b> Mississauga <b>Site #:</b> 1630400001 <b>Intersection:</b> Airport Rd & Beverly St-Victory Cres <b>TFR File #:</b> 5 <b>Count date:</b> 20-Oct-16		<b>Weather conditions:</b>  <b>Person(s) who counted:</b>	
<b>** Signalized Intersection **</b>		<b>Major Road:</b> Airport Rd runs N/S	

North Leg Total: 3508 North Entering: 1243 North Peds: 7 Peds Cross: $\bowtie$	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Trucks</td><td>0</td><td>94</td><td>0</td><td>94</td></tr> <tr><td>Cars</td><td>53</td><td>1066</td><td>30</td><td>1149</td></tr> <tr><td>Totals</td><td>53</td><td>1160</td><td>30</td><td></td></tr> </table>	Heavys	0	0	0	0	Trucks	0	94	0	94	Cars	53	1066	30	1149	Totals	53	1160	30		<table style="width: 100%; border-collapse: collapse;"> <tr><td>Heavys</td><td>6</td></tr> <tr><td>Trucks</td><td>146</td></tr> <tr><td>Cars</td><td>2113</td></tr> <tr><td>Totals</td><td>2265</td></tr> </table>	Heavys	6	Trucks	146	Cars	2113	Totals	2265	East Leg Total: 109 East Entering: 55 East Peds: 3 Peds Cross: $\bowtie$
Heavys	0	0	0	0																											
Trucks	0	94	0	94																											
Cars	53	1066	30	1149																											
Totals	53	1160	30																												
Heavys	6																														
Trucks	146																														
Cars	2113																														
Totals	2265																														

Heavys	Trucks	Cars	Totals
0	3	95	98

Beverly St

Heavys	Trucks	Cars	Totals
6	1	78	85
0	0	13	13
0	1	12	13
6	2	103	

N

W

E

S

Airport Rd

Victory Cres

Cars	Trucks	Heavys	Totals
18	0	0	18
10	2	0	12
24	1	0	25
52	3	0	

Victory Cres

Cars	Trucks	Heavys	Totals
54	0	0	54

Peds Cross: $\bowtie$ West Peds: 41 West Entering: 111 West Leg Total: 209	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>1102</td></tr> <tr><td>Trucks</td><td>96</td></tr> <tr><td>Heavys</td><td>0</td></tr> <tr><td>Totals</td><td>1198</td></tr> </table>	Cars	1102	Trucks	96	Heavys	0	Totals	1198	<table style="width: 100%; border-collapse: collapse;"> <tr><td>Cars</td><td>32</td><td>2017</td><td>11</td><td>2060</td></tr> <tr><td>Trucks</td><td>1</td><td>145</td><td>0</td><td>146</td></tr> <tr><td>Heavys</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Totals</td><td>33</td><td>2162</td><td>11</td><td></td></tr> </table>	Cars	32	2017	11	2060	Trucks	1	145	0	146	Heavys	0	0	0	0	Totals	33	2162	11		Peds Cross: $\bowtie$ South Peds: 10 South Entering: 2206 South Leg Total: 3404
Cars	1102																														
Trucks	96																														
Heavys	0																														
Totals	1198																														
Cars	32	2017	11	2060																											
Trucks	1	145	0	146																											
Heavys	0	0	0	0																											
Totals	33	2162	11																												

### Comments

# Total Count Diagram

**Municipality:** Mississauga

**Site #:** 1630400001

**Intersection:** Airport Rd & Beverly St-Victory Cres

**TFR File #:** 5

**Count date:** 20-Oct-16

**Weather conditions:**

**Person(s) who counted:**

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

**Major Road:** Airport Rd runs N/S

North Leg Total: 20608

North Entering: 9181

North Peds: 40

Peds Cross:  $\bowtie$

Heavys	0	0	0	0
Trucks	4	784	1	789
Cars	261	8009	122	8392
Totals	265	8793	123	



Heavys	8
Trucks	879
Cars	10540
Totals	11427

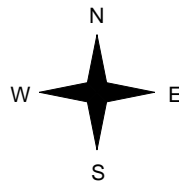
East Leg Total: 531  
East Entering: 235  
East Peds: 42  
Peds Cross:  $\bowtie$

Heavys	Trucks	Cars	Totals
2	18	435	455



Beverly St

Heavys	Trucks	Cars	Totals
7	12	368	387
0	15	109	124
0	5	64	69
7	32	541	



Airport Rd



Cars	Trucks	Heavys	Totals
87	3	0	90
54	11	2	67
73	5	0	78
214	19	2	

Victory Cres



Cars	Trucks	Heavys	Totals
279	16	1	296

Peds Cross:  $\bowtie$   
West Peds: 177  
West Entering: 580  
West Leg Total: 1035

Cars	8146
Trucks	794
Heavys	0
Totals	8940



Cars	120	10085	48	10253
Trucks	3	864	0	867
Heavys	0	1	1	2
Totals	123	10950	49	

Peds Cross:  $\bowtie$   
South Peds: 64  
South Entering: 11122  
South Leg Total: 20062

**Comments**

# Traffic Count Summary

Intersection: Airport Rd & Beverly St-Victory Cr						Count Date: 20-Oct-16		Municipality: Mississauga					
North Approach Totals						North/South Total Approaches	South Approach Totals						
Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds		Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds	
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total		
7:00:00	0	1	0	1	0	4	7:00:00	0	3	0	3	0	
8:00:00	8	1723	20	1751	4	2756	8:00:00	6	994	5	1005	3	
9:00:00	7	1712	34	1753	11	2773	9:00:00	8	1009	3	1020	0	
10:00:00	9	1160	23	1192	8	1884	10:00:00	8	679	5	692	7	
15:00:00	0	2	0	2	0	4	15:00:00	0	2	0	2	0	
16:00:00	26	1100	41	1167	2	3183	16:00:00	18	1991	7	2016	12	
17:00:00	27	1191	62	1280	6	3388	17:00:00	28	2071	9	2108	19	
18:00:00	27	1072	46	1145	7	3329	18:00:00	24	2151	9	2184	15	
19:00:00	19	831	39	889	2	2978	19:00:00	31	2047	11	2089	8	

**Count Date: 20-Oct-16      Site #: 1630400001**

[illegible]

Count Date: 20-Oct-16      Site #: 1630400001

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	1	1	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	1	0	4	2	2	1	0	0	1	1	0	0	0	0	0	0	0	0	3	3
7:30:00	5	4	5	1	2	0	0	0	1	0	0	0	0	0	0	0	0	0	6	3
7:45:00	6	1	6	1	6	4	0	0	2	1	0	0	0	0	0	0	0	0	9	3
8:00:00	9	3	10	4	10	4	0	0	2	0	0	0	0	0	0	0	0	0	10	1
8:15:00	10	1	10	0	15	5	0	0	2	0	0	0	0	0	0	0	0	0	10	0
8:30:00	12	2	12	2	20	5	0	0	2	0	0	0	0	0	0	0	0	0	11	1
8:45:00	14	2	14	2	20	0	1	1	3	1	0	0	0	0	0	0	0	0	11	0
9:00:00	16	2	17	3	22	2	1	0	3	0	0	0	0	0	0	0	0	0	12	1
9:15:00	19	3	18	1	24	2	1	0	4	1	0	0	0	0	1	1	0	0	14	2
9:30:00	21	2	19	1	27	3	1	0	4	0	0	0	0	0	1	0	0	0	15	1
9:45:00	22	1	20	1	27	0	1	0	6	2	0	0	0	0	1	0	0	0	16	1
10:00:00	27	5	23	3	29	2	1	0	6	0	0	0	0	0	2	1	0	0	25	9
10:00:13	27	0	23	0	29	0	1	0	6	0	0	0	0	0	2	0	0	0	25	0
10:00:22	27	0	23	0	29	0	1	0	6	0	0	0	0	0	2	0	0	0	25	0
15:00:00	28	1	24	1	30	1	1	0	6	0	0	0	0	0	2	0	0	0	25	0
15:15:00	31	3	26	2	33	3	1	0	6	0	1	1	0	0	2	0	0	0	26	1
15:30:00	32	1	27	1	36	3	2	1	6	0	1	0	0	0	2	0	0	0	26	0
15:45:00	33	1	28	1	41	5	2	0	6	0	2	1	0	0	2	0	0	0	26	0
16:00:00	34	1	30	2	42	1	3	1	6	0	2	0	0	0	2	0	0	0	30	4
16:15:00	36	2	31	1	47	5	3	0	6	0	2	0	0	0	2	0	0	0	30	0
16:30:00	38	2	31	0	47	0	3	0	6	0	2	0	0	0	2	0	0	0	31	1
16:45:00	40	2	35	4	53	6	3	0	7	1	2	0	0	0	2	0	0	0	31	0
17:00:00	47	7	38	3	57	4	3	0	7	0	2	0	0	0	2	0	0	0	32	1
17:15:00	55	8	40	2	62	5	3	0	8	1	2	0	0	0	2	0	0	0	34	2
17:30:00	62	7	41	1	65	3	4	1	8	0	2	0	0	0	2	0	0	0	34	0
17:45:00	64	2	45	4	66	1	4	0	8	0	2	0	0	0	2	0	0	0	41	7
18:00:00	64	0	46	1	69	3	4	0	9	1	2	0	0	0	2	0	0	0	42	1
18:15:00	67	3	50	4	71	2	5	1	9	0	2	0	0	0	2	0	0	0	42	0
18:30:00	68	1	53	3	76	5	5	0	9	0	2	0	0	0	2	0	0	0	42	0
18:45:00	71	3	54	1	79	3	5	0	9	0	2	0	0	0	2	0	0	0	42	0
19:00:00	73	2	54	0	87	8	5	0	11	2	3	1	0	0	2	0	0	0	42	0
19:00:17	73	0	54	0	87	0	5	0	11	0	3	0	0	0	2	0	0	0	42	0
19:00:29	73	0	54	0	87	0	5	0	11	0	3	0	0	0	2	0	0	0	42	0



Count Date: 20-Oct-16      Site #: 1630400001

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	2	2	215	212	1	1	0	0	19	19	0	0	0	0	0	0	1	1	1	1
7:30:00	5	3	423	208	2	1	0	0	40	21	0	0	0	0	0	0	1	0	1	0
7:45:00	5	0	654	231	3	1	0	0	58	18	0	0	0	0	0	0	1	0	3	2
8:00:00	6	1	918	264	4	1	0	0	79	21	0	0	0	0	0	0	1	0	3	0
8:15:00	9	3	1192	274	4	0	0	0	104	25	0	0	0	0	0	0	1	0	3	0
8:30:00	11	2	1436	244	5	1	0	0	130	26	0	0	0	0	0	0	1	0	3	0
8:45:00	13	2	1643	207	6	1	0	0	161	31	0	0	0	0	0	0	1	0	3	0
9:00:00	14	1	1813	170	7	1	0	0	193	32	0	0	0	0	0	0	1	0	3	0
9:15:00	14	0	1960	147	8	1	0	0	223	30	0	0	0	0	0	0	1	0	3	0
9:30:00	16	2	2079	119	9	1	2	2	255	32	0	0	0	0	0	0	1	0	4	1
9:45:00	17	1	2241	162	9	0	2	0	285	30	0	0	0	0	0	0	1	0	5	1
10:00:00	20	3	2376	135	12	3	2	0	309	24	0	0	0	0	0	0	1	0	10	5
10:00:13	20	0	2376	0	12	0	2	0	309	0	0	0	0	0	0	0	1	0	10	0
10:00:22	20	0	2376	0	12	0	2	0	309	0	0	0	0	0	0	0	1	0	10	0
15:00:00	20	0	2378	2	12	0	2	0	309	0	0	0	0	0	0	0	1	0	10	0
15:15:00	22	2	2760	382	13	1	2	0	347	38	0	0	0	0	0	0	1	0	16	6
15:30:00	26	4	3230	470	14	1	2	0	398	51	0	0	0	0	0	0	1	0	16	0
15:45:00	31	5	3714	484	15	1	2	0	445	47	0	0	0	0	1	1	1	0	19	3
16:00:00	38	7	4198	484	19	4	2	0	479	34	0	0	0	0	1	0	1	0	22	3
16:15:00	42	4	4687	489	21	2	2	0	514	35	0	0	0	0	1	0	1	0	24	2
16:30:00	43	1	5116	429	23	2	2	0	538	24	0	0	0	0	1	0	1	0	35	11
16:45:00	52	9	5635	519	25	2	2	0	567	29	0	0	0	0	1	0	1	0	39	4
17:00:00	65	13	6141	506	28	3	3	1	607	40	0	0	0	0	1	0	1	0	41	2
17:15:00	72	7	6673	532	31	3	3	0	645	38	0	0	0	0	1	0	1	0	45	4
17:30:00	75	3	7133	460	34	3	3	0	683	38	0	0	0	0	1	0	1	0	45	0
17:45:00	86	11	7626	493	36	2	3	0	717	34	0	0	0	0	1	0	1	0	50	5
18:00:00	89	3	8147	521	37	1	3	0	752	35	0	0	0	0	1	0	1	0	56	6
18:15:00	96	7	8675	528	38	1	3	0	790	38	0	0	0	0	1	0	1	0	56	0
18:30:00	102	6	9197	522	42	4	3	0	815	25	0	0	0	0	1	0	1	0	59	3
18:45:00	108	6	9688	491	45	3	3	0	838	23	0	0	0	0	1	0	1	0	60	1
19:00:00	120	12	10082	394	48	3	3	0	864	26	0	0	0	0	1	0	1	0	64	4
19:00:17	120	0	10082	0	48	0	3	0	864	0	0	0	0	0	1	0	1	0	64	0
19:00:29	120	0	10085	3	48	0	3	0	864	0	0	0	0	0	1	0	1	0	64	0

**Count Date: 20-Oct-16      Site #: 1630400001**

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	3	3	37	37	1	1	0	0	3	3	0	0	0	0	0	0	0	0	0	0
7:30:00	11	8	37	0	3	2	0	0	3	0	0	0	0	0	0	0	0	0	2	2
7:45:00	21	10	38	1	5	2	0	0	3	0	0	0	0	0	0	0	0	0	4	2
8:00:00	28	7	41	3	7	2	0	0	3	0	0	0	0	0	0	0	0	0	8	4
8:15:00	42	14	41	0	7	0	2	2	4	1	0	0	0	0	0	0	0	0	9	1
8:30:00	51	9	41	0	9	2	2	0	6	2	0	0	0	0	0	0	0	0	10	1
8:45:00	60	9	41	0	10	1	2	0	7	1	0	0	0	0	0	0	0	0	17	7
9:00:00	63	3	41	0	11	1	2	0	7	0	0	0	0	0	0	0	0	0	18	1
9:15:00	70	7	46	5	12	1	5	3	8	1	1	1	0	0	0	0	0	0	19	1
9:30:00	70	0	46	0	14	2	5	0	8	0	1	0	0	0	0	0	0	0	22	3
9:45:00	72	2	46	0	15	1	5	0	9	1	3	2	0	0	0	0	0	0	27	5
10:00:00	76	4	46	0	16	1	5	0	9	0	3	0	0	0	0	0	0	0	35	8
10:00:13	76	0	46	0	16	0	5	0	9	0	3	0	0	0	0	0	0	0	35	0
10:00:22	76	0	46	0	16	0	5	0	9	0	3	0	0	0	0	0	0	0	35	0
15:00:00	76	0	46	0	16	0	5	0	9	0	3	0	0	0	0	0	0	0	35	0
15:15:00	80	4	47	1	16	0	5	0	9	0	3	0	0	0	0	0	0	0	43	8
15:30:00	100	20	49	2	18	2	5	0	9	0	3	0	0	0	0	0	0	0	48	5
15:45:00	116	16	60	11	21	3	5	0	9	0	4	1	0	0	0	0	0	0	55	7
16:00:00	135	19	60	0	24	3	5	0	10	1	4	0	0	0	0	0	0	0	60	5
16:15:00	159	24	62	2	26	2	5	0	11	1	4	0	0	0	0	0	0	0	70	10
16:30:00	183	24	68	6	29	3	5	0	11	0	4	0	0	0	0	0	0	0	77	7
16:45:00	194	11	68	0	34	5	6	1	11	0	4	0	0	0	0	0	0	0	87	10
17:00:00	215	21	75	7	35	1	6	0	11	0	4	0	6	6	0	0	0	0	96	9
17:15:00	239	24	76	1	38	3	6	0	11	0	5	1	6	0	0	0	0	0	105	9
17:30:00	261	22	81	5	41	3	6	0	11	0	5	0	6	0	0	0	0	0	118	13
17:45:00	290	29	85	4	45	4	6	0	12	1	5	0	6	0	0	0	0	0	126	8
18:00:00	313	23	89	4	47	2	6	0	12	0	5	0	6	0	0	0	0	0	144	18
18:15:00	324	11	96	7	52	5	6	0	13	1	5	0	6	0	0	0	0	0	152	8
18:30:00	341	17	108	12	61	9	6	0	13	0	5	0	6	0	0	0	0	0	167	15
18:45:00	357	16	108	0	63	2	6	0	14	1	5	0	6	0	0	0	0	0	172	5
19:00:00	365	8	109	1	64	1	12	6	15	1	5	0	7	1	0	0	0	0	177	5
19:00:17	368	3	109	0	64	0	12	0	15	0	5	0	7	0	0	0	0	0	177	0
19:00:29	368	0	109	0	64	0	12	0	15	0	5	0	7	0	0	0	0	0	177	0

# Ontario Traffic Inc

## Morning Peak Diagram

### Specified Period

**From:** 7:00:00

**To:** 10:00:00

### One Hour Peak

**From:** 8:00:00

**To:** 9:00:00

**Municipality:** Brampton

**Site #:** 1630400002

**Intersection:** Airport Rd & 7256 Airport Rd (north

**TFR File #:** 5

**Count date:** 20-Oct-16

**Weather conditions:**

**Person(s) who counted:**

**\*\* Non-Signalized Intersection \*\***

**Major Road:** Airport Rd runs N/S

North Leg Total: 1

North Entering: 1

North Peds: 0

Peds Cross: 

Heavys	0	0	0
Trucks	0	0	0
Cars	1	0	1
<b>Totals</b>	<b>1</b>	<b>0</b>	



Heavys 0

Trucks 0

Cars 0

**Totals 0**

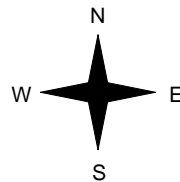
Heavys	Trucks	Cars	<b>Totals</b>
0	0	1	1



Airport Rd



7256 Airport Rd (north driveway)




Heavys	Trucks	Cars	<b>Totals</b>
0	0	0	0
0	0	2	2
0	0	2	



Airport Rd



Peds Cross: 

West Peds: 0


West Entering: 2

West Leg Total: 3

Cars	2
Trucks	0
Heavys	0
<b>Totals</b>	<b>2</b>



Cars	0	0	0
Trucks	0	0	0
Heavys	0	0	0
<b>Totals</b>	<b>0</b>	<b>0</b>	

Peds Cross: 

South Peds: 0

South Entering: 0

South Leg Total: 2

## Comments

# Ontario Traffic Inc

## Afternoon Peak Diagram

### Specified Period

**From:** 15:00:00

**To:** 19:00:00

### One Hour Peak

**From:** 17:15:00

**To:** 18:15:00

**Municipality:** Brampton

**Site #:** 1630400002

**Intersection:** Airport Rd & 7256 Airport Rd (north

**TFR File #:** 5

**Count date:** 20-Oct-16

**Weather conditions:**

**Person(s) who counted:**

**\*\* Non-Signalized Intersection \*\***

**Major Road:** Airport Rd runs N/S

North Leg Total: 8

North Entering: 4

North Peds: 0

Peds Cross: 

Heavys	0	0	0
Trucks	0	0	0
Cars	4	0	4
Totals	4	0	



Heavys 0

Trucks 0

Cars 4

Totals 4

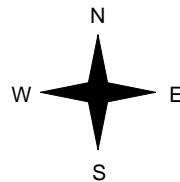
Heavys	Trucks	Cars	Totals
0	0	6	6



Airport Rd



7256 Airport Rd (north driveway)




Heavys	Trucks	Cars	Totals
0	0	4	4
0	0	2	2
0	0	6	



Airport Rd



Peds Cross: 

West Peds: 0


West Entering: 6

West Leg Total: 12

Cars	2
Trucks	0
Heavys	0
Totals	2



Cars	2	0	2
Trucks	0	0	0
Heavys	0	0	0
Totals	2	0	

Peds Cross: 

South Peds: 0

South Entering: 2

South Leg Total: 4

## Comments

# Ontario Traffic Inc

## Total Count Diagram

**Municipality:** Brampton  
**Site #:** 1630400002  
**Intersection:** Airport Rd & 7256 Airport Rd (north  
**TFR File #:** 5  
**Count date:** 20-Oct-16

**Weather conditions:**  
**Person(s) who counted:**

**\*\* Non-Signalized Intersection \*\***

**Major Road:** Airport Rd runs N/S

North Leg Total: 23  
 North Entering: 12  
 North Peds: 0  
 Peds Cross: 

Heavys	Trucks	Cars	Totals
0	0	12	12
0	0	0	0
0	0	0	0
0	0	0	0



Heavys	Trucks	Cars	Totals
0	0	11	11
0	0	0	0
0	0	0	0
0	0	0	0

Heavys	Trucks	Cars	Totals
0	0	18	18

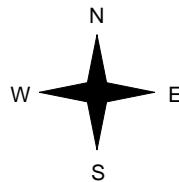


Airport Rd




7256 Airport Rd (north driveway)

Heavys	Trucks	Cars	Totals
0	0	11	11
0	0	8	8
0	0	19	19




Airport Rd

Peds Cross:   
 West Peds: 0  
 West Entering: 19  
 West Leg Total: 37

Cars	Trucks	Heavys	Totals
8	0	0	8
0	0	0	0
0	0	0	0



Cars	Trucks	Heavys	Totals
6	0	0	6
0	0	0	0
0	0	0	0

Peds Cross:   
 South Peds: 0  
 South Entering: 6  
 South Leg Total: 14

### Comments

# Ontario Traffic Inc

## Traffic Count Summary

Intersection: Airport Rd & 7256 Airport Rd (north)						Count Date: 20-Oct-16		Municipality: Brampton					
North Approach Totals						North/South Total Approaches	South Approach Totals						
Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds		Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds	
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total		
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0	
8:00:00	0	0	1	1	0	1	8:00:00	0	0	0	0	0	
9:00:00	0	0	1	1	0	1	9:00:00	0	0	0	0	0	
10:00:00	0	0	0	0	0	0	10:00:00	0	0	0	0	0	
15:00:00	0	0	0	0	0	0	15:00:00	0	0	0	0	0	
16:00:00	0	0	2	2	0	4	16:00:00	2	0	0	2	0	
17:00:00	0	0	1	1	0	1	17:00:00	0	0	0	0	0	
18:00:00	0	0	4	4	0	7	18:00:00	3	0	0	3	0	
19:00:00	0	0	3	3	0	4	19:00:00	1	0	0	1	0	
Totals:						18	6 0 0 6 0						
East Approach Totals						East/West Total Approaches	West Approach Totals						
Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds		Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds	
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total		
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0	
8:00:00	0	0	0	0	0	1	8:00:00	0	0	1	1	0	
9:00:00	0	0	0	0	0	2	9:00:00	0	0	2	2	0	
10:00:00	0	0	0	0	0	2	10:00:00	2	0	0	2	0	
15:00:00	0	0	0	0	0	0	15:00:00	0	0	0	0	0	
16:00:00	0	0	0	0	0	1	16:00:00	1	0	0	1	0	
17:00:00	0	0	0	0	0	6	17:00:00	4	0	2	6	0	
18:00:00	0	0	0	0	0	3	18:00:00	1	0	2	3	0	
19:00:00	0	0	0	0	0	4	19:00:00	3	0	1	4	0	
Totals:						19	11 0 8 19 0						
Calculated Values for Traffic Crossing Major Street													
Hours Ending:		8:00	9:00	10:00	15:00			16:00	17:00	18:00	19:00		
Crossing Values:		0	0	2	0			1	4	1	3		

Ontario Traffic Inc																					
Count Date: 20-Oct-16						Site #: 1630400002															
Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians		
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross		
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:00:00	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:00:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:00:12	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:00:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:15:00	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:30:00	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:45:00	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:00:00	0	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:15:00	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:30:00	0	0	0	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:45:00	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:00:00	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:15:00	0	0	0	0	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:30:00	0	0	0	0	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:45:00	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18:00:00	0	0	0	0	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18:15:00	0	0	0	0	11	2															

**Count Date:** 20-Oct-16      **Site #:** 1630400002

[illegible]

[illegible]

**Count Date:** 20-Oct-16      **Site #:** 1630400002

[illegible]



[illegible]

**Count Date:** 20-Oct-16      **Site #:** 1630400002

[illegible]

***Ontario Traffic Inc***

**Count Date:** 20-Oct-16      **Site #:** 1630400002

[illegible]

# Ontario Traffic Inc

## Morning Peak Diagram

### Specified Period

**From:** 7:00:00

**To:** 10:00:00

### One Hour Peak

**From:** 7:45:00

**To:** 8:45:00

**Municipality:** Brampton

**Site #:** 1630400002

**Intersection:** Airport Rd & 7256 Airport Rd (south

**TFR File #:** 5

**Count date:** 20-Oct-16

**Weather conditions:**

**Person(s) who counted:**

**\*\* Non-Signalized Intersection \*\***

**Major Road:** Airport Rd runs N/S

North Leg Total: 1  
North Entering: 1  
North Peds: 0  
Peds Cross: 

Heavys	0	0	0
Trucks	0	0	0
Cars	1	0	1
Totals	1	0	



Heavys	0
Trucks	0
Cars	0
Totals	0

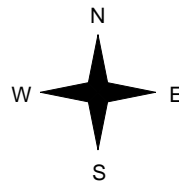
Heavys	0
Trucks	0
Cars	1
Totals	1



Airport Rd



7256 Airport Rd (south driveway)



Heavys	0
Trucks	0
Cars	0
Totals	0


  

0	0	11	11
0	0	11	



Airport Rd




Peds Cross:   
West Peds: 0  
West Entering: 11  
West Leg Total: 12

Cars	11
Trucks	0
Heavys	0
Totals	11



Cars	0	0	0
Trucks	0	0	0
Heavys	0	0	0
Totals	0	0	

Peds Cross:   
South Peds: 0  
South Entering: 0  
South Leg Total: 11

## Comments

# Ontario Traffic Inc

## Afternoon Peak Diagram

### Specified Period

**From:** 15:00:00

**To:** 19:00:00

### One Hour Peak

**From:** 16:45:00

**To:** 17:45:00

**Municipality:** Brampton

**Site #:** 1630400002

**Intersection:** Airport Rd & 7256 Airport Rd (south

**TFR File #:** 5

**Count date:** 20-Oct-16

**Weather conditions:**

**Person(s) who counted:**

**\*\* Non-Signalized Intersection \*\***

**Major Road:** Airport Rd runs N/S

North Leg Total: 8

North Entering: 5

North Peds: 0

Peds Cross: 

Heavys	0	0	0
Trucks	0	0	0
Cars	5	0	5
Totals	5	0	



Heavys 0

Trucks 0

Cars 3

Totals 3

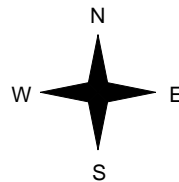
Heavys	Trucks	Cars	Totals
0	0	9	9



Airport Rd



7256 Airport Rd (south driveway)




Heavys	Trucks	Cars	Totals
0	0	3	3
0	0	5	5
0	0	8	



Airport Rd



Peds Cross: 

West Peds: 0


West Entering: 8

West Leg Total: 17

Cars	5
Trucks	0
Heavys	0
Totals	5



Cars	4	0	4
Trucks	0	0	0
Heavys	0	0	0
Totals	4	0	

Peds Cross: 

South Peds: 0

South Entering: 4

South Leg Total: 9

## Comments

# Ontario Traffic Inc

## Total Count Diagram

**Municipality:** Brampton  
**Site #:** 1630400002  
**Intersection:** Airport Rd & 7256 Airport Rd (south  
**TFR File #:** 5  
**Count date:** 20-Oct-16

**Weather conditions:**  
**Person(s) who counted:**

**\*\* Non-Signalized Intersection \*\***

**Major Road:** Airport Rd runs N/S

North Leg Total: 23  
 North Entering: 16  
 North Peds: 0  
 Peds Cross: 

Heavys	0	0	0
Trucks	0	0	0
Cars	16	0	16
Totals	16	0	



Heavys	0
Trucks	0
Cars	7
Totals	7

Heavys	0
Trucks	0
Cars	27
Totals	27



Airport Rd

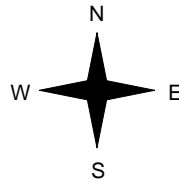


7256 Airport Rd (south driveway)

Heavys	0
Trucks	0
Cars	7
Totals	7


  

0	0	30	30
0	0	37	



Airport Rd




Peds Cross:   
 West Peds: 0  
 West Entering: 37  
 West Leg Total: 64

Cars	30
Trucks	0
Heavys	0
Totals	30



Cars	11	0	11
Trucks	0	0	0
Heavys	0	0	0
Totals	11	0	

Peds Cross:   
 South Peds: 0  
 South Entering: 11  
 South Leg Total: 41

### Comments

# Ontario Traffic Inc

## Traffic Count Summary

Intersection: Airport Rd & 7256 Airport Rd (south) Count Date: 20-Oct-16 Municipality: Brampton

North Approach Totals						North/South Total Approaches	South Approach Totals					
Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds		Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	0	0	0	0	0	0	8:00:00	0	0	0	0	0
9:00:00	0	0	1	1	0	2	9:00:00	1	0	0	1	0
10:00:00	0	0	1	1	0	1	10:00:00	0	0	0	0	0
15:00:00	0	0	0	0	0	0	15:00:00	0	0	0	0	0
16:00:00	0	0	3	3	0	4	16:00:00	1	0	0	1	0
17:00:00	0	0	2	2	0	5	17:00:00	3	0	0	3	0
18:00:00	0	0	6	6	0	10	18:00:00	4	0	0	4	0
19:00:00	0	0	3	3	0	5	19:00:00	2	0	0	2	0
Totals:						27	1100110					
East Approach Totals						East/West Total Approaches	West Approach Totals					
Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds		Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total				Left	Thru	Right	Grand Total	
7:00:00	0	0	0	0	0	0	7:00:00	0	0	0	0	0
8:00:00	0	0	0	0	0	5	8:00:00	0	0	5	5	0
9:00:00	0	0	0	0	0	10	9:00:00	1	0	9	10	0
10:00:00	0	0	0	0	0	6	10:00:00	1	0	5	6	0
15:00:00	0	0	0	0	0	0	15:00:00	0	0	0	0	0
16:00:00	0	0	0	0	0	3	16:00:00	0	0	3	3	0
17:00:00	0	0	0	0	0	6	17:00:00	2	0	4	6	0
18:00:00	0	0	0	0	0	6	18:00:00	3	0	3	6	0
19:00:00	0	0	0	0	0	1	19:00:00	0	0	1	1	0
Totals:						37	7030370					
Calculated Values for Traffic Crossing Major Street												
Hours Ending:	8:00	9:00	10:00	15:00			16:00	17:00	18:00	19:00		
Crossing Values:	0	1	1	0			0	2	3	0		

Ontario Traffic Inc																					
Count Date: 20-Oct-16						Site #: 1630400002															
Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians		
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross		
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:00:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45:00	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:00:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:00:12	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:00:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:15:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:30:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:45:00	0	0	0	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:00:00	0	0	0	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:15:00	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:30:00	0	0	0	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:45:00	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:00:00	0	0	0	0	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:15:00	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:30:00	0	0	0	0	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:45:00	0	0	0	0	11	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18:00:00	0	0	0	0	13	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18:15:00	0	0	0	0	13																

Count Date: 20-Oct-16      Site #: 1630400002

[illegible]

[illegible]

**Count Date:** 20-Oct-16      **Site #:** 1630400002

[illegible]



Ontario Traffic Inc																					
Count Date: 20-Oct-16						Site #: 1630400002															
Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians		
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross		
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:00:00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:00:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:00:12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:00:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:15:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:30:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:45:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:00:00	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:15:00	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:30:00	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:45:00	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:00:00	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:15:00	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:30:00	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:45:00	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18:00:00	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18:15:00	10	1	0	0	0																

**Count Date:** 20-Oct-16      **Site #:** 1630400002

[illegible]

Ontario Traffic Inc																					
Count Date: 20-Oct-16      Site #: 1630400002																					
Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians		
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross		
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15:00	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45:00	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00:00	0	0	0	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15:00	0	0	0	0	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30:00	0	0	0	0	10	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45:00	0	0	0	0	13	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:00:00	1	1	0	0	14	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:15:00	1	0	0	0	15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:30:00	1	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9:45:00	1	0	0	0	16	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:00:00	2	1	0	0	19	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:00:12	2	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:00:00	2	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:15:00	2	0	0	0	20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:30:00	2	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:45:00	2	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:00:00	2	0	0	0	22	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:15:00	2	0	0	0	23	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:30:00	3	1	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16:45:00	4	1	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:00:00	4	0	0	0	26	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:15:00	7	3	0	0	27	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:30:00	7	0	0	0	28	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
17:45:00	7	0	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18:00:00	7	0	0	0	29	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
18:15:00	7	0	0	0	2																

**Count Date:** 20-Oct-16      **Site #:** 1630400002

[illegible]

# REGIONAL MUNICIPALITY OF PEEL

## Traffic Signal Timing Parameters

Database Date		April 5, 2013				Prepared Date:		November 2, 2016																	
Database Rev		18				Completed By:		RS																	
Timing Card / Field rev		27				Checked By:		RC																	
Location: <b>Airport Road at Morning Star Drive</b>																									
Phase #	Direction	Vehicle Minimum (sec.)	Pedestrian Minimum (sec.)		Amber (sec.)	All Red (sec.)	TIME PERIOD (sec.) (Green+Amber+All Red)																		
			WALK	FDWALK			AM MAX	OFF MAX	PM MAX																
1	NIU						0.0	0.0	0.0																
2	SB GREEN - AIRPORT ROAD	8.0	9.0	14.0	4.0	2.2	92.4	86.8	92.4																
3	NIU						0.0	0.0	0.0																
4	WB GREEN - MORNING STAR DRIVE	8.0	14.0	23.0	4.0	2.7	47.6	53.2	47.6																
5	SB P.P. LT - AIRPORT ROAD	5.0			3.0		12.6	14.0	16.8 (19)																
6	NB GREEN - AIRPORT ROAD	8.0	9.0	14.0	4.0	2.2	79.8	72.8	75.6																
7	NIU						0.0	0.0	0.0																
8	EB GREEN - PRIVATE DRIVE	8.0	14.0	23.0	4.0	2.7	47.6	53.2	47.6																
System Control		Yes		<table border="1"> <tr> <th>TIME (M-F)</th> <th>PEAK</th> <th>CYCLE LENGTH (sec.)</th> <th>OFFSET (sec.)</th> </tr> <tr> <td>06:00 - 09:30</td> <td>AM</td> <td>140</td> <td>29.4</td> </tr> <tr> <td>9:30 - 15:00</td> <td>OFF</td> <td>140</td> <td>58.8</td> </tr> <tr> <td>15:00 - 19:30</td> <td>PM</td> <td>140</td> <td>75.6</td> </tr> </table>						TIME (M-F)	PEAK	CYCLE LENGTH (sec.)	OFFSET (sec.)	06:00 - 09:30	AM	140	29.4	9:30 - 15:00	OFF	140	58.8	15:00 - 19:30	PM	140	75.6
TIME (M-F)	PEAK	CYCLE LENGTH (sec.)	OFFSET (sec.)																						
06:00 - 09:30	AM	140	29.4																						
9:30 - 15:00	OFF	140	58.8																						
15:00 - 19:30	PM	140	75.6																						
Local Control		No																							
Semi-Actuated Mode		Yes																							

# REGIONAL MUNICIPALITY OF PEEL

## Traffic Signal Timing Parameters

Database Date		November 4, 2016				Prepared Date:		November 4, 2016	
Database Rev		Fastracs				Completed By:		RS	
Timing Card / Field rev		Fastracs				Checked By:		RC	
Location:		Airport Road at Victory Street/ Beverly Street					<b>TIME PERIOD</b> (sec.) ( Green+Amber+All Red)		
Phase #	Direction	Vehicle Minimum (sec.)	Pedestrian Minimum (sec.)		Amber (sec.)	All Red (sec.)			
			WALK	FDWALK			AM MAX	OFF MAX	PM MAX
1	NB/ SB GREEN - AIRPORT ROAD	8.0	8.0	13.0	4.0	2.0	89.6	91.0	95.2
2	EB/ WB GREEN - VICTORY ST/ BEVERLY ST	8.0	13.0	20.0	4.0	2.8	50.4	49.0	43.4
System Control		Yes							
Local Control		No							
Semi-Actuated Mode		Yes							
				TIME (M-F)		PEAK	CYCLE LENGTH (sec.)		OFFSET (sec.)
				06:00 - 09:30		AM	140		5.6
				9:30 - 15:00		OFF	140		65.8
				15:00 - 19:30		PM	140		56.0

STATION_ID	ROAD_NAME	LOCATION	DIR	COUNT_TYPE	NUM_LANES	MEDIAN	MED_TYPE	TURN_LANE	LAT	LONG	UTM_E	UTM_N	COMMENTS
00704370	AIRPORT ROAD	0.5 KM NORTH OF DERRY RD. (RR5)	NS	DIRECTIONAL	6	N	N/A	2	43.706919	-79.646559	609044.4192	4840210.868	

Y_2015_NE	Y_2015_SW	Y_2014_NE	Y_2014_SW	Y_2013_NE	Y_2013_SW	Y_2012_NE	Y_2012_SW	Y_2011_NE	Y_2011_SW	Y_2010_NE	Y_2010_SW	Y_2009_NE	Y_2009_SW	
16664	14238		15680	14726	9492	9246	13982	13975	19320	18660	0	0	16057	16817
South	North	South	North	South	North	South	North	South	North	South	North	South	North	
#VALUE!	6%		-3%	65%	59%	-32%	-34%	-28%	-25%		20%	11%	-12%	

Y_2008_NE	Y_2008_SW	Y_2007_NE	Y_2007_SW	Y_2006_NE	Y_2006_SW	Y_2005_NE	Y_2005_SW	Y_2004_NE	Y_2004_SW	Y_2003_NE	Y_2003_SW	Y_2002_NE	Y_2002_SW	
18177	18452		19367	19661	18153	18482	15312	15718	17956	18152	15974	15253	17171	15445
South	North	South	North	South	North	South	North	South	North	South	North	South	North	
-9%	-6%		-6%	7%	6%	19%	18%	-15%	-13%	12%	19%	-7%	-1%	12%

Y_2001_NE	Y_2001_SW	Y_2000_NE	Y_2000_SW	Y_1999_NE	Y_1999_SW	Y_1998_NE	Y_1998_SW	Y_1997_NE	Y_1997_SW	Y_1996_NE	Y_1996_SW
15290	19070	17206	19521	15921	15658	16619	15650	16486	15596	15319	12710
South	North	South	North	South	North	South	North	South	North	South	
-19%	-11%	-2%	8%	25%	-4%	0%	1%	0%	8%	23%	

Growth percentage for south using individual years0.0265176432.65%

Growth percentage for north using individual years0.0242525882.42%

# APPENDIX D

## Levels of Service Definitions

## Level of Service Definitions

### Two-Way Stop Controlled Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	$\leq 10$	EXCELLENT. Large and frequent gaps in traffic on the main roadway. Queuing on the minor street is rare.
B	$> 10$ and $\leq 15$	VERY GOOD. Many gaps exist in traffic on the main roadway. Queuing on the minor street is minimal.
C	$> 15$ and $\leq 25$	GOOD. Fewer gaps exist in traffic on the main roadway. Delay on minor approach becomes more noticeable.
D	$> 25$ and $\leq 35$	FAIR. Infrequent and shorter gaps in traffic on the main roadway. Queue lengths develop on the minor street.
E	$> 35$ and $\leq 50$	POOR. Very infrequent gaps in traffic on the main roadway. Queue lengths become noticeable.
F	$> 50$	UNSATISFACTORY. Very few gaps in traffic on the main roadway. Excessive delay with significant queue lengths on the minor street.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

## Level of Service Definitions

### Signalized Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	$\leq 10$	EXCELLENT. Extremely favourable progression with most vehicles arriving during the green phase. Most vehicles do not stop and short cycle lengths may contribute to low delay.
B	$> 10$ and $\leq 20$	VERY GOOD. Very good progression and/or short cycle lengths with slightly more vehicles stopping than LOS "A" causing slightly higher levels of average delay.
C	$> 20$ and $\leq 35$	GOOD. Fair progression and longer cycle lengths lead to a greater number of vehicles stopping than LOS "B".
D	$> 35$ and $\leq 55$	FAIR. Congestion becomes noticeable with higher average delays resulting from a combination of long cycle lengths, high volume-to-capacity ratios and unfavourable progression.
E	$> 55$ and $\leq 80$	POOR. Lengthy delays values are indicative of poor progression, long cycle lengths and high volume-to-capacity ratios. Individual cycle failures are common with individual movement failures also common.
F	$> 80$	UNSATISFACTORY. Indicative of oversaturated conditions with vehicular demand greater than the capacity of the intersection.

Adapted from Highway Capacity Manual 2000, Transportation Research Board





















# APPENDIX E

## Detailed Capacity Analysis

Lanes, Volumes, Timings  
3: Airport Road & Beverley Street/Victory Crescent

2017 Existing AM

11/23/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	7	6	7	8	18	6	1125	3	8	1787	29
Future Volume (vph)	43	7	6	7	8	18	6	1125	3	8	1787	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.7
Storage Length (m)	0.0		0.0	0.0		0.0	15.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.99			0.99			1.00		1.00	1.00	
Frt		0.986			0.926						0.998	
Flt Protected		0.963			0.990		0.950			0.950		
Satd. Flow (prot)	0	1668	0	0	1688	0	1785	4837	0	1785	4869	0
Flt Permitted		0.754			0.929		0.108			0.238		
Satd. Flow (perm)	0	1297	0	0	1583	0	203	4837	0	446	4869	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			18						3	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		82.0			201.6			209.7			153.7	
Travel Time (s)		5.9			14.5			15.1			11.1	
Confl. Peds. (#/hr)	7		2	2		7	8		5	5		8
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	43%	0%	0%	13%	0%	0%	8%	0%	0%	7%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	3	0	3	3
Adj. Flow (vph)	43	7	6	7	8	18	6	1125	3	8	1787	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	56	0	0	33	0	6	1128	0	8	1816	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	1.01	0.99	0.99	1.01	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Baseline













Synchro 10 Light Report

Page 1

Lanes, Volumes, Timings  
3: Airport Road & Beverley Street/Victory Crescent

2017 Existing AM

11/23/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	39.8	39.8		39.8	39.8		27.0	27.0		27.0	27.0	
Total Split (s)	50.4	50.4		50.4	50.4		89.6	89.6		89.6	89.6	
Total Split (%)	36.0%	36.0%		36.0%	36.0%		64.0%	64.0%		64.0%	64.0%	
Maximum Green (s)	43.6	43.6		43.6	43.6		83.6	83.6		83.6	83.6	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.8	2.8		2.8	2.8		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.8			6.8		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	13.0	13.0		13.0	13.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Efect Green (s)		12.8			12.8		118.6	118.6		118.6	118.6	
Actuated g/C Ratio		0.09			0.09		0.85	0.85		0.85	0.85	
v/c Ratio		0.46			0.21		0.03	0.28		0.02	0.44	
Control Delay		67.2			35.2		3.7	3.1		3.2	3.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		67.2			35.2		3.7	3.1		3.2	3.8	
LOS		E			D		A	A		A	A	
Approach Delay		67.2			35.2			3.1			3.8	
Approach LOS		E			D			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 5.6 (4%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.46

Intersection Signal Delay: 5.1





Intersection LOS: A

Intersection Capacity Utilization 56.9%

ICU Level of Service B

Analysis Period (min) 15


























Splits and Phases: 3: Airport Road & Beverley Street/Victory Crescent

 Ø2 (R)	 Ø4
89.6 s	50.4 s
 Ø6 (R)	 Ø8
89.6 s	50.4 s

Lanes, Volumes, Timings  
6: Airport Road & 7280 Airport Road/Morning Star Drive

2017 Existing AM

11/23/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			  	
Traffic Volume (vph)	13	13	21	161	11	115	12	1104	70	117	1642	26
Future Volume (vph)	13	13	21	161	11	115	12	1104	70	117	1642	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.5	3.5	3.7	3.5
Storage Length (m)	0.0		0.0	40.0		0.0	70.0		50.0	55.0		80.0
Storage Lanes	0		0	1		0	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor		0.97		0.96	0.96		1.00		0.93	0.99		0.97
Frt		0.940			0.863				0.850			0.850
Flt Protected		0.986		0.950			0.950			0.950		
Satd. Flow (prot)	0	1735	0	1513	1435	0	1785	4601	1298	1566	4749	1597
Flt Permitted		0.908		0.726			0.138			0.212		
Satd. Flow (perm)	0	1586	0	1106	1435	0	259	4601	1207	347	4749	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			115				70			29
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		74.5			238.7			96.6			221.6	
Travel Time (s)		5.4			17.2			7.0			16.0	
Confl. Peds. (#/hr)	28		41	41		28	5		17	17		5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	18%	0%	12%	0%	14%	23%	14%	10%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Adj. Flow (vph)	13	13	21	161	11	115	12	1104	70	117	1642	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	47	0	161	126	0	12	1104	70	117	1642	26
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.01	0.99	0.99	1.01	0.99	1.01	1.01	0.99	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Baseline













Synchro 10 Light Report

Page 1

Lanes, Volumes, Timings  
6: Airport Road & 7280 Airport Road/Morning Star Drive

2017 Existing AM

11/23/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	43.7	43.7		43.7	43.7		29.2	29.2	29.2	8.0	29.2	29.2
Total Split (s)	47.6	47.6		47.6	47.6		79.8	79.8	79.8	12.6	92.4	92.4
Total Split (%)	34.0%	34.0%		34.0%	34.0%		57.0%	57.0%	57.0%	9.0%	66.0%	66.0%
Maximum Green (s)	40.9	40.9		40.9	40.9		73.6	73.6	73.6	9.6	86.2	86.2
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.7	2.7		2.7	2.7		2.2	2.2	2.2	0.0	2.2	2.2
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.7		6.7	6.7		6.2	6.2	6.2	3.0	6.2	6.2
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	14.0	14.0		14.0	14.0		9.0	9.0	9.0		9.0	9.0
Flash Dont Walk (s)	23.0	23.0		23.0	23.0		14.0	14.0	14.0		14.0	14.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0	0
Act Effect Green (s)		27.7		27.7	27.7		85.9	85.9	85.9	102.6	99.4	99.4
Actuated g/C Ratio		0.20		0.20	0.20		0.61	0.61	0.61	0.73	0.71	0.71
v/c Ratio		0.14		0.74	0.34		0.08	0.39	0.09	0.34	0.49	0.02
Control Delay		27.3		71.2	11.2		14.3	14.0	4.2	9.3	10.4	2.7
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		27.3		71.2	11.2		14.3	14.0	4.2	9.3	10.4	2.7
LOS		C		E	B		B	B	A	A	B	A
Approach Delay		27.3			44.9			13.4			10.2	
Approach LOS		C			D			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 29.4 (21%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 14.6






Intersection LOS: B

Intersection Capacity Utilization 81.3%

ICU Level of Service D





Analysis Period (min) 15

Splits and Phases: 6: Airport Road & 7280 Airport Road/Morning Star Drive

 Ø1	 Ø2 (R)	 Ø4
12.6 s	79.8 s	47.6 s
 Ø6 (R)		 Ø8
92.4 s		47.6 s

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	0	1186	11824	0
Future Vol, veh/h	0	2	0	1186	11824	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	300	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	8	11	0
Mvmt Flow	0	2	0	1186	11824	0




Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	12298	5912	11824	0	-	0
Stage 1	11824	-	-	-	-	-
Stage 2	474	-	-	-	-	-
Critical Hdwy	5.7	7.1	5.3	-	-	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	3.1	-	-	-
Pot Cap-1 Maneuver	0	0	0	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	546	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	0	0	0	-	-	-
Mov Cap-2 Maneuver	0	-	-	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	546	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s		0	0
HCM LOS	-		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	-
HCM Lane LOS	A	-	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	11	0	1186	1825	1
Future Vol, veh/h	0	11	0	1186	1825	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	8	11	0
Mvmt Flow	0	11	0	1186	1825	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2300	913	1826	0	-	0
Stage 1	1826	-	-	-	-	-
Stage 2	474	-	-	-	-	-
Critical Hdwy	5.7	7.1	5.3	-	-	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	3.1	-	-	-
Pot Cap-1 Maneuver	66	240	157	-	-	-
Stage 1	75	-	-	-	-	-
Stage 2	546	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	66	240	157	-	-	-
Mov Cap-2 Maneuver	68	-	-	-	-	-
Stage 1	75	-	-	-	-	-
Stage 2	546	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	157	-	240	-	-
HCM Lane V/C Ratio	-	-	0.046	-	-
HCM Control Delay (s)	0	-	20.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection: 3: Airport Road & Beverley Street/Victory Crescent

Movement	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	TR	L	T	T	TR
Maximum Queue (m)	43.6	25.0	15.5	79.1	70.0	44.1	8.6	38.4	40.3	42.4
Average Queue (m)	16.0	7.6	1.3	37.1	24.4	9.3	0.9	13.0	12.7	13.6
95th Queue (m)	34.3	19.6	8.1	73.7	57.2	28.3	5.3	30.4	31.2	32.0
Link Distance (m)	64.0	183.8		200.7	200.7	200.7		140.4	140.4	140.4
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)			15.0				50.0			
Storage Blk Time (%)			0	14				0		
Queuing Penalty (veh)			0	1				0		

Intersection: 6: Airport Road & 7280 Airport Road/Morning Star Drive

Movement	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	TR	L	T	T	T	R	L	T	T	T
Maximum Queue (m)	20.6	47.2	126.4	30.6	84.2	78.0	75.6	43.2	62.4	136.8	111.4	88.0
Average Queue (m)	6.1	38.8	36.7	3.6	47.2	43.0	34.6	9.7	28.6	89.4	72.5	47.8
95th Queue (m)	15.4	54.5	92.7	16.9	78.4	74.9	67.1	28.3	63.3	129.3	105.1	83.3
Link Distance (m)	56.7		220.8		83.2	83.2	83.2			214.1	214.1	214.1
Upstream Blk Time (%)					0	0	0					
Queuing Penalty (veh)					1	0	0					
Storage Bay Dist (m)		40.0		70.0				50.0	55.0			
Storage Blk Time (%)		21	1		1		2		0	17		0
Queuing Penalty (veh)		27	1		0		1		1	19		0

Intersection: 6: Airport Road & 7280 Airport Road/Morning Star Drive

Movement	SB
Directions Served	R
Maximum Queue (m)	29.2
Average Queue (m)	2.6
95th Queue (m)	16.4
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	80.0
Storage Blk Time (%)	0
Queuing Penalty (veh)	0



Intersection: 9: Airport Road & 7256 Airport Road South Access

Movement	EB
Directions Served	LR
Maximum Queue (m)	10.7
Average Queue (m)	2.4
95th Queue (m)	8.9
Link Distance (m)	73.0
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Airport Road & 7256 Airport Road North Access

Movement	EB	NB	NB	SB	SB	SB
Directions Served	LR	T	T	T	T	TR
Maximum Queue (m)	6.5	12.3	7.2	47.1	64.8	15.0
Average Queue (m)	1.1	0.4	0.2	2.0	4.5	0.9
95th Queue (m)	4.9	5.9	4.5	19.9	30.3	12.6
Link Distance (m)	70.8	64.8	64.8	83.2	83.2	83.2
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)						
Storage Blk Time (%)		0				
Queuing Penalty (veh)		0				























Network Summary

Network wide Queuing Penalty: 52

Lanes, Volumes, Timings  
3: Airport Road & Beverley Street/Victory Crescent













2017 Existing PM

11/23/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			  	
Traffic Volume (vph)	87	13	13	26	12	18	34	2205	11	31	1183	54
Future Volume (vph)	87	13	13	26	12	18	34	2205	11	31	1183	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.7
Storage Length (m)	0.0		0.0	0.0		0.0	15.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.99			0.99		0.98	1.00			0.99	
Frt		0.984			0.957			0.999			0.993	
Flt Protected		0.963			0.977		0.950			0.950		
Satd. Flow (prot)	0	1695	0	0	1691	0	1733	4878	0	1785	4773	0
Flt Permitted		0.778			0.834		0.205			0.061		
Satd. Flow (perm)	0	1361	0	0	1437	0	367	4878	0	115	4773	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			9			1			10	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		82.0			201.6			209.7			152.7	
Travel Time (s)		5.9			14.5			15.1			11.0	
Confl. Peds. (#/hr)	7		10	10		7	41		3	3		41
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	8%	0%	8%	4%	17%	0%	3%	7%	0%	0%	8%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	3	0	3	3
Adj. Flow (vph)	87	13	13	26	12	18	34	2205	11	31	1183	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	113	0	0	56	0	34	2216	0	31	1237	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	1.01	0.99	0.99	1.01	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
3: Airport Road & Beverley Street/Victory Crescent

2017 Existing PM  
11/23/2017





												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	39.8	39.8		39.8	39.8		27.0	27.0		27.0	27.0	
Total Split (s)	44.8	44.8		44.8	44.8		95.2	95.2		95.2	95.2	
Total Split (%)	32.0%	32.0%		32.0%	32.0%		68.0%	68.0%		68.0%	68.0%	
Maximum Green (s)	38.0	38.0		38.0	38.0		89.2	89.2		89.2	89.2	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.8	2.8		2.8	2.8		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.8			6.8		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	13.0	13.0		13.0	13.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		19.0			19.0		108.2	108.2		108.2	108.2	
Actuated g/C Ratio		0.14			0.14		0.77	0.77		0.77	0.77	
v/c Ratio		0.60			0.28		0.12	0.59		0.35	0.34	
Control Delay		66.6			47.3		6.2	7.9		17.5	4.2	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		66.6			47.3		6.2	7.9		17.5	4.2	
LOS		E			D		A	A		B	A	
Approach Delay		66.6			47.3			7.9			4.5	
Approach LOS		E			D			A			A	

Intersection Summary

Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 56 (40%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.60  
 Intersection Signal Delay: 9.1  
 Intersection Capacity Utilization 68.7%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service C

Splits and Phases: 3: Airport Road & Beverley Street/Victory Crescent

 Ø2 (R)	 Ø4
95.2 s	44.8 s
 Ø6 (R)	 Ø8
95.2 s	44.8 s

HCM 2010 TWSC  
11: Airport Road & 7256 Airport Road North Access

2017 Existing PM  
11/23/2017

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑↑	↑↑↑	
Traffic Vol, veh/h	4	2	2	2307	1267	4
Future Vol, veh/h	4	2	2	2307	1267	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	600	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	7	8	0
Mvmt Flow	4	2	2	2307	1267	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2196	636	1271	0	-	0
Stage 1	1269	-	-	-	-	-
Stage 2	927	-	-	-	-	-
Critical Hdwy	5.7	7.1	5.3	-	-	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	3.1	-	-	-
Pot Cap-1 Maneuver	75	364	294	-	-	-
Stage 1	168	-	-	-	-	-
Stage 2	317	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	74	364	294	-	-	-
Mov Cap-2 Maneuver	129	-	-	-	-	-
Stage 1	167	-	-	-	-	-
Stage 2	317	-	-	-	-	-






















Approach	EB	NB	SB
HCM Control Delay, s	27.8	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	294	-	164	-	-
HCM Lane V/C Ratio	0.007	-	0.037	-	-
HCM Control Delay (s)	17.3	-	27.8	-	-
HCM Lane LOS	C	-	D	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM 2010 TWSC  
9: Airport Road & 7256 Airport Road South Access

2017 Existing PM  
11/23/2017

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	YY			↑↑↑	↑↑↑	
Traffic Vol, veh/h	3	5	4	2306	1263	5
Future Vol, veh/h	3	5	4	2306	1263	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	7	8	0
Mvmt Flow	3	5	4	2306	1263	5
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2196	634	1268	0	-	0
Stage 1	1266	-	-	-	-	-
Stage 2	930	-	-	-	-	-
Critical Hdwy	5.7	7.1	5.3	-	-	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	3.1	-	-	-
Pot Cap-1 Maneuver	75	365	295	-	-	-
Stage 1	169	-	-	-	-	-
Stage 2	316	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	75	365	295	-	-	-
Mov Cap-2 Maneuver	130	-	-	-	-	-
Stage 1	169	-	-	-	-	-
Stage 2	316	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	22.1	0		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	295	-	218	-	-	
HCM Lane V/C Ratio	0.014	-	0.037	-	-	
HCM Control Delay (s)	17.4	0	22.1	-	-	
HCM Lane LOS	C	A	C	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	26	28	116	14	159	23	2105	183	253	1126	17
Future Volume (vph)	15	26	28	116	14	159	23	2105	183	253	1126	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.5	3.5	3.7	3.5
Storage Length (m)	0.0		0.0	40.0		0.0	70.0		50.0	55.0		80.0
Storage Lanes	0		0	1		0	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor		0.96		0.93	0.96		0.99		0.97			0.92
Frt		0.945			0.862				0.850			0.850
Flt Protected		0.989		0.950			0.950			0.950		
Satd. Flow (prot)	0	1734	0	1785	1594	0	1785	4856	1507	1684	4837	1597
Flt Permitted		0.814		0.735			0.241			0.052		
Satd. Flow (perm)	0	1420	0	1289	1594	0	447	4856	1459	92	4837	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			159				99			29
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		74.5			238.7			98.7			221.6	
Travel Time (s)		5.4			17.2			7.1			16.0	
Confl. Peds. (#/hr)	26		65	65		26	21		4	4		21
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	8%	6%	6%	8%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Adj. Flow (vph)	15	26	28	116	14	159	23	2105	183	253	1126	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	69	0	116	173	0	23	2105	183	253	1126	17
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.01	0.99	0.99	1.01	0.99	1.01	1.01	0.99	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

## 6: Airport Road &amp; 7280 Airport Road/Morning Star Drive

11/23/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	43.7	43.7		43.7	43.7		29.2	29.2	29.2	8.0	29.2	29.2
Total Split (s)	47.6	47.6		47.6	47.6		75.6	75.6	75.6	16.8	92.4	92.4
Total Split (%)	34.0%	34.0%		34.0%	34.0%		54.0%	54.0%	54.0%	12.0%	66.0%	66.0%
Maximum Green (s)	40.9	40.9		40.9	40.9		69.4	69.4	69.4	13.8	86.2	86.2
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.7	2.7		2.7	2.7		2.2	2.2	2.2	0.0	2.2	2.2
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.7		6.7	6.7		6.2	6.2	6.2	3.0	6.2	6.2
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	14.0	14.0		14.0	14.0		9.0	9.0	9.0		9.0	9.0
Flash Dont Walk (s)	23.0	23.0		23.0	23.0		14.0	14.0	14.0		14.0	14.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0	0
Act Effct Green (s)		19.9		19.9	19.9		74.4	74.4	74.4	110.4	107.2	107.2
Actuated g/C Ratio		0.14		0.14	0.14		0.53	0.53	0.53	0.79	0.77	0.77
v/c Ratio		0.31		0.63	0.48		0.10	0.82	0.22	0.62	0.30	0.02
Control Delay		37.3		71.0	13.7		12.5	24.7	3.8	41.2	5.7	1.0
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		37.3		71.0	13.7		12.5	24.7	3.8	41.2	5.7	1.0
LOS		D		E	B		B	C	A	D	A	A
Approach Delay		37.3			36.7			23.0			12.1	
Approach LOS		D			D			C			B	

## Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 75.6 (54%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 20.4

Intersection LOS: C

Intersection Capacity Utilization 98.2%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 6: Airport Road &amp; 7280 Airport Road/Morning Star Drive

Ø1	Ø2 (R)	Ø4
16.8 s	75.6 s	47.6 s
Ø6 (R)		Ø8
92.4 s		47.6 s



# Queuing and Blocking Report Baseline

11/23/2017

## Intersection: 3: Airport Road & Beverley Street/Victory Crescent

Movement	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	TR	L	T	T	TR
Maximum Queue (m)	63.1	36.0	21.4	135.4	122.6	99.4	24.7	37.2	43.2	45.7
Average Queue (m)	26.0	12.9	6.4	79.6	67.9	45.2	7.1	18.1	22.0	19.4
95th Queue (m)	51.2	26.9	16.3	129.8	116.8	84.1	18.5	33.6	38.7	38.8
Link Distance (m)	64.0	183.8		200.7	200.7	200.7		139.6	139.6	139.6
Upstream Blk Time (%)	1									
Queuing Penalty (veh)	0									
Storage Bay Dist (m)			15.0				50.0			
Storage Blk Time (%)			2	23						
Queuing Penalty (veh)			11	8						

## Intersection: 6: Airport Road & 7280 Airport Road/Morning Star Drive

Movement	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	TR	L	T	T	T	R	L	T	T	T
Maximum Queue (m)	32.0	47.0	74.3	27.7	90.9	98.4	94.7	57.5	62.4	192.0	164.6	103.6
Average Queue (m)	10.1	27.6	27.4	5.1	70.2	72.5	69.8	27.3	56.4	115.9	95.7	31.8
95th Queue (m)	22.6	46.5	56.2	18.2	99.0	104.6	105.4	66.1	75.6	217.0	192.8	78.7
Link Distance (m)	56.7		220.9		85.0	85.0	85.0			214.1	214.1	214.1
Upstream Blk Time (%)					5	6	6			2		
Queuing Penalty (veh)					41	46	43			0		
Storage Bay Dist (m)		40.0		70.0				50.0	55.0			
Storage Blk Time (%)		6	3		11		19	0	49	4		0
Queuing Penalty (veh)		10	4		3		34	1	184	10		0

## Intersection: 6: Airport Road & 7280 Airport Road/Morning Star Drive

Movement	SB
Directions Served	R
Maximum Queue (m)	8.0
Average Queue (m)	1.9
95th Queue (m)	7.2
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	80.0
Storage Blk Time (%)	
Queuing Penalty (veh)	

2017 Existing PM.



## Queuing and Blocking Report

### Baseline

2017

#### Intersection: 9: Airport Road & 7256 Airport Road South Access






















Movement	EB	NB	NB	NB
Directions Served	LR	LT	T	T
Maximum Queue (m)	8.9	53.6	49.9	48.0
Average Queue (m)	1.4	4.9	5.5	4.0
95th Queue (m)	6.5	27.7	30.2	26.4
Link Distance (m)	57.1	139.6	139.6	139.6
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

#### Intersection: 11: Airport Road & 7256 Airport Road North Access

Movement	EB	NB	NB	NB	NB
Directions Served	LR	L	T	T	T
Maximum Queue (m)	8.9	6.8	73.1	71.6	70.4
Average Queue (m)	2.5	0.3	22.1	23.4	20.1
95th Queue (m)	8.8	2.7	64.2	66.1	60.1
Link Distance (m)	55.0		63.8	63.8	63.8
Upstream Blk Time (%)			1	1	1
Queuing Penalty (veh)			6	9	6
Storage Bay Dist (m)		60.0			
Storage Blk Time (%)			1		
Queuing Penalty (veh)			0		

## Network Summary

Network wide Queuing Penalty: 414

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	14	23	178	12	127	13	1219	77	129	1813	29
Future Volume (vph)	14	14	23	178	12	127	13	1219	77	129	1813	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.5	3.5	3.7	3.5
Storage Length (m)	0.0		0.0	40.0		0.0	70.0		50.0	55.0		80.0
Storage Lanes	0		0	1		0	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor		0.97		0.96	0.97		1.00		0.97	1.00		0.94
Frt		0.939			0.863				0.850			0.850
Flt Protected		0.986		0.950			0.950			0.950		
Satd. Flow (prot)	0	1734	0	1785	1613	0	1785	4856	1507	1684	4837	1597
Flt Permitted		0.902		0.724			0.116			0.158		
Satd. Flow (perm)	0	1580	0	1304	1613	0	217	4856	1466	280	4837	1504
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			127				86			47
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		74.5			238.7			98.7			221.6	
Travel Time (s)		5.4			17.2			7.1			16.0	
Confl. Peds. (#/hr)	26		65	65		26	21		4	4		21
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	8%	6%	6%	8%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Adj. Flow (vph)	14	14	23	178	12	127	13	1219	77	129	1813	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	0	178	139	0	13	1219	77	129	1813	29
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.01	0.99	0.99	1.01	0.99	1.01	1.01	0.99	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	43.7	43.7		43.7	43.7		29.2	29.2	29.2	8.0	29.2	29.2
Total Split (s)	43.7	43.7		43.7	43.7		32.3	32.3	32.3	9.0	41.3	41.3
Total Split (%)	51.4%	51.4%		51.4%	51.4%		38.0%	38.0%	38.0%	10.6%	48.6%	48.6%
Maximum Green (s)	37.0	37.0		37.0	37.0		26.1	26.1	26.1	6.0	35.1	35.1
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.7	2.7		2.7	2.7		2.2	2.2	2.2	0.0	2.2	2.2
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.7		6.7	6.7		6.2	6.2	6.2	3.0	6.2	6.2
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	14.0	14.0		14.0	14.0		9.0	9.0	9.0		9.0	9.0
Flash Dont Walk (s)	23.0	23.0		23.0	23.0		14.0	14.0	14.0		14.0	14.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0	0
Act Effct Green (s)		19.3		19.3	19.3		39.5	39.5	39.5	56.0	52.8	52.8
Actuated g/C Ratio		0.23		0.23	0.23		0.46	0.46	0.46	0.66	0.62	0.62
v/c Ratio		0.14		0.60	0.30		0.13	0.54	0.11	0.36	0.60	0.03
Control Delay		23.7		36.9	7.2		22.2	19.0	4.4	9.7	11.9	1.7
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		23.7		36.9	7.2		22.2	19.0	4.4	9.7	11.9	1.7
LOS		C		D	A		C	B	A	A	B	A
Approach Delay		23.7			23.9			18.1			11.6	
Approach LOS		C			C			B			B	

## Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 85

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 15.2

Intersection LOS: B

Intersection Capacity Utilization 86.9%

ICU Level of Service E

Analysis Period (min) 15



















Splits and Phases: 6: Airport Road &amp; 7280 Airport Road/Morning Star Drive

Ø1	Ø2 (R)	Ø4
9 s	32.3 s	43.7 s
Ø6 (R)	Ø8	
41.3 s	43.7 s	

Lanes, Volumes, Timings  
3: Airport Road & Beverley Street/Victory Crescent

2022 Future Background AM













11/23/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	8	7	8	9	20	7	1242	3	9	1973	33
Future Volume (vph)	47	8	7	8	9	20	7	1242	3	9	1973	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.7
Storage Length (m)	0.0		0.0	0.0		0.0	15.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.99			0.99			1.00		1.00	1.00	
Frt		0.985			0.927						0.998	
Flt Protected		0.963			0.989		0.950			0.950		
Satd. Flow (prot)	0	1699	0	0	1659	0	1733	4882	0	1785	4816	0
Flt Permitted		0.754			0.930		0.085			0.208		
Satd. Flow (perm)	0	1322	0	0	1556	0	155	4882	0	390	4816	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			20						3	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		82.0			201.6			209.7			152.7	
Travel Time (s)		5.9			14.5			15.1			11.0	
Confl. Peds. (#/hr)	7		10	10		7	41		3	3		41
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	8%	0%	8%	4%	17%	0%	3%	7%	0%	0%	8%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	3	0	3	3
Adj. Flow (vph)	47	8	7	8	9	20	7	1242	3	9	1973	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	0	0	37	0	7	1245	0	9	2006	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	1.01	0.99	0.99	1.01	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
3: Airport Road & Beverley Street/Victory Crescent

2022 Future Background AM

11/23/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	39.8	39.8		39.8	39.8		27.0	27.0		27.0	27.0	
Total Split (s)	44.8	44.8		44.8	44.8		95.2	95.2		95.2	95.2	
Total Split (%)	32.0%	32.0%		32.0%	32.0%		68.0%	68.0%		68.0%	68.0%	
Maximum Green (s)	38.0	38.0		38.0	38.0		89.2	89.2		89.2	89.2	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.8	2.8		2.8	2.8		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.8			6.8		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	13.0	13.0		13.0	13.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		13.2			13.2		118.1	118.1		118.1	118.1	
Actuated g/C Ratio		0.09			0.09		0.84	0.84		0.84	0.84	
v/c Ratio		0.48			0.23		0.05	0.30		0.03	0.49	
Control Delay		67.7			35.3		4.4	3.3		3.4	4.5	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		67.7			35.3		4.4	3.3		3.4	4.5	
LOS		E			D		A	A		A	A	
Approach Delay		67.7			35.3			3.4			4.5	
Approach LOS		E			D			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 56 (40%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 5.6





Intersection LOS: A

Intersection Capacity Utilization 64.4%

ICU Level of Service C

Analysis Period (min) 15




Splits and Phases: 3: Airport Road & Beverley Street/Victory Crescent

 Ø2 (R)	 Ø4
95.2 s	44.8 s
 Ø6 (R)	 Ø8
95.2 s	44.8 s

D.L

Intersection





Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	12	0	1309	2015	1
Future Vol, veh/h	0	12	0	1309	2015	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	7	8	0
Mvmt Flow	0	12	0	1309	2015	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2540	1008	2016	0	-	0
Stage 1	2016	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Critical Hdwy	5.7	7.1	5.3	-	-	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	3.1	-	-	-
Pot Cap-1 Maneuver	49	208	126	-	-	-
Stage 1	57	-	-	-	-	-
Stage 2	515	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	49	208	126	-	-	-
Mov Cap-2 Maneuver	52	-	-	-	-	-
Stage 1	57	-	-	-	-	-
Stage 2	515	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	126	-	208	-	-
HCM Lane V/C Ratio	-	-	0.058	-	-
HCM Control Delay (s)	0	-	23.4	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	0	1309	2014	1
Future Vol, veh/h	0	2	0	1309	2014	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	600	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	7	8	0
Mvmt Flow	0	2	0	1309	2014	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2539	1008	2015	0	-	0
Stage 1	2015	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Critical Hdwy	5.7	7.1	5.3	-	-	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	3.1	-	-	-
Pot Cap-1 Maneuver	49	208	126	-	-	-
Stage 1	57	-	-	-	-	-
Stage 2	515	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	49	208	126	-	-	-
Mov Cap-2 Maneuver	52	-	-	-	-	-
Stage 1	57	-	-	-	-	-
Stage 2	515	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.5	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	126	-	208	-	-
HCM Lane V/C Ratio	-	-	0.01	-	-
HCM Control Delay (s)	0	-	22.5	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection: 3: Airport Road & Beverley Street/Victory Crescent

Movement	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	TR	L	T	T	TR
Maximum Queue (m)	49.8	27.3	9.9	90.7	75.9	46.1	21.0	128.5	120.9	126.2
Average Queue (m)	18.5	8.0	2.0	47.9	32.8	12.9	2.7	49.7	52.6	54.0
95th Queue (m)	36.8	20.3	8.0	85.5	69.4	35.2	13.1	112.0	116.6	119.0
Link Distance (m)	64.0	183.8		200.7	200.7	200.7		139.6	139.6	139.6
Upstream Blk Time (%)	0							0	0	0
Queuing Penalty (veh)	0							1	0	0
Storage Bay Dist (m)			15.0				50.0			
Storage Blk Time (%)			0	19				7		
Queuing Penalty (veh)			0	1				1		

Intersection: 6: Airport Road & 7280 Airport Road/Morning Star Drive

Movement	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	TR	L	T	T	T	R	L	T	T	T
Maximum Queue (m)	17.8	45.4	48.5	47.6	88.0	92.3	85.2	57.5	62.4	168.0	150.8	103.9
Average Queue (m)	5.1	23.8	12.6	4.9	62.8	62.8	54.2	13.9	39.4	111.4	93.6	64.9
95th Queue (m)	13.7	42.5	29.3	22.5	91.3	91.6	84.0	42.9	76.0	155.0	139.0	98.2
Link Distance (m)	56.7		220.9		85.0	85.0	85.0			214.1	214.1	214.1
Upstream Blk Time (%)					2	2	0					
Queuing Penalty (veh)					7	7	2					
Storage Bay Dist (m)		40.0		70.0				50.0	55.0			
Storage Blk Time (%)		2			6		8	0	0	34		1
Queuing Penalty (veh)		3			1		6	0	1	44		0

Intersection: 6: Airport Road & 7280 Airport Road/Morning Star Drive

Movement	SB
Directions Served	R
Maximum Queue (m)	9.6
Average Queue (m)	2.9
95th Queue (m)	9.2
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	80.0
Storage Blk Time (%)	
Queuing Penalty (veh)	



Intersection: 9: Airport Road & 7256 Airport Road South Access

Movement	EB	NB	SB
Directions Served	LR	T	TR
Maximum Queue (m)	10.5	2.9	7.5
Average Queue (m)	3.3	0.1	0.3
95th Queue (m)	10.4	1.8	4.1
Link Distance (m)	57.1	139.6	63.8
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Airport Road & 7256 Airport Road North Access

Movement	EB	NB	NB	NE
Directions Served	LR	T	T	T
Maximum Queue (m)	6.5	21.8	17.9	2.3
Average Queue (m)	0.3	2.1	1.7	0.1
95th Queue (m)	2.8	11.6	11.0	1.5
Link Distance (m)	55.0	63.8	63.8	63.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				



















Network Summary

Network wide Queuing Penalty: 74

Lanes, Volumes, Timings  
3: Airport Road & Beverley Street/Victory Crescent

2022 Future Background PM













11/23/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	14	14	29	13	20	38	2434	12	34	1306	60
Future Volume (vph)	96	14	14	29	13	20	38	2434	12	34	1306	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.7
Storage Length (m)	0.0		0.0	0.0		0.0	15.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.99			0.99		0.99	1.00			1.00	
Frt		0.985			0.956			0.999			0.993	
Flt Protected		0.963			0.977		0.950			0.950		
Satd. Flow (prot)	0	1698	0	0	1692	0	1733	4878	0	1785	4782	0
Flt Permitted		0.733			0.828		0.172			0.065		
Satd. Flow (perm)	0	1287	0	0	1430	0	311	4878	0	122	4782	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			1			1			11	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		82.0			201.6			209.7			152.7	
Travel Time (s)		5.9			14.5			15.1			11.0	
Confl. Peds. (#/hr)	7		10	10		7	41		3	3		41
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	8%	0%	8%	4%	17%	0%	3%	7%	0%	0%	8%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	3	0	3	3
Adj. Flow (vph)	96	14	14	29	13	20	38	2434	12	34	1306	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	124	0	0	62	0	38	2446	0	34	1366	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	1.01	0.99	0.99	1.01	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
3: Airport Road & Beverley Street/Victory Crescent

2022 Future Background PM

11/23/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	39.8	39.8		39.8	39.8		27.0	27.0		27.0	27.0	
Total Split (s)	39.8	39.8		39.8	39.8		50.2	50.2		50.2	50.2	
Total Split (%)	44.2%	44.2%		44.2%	44.2%		55.8%	55.8%		55.8%	55.8%	
Maximum Green (s)	33.0	33.0		33.0	33.0		44.2	44.2		44.2	44.2	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.8	2.8		2.8	2.8		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.8			6.8		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	13.0	13.0		13.0	13.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Efect Green (s)		15.3			15.3		61.9	61.9		61.9	61.9	
Actuated g/C Ratio		0.17			0.17		0.69	0.69		0.69	0.69	
v/c Ratio		0.55			0.25		0.18	0.73		0.41	0.42	
Control Delay		40.2			32.7		8.9	11.3		27.1	7.1	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		40.2			32.7		8.9	11.3		27.1	7.1	
LOS		D			C		A	B		C	A	
Approach Delay		40.2			32.7			11.2			7.6	
Approach LOS		D			C			B			A	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 11.2





Intersection LOS: B

Intersection Capacity Utilization 73.8%

ICU Level of Service D

Analysis Period (min) 15




Splits and Phases: 3: Airport Road & Beverley Street/Victory Crescent

	Ø2 (R)		Ø4
50.2 s		39.8 s	
	Ø6 (R)		Ø8
50.2 s		39.8 s	

D.L

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	5	4	2546	1394	6
Future Vol, veh/h	3	5	4	2546	1394	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	7	8	0
Mvmt Flow	3	5	4	2546	1394	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2423	700	1400	0	-	0
Stage 1	1397	-	-	-	-	-
Stage 2	1026	-	-	-	-	-
Critical Hdwy	5.7	7.1	5.3	-	-	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	3.1	-	-	-
Pot Cap-1 Maneuver	57	331	254	-	-	-
Stage 1	140	-	-	-	-	-
Stage 2	281	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	57	331	254	-	-	-
Mov Cap-2 Maneuver	107	-	-	-	-	-
Stage 1	140	-	-	-	-	-
Stage 2	281	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.3	0	0
HCM LOS	D		






















Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	254	-	185	-	-
HCM Lane V/C Ratio	0.016	-	0.043	-	-
HCM Control Delay (s)	19.4	0	25.3	-	-
HCM Lane LOS	C	A	D	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑↑	↑↑↑	
Traffic Vol, veh/h	4	2	2	2547	1399	4
Future Vol, veh/h	4	2	2	2547	1399	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	600	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	7	8	0
Mvmt Flow	4	2	2	2547	1399	4
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2424	702	1403	0	-	0
Stage 1	1401	-	-	-	-	-
Stage 2	1023	-	-	-	-	-
Critical Hdwy	5.7	7.1	5.3	-	-	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	3.1	-	-	-
Pot Cap-1 Maneuver	57	330	254	-	-	-
Stage 1	139	-	-	-	-	-
Stage 2	282	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	57	330	254	-	-	-
Mov Cap-2 Maneuver	106	-	-	-	-	-
Stage 1	138	-	-	-	-	-
Stage 2	282	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	32.5	0		0		
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	254	-	137	-	-	
HCM Lane V/C Ratio	0.008	-	0.044	-	-	
HCM Control Delay (s)	19.3	-	32.5	-	-	
HCM Lane LOS	C	-	D	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Lanes, Volumes, Timings  
6: Airport Road & 7280 Airport Road/Morning Star Drive

2022 Future Background PM

11/24/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	29	31	128	15	176	25	2324	202	279	1243	19
Future Volume (vph)	17	29	31	128	15	176	25	2324	202	279	1243	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.5	3.5	3.7	3.5
Storage Length (m)	0.0		0.0	40.0		0.0	70.0		50.0	55.0		80.0
Storage Lanes	0		0	1		0	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor		0.96		0.94	0.96		0.99		0.97			0.92
Frt		0.946			0.862				0.850			0.850
Flt Protected		0.989		0.950			0.950			0.950		
Satd. Flow (prot)	0	1738	0	1785	1595	0	1785	4856	1507	1684	4837	1597
Flt Permitted		0.790		0.719			0.213			0.055		
Satd. Flow (perm)	0	1382	0	1266	1595	0	396	4856	1459	97	4837	1469
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			176				101			30
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		74.5			85.7			98.7			221.6	
Travel Time (s)		5.4			6.2			7.1			16.0	
Confl. Peds. (#/hr)	26		65	65		26	21		4	4		21
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	8%	6%	6%	8%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Adj. Flow (vph)	17	29	31	128	15	176	25	2324	202	279	1243	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	0	128	191	0	25	2324	202	279	1243	19
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.01	0.99	0.99	1.01	0.99	1.01	1.01	0.99	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	43.7	43.7		43.7	43.7		29.2	29.2	29.2	8.0	29.2	29.2
Total Split (s)	43.7	43.7		43.7	43.7		72.3	72.3	72.3	19.0	91.3	91.3
Total Split (%)	32.4%	32.4%		32.4%	32.4%		53.6%	53.6%	53.6%	14.1%	67.6%	67.6%
Maximum Green (s)	37.0	37.0		37.0	37.0		66.1	66.1	66.1	16.0	85.1	85.1
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.7	2.7		2.7	2.7		2.2	2.2	2.2	0.0	2.2	2.2
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.7		6.7	6.7		6.2	6.2	6.2	3.0	6.2	6.2
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	14.0	14.0		14.0	14.0		9.0	9.0	9.0		9.0	9.0
Flash Dont Walk (s)	23.0	23.0		23.0	23.0		14.0	14.0	14.0		14.0	14.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0	0
Act Effct Green (s)		21.0		21.0	21.0		69.5	69.5	69.5	104.3	101.1	101.1
Actuated g/C Ratio		0.16		0.16	0.16		0.51	0.51	0.51	0.77	0.75	0.75
v/c Ratio		0.33		0.65	0.48		0.12	0.93	0.25	0.68	0.34	0.02
Control Delay		36.5		67.9	12.4		20.4	38.8	10.2	43.4	6.5	1.3
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		36.5		67.9	12.4		20.4	38.8	10.2	43.4	6.5	1.3
LOS		D		E	B		C	D	B	D	A	A
Approach Delay		36.5			34.7			36.3			13.1	
Approach LOS		D			C			D			B	

## Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 28.3

Intersection LOS: C

Intersection Capacity Utilization 104.1%

ICU Level of Service G

Analysis Period (min) 15

## Splits and Phases: 6: Airport Road &amp; 7280 Airport Road/Morning Star Drive

 Ø1 19 s	 Ø2 (R) 72.3 s	 Ø4 43.7 s
 Ø6 (R) 91.3 s	 Ø8 43.7 s	

Intersection: 3: Airport Road & Beverley Street/Victory Crescent

Movement	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	TR	L	T	T	TR
Maximum Queue (m)	44.4	33.1	22.4	190.8	176.4	132.8	56.1	94.5	105.3	111.8
Average Queue (m)	21.6	11.5	9.0	113.3	97.0	72.0	11.4	37.8	43.6	47.2
95th Queue (m)	39.2	25.3	21.6	179.3	157.5	123.0	33.3	81.0	89.1	97.9
Link Distance (m)	64.0	183.8		200.7	200.7	200.7		139.6	139.6	139.6
Upstream Blk Time (%)				0	0					
Queuing Penalty (veh)				0	0					
Storage Bay Dist (m)			15.0				50.0			
Storage Blk Time (%)			4	37			1	3		
Queuing Penalty (veh)			33	14			5	1		

Intersection: 6: Airport Road & 7280 Airport Road/Morning Star Drive

Movement	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	TR	L	T	T	T	R	L	T	T	T
Maximum Queue (m)	33.3	47.3	82.4	77.4	93.6	98.9	97.6	57.5	62.5	228.8	214.6	162.2
Average Queue (m)	12.2	29.4	33.3	11.9	86.7	88.1	87.5	35.9	61.2	179.0	152.0	51.5
95th Queue (m)	26.6	48.6	64.9	48.7	90.5	94.1	93.9	73.9	68.1	270.2	248.9	121.8
Link Distance (m)	56.7		220.9		85.0	85.0	85.0			214.1	214.1	214.1
Upstream Blk Time (%)					34	35	34			33	0	0
Queuing Penalty (veh)					289	301	288			0	0	0
Storage Bay Dist (m)		40.0		70.0				50.0	55.0			
Storage Blk Time (%)		6	5		43		45	0	75	2		1
Queuing Penalty (veh)		11	6		11		91	1	312	7		0

Intersection: 6: Airport Road & 7280 Airport Road/Morning Star Drive

Movement	SB
Directions Served	R
Maximum Queue (m)	27.9
Average Queue (m)	1.9
95th Queue (m)	15.7
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	80.0
Storage Blk Time (%)	
Queuing Penalty (veh)	



Intersection: 9: Airport Road & 7256 Airport Road South Access

Movement	EB	NB	NB	NB
Directions Served	LR	LT	T	T
Maximum Queue (m)	10.3	142.8	143.0	138.2
Average Queue (m)	2.1	76.4	78.4	73.7
95th Queue (m)	8.4	148.9	149.1	142.5
Link Distance (m)	57.1	139.6	139.6	139.6
Upstream Blk Time (%)		1	1	0
Queuing Penalty (veh)		7	7	4
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Airport Road & 7256 Airport Road North Access

Movement	EB	NB	NB	NB	NB
Directions Served	LR	L	T	T	T
Maximum Queue (m)	15.2	2.3	72.2	76.0	75.3
Average Queue (m)	2.8	0.2	64.4	65.8	64.4
95th Queue (m)	12.7	2.1	77.9	79.9	81.5
Link Distance (m)	55.0		63.8	63.8	63.8
Upstream Blk Time (%)			21	23	22
Queuing Penalty (veh)			179	195	187
Storage Bay Dist (m)		60.0			
Storage Blk Time (%)			24		
Queuing Penalty (veh)			0		

Network Summary

Network wide Queuing Penalty: 1949

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↗	↕↕↕	↗		↕↕↕		
Traffic Vol, veh/h	0	0	12	0	0	6	0	1297	15	0	2025	1
Future Vol, veh/h	0	0	12	0	0	6	0	1297	15	0	2025	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	300	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	2	0	2	2	2	0	7	2	2	8	0
Mvmt Flow	0	0	12	0	0	6	0	1297	15	0	2025	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2545	3338	1013	-	-	649	2026	0	0	-	-	0
Stage 1	2026	2026	-	-	-	-	-	-	-	-	-	-
Stage 2	519	1312	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.54	7.1	-	-	7.14	5.3	-	-	-	-	-
Critical Hdwy Stg 1	7.3	5.54	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.54	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.8	4.02	3.9	-	-	3.92	3.1	-	-	-	-	-
Pot Cap-1 Maneuver	30	8	206	0	0	354	124	-	-	0	-	-
Stage 1	38	100	-	0	0	-	-	-	-	0	-	-
Stage 2	468	227	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	29	8	206	-	-	354	124	-	-	-	-	-
Mov Cap-2 Maneuver	35	66	-	-	-	-	-	-	-	-	-	-
Stage 1	38	100	-	-	-	-	-	-	-	-	-	-
Stage 2	460	227	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.6	15.3	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBT	SBR
Capacity (veh/h)	124	-	-	206 354	-	-
HCM Lane V/C Ratio	-	-	-	0.058 0.017	-	-
HCM Control Delay (s)	0	-	-	23.6 15.3	-	-
HCM Lane LOS	A	-	-	C C	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2 0.1	-	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Vol, veh/h	208	5	1	317	10	14
Future Vol, veh/h	208	5	1	317	10	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	208	5	1	317	10	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	213	0	530	211
Stage 1	-	-	-	-	211	-
Stage 2	-	-	-	-	319	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1357	-	510	829
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	737	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1357	-	509	829
Mov Cap-2 Maneuver	-	-	-	-	509	-
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	737	-
























Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	657	-	-	1357	-
HCM Lane V/C Ratio	0.037	-	-	0.001	-
HCM Control Delay (s)	10.7	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Lanes, Volumes, Timings  
3: Airport Road & Beverley Street/Victory Crescent

2022 Future Total AM













11/24/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			  	
Traffic Volume (vph)	47	8	7	8	9	20	7	1245	3	9	1983	33
Future Volume (vph)	47	8	7	8	9	20	7	1245	3	9	1983	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.7
Storage Length (m)	0.0		0.0	0.0		0.0	15.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.99			0.99			1.00		1.00	1.00	
Frt		0.985			0.927						0.998	
Flt Protected		0.963			0.989		0.950			0.950		
Satd. Flow (prot)	0	1699	0	0	1659	0	1733	4882	0	1785	4816	0
Flt Permitted		0.754			0.930		0.084			0.207		
Satd. Flow (perm)	0	1322	0	0	1556	0	153	4882	0	388	4816	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			20						3	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		82.0			201.6			209.7			152.7	
Travel Time (s)		5.9			14.5			15.1			11.0	
Confl. Peds. (#/hr)	7		10	10		7	41		3	3		41
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	8%	0%	8%	4%	17%	0%	3%	7%	0%	0%	8%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	3	0	3	3
Adj. Flow (vph)	47	8	7	8	9	20	7	1245	3	9	1983	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	62	0	0	37	0	7	1248	0	9	2016	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	1.01	0.99	0.99	1.01	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
3: Airport Road & Beverley Street/Victory Crescent

2022 Future Total AM

11/24/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	39.8	39.8		39.8	39.8		27.0	27.0		27.0	27.0	
Total Split (s)	44.8	44.8		44.8	44.8		95.2	95.2		95.2	95.2	
Total Split (%)	32.0%	32.0%		32.0%	32.0%		68.0%	68.0%		68.0%	68.0%	
Maximum Green (s)	38.0	38.0		38.0	38.0		89.2	89.2		89.2	89.2	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.8	2.8		2.8	2.8		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.8			6.8		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	13.0	13.0		13.0	13.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		13.2			13.2		118.1	118.1		118.1	118.1	
Actuated g/C Ratio		0.09			0.09		0.84	0.84		0.84	0.84	
v/c Ratio		0.48			0.23		0.05	0.30		0.03	0.50	
Control Delay		67.7			35.3		4.4	3.4		3.4	4.5	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		67.7			35.3		4.4	3.4		3.4	4.5	
LOS		E			D		A	A		A	A	
Approach Delay		67.7			35.3			3.4			4.5	
Approach LOS		E			D			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 56 (40%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 5.6





Intersection LOS: A

Intersection Capacity Utilization 64.6%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Airport Road & Beverley Street/Victory Crescent

	Ø2 (R)		Ø4
95.2 s		44.8 s	
	Ø6 (R)		Ø8
95.2 s		44.8 s	

D.L

Intersection												
Int Delay, s/veh		0.1										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↗		↕↕↕	↗		↕↕↕	
Traffic Vol, veh/h	0	0	12	0	0	6	0	1297	15	0	2025	1
Future Vol, veh/h	0	0	12	0	0	6	0	1297	15	0	2025	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	300	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	2	0	2	2	2	0	7	2	2	8	0
Mvmt Flow	0	0	12	0	0	6	0	1297	15	0	2025	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2545	3338	1013	-	-	649	2026	0	0	-	-	0
Stage 1	2026	2026	-	-	-	-	-	-	-	-	-	-
Stage 2	519	1312	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.54	7.1	-	-	7.14	5.3	-	-	-	-	-
Critical Hdwy Stg 1	7.3	5.54	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.54	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.8	4.02	3.9	-	-	3.92	3.1	-	-	-	-	-
Pot Cap-1 Maneuver	30	8	206	0	0	354	124	-	-	0	-	-
Stage 1	38	100	-	0	0	-	-	-	-	0	-	-
Stage 2	468	227	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	29	8	206	-	-	354	124	-	-	-	-	-
Mov Cap-2 Maneuver	35	66	-	-	-	-	-	-	-	-	-	-
Stage 1	38	100	-	-	-	-	-	-	-	-	-	-
Stage 2	460	227	-	-	-	-	-	-	-	-	-	-





Approach	EB	WB	NB	SB
HCM Control Delay, s	23.6	15.3	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBT	SBR
Capacity (veh/h)	124	-	-	206 354	-	-
HCM Lane V/C Ratio	-	-	-	0.058 0.017	-	-
HCM Control Delay (s)	0	-	-	23.6 15.3	-	-
HCM Lane LOS	A	-	-	C C	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2 0.1	-	-

Intersection






















Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	0	1303	2024	1
Future Vol, veh/h	0	2	0	1303	2024	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	600	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	7	8	0
Mvmt Flow	0	2	0	1303	2024	1













Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2546	1013	2025	0	-	0
Stage 1	2025	-	-	-	-	-
Stage 2	521	-	-	-	-	-
Critical Hdwy	5.7	7.1	5.3	-	-	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	3.1	-	-	-
Pot Cap-1 Maneuver	49	206	124	-	-	-
Stage 1	56	-	-	-	-	-
Stage 2	517	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	49	206	124	-	-	-
Mov Cap-2 Maneuver	51	-	-	-	-	-
Stage 1	56	-	-	-	-	-
Stage 2	517	-	-	-	-	-

Approach	EB		NB		SB
HCM Control Delay, s	22.6		0		0
HCM LOS	C				

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	124	-	206	-	-
HCM Lane V/C Ratio	-	-	0.01	-	-
HCM Control Delay (s)	0	-	22.6	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	14	23	188	12	127	13	1225	65	134	1813	29
Future Volume (vph)	14	14	23	188	12	127	13	1225	65	134	1813	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.5	3.5	3.7	3.5
Storage Length (m)	0.0		0.0	40.0		0.0	70.0		50.0	55.0		80.0
Storage Lanes	0		0	1		0	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor		0.97		0.96	0.97		1.00		0.97	1.00		0.94
Frt		0.939			0.863				0.850			0.850
Flt Protected		0.986		0.950			0.950			0.950		
Satd. Flow (prot)	0	1734	0	1785	1613	0	1785	4856	1507	1684	4837	1597
Flt Permitted		0.904		0.724			0.116			0.153		
Satd. Flow (perm)	0	1583	0	1304	1613	0	217	4856	1466	271	4837	1504
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			127				86			47
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		74.5			103.7			98.7			221.6	
Travel Time (s)		5.4			7.5			7.1			16.0	
Confl. Peds. (#/hr)	26		65	65		26	21		4	4		21
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	8%	6%	6%	8%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Adj. Flow (vph)	14	14	23	188	12	127	13	1225	65	134	1813	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	0	188	139	0	13	1225	65	134	1813	29
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.01	0.99	0.99	1.01	0.99	1.01	1.01	0.99	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	43.7	43.7		43.7	43.7		29.2	29.2	29.2	8.0	29.2	29.2
Total Split (s)	43.7	43.7		43.7	43.7		32.3	32.3	32.3	9.0	41.3	41.3
Total Split (%)	51.4%	51.4%		51.4%	51.4%		38.0%	38.0%	38.0%	10.6%	48.6%	48.6%
Maximum Green (s)	37.0	37.0		37.0	37.0		26.1	26.1	26.1	6.0	35.1	35.1
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.7	2.7		2.7	2.7		2.2	2.2	2.2	0.0	2.2	2.2
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.7		6.7	6.7		6.2	6.2	6.2	3.0	6.2	6.2
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	14.0	14.0		14.0	14.0		9.0	9.0	9.0		9.0	9.0
Flash Dont Walk (s)	23.0	23.0		23.0	23.0		14.0	14.0	14.0		14.0	14.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0	0
Act Effct Green (s)		20.0		20.0	20.0		38.6	38.6	38.6	55.3	52.1	52.1
Actuated g/C Ratio		0.24		0.24	0.24		0.45	0.45	0.45	0.65	0.61	0.61
v/c Ratio		0.14		0.61	0.29		0.13	0.56	0.09	0.38	0.61	0.03
Control Delay		23.1		36.8	6.9		23.1	19.8	3.4	10.2	12.3	1.8
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		23.1		36.8	6.9		23.1	19.8	3.4	10.2	12.3	1.8
LOS		C		D	A		C	B	A	B	B	A
Approach Delay		23.1			24.1			19.0			12.0	
Approach LOS		C			C			B			B	

## Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 85

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 15.8






Intersection LOS: B

Intersection Capacity Utilization 86.9%

ICU Level of Service E

Analysis Period (min) 15

## Splits and Phases: 6: Airport Road &amp; 7280 Airport Road/Morning Star Drive

 Ø1	 Ø2 (R)	 Ø4
9 s	32.3 s	43.7 s
 Ø6 (R)		 Ø8
41.3 s		43.7 s

Intersection: 9: Airport Road & 7256 Airport Road South Access

Movement	EB	WB	SB	SB
Directions Served	LTR	R	T	TR
Maximum Queue (m)	10.6	6.5	13.2	16.6
Average Queue (m)	2.1	0.8	0.4	0.6
95th Queue (m)	8.4	4.3	6.5	8.0
Link Distance (m)	57.3	99.8	64.3	64.3
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Airport Road & 7256 Airport Road North Access

Movement	EB	NB	NB	NB	SB	SB
Directions Served	LR	T	T	T	T	TR
Maximum Queue (m)	6.5	27.9	31.4	11.4	5.6	29.8
Average Queue (m)	0.6	3.1	2.8	0.7	0.3	1.1
95th Queue (m)	4.2	15.7	15.5	7.0	4.2	12.5
Link Distance (m)	55.0	64.3	64.3	64.3	85.0	85.0
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 13: Morning Star Drive

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	4.2	12.7
Average Queue (m)	0.1	5.2
95th Queue (m)	2.6	12.9
Link Distance (m)	131.6	105.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 83

Queuing and Blocking Report  
Baseline

2022 Future *Background* Total AM  
11/24/2017

Intersection: 3: Airport Road & Beverley Street/Victory Crescent






















Movement	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	TR	L	T	T	TR
Maximum Queue (m)	44.5	26.4	13.4	92.0	86.0	52.3	24.0	117.4	117.4	130.6
Average Queue (m)	16.8	8.6	2.0	50.8	34.9	14.8	3.6	52.8	55.9	57.9
95th Queue (m)	35.2	19.7	8.1	87.8	72.3	37.7	17.2	109.9	112.5	116.2
Link Distance (m)	64.0	183.8		200.7	200.7	200.7		138.3	138.3	138.3
Upstream Blk Time (%)	0									0
Queuing Penalty (veh)	0									0
Storage Bay Dist (m)			15.0				50.0			
Storage Blk Time (%)			0	20				8		
Queuing Penalty (veh)			2	1				1		

Intersection: 6: Airport Road & 7280 Airport Road/Morning Star Drive













Movement	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	TR	L	T	T	T	R	L	T	T	T
Maximum Queue (m)	14.2	46.2	52.7	30.5	88.2	90.8	86.7	57.4	62.4	189.7	159.4	117.3
Average Queue (m)	5.5	27.0	12.9	4.4	64.9	63.5	55.6	12.9	39.2	114.6	98.7	68.4
95th Queue (m)	12.7	44.5	33.4	22.1	94.0	93.1	84.4	40.7	76.2	167.4	146.1	109.3
Link Distance (m)	56.7		78.6		85.0	85.0	85.0			214.1	214.1	214.1
Upstream Blk Time (%)			0		2	2	1			0		
Queuing Penalty (veh)			0		9	7	3			0		
Storage Bay Dist (m)		40.0		70.0				50.0	55.0			
Storage Blk Time (%)		3			6		9	0	0	34		2
Queuing Penalty (veh)		4			1		6	0	2	46		1

Intersection: 6: Airport Road & 7280 Airport Road/Morning Star Drive

Movement	SB
Directions Served	R
Maximum Queue (m)	9.6
Average Queue (m)	3.4
95th Queue (m)	9.7
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	80.0
Storage Blk Time (%)	
Queuing Penalty (veh)	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	29	31	133	15	176	25	2333	172	279	1243	19
Future Volume (vph)	17	29	31	133	15	176	25	2333	172	279	1243	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.5	3.5	3.7	3.5
Storage Length (m)	0.0		0.0	40.0		0.0	70.0		50.0	55.0		80.0
Storage Lanes	0		0	1		0	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor		0.96		0.94	0.96		0.99		0.97			0.92
Frt		0.946			0.862				0.850			0.850
Flt Protected		0.989		0.950			0.950			0.950		
Satd. Flow (prot)	0	1738	0	1785	1595	0	1785	4856	1507	1684	4837	1597
Flt Permitted		0.807		0.720			0.213			0.055		
Satd. Flow (perm)	0	1412	0	1268	1595	0	396	4856	1459	97	4837	1469
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			176				86			30
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		74.5			85.7			98.7			221.6	
Travel Time (s)		5.4			6.2			7.1			16.0	
Confl. Peds. (#/hr)	26		65	65		26	21		4	4		21
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	8%	6%	6%	8%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Adj. Flow (vph)	17	29	31	133	15	176	25	2333	172	279	1243	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	0	133	191	0	25	2333	172	279	1243	19
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.01	0.99			0.99	1.01	1.01	0.99	1.01
Turning Speed (k/h)	24		14						14	24		14
Number of Detectors	1	2						2	1	1	2	1
Detector Template	Left	Thru						Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5						1.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0						0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0						0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8						1	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

2022  
Total  
PM.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	43.7	43.7		43.7	43.7		29.2	29.2	29.2	8.0	29.2	29.2
Total Split (s)	43.7	43.7		43.7	43.7		72.3	72.3	72.3	19.0	91.3	91.3
Total Split (%)	32.4%	32.4%		32.4%	32.4%		53.6%	53.6%	53.6%	14.1%	67.6%	67.6%
Maximum Green (s)	37.0	37.0		37.0	37.0		66.1	66.1	66.1	16.0	85.1	85.1
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.7	2.7		2.7	2.7		2.2	2.2	2.2	0.0	2.2	2.2
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.7		6.7	6.7		6.2	6.2	6.2	3.0	6.2	6.2
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	14.0	14.0		14.0	14.0		9.0	9.0	9.0		9.0	9.0
Flash Dont Walk (s)	23.0	23.0		23.0	23.0		14.0	14.0	14.0		14.0	14.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0	0
Act Effct Green (s)		21.5		21.5	21.5		69.2	69.2	69.2	103.8	100.6	100.6
Actuated g/C Ratio		0.16		0.16	0.16		0.51	0.51	0.51	0.77	0.75	0.75
v/c Ratio		0.31		0.66	0.48		0.12	0.94	0.22	0.68	0.34	0.02
Control Delay		35.8		67.9	12.2		20.5	39.8	10.1	43.8	6.7	1.3
Queue Delay		0.0		0.2	0.2		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		35.8		68.1	12.3		20.5	39.8	10.1	43.8	6.7	1.3
LOS		D		E	B		C	D	B	D	A	A
Approach Delay		35.8			35.2			37.6			13.4	
Approach LOS		D			D			D			B	

## Intersection Summary

Area Type: Other

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 29.0






Intersection LOS: C

Intersection Capacity Utilization 104.3%

ICU Level of Service G





Analysis Period (min) 15

Splits and Phases: 6: Airport Road &amp; 7280 Airport Road/Morning Star Drive

 Ø1	 Ø2 (R)	 Ø4
19 s	72.3 s	43.7 s
 Ø6 (R)		 Ø8
91.3 s		43.7 s

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	2	2	2526	1404	4
Future Vol, veh/h	4	2	2	2526	1404	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	600	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	7	8	0
Mvmt Flow	4	2	2	2526	1404	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2420	704	1408	0	-	0
Stage 1	1406	-	-	-	-	-
Stage 2	1014	-	-	-	-	-
Critical Hdwy	5.7	7.1	5.3	-	-	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	3.1	-	-	-
Pot Cap-1 Maneuver	57	329	252	-	-	-
Stage 1	138	-	-	-	-	-
Stage 2	285	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	57	329	252	-	-	-
Mov Cap-2 Maneuver	106	-	-	-	-	-
Stage 1	137	-	-	-	-	-
Stage 2	285	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	32.5	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	252	-	137	-	-
HCM Lane V/C Ratio	0.008	-	0.044	-	-
HCM Control Delay (s)	19.4	-	32.5	-	-
HCM Lane LOS	C	-	D	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection: 9: Airport Road & 7256 Airport Road South Access/Site Access A

Movement	EB	WB	NB	NB	NB	NB	SB
Directions Served	LTR	R	LT	T	T	R	TR
Maximum Queue (m)	10.5	16.0	147.2	144.9	145.0	80.0	4.0
Average Queue (m)	2.6	3.1	111.2	111.5	110.5	14.6	0.1
95th Queue (m)	8.9	10.5	176.3	175.1	175.4	65.4	2.5
Link Distance (m)	57.3	98.1	138.3	138.3	138.3		64.9
Upstream Blk Time (%)			5	5	6		
Queuing Penalty (veh)			41	44	47		
Storage Bay Dist (m)						30.0	
Storage Blk Time (%)					33		
Queuing Penalty (veh)					13		

Intersection: 11: Airport Road & 7256 Airport Road North Access

Movement	EB	NB	NB	NB	NB
Directions Served	LR	L	T	T	T
Maximum Queue (m)	13.8	4.5	75.0	77.2	74.6
Average Queue (m)	3.0	0.2	66.4	67.9	66.6
95th Queue (m)	11.6	2.1	76.6	78.5	78.2
Link Distance (m)	55.0		64.9	64.9	64.9
Upstream Blk Time (%)			28	31	30
Queuing Penalty (veh)			234	259	252
Storage Bay Dist (m)		60.0			
Storage Blk Time (%)			31		
Queuing Penalty (veh)			1		

Intersection: 14: Site Access B & Morning Star Drive

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	15.5	23.6
Average Queue (m)	0.7	7.6
95th Queue (m)	8.2	17.4
Link Distance (m)	149.6	88.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 2417

Intersection: 3: Airport Road & Beverley Street/Victory Crescent

Movement	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	TR	L	T	T	TR
Maximum Queue (m)	45.2	34.2	22.4	207.9	203.3	192.1	54.5	89.7	105.4	109.7
Average Queue (m)	20.4	11.8	8.7	157.6	143.3	121.7	12.7	37.1	47.1	51.2
95th Queue (m)	36.4	24.9	21.4	236.5	226.8	216.3	33.3	81.2	94.9	97.6
Link Distance (m)	64.0	183.8		200.7	200.7	200.7		138.3	138.3	138.3
Upstream Blk Time (%)				14	12	14				
Queuing Penalty (veh)				0	0	0				
Storage Bay Dist (m)			15.0				50.0			
Storage Blk Time (%)			4	44			0	3		
Queuing Penalty (veh)			37	17			0	1		

Intersection: 6: Airport Road & 7280 Airport Road/Morning Star Drive

Movement	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	TR	L	T	T	T	R	L	T	T	T
Maximum Queue (m)	33.9	46.7	64.5	76.7	92.6	95.7	98.3	57.5	62.5	229.9	217.3	187.2
Average Queue (m)	12.5	29.2	30.2	10.3	87.0	87.7	87.4	33.7	62.3	208.0	183.2	66.7
95th Queue (m)	26.6	48.8	55.8	42.5	90.2	92.5	92.2	72.3	62.9	254.6	243.7	154.9
Link Distance (m)	56.7		60.7		85.0	85.0	85.0			214.2	214.2	214.2
Upstream Blk Time (%)			1		39	40	39		48	1	0	0
Queuing Penalty (veh)			3		325	337	328		0	0	0	0
Storage Bay Dist (m)		40.0		70.0				50.0	55.0			
Storage Blk Time (%)		6	4		46		48	0	87	2		1
Queuing Penalty (veh)		12	5		11		82	1	361	6		0

Intersection: 6: Airport Road & 7280 Airport Road/Morning Star Drive

Movement	SB
Directions Served	R
Maximum Queue (m)	9.8
Average Queue (m)	1.6
95th Queue (m)	6.9
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	80.0
Storage Blk Time (%)	
Queuing Penalty (veh)	



**Intersection**

Int Delay, s/veh 0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↗		↕↕↕	↗		↕↕↕	
Traffic Vol, veh/h	3	0	5	0	0	9	4	2516	39	0	1399	6
Future Vol, veh/h	3	0	5	0	0	9	4	2516	39	0	1399	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	300	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	2	0	2	2	2	0	7	2	2	8	0
Mvmt Flow	3	0	5	0	0	9	4	2516	39	0	1399	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2416	3965	703	-	-	1258	1405	0	0	-	-	0
Stage 1	1402	1402	-	-	-	-	-	-	-	-	-	-
Stage 2	1014	2563	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.54	7.1	-	-	7.14	5.3	-	-	-	-	-
Critical Hdwy Stg 1	7.3	5.54	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.54	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.8	4.02	3.9	-	-	3.92	3.1	-	-	-	-	-
Pot Cap-1 Maneuver	36	3	330	0	0	139	253	-	-	0	-	-
Stage 1	106	205	-	0	0	-	-	-	-	0	-	-
Stage 2	234	53	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	34	3	330	-	-	139	253	-	-	-	-	-
Mov Cap-2 Maneuver	78	39	-	-	-	-	-	-	-	-	-	-
Stage 1	106	205	-	-	-	-	-	-	-	-	-	-
Stage 2	219	53	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	30.5	32.7	0	0
HCM LOS	D	D		



















Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	253	-	-	149	139	-	-
HCM Lane V/C Ratio	0.016	-	-	0.054	0.065	-	-
HCM Control Delay (s)	19.5	0	-	30.5	32.7	-	-
HCM Lane LOS	C	A	-	D	D	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	-	-

# HCM 2010 Signalized Intersection Summary

## 3: Airport Road & Beverley Street/Victory Crescent

2022 Future Total PM

11/24/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	14	14	29	13	20	38	2443	12	34	1311	60
Future Volume (veh/h)	96	14	14	29	13	20	38	2443	12	34	1311	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.99
Adj Sat Flow, veh/h/ln	1900	1774	1900	1900	1802	1900	1845	1776	1900	1900	1760	1900
Adj Flow Rate, veh/h	96	14	14	29	13	20	38	2443	12	34	1311	60
Adj No. of Lanes	0	1	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	0	0	17	17	17	3	7	7	0	8	8
Cap, veh/h	256	37	28	169	78	90	297	3373	17	132	3186	146
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.68	0.68	0.68	0.68	0.68	0.68
Sat Flow, veh/h	1042	208	159	619	440	505	390	4958	24	139	4682	214
Grp Volume(v), veh/h	124	0	0	62	0	0	38	1592	863	34	897	474
Grp Sat Flow(s),veh/h/ln	1409	0	0	1564	0	0	390	1616	1750	139	1602	1693
Q Serve(g_s), s	3.9	0.0	0.0	0.0	0.0	0.0	4.3	27.9	28.0	18.3	11.2	11.2
Cycle Q Clear(g_c), s	6.7	0.0	0.0	2.8	0.0	0.0	15.5	27.9	28.0	46.3	11.2	11.2
Prop In Lane	0.77		0.11	0.47		0.32	1.00		0.01	1.00		0.13
Lane Grp Cap(c), veh/h	321	0	0	336	0	0	297	2200	1191	132	2179	1152
V/C Ratio(X)	0.39	0.00	0.00	0.18	0.00	0.00	0.13	0.72	0.72	0.26	0.41	0.41
Avail Cap(c_a), veh/h	578	0	0	614	0	0	297	2200	1191	132	2179	1152
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.0	0.0	0.0	31.6	0.0	0.0	9.8	9.1	9.1	23.7	6.4	6.4
Incr Delay (d2), s/veh	1.6	0.0	0.0	0.6	0.0	0.0	0.9	2.1	3.9	4.7	0.6	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	1.4	0.0	0.0	0.5	12.8	14.5	0.9	5.0	5.5
LnGrp Delay(d),s/veh	34.7	0.0	0.0	32.2	0.0	0.0	10.7	11.2	12.9	28.4	7.0	7.5
LnGrp LOS	C			C			B	B	B	C	A	A
Approach Vol, veh/h		124			62			2493			1405	
Approach Delay, s/veh		34.7			32.2			11.8			7.7	
Approach LOS		C			C			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		67.2		22.8		67.2		22.8				
Change Period (Y+Rc), s		6.0		* 6.8		6.0		* 6.8				
Max Green Setting (Gmax), s		44.1		* 33		44.1		* 33				
Max Q Clear Time (g_c+I1), s		30.0		8.7		48.3		4.8				
Green Ext Time (p_c), s		14.1		2.4		0.0		1.1				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay				11.4								
HCM 2010 LOS				B								
<b>Notes</b>												

---

\* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Intersection






















Int Delay, s/veh 0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↰	↱	
Traffic Vol, veh/h	473	7	2	319	5	33
Future Vol, veh/h	473	7	2	319	5	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	473	7	2	319	5	33

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	480	0	800	477
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	323	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1082	-	354	588
Stage 1	-	-	-	-	624	-
Stage 2	-	-	-	-	734	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1082	-	353	588
Mov Cap-2 Maneuver	-	-	-	-	353	-
Stage 1	-	-	-	-	623	-
Stage 2	-	-	-	-	734	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	541	-	-	1082	-
HCM Lane V/C Ratio	0.07	-	-	0.002	-
HCM Control Delay (s)	12.2	-	-	8.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	15	23	197	13	140	14	1346	85	142	2002	32
Future Volume (vph)	15	15	23	197	13	140	14	1346	85	142	2002	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.5	3.5	3.7	3.5
Storage Length (m)	0.0		0.0	40.0		0.0	70.0		50.0	55.0		80.0
Storage Lanes	0		0	1		0	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor		0.97		0.96	0.97		1.00		0.97	1.00		0.94
Frt		0.941			0.863				0.850			0.850
Flt Protected		0.986		0.950			0.950			0.950		
Satd. Flow (prot)	0	1739	0	1785	1613	0	1785	4856	1507	1684	4837	1597
Flt Permitted		0.899		0.722			0.107			0.121		
Satd. Flow (perm)	0	1579	0	1300	1613	0	201	4856	1466	214	4837	1504
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			140				86			47
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		74.5			238.7			98.7			221.6	
Travel Time (s)		5.4			17.2			7.1			16.0	
Confl. Peds. (#/hr)	26		65	65		26	21		4	4		21
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	8%	6%	6%	8%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Adj. Flow (vph)	15	15	23	197	13	140	14	1346	85	142	2002	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	53	0	197	153	0	14	1346	85	142	2002	32
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.01	0.99	0.99	1.01	0.99	1.01	1.01	0.99	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

**6: Airport Road & 7280 Airport Road/Morning Star Drive**

11/24/2017

Intersection: 3: Airport Road & Beverley Street/Victory Crescent

Movement	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	TR	L	T	T	TR
Maximum Queue (m)	37.3	24.8	12.1	90.2	78.0	47.5	12.3	121.9	125.4	129.6
Average Queue (m)	15.2	7.5	1.7	46.5	31.8	15.9	2.6	55.5	63.3	65.9
95th Queue (m)	30.0	18.4	7.7	81.1	65.3	36.7	9.5	111.7	120.5	127.3
Link Distance (m)	64.0	183.8		200.7	200.7	200.7		139.6	139.6	139.6
Upstream Blk Time (%)									0	0
Queuing Penalty (veh)									0	1
Storage Bay Dist (m)			15.0				50.0			
Storage Blk Time (%)				22				9		
Queuing Penalty (veh)				2				1		

Intersection: 6: Airport Road & 7280 Airport Road/Morning Star Drive

Movement	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	TR	L	T	T	T	R	L	T	T	T
Maximum Queue (m)	22.2	47.0	60.4	47.8	88.9	93.0	90.6	57.4	62.5	213.3	191.0	153.4
Average Queue (m)	6.9	27.5	14.1	6.6	63.3	63.9	55.9	17.8	42.9	139.9	124.7	92.7
95th Queue (m)	16.2	44.7	32.8	24.5	92.3	93.5	88.3	49.1	78.1	206.7	184.0	145.4
Link Distance (m)	56.7		220.9		85.0	85.0	85.0			214.1	214.1	214.1
Upstream Blk Time (%)					2	2	1			1		
Queuing Penalty (veh)					11	8	5			0		
Storage Bay Dist (m)		40.0		70.0				50.0	55.0			
Storage Blk Time (%)		3	0		7		11	0	2	40		7
Queuing Penalty (veh)		5	0		1		9	0	14	57		2

Intersection: 6: Airport Road & 7280 Airport Road/Morning Star Drive

Movement	SB
Directions Served	R
Maximum Queue (m)	67.5
Average Queue (m)	9.4
95th Queue (m)	44.3
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	80.0
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 9: Airport Road & 7256 Airport Road South Access

Movement	EB	NB	SB	SB
Directions Served	LR	LT	T	TR
Maximum Queue (m)	12.7	8.7	2.2	2.3
Average Queue (m)	3.5	0.3	0.1	0.1
95th Queue (m)	11.0	5.5	1.8	1.4
Link Distance (m)	57.1	139.6	63.8	63.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Airport Road & 7256 Airport Road North Access

Movement	EB	NB	NB	NB	SB	SB	SB
Directions Served	LR	T	T	T	T	T	TR
Maximum Queue (m)	6.7	36.1	30.5	19.8	3.3	8.4	3.5
Average Queue (m)	0.6	4.0	2.4	1.3	0.1	0.3	0.2
95th Queue (m)	4.2	20.1	14.7	11.5	2.1	3.8	2.7
Link Distance (m)	55.0	63.8	63.8	63.8	85.0	85.0	85.0
Upstream Blk Time (%)		0					
Queuing Penalty (veh)		0					
Storage Bay Dist (m)							
Storage Blk Time (%)		0					
Queuing Penalty (veh)		0					

Network Summary

Network wide Queuing Penalty: 117



Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	2	0	1445	2224	1
Future Vol, veh/h	0	2	0	1445	2224	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	600	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	7	8	0
Mvmt Flow	0	2	0	1445	2224	1

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	2803	1113	2225
Stage 1	2225	-	-
Stage 2	578	-	-
Critical Hdwy	5.7	7.1	5.3
Critical Hdwy Stg 1	6.6	-	-
Critical Hdwy Stg 2	6	-	-
Follow-up Hdwy	3.8	3.9	3.1
Pot Cap-1 Maneuver	35	177	99
Stage 1	42	-	-
Stage 2	483	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	35	177	99
Mov Cap-2 Maneuver	35	-	-
Stage 1	42	-	-
Stage 2	483	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.6	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	99	-	177	-	-
HCM Lane V/C Ratio	-	-	0.011	-	-
HCM Control Delay (s)	0	-	25.6	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑↑↑	↑↑↑	
Traffic Vol, veh/h	0	13	0	1445	2225	1
Future Vol, veh/h	0	13	0	1445	2225	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	7	8	0
Mvmt Flow	0	13	0	1445	2225	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2804	1113	2226	0	-	0
Stage 1	2226	-	-	-	-	-
Stage 2	578	-	-	-	-	-
Critical Hdwy	5.7	7.1	5.3	-	-	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	3.1	-	-	-
Pot Cap-1 Maneuver	35	177	98	-	-	-
Stage 1	42	-	-	-	-	-
Stage 2	483	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	35	177	98	-	-	-
Mov Cap-2 Maneuver	35	-	-	-	-	-
Stage 1	42	-	-	-	-	-
Stage 2	483	-	-	-	-	-





















Approach	EB	NB	SB
HCM Control Delay, s	26.9	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	98	-	177	-	-
HCM Lane V/C Ratio	-	-	0.073	-	-
HCM Control Delay (s)	0	-	26.9	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Lanes, Volumes, Timings  
3: Airport Road & Beverley Street/Victory Crescent

2027 Future Background AM

11/24/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	9	8	9	10	20	8	1371	3	10	2178	36
Future Volume (vph)	52	9	8	9	10	20	8	1371	3	10	2178	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.7
Storage Length (m)	0.0		0.0	0.0		0.0	15.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.99			0.99			1.00		1.00	1.00	
Frt		0.984			0.931						0.998	
Flt Protected		0.964			0.989		0.950			0.950		
Satd. Flow (prot)	0	1700	0	0	1665	0	1733	4882	0	1785	4820	0
Flt Permitted		0.754			0.903		0.070			0.177		
Satd. Flow (perm)	0	1325	0	0	1518	0	128	4882	0	332	4820	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			13						4	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		82.0			201.6			209.7			152.7	
Travel Time (s)		5.9			14.5			15.1			11.0	
Confl. Peds. (#/hr)	7		10	10		7	41		3	3		41
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	8%	0%	8%	4%	17%	0%	3%	7%	0%	0%	8%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	3	0	3	3
Adj. Flow (vph)	52	9	8	9	10	20	8	1371	3	10	2178	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	69	0	0	39	0	8	1374	0	10	2214	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	1.01	0.99	0.99	1.01	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	













Baseline

Synchro 9 Light Report  
Page 1

Lanes, Volumes, Timings  
3: Airport Road & Beverley Street/Victory Crescent

2027 Future Background AM

11/24/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	39.8	39.8		39.8	39.8		27.0	27.0		27.0	27.0	
Total Split (s)	39.8	39.8		39.8	39.8		40.2	40.2		40.2	40.2	
Total Split (%)	49.8%	49.8%		49.8%	49.8%		50.3%	50.3%		50.3%	50.3%	
Maximum Green (s)	33.0	33.0		33.0	33.0		34.2	34.2		34.2	34.2	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.8	2.8		2.8	2.8		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.8			6.8		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	13.0	13.0		13.0	13.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		11.3			11.3		60.0	60.0		60.0	60.0	
Actuated g/C Ratio		0.14			0.14		0.75	0.75		0.75	0.75	
v/c Ratio		0.37			0.17		0.08	0.38		0.04	0.61	
Control Delay		35.5			23.2		7.2	5.2		5.2	7.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		35.5			23.2		7.2	5.2		5.2	7.3	
LOS		D			C		A	A		A	A	
Approach Delay		35.5			23.2			5.2			7.3	
Approach LOS		D			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 7.2





Intersection LOS: A

Intersection Capacity Utilization 68.9%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Airport Road & Beverley Street/Victory Crescent

 Ø2 (R)	 Ø4
40.2 s	39.8 s
 Ø6 (R)	 Ø8
40.2 s	39.8 s

Intersection: 3: Airport Road & Beverley Street/Victory Crescent

Movement	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	TR	L	T	T	TR
Maximum Queue (m)	55.9	27.6	22.4	219.1	218.2	219.1	51.4	94.8	115.2	120.0
Average Queue (m)	25.4	12.6	10.7	199.7	197.3	190.6	12.5	40.0	49.5	50.6
95th Queue (m)	47.7	24.5	23.9	246.6	251.8	262.5	32.9	86.1	97.2	100.6
Link Distance (m)	64.0	183.8		200.7	200.7	200.7		139.6	139.6	139.6
Upstream Blk Time (%)	0			42	40	45		0	0	0
Queuing Penalty (veh)	0			0	0	0		0	0	0
Storage Bay Dist (m)			15.0				50.0			
Storage Blk Time (%)			7	46				3		
Queuing Penalty (veh)			59	19				1		

Intersection: 6: Airport Road & 7280 Airport Road/Morning Star Drive

Movement	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	TR	L	T	T	T	R	L	T	T	T
Maximum Queue (m)	40.7	47.4	98.1	76.3	92.5	95.4	97.8	57.5	62.4	229.5	220.4	183.5
Average Queue (m)	16.0	35.3	44.2	9.5	86.8	87.2	87.6	33.5	62.3	210.9	186.2	68.2
95th Queue (m)	33.9	54.3	81.4	40.0	90.0	91.2	92.6	72.6	62.5	247.0	240.1	155.4
Link Distance (m)	56.7		220.9		85.0	85.0	85.0			214.1	214.1	214.1
Upstream Blk Time (%)	0				38	40	39			53	2	0
Queuing Penalty (veh)	0				360	377	364			0	0	0
Storage Bay Dist (m)		40.0		70.0				50.0	55.0			
Storage Blk Time (%)		14	8	0	46		47	0	85	2		2
Queuing Penalty (veh)		30	12	0	13		104	1	390	5		0

Intersection: 6: Airport Road & 7280 Airport Road/Morning Star Drive

Movement	SB
Directions Served	R
Maximum Queue (m)	8.0
Average Queue (m)	1.3
95th Queue (m)	6.0
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	80.0
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Airport Road & 7256 Airport Road South Access

Movement	EB	NB	NB	NB
Directions Served	LR	LT	T	T
Maximum Queue (m)	13.8	145.4	151.2	148.4
Average Queue (m)	3.7	132.6	133.4	134.1
95th Queue (m)	12.2	162.9	164.3	164.2
Link Distance (m)	57.1	139.6	139.6	139.6
Upstream Blk Time (%)		7	8	9
Queuing Penalty (veh)		68	75	87
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Airport Road & 7256 Airport Road North Access

Movement	EB	NB	NB	NB	NB
Directions Served	LR	L	T	T	T
Maximum Queue (m)	15.2	9.0	77.2	78.7	76.2
Average Queue (m)	4.2	0.7	67.0	67.4	67.1
95th Queue (m)	15.8	4.6	72.1	73.1	72.2
Link Distance (m)	55.0		63.8	63.8	63.8
Upstream Blk Time (%)			32	34	34
Queuing Penalty (veh)			302	321	320
Storage Bay Dist (m)		60.0			
Storage Blk Time (%)			35		
Queuing Penalty (veh)			1		


























Network Summary

Network wide Queuing Penalty: 2909

Lanes, Volumes, Timings  
6: Airport Road & 7280 Airport Road/Morning Star Drive

2027 Future Background PM

11/24/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			  	
Traffic Volume (vph)	19	32	34	141	17	194	28	2566	223	308	1372	21
Future Volume (vph)	19	32	34	141	17	194	28	2566	223	308	1372	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.5	3.5	3.7	3.5
Storage Length (m)	0.0		0.0	40.0		0.0	70.0		50.0	55.0		80.0
Storage Lanes	0		0	1		0	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor		0.96		0.93	0.96		0.99		0.97			0.92
Frt		0.946			0.862				0.850			0.850
Flt Protected		0.989		0.950			0.950			0.950		
Satd. Flow (prot)	0	1735	0	1785	1592	0	1785	4856	1507	1684	4837	1597
Flt Permitted		0.733		0.686			0.186			0.052		
Satd. Flow (perm)	0	1280	0	1204	1592	0	346	4856	1458	92	4837	1462
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			194				97			28
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		74.5			238.7			98.7			221.6	
Travel Time (s)		5.4			17.2			7.1			16.0	
Confl. Peds. (#/hr)	26		65	65		26	21		4	4		21
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	8%	6%	6%	8%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Adj. Flow (vph)	19	32	34	141	17	194	28	2566	223	308	1372	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	85	0	141	211	0	28	2566	223	308	1372	21
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.01	0.99	0.99	1.01	0.99	1.01	1.01	0.99	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Baseline



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	43.7	43.7		43.7	43.7		29.2	29.2	29.2	8.0	29.2	29.2
Total Split (s)	43.7	43.7		43.7	43.7		79.3	79.3	79.3	22.0	101.3	101.3
Total Split (%)	30.1%	30.1%		30.1%	30.1%		54.7%	54.7%	54.7%	15.2%	69.9%	69.9%
Maximum Green (s)	37.0	37.0		37.0	37.0		73.1	73.1	73.1	19.0	95.1	95.1
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.7	2.7		2.7	2.7		2.2	2.2	2.2	0.0	2.2	2.2
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.7		6.7	6.7		6.2	6.2	6.2	3.0	6.2	6.2
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	14.0	14.0		14.0	14.0		9.0	9.0	9.0		9.0	9.0
Flash Dont Walk (s)	23.0	23.0		23.0	23.0		14.0	14.0	14.0		14.0	14.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0	0
Act Effct Green (s)		24.1		24.1	24.1		73.1	73.1	73.1	111.2	108.0	108.0
Actuated g/C Ratio		0.17		0.17	0.17		0.50	0.50	0.50	0.77	0.74	0.74
v/c Ratio		0.37		0.70	0.50		0.16	1.05	0.28	0.74	0.38	0.02
Control Delay		41.9		74.7	12.3		22.5	67.4	12.3	50.7	7.5	1.8
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		41.9		74.7	12.3		22.5	67.4	12.3	50.7	7.5	1.8
LOS		D		E	B		C	E	B	D	A	A
Approach Delay		41.9			37.3			62.6			15.3	
Approach LOS		D			D			E			B	

## Intersection Summary

Area Type: Other

Cycle Length: 145

Actuated Cycle Length: 145

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 44.2

Intersection LOS: D

Intersection Capacity Utilization 110.7%

ICU Level of Service H

Analysis Period (min) 15





Splits and Phases: 6: Airport Road &amp; 7280 Airport Road/Morning Star Drive

 Ø1 22 s	 Ø2 (R) 79.3 s	 Ø4 43.7 s
 Ø6 (R) 101.3 s	 Ø8 43.7 s	



Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	2	2	2812	1545	4
Future Vol, veh/h	4	2	2	2812	1545	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	600	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	7	8	0
Mvmt Flow	4	2	2	2812	1545	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2676	775	1549	0	-	0
Stage 1	1547	-	-	-	-	-
Stage 2	1129	-	-	-	-	-
Critical Hdwy	5.7	7.1	5.3	-	-	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	3.1	-	-	-
Pot Cap-1 Maneuver	41	296	215	-	-	-
Stage 1	113	-	-	-	-	-
Stage 2	247	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	41	296	215	-	-	-
Mov Cap-2 Maneuver	41	-	-	-	-	-
Stage 1	112	-	-	-	-	-
Stage 2	247	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	74.1	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	215	-	58	-	-
HCM Lane V/C Ratio	0.009	-	0.103	-	-
HCM Control Delay (s)	21.9	-	74.1	-	-
HCM Lane LOS	C	-	F	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑↑↑	↑↑↑	
Traffic Vol, veh/h	3	5	4	2811	1539	7
Future Vol, veh/h	3	5	4	2811	1539	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	7	8	0
Mvmt Flow	3	5	4	2811	1539	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2675	773	1546	0	-	0
Stage 1	1543	-	-	-	-	-
Stage 2	1132	-	-	-	-	-
Critical Hdwy	5.7	7.1	5.3	-	-	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	3.1	-	-	-
Pot Cap-1 Maneuver	41	297	216	-	-	-
Stage 1	113	-	-	-	-	-
Stage 2	246	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	41	297	216	-	-	-
Mov Cap-2 Maneuver	41	-	-	-	-	-
Stage 1	113	-	-	-	-	-
Stage 2	246	-	-	-	-	-





















Approach	EB	NB	SB
HCM Control Delay, s	49.4	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	216	-	89	-	-
HCM Lane V/C Ratio	0.019	-	0.09	-	-
HCM Control Delay (s)	22	0	49.4	-	-
HCM Lane LOS	C	A	E	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Lanes, Volumes, Timings  
3: Airport Road & Beverley Street/Victory Crescent

2027 Future Background PM













11/24/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (vph)	106	15	15	32	14	22	42	2687	13	38	1442	66
Future Volume (vph)	106	15	15	32	14	22	42	2687	13	38	1442	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.7
Storage Length (m)	0.0		0.0	0.0		0.0	15.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.99			0.99		0.99	1.00			0.99	
Frt		0.985			0.956			0.999			0.993	
Flt Protected		0.962			0.977		0.950			0.950		
Satd. Flow (prot)	0	1696	0	0	1693	0	1733	4878	0	1785	4780	0
Flt Permitted		0.728			0.822		0.144			0.057		
Satd. Flow (perm)	0	1277	0	0	1419	0	261	4878	0	107	4780	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			1			1			11	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		82.0			201.6			209.7			152.7	
Travel Time (s)		5.9			14.5			15.1			11.0	
Confl. Peds. (#/hr)	7		10	10		7	41		3	3		41
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	8%	0%	8%	4%	17%	0%	3%	7%	0%	0%	8%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	3	0	3	3
Adj. Flow (vph)	106	15	15	32	14	22	42	2687	13	38	1442	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	136	0	0	68	0	42	2700	0	38	1508	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	1.01	0.99	0.99	1.01	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
3: Airport Road & Beverley Street/Victory Crescent

2027 Future Background PM

11/24/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	39.8	39.8		39.8	39.8		27.0	27.0		27.0	27.0	
Total Split (s)	40.0	40.0		40.0	40.0		60.0	60.0		60.0	60.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		60.0%	60.0%		60.0%	60.0%	
Maximum Green (s)	33.2	33.2		33.2	33.2		54.0	54.0		54.0	54.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.8	2.8		2.8	2.8		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.8			6.8		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	13.0	13.0		13.0	13.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		17.3			17.3		69.9	69.9		69.9	69.9	
Actuated g/C Ratio		0.17			0.17		0.70	0.70		0.70	0.70	
v/c Ratio		0.60			0.28		0.23	0.79		0.51	0.45	
Control Delay		46.3			36.3		10.9	13.4		39.7	7.6	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		46.3			36.3		10.9	13.4		39.7	7.6	
LOS		D			D		B	B		D	A	
Approach Delay		46.3			36.3			13.4			8.4	
Approach LOS		D			D			B			A	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 13.0





Intersection LOS: B






















Intersection Capacity Utilization 79.5%













ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Airport Road & Beverley Street/Victory Crescent

 Ø2 (R)	 Ø4
60 s	40 s
 Ø6 (R)	 Ø8
60 s	40 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	15	23	207	13	140	14	1352	72	147	2002	32
Future Volume (vph)	15	15	23	207	13	140	14	1352	72	147	2002	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.5	3.5	3.7	3.5
Storage Length (m)	0.0		0.0	40.0		0.0	70.0		50.0	55.0		80.0
Storage Lanes	0		0	1		0	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor		0.97		0.96	0.97		1.00		0.97	1.00		0.94
Frt		0.941			0.863				0.850			0.850
Flt Protected		0.986		0.950			0.950			0.950		
Satd. Flow (prot)	0	1739	0	1785	1613	0	1785	4856	1507	1684	4837	1597
Flt Permitted		0.900		0.722			0.109			0.117		
Satd. Flow (perm)	0	1581	0	1300	1613	0	205	4856	1466	207	4837	1504
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			140				86			47
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		74.5			126.6			98.7			221.6	
Travel Time (s)		5.4			9.1			7.1			16.0	
Confl. Peds. (#/hr)	26		65	65		26	21		4	4		21
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	8%	6%	6%	8%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Adj. Flow (vph)	15	15	23	207	13	140	14	1352	72	147	2002	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	53	0	207	153	0	14	1352	72	147	2002	32
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.01	0.99	0.99	1.01	0.99	1.01	1.01	0.99	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	43.7	43.7		43.7	43.7		29.2	29.2	29.2	8.0	29.2	29.2
Total Split (s)	43.7	43.7		43.7	43.7		33.3	33.3	33.3	8.0	41.3	41.3
Total Split (%)	51.4%	51.4%		51.4%	51.4%		39.2%	39.2%	39.2%	9.4%	48.6%	48.6%
Maximum Green (s)	37.0	37.0		37.0	37.0		27.1	27.1	27.1	5.0	35.1	35.1
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.7	2.7		2.7	2.7		2.2	2.2	2.2	0.0	2.2	2.2
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.7		6.7	6.7		6.2	6.2	6.2	3.0	6.2	6.2
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	14.0	14.0		14.0	14.0		9.0	9.0	9.0		9.0	9.0
Flash Dont Walk (s)	23.0	23.0		23.0	23.0		14.0	14.0	14.0		14.0	14.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0	0
Act Effct Green (s)		21.5		21.5	21.5		36.7	36.7	36.7	53.8	50.6	50.6
Actuated g/C Ratio		0.25		0.25	0.25		0.43	0.43	0.43	0.63	0.60	0.60
v/c Ratio		0.13		0.63	0.30		0.16	0.65	0.11	0.46	0.70	0.04
Control Delay		22.1		35.8	6.4		25.4	22.7	4.3	14.0	14.8	2.3
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		22.1		35.8	6.4		25.4	22.7	4.3	14.0	14.8	2.3
LOS		C		D	A		C	C	A	B	B	A
Approach Delay		22.1			23.3			21.8			14.6	
Approach LOS		C			C			C			B	

## Intersection Summary

Area Type: Other

Cycle Length: 85

Actuated Cycle Length: 85

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 18.0






Intersection LOS: B

Intersection Capacity Utilization 90.7%

ICU Level of Service E





Analysis Period (min) 15

## Splits and Phases: 6: Airport Road &amp; 7280 Airport Road/Morning Star Drive

 Ø1	 Ø2 (R)	 Ø4
8 s	33.3 s	43.7 s
 Ø6 (R)		 Ø8
41.3 s		43.7 s

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	2	0	1438	2234	1
Future Vol, veh/h	0	2	0	1438	2234	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	600	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	7	8	0
Mvmt Flow	0	2	0	1438	2234	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2810	1118	2235	0	-	0
Stage 1	2235	-	-	-	-	-
Stage 2	575	-	-	-	-	-
Critical Hdwy	5.7	7.1	5.3	-	-	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	3.1	-	-	-
Pot Cap-1 Maneuver	35	176	97	-	-	-
Stage 1	41	-	-	-	-	-
Stage 2	485	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	35	176	97	-	-	-
Mov Cap-2 Maneuver	35	-	-	-	-	-
Stage 1	41	-	-	-	-	-
Stage 2	485	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.7	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	97	-	176	-	-
HCM Lane V/C Ratio	-	-	0.011	-	-
HCM Control Delay (s)	0	-	25.7	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh 0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	Y	
Traffic Vol, veh/h	229	5	1	350	10	15
Future Vol, veh/h	229	5	1	350	10	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	229	5	1	350	10	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	234	0	584	232
Stage 1	-	-	-	-	232	-
Stage 2	-	-	-	-	352	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1333	-	474	807
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	712	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1333	-	474	807
Mov Cap-2 Maneuver	-	-	-	-	474	-
Stage 1	-	-	-	-	806	-
Stage 2	-	-	-	-	712	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	630	-	-	1333	-
HCM Lane V/C Ratio	0.04	-	-	0.001	-
HCM Control Delay (s)	11	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-



**Intersection**

Int Delay, s/veh 0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↗			↖			↗		
Traffic Vol, veh/h	0	0	13	0	0	6	0	1432	16	0	2235	1
Future Vol, veh/h	0	0	13	0	0	6	0	1432	16	0	2235	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	300	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	2	0	2	2	2	0	7	2	2	8	0
Mvmt Flow	0	0	13	0	0	6	0	1432	16	0	2235	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2809	3684	1118	-	-	716	2236	0	0	-	-	0
Stage 1	2236	2236	-	-	-	-	-	-	-	-	-	-
Stage 2	573	1448	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.54	7.1	-	-	7.14	5.3	-	-	-	-	-
Critical Hdwy Stg 1	7.3	5.54	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.54	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.8	4.02	3.9	-	-	3.92	3.1	-	-	-	-	-
Pot Cap-1 Maneuver	20	5	176	0	0	320	97	-	-	0	-	-
Stage 1	27	78	-	0	0	-	-	-	-	0	-	-
Stage 2	435	195	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	20	5	176	-	-	320	97	-	-	-	-	-
Mov Cap-2 Maneuver	20	5	-	-	-	-	-	-	-	-	-	-
Stage 1	27	78	-	-	-	-	-	-	-	-	-	-
Stage 2	427	195	-	-	-	-	-	-	-	-	-	-





















Approach	EB	WB	NB	SB
HCM Control Delay, s	27.1	16.5	0	0
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBT	SBR
Capacity (veh/h)	97	-	-	176 320	-	-
HCM Lane V/C Ratio	-	-	-	0.074 0.019	-	-
HCM Control Delay (s)	0	-	-	27.1 16.5	-	-
HCM Lane LOS	A	-	-	D C	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2 0.1	-	-

Lanes, Volumes, Timings  
3: Airport Road & Beverley Street/Victory Crescent

2027 Future Total AM

11/24/2017













												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (vph)	52	9	8	9	10	20	8	1374	3	10	2188	36
Future Volume (vph)	52	9	8	9	10	20	8	1374	3	10	2188	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.7
Storage Length (m)	0.0		0.0	0.0		0.0	15.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.99			0.99			1.00		1.00	1.00	
Frt		0.984			0.931						0.998	
Flt Protected		0.964			0.989		0.950			0.950		
Satd. Flow (prot)	0	1700	0	0	1665	0	1733	4882	0	1785	4820	0
Flt Permitted		0.754			0.903		0.070			0.176		
Satd. Flow (perm)	0	1325	0	0	1518	0	128	4882	0	330	4820	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			13						4	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		82.0			201.6			209.7			152.7	
Travel Time (s)		5.9			14.5			15.1			11.0	
Confl. Peds. (#/hr)	7		10	10		7	41		3	3		41
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	8%	0%	8%	4%	17%	0%	3%	7%	0%	0%	8%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	3	0	3	3
Adj. Flow (vph)	52	9	8	9	10	20	8	1374	3	10	2188	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	69	0	0	39	0	8	1377	0	10	2224	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	1.01	0.99	0.99	1.01	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Baseline

Synchro 9 Light Report  
Page 1

Lanes, Volumes, Timings  
3: Airport Road & Beverley Street/Victory Crescent

2027 Future Total AM  
11/24/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	39.8	39.8		39.8	39.8		27.0	27.0		27.0	27.0	
Total Split (s)	39.8	39.8		39.8	39.8		40.2	40.2		40.2	40.2	
Total Split (%)	49.8%	49.8%		49.8%	49.8%		50.3%	50.3%		50.3%	50.3%	
Maximum Green (s)	33.0	33.0		33.0	33.0		34.2	34.2		34.2	34.2	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.8	2.8		2.8	2.8		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.8			6.8		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	13.0	13.0		13.0	13.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		11.3			11.3		60.0	60.0		60.0	60.0	
Actuated g/C Ratio		0.14			0.14		0.75	0.75		0.75	0.75	
v/c Ratio		0.37			0.17		0.08	0.38		0.04	0.61	
Control Delay		35.5			23.2		7.2	5.2		5.2	7.4	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		35.5			23.2		7.2	5.2		5.2	7.4	
LOS		D			C		A	A		A	A	
Approach Delay		35.5			23.2			5.2			7.4	
Approach LOS		D			C			A			A	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 7.2





Intersection LOS: A

Intersection Capacity Utilization 69.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Airport Road & Beverley Street/Victory Crescent

 Ø2 (R)	 Ø4
40.2 s	39.8 s
 Ø6 (R)	 Ø8
40.2 s	39.8 s

Intersection: 3: Airport Road & Beverley Street/Victory Crescent

Movement	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	TR	L	T	T	TR
Maximum Queue (m)	36.6	26.0	11.7	101.1	94.7	62.4	45.2	140.2	141.6	137.0
Average Queue (m)	15.1	7.3	1.8	54.1	39.1	19.9	4.9	67.5	73.0	74.6
95th Queue (m)	29.2	18.6	7.9	92.3	79.1	49.7	24.0	130.7	137.6	137.3
Link Distance (m)	64.0	183.8		200.7	200.7	200.7		138.3	138.3	138.3
Upstream Blk Time (%)								1	1	0
Queuing Penalty (veh)								4	5	3
Storage Bay Dist (m)			15.0				50.0			
Storage Blk Time (%)			1	25				14		
Queuing Penalty (veh)			2	2				1		

Intersection: 6: Airport Road & 7280 Airport Road/Morning Star Drive

Movement	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	TR	L	T	T	T	R	L	T	T	T
Maximum Queue (m)	17.9	45.0	71.2	49.3	90.0	92.6	90.8	57.5	62.4	199.9	178.3	137.9
Average Queue (m)	6.1	28.7	17.6	7.0	64.6	64.3	56.2	17.0	44.3	137.5	120.0	84.7
95th Queue (m)	14.3	45.7	46.5	24.9	97.4	98.3	93.4	48.5	79.3	196.4	175.9	128.9
Link Distance (m)	56.7		101.6		85.0	85.0	85.0			214.3	214.3	214.3
Upstream Blk Time (%)			0		3	2	1			0		
Queuing Penalty (veh)			0		12	9	4			0		
Storage Bay Dist (m)		40.0		70.0				50.0	55.0			
Storage Blk Time (%)		4	1		8		12	0	1	39		5
Queuing Penalty (veh)		7	1		1		9	0	6	58		2

Intersection: 6: Airport Road & 7280 Airport Road/Morning Star Drive

Movement	SB
Directions Served	R
Maximum Queue (m)	66.6
Average Queue (m)	6.5
95th Queue (m)	31.8
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	80.0
Storage Blk Time (%)	0
Queuing Penalty (veh)	0

Intersection: 9: Airport Road & 7256 Airport Road South Access/Site Access A

Movement	EB	WB	NB	SB	SB	SB
Directions Served	LTR	R	T	T	T	TR
Maximum Queue (m)	14.0	6.3	4.4	14.0	23.3	12.9
Average Queue (m)	3.5	0.8	0.1	1.0	1.2	0.7
95th Queue (m)	11.1	4.2	2.0	9.1	11.0	7.9
Link Distance (m)	57.3	136.1	138.3	64.5	64.5	64.5
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 11: Airport Road & 7256 Airport Road North Access






















Movement	EB	NB	NB	NB	SB	SB	SB
Directions Served	LR	T	T	T	T	T	TR
Maximum Queue (m)	8.9	26.9	37.7	28.2	21.4	55.6	33.1
Average Queue (m)	0.9	3.9	4.1	2.5	0.7	1.9	1.2
95th Queue (m)	5.3	17.0	21.5	15.6	13.5	21.3	15.5
Link Distance (m)	55.0	64.5	64.5	64.5	85.0	85.0	85.0
Upstream Blk Time (%)			0		0	0	
Queuing Penalty (veh)			0		0	0	
Storage Bay Dist (m)							
Storage Blk Time (%)							
Queuing Penalty (veh)							













Intersection: 13: Site Access B & Morning Star Drive

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	2.3	14.2
Average Queue (m)	0.1	4.6
95th Queue (m)	1.5	12.3
Link Distance (m)	108.8	112.9
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 126

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	32	34	146	17	194	28	2575	190	313	1372	21
Future Volume (vph)	19	32	34	146	17	194	28	2575	190	313	1372	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.5	3.5	3.7	3.5
Storage Length (m)	0.0		0.0	40.0		0.0	70.0		50.0	55.0		80.0
Storage Lanes	0		0	1		0	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Ped Bike Factor		0.96		0.93	0.96		0.99		0.97			0.92
Frt		0.946			0.862				0.850			0.850
Flt Protected		0.989		0.950			0.950			0.950		
Satd. Flow (prot)	0	1735	0	1785	1592	0	1785	4856	1507	1684	4837	1597
Flt Permitted		0.750		0.687			0.186			0.053		
Satd. Flow (perm)	0	1310	0	1206	1592	0	346	4856	1458	94	4837	1462
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			194				82			28
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		74.5			85.7			98.7			221.6	
Travel Time (s)		5.4			6.2			7.1			16.0	
Confl. Peds. (#/hr)	26		65	65		26	21		4	4		21
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	8%	6%	6%	8%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	3	0
Adj. Flow (vph)	19	32	34	146	17	194	28	2575	190	313	1372	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	85	0	146	211	0	28	2575	190	313	1372	21
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	1.01	0.99	0.99	1.01	0.99	1.01	1.01	0.99	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	5.0	8.0	8.0
Minimum Split (s)	43.7	43.7		43.7	43.7		29.2	29.2	29.2	8.0	29.2	29.2
Total Split (s)	43.7	43.7		43.7	43.7		79.3	79.3	79.3	22.0	101.3	101.3
Total Split (%)	30.1%	30.1%		30.1%	30.1%		54.7%	54.7%	54.7%	15.2%	69.9%	69.9%
Maximum Green (s)	37.0	37.0		37.0	37.0		73.1	73.1	73.1	19.0	95.1	95.1
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.7	2.7		2.7	2.7		2.2	2.2	2.2	0.0	2.2	2.2
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.7		6.7	6.7		6.2	6.2	6.2	3.0	6.2	6.2
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	14.0	14.0		14.0	14.0		9.0	9.0	9.0		9.0	9.0
Flash Dont Walk (s)	23.0	23.0		23.0	23.0		14.0	14.0	14.0		14.0	14.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0	0
Act Effct Green (s)		24.7		24.7	24.7		73.1	73.1	73.1	110.6	107.4	107.4
Actuated g/C Ratio		0.17		0.17	0.17		0.50	0.50	0.50	0.76	0.74	0.74
v/c Ratio		0.35		0.71	0.49		0.16	1.05	0.25	0.75	0.38	0.02
Control Delay		41.0		74.5	12.1		22.5	68.9	12.1	52.2	7.8	1.8
Queue Delay		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		41.0		74.5	12.1		22.5	68.9	12.1	52.2	7.8	1.8
LOS		D		E	B		C	E	B	D	A	A
Approach Delay		41.0			37.6			64.5			15.8	
Approach LOS		D			D			E			B	

## Intersection Summary

Area Type: Other

Cycle Length: 145

Actuated Cycle Length: 145

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 45.4






Intersection LOS: D

Intersection Capacity Utilization 111.1%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 6: Airport Road &amp; 7280 Airport Road/Morning Star Drive

 Ø1	 Ø2 (R)	 Ø4
22 s	79.3 s	43.7 s
 Ø6 (R)		 Ø8
101.3 s		43.7 s





Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	
Traffic Vol, veh/h	528	7	2	352	5	36
Future Vol, veh/h	528	7	2	352	5	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	528	7	2	352	5	36

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	535	0	888	532
Stage 1	-	-	-	-	532	-
Stage 2	-	-	-	-	356	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1033	-	314	547
Stage 1	-	-	-	-	589	-
Stage 2	-	-	-	-	709	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1033	-	313	547
Mov Cap-2 Maneuver	-	-	-	-	313	-
Stage 1	-	-	-	-	588	-
Stage 2	-	-	-	-	709	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	501	-	-	1033	-
HCM Lane V/C Ratio	0.082	-	-	0.002	-
HCM Control Delay (s)	12.8	-	-	8.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-



Intersection							
Int Delay, s/veh	0.1						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations							
Traffic Vol, veh/h	4	2	2	2788	1550	4	
Future Vol, veh/h	4	2	2	2788	1550	4	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	-	600	-	-	-	
Veh in Median Storage, #	1	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	100	100	100	100	100	100	
Heavy Vehicles, %	0	0	0	7	8	0	
Mvmt Flow	4	2	2	2788	1550	4	

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2671	777	1554	0	-	0
Stage 1	1552	-	-	-	-	-
Stage 2	1119	-	-	-	-	-
Critical Hdwy	5.7	7.1	5.3	-	-	-
Critical Hdwy Stg 1	6.6	-	-	-	-	-
Critical Hdwy Stg 2	6	-	-	-	-	-
Follow-up Hdwy	3.8	3.9	3.1	-	-	-
Pot Cap-1 Maneuver	41	295	214	-	-	-
Stage 1	112	-	-	-	-	-
Stage 2	250	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	41	295	214	-	-	-
Mov Cap-2 Maneuver	85	-	-	-	-	-
Stage 1	111	-	-	-	-	-
Stage 2	250	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	39.3	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	214	-	111	-	-
HCM Lane V/C Ratio	0.009	-	0.054	-	-
HCM Control Delay (s)	22	-	39.3	-	-
HCM Lane LOS	C	-	E	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

## Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕			↕			↕↕↕			↕↕↕		
Traffic Vol, veh/h	3	0	5	0	0	9	4	2778	42	0	1544	7
Future Vol, veh/h	3	0	5	0	0	9	4	2778	42	0	1544	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	-	300	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	2	0	2	2	2	0	7	2	2	8	0
Mvmt Flow	3	0	5	0	0	9	4	2778	42	0	1544	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2667	4376	776	-	-	1389	1551	0	0	-	-	0
Stage 1	1548	1548	-	-	-	-	-	-	-	-	-	-
Stage 2	1119	2828	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.54	7.1	-	-	7.14	5.3	-	-	-	-	-
Critical Hdwy Stg 1	7.3	5.54	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.7	5.54	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.8	4.02	3.9	-	-	3.92	3.1	-	-	-	-	-
Pot Cap-1 Maneuver	25	2	295	0	0	113	215	-	-	0	-	-
Stage 1	83	174	-	0	0	-	-	-	-	0	-	-
Stage 2	201	38	-	0	0	-	-	-	-	0	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	23	2	295	-	-	113	215	-	-	-	-	-
Mov Cap-2 Maneuver	61	29	-	-	-	-	-	-	-	-	-	-
Stage 1	83	174	-	-	-	-	-	-	-	-	-	-
Stage 2	185	38	-	-	-	-	-	-	-	-	-	-




















Approach	EB	WB	NB	SB
HCM Control Delay, s	36.8	39.6	0	0
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	215	-	-	121	113	-	-
HCM Lane V/C Ratio	0.019	-	-	0.066	0.08	-	-
HCM Control Delay (s)	22.1	0	-	36.8	39.6	-	-
HCM Lane LOS	C	A	-	E	E	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.3	-	-

Lanes, Volumes, Timings  
3: Airport Road & Beverley Street/Victory Crescent













2027 Future Total PM

11/24/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	15	15	32	14	22	42	2696	13	38	1447	66
Future Volume (vph)	106	15	15	32	14	22	42	2696	13	38	1447	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.5	3.7	3.7	3.5	3.7	3.7
Storage Length (m)	0.0		0.0	0.0		0.0	15.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor		0.99			0.99		0.99	1.00			0.99	
Frt		0.985			0.956			0.999			0.993	
Flt Protected		0.962			0.977		0.950			0.950		
Satd. Flow (prot)	0	1696	0	0	1693	0	1733	4878	0	1785	4781	0
Flt Permitted		0.728			0.822		0.143			0.057		
Satd. Flow (perm)	0	1277	0	0	1419	0	259	4878	0	107	4781	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			1			1			11	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		82.0			201.6			209.7			152.7	
Travel Time (s)		5.9			14.5			15.1			11.0	
Confl. Peds. (#/hr)	7		10	10		7	41		3	3		41
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	8%	0%	8%	4%	17%	0%	3%	7%	0%	0%	8%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	3	3	0	3	3
Adj. Flow (vph)	106	15	15	32	14	22	42	2696	13	38	1447	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	136	0	0	68	0	42	2709	0	38	1513	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	1.01	0.99	0.99	1.01	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	

Lanes, Volumes, Timings  
3: Airport Road & Beverley Street/Victory Crescent

2027 Future Total PM  
11/24/2017





												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	39.8	39.8		39.8	39.8		27.0	27.0		27.0	27.0	
Total Split (s)	40.0	40.0		40.0	40.0		60.0	60.0		60.0	60.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		60.0%	60.0%		60.0%	60.0%	
Maximum Green (s)	33.2	33.2		33.2	33.2		54.0	54.0		54.0	54.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.8	2.8		2.8	2.8		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.8			6.8		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	13.0	13.0		13.0	13.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		13.0	13.0		13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		17.3			17.3		69.9	69.9		69.9	69.9	
Actuated g/C Ratio		0.17			0.17		0.70	0.70		0.70	0.70	
v/c Ratio		0.60			0.28		0.23	0.79		0.51	0.45	
Control Delay		46.3			36.3		11.0	13.5		39.7	7.7	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		46.3			36.3		11.0	13.5		39.7	7.7	
LOS		D			D		B	B		D	A	
Approach Delay		46.3			36.3			13.5			8.4	
Approach LOS		D			D			B			A	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.79  
 Intersection Signal Delay: 13.1  
 Intersection Capacity Utilization 79.6%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service D

Splits and Phases: 3: Airport Road & Beverley Street/Victory Crescent

 Ø2 (R)	 Ø4
60 s	40 s
 Ø6 (R)	 Ø8
60 s	40 s

D.L

Intersection: 3: Airport Road & Beverley Street/Victory Crescent

Movement	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	LTR	L	T	T	TR	L	T	T	TR
Maximum Queue (m)	59.4	34.2	22.3	219.1	216.4	218.2	39.0	94.1	114.7	116.8
Average Queue (m)	24.8	13.5	8.9	202.7	199.5	196.8	10.4	37.9	45.3	48.9
95th Queue (m)	46.8	27.6	21.6	241.7	242.4	253.7	27.5	82.0	91.0	95.7
Link Distance (m)	64.0	183.8		200.7	200.7	200.7		138.3	138.3	138.3
Upstream Blk Time (%)	0			46	43	51				0
Queuing Penalty (veh)	0			0	0	0				0
Storage Bay Dist (m)			15.0				50.0			
Storage Blk Time (%)			3	47				3		
Queuing Penalty (veh)			23	20				1		

Intersection: 6: Airport Road & 7280 Airport Road/Morning Star Drive

Movement	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LTR	L	TR	L	T	T	T	R	L	T	T	T
Maximum Queue (m)	37.0	47.4	69.2	60.8	93.2	98.5	99.3	57.5	62.5	230.7	218.6	172.9
Average Queue (m)	15.5	36.5	43.0	8.3	86.8	87.9	87.8	32.8	62.0	195.1	170.1	62.2
95th Queue (m)	32.6	55.1	72.4	33.2	90.8	93.3	93.4	73.3	65.0	267.7	251.1	142.6
Link Distance (m)	56.7		60.8		85.0	85.0	85.0			214.2	214.2	214.2
Upstream Blk Time (%)			7		38	39	39			43	1	
Queuing Penalty (veh)			25		352	365	364			0	0	
Storage Bay Dist (m)		40.0		70.0				50.0	55.0			
Storage Blk Time (%)		17	10		45		47	0	79	2		1
Queuing Penalty (veh)		35	14		13		90	2	361	7		0

Intersection: 6: Airport Road & 7280 Airport Road/Morning Star Drive

Movement	SB
Directions Served	R
Maximum Queue (m)	9.7
Average Queue (m)	2.1
95th Queue (m)	7.8
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	80.0
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: Airport Road & 7256 Airport Road South Access/Site Access A

Movement	EB	WB	NB	NB	NB	NB
Directions Served	LTR	R	LT	T	T	R
Maximum Queue (m)	15.3	11.2	145.6	149.8	145.4	80.0
Average Queue (m)	4.0	2.3	130.6	131.2	131.5	12.6
95th Queue (m)	12.7	8.1	165.3	166.6	166.5	60.7
Link Distance (m)	57.3	81.0	138.3	138.3	138.3	
Upstream Blk Time (%)			8	8	10	
Queuing Penalty (veh)			73	75	92	
Storage Bay Dist (m)						30.0
Storage Blk Time (%)					37	
Queuing Penalty (veh)					16	

Intersection: 11: Airport Road & 7256 Airport Road North Access

Movement	EB	NB	NB	NB	NB
Directions Served	LR	L	T	T	T
Maximum Queue (m)	13.5	6.7	74.5	78.6	75.0
Average Queue (m)	2.9	0.2	67.4	68.1	68.0
95th Queue (m)	10.3	2.5	71.5	73.5	72.6
Link Distance (m)	55.0		65.0	65.0	65.0
Upstream Blk Time (%)			31	33	33
Queuing Penalty (veh)			289	306	310
Storage Bay Dist (m)		60.0			
Storage Blk Time (%)			35		
Queuing Penalty (veh)			1		

Intersection: 14: Site Access B & Morning Star Drive

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	74.4	18.0
Average Queue (m)	8.2	7.1
95th Queue (m)	42.8	14.8
Link Distance (m)	149.4	93.0
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 2835

# FIGURES



AIRSTAR HOLDINGS INC.  
7211 & 7233 AIRPORT ROAD  
CITY OF MISSISSAUGA

SITE LOCATION

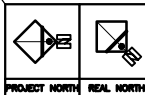


**CROZIER  
& ASSOCIATES**  
Consulting Engineers

2800 HIGH POINT DRIVE  
SUITE 100  
MILTON, ON L9T 6P4  
905 875-0026 T  
905 875-4915 F  
WWW.CFCROZIER.CA

Drawn	R.G.	Design	R.G.	Project No.	1190-4286	
Check	P.A.	Check	R.A.W.	Scale	N.T.S.	Dwg. FIG. 01



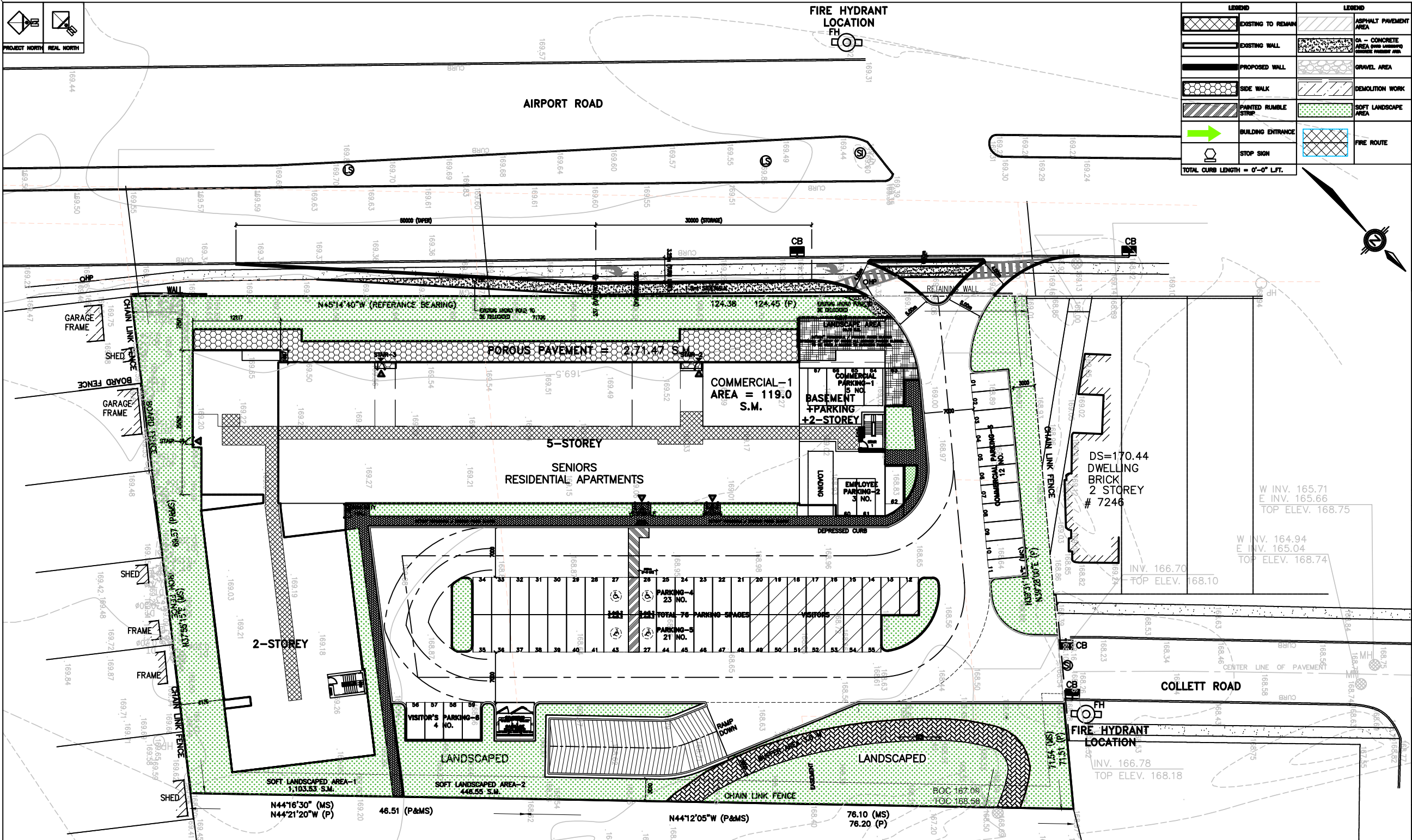


LEGEND		LEGEND	
	EXISTING WALL		ASPHALT PAVEMENT AREA
	EXISTING WALL		CONCRETE AREA (SEE LAYOUT FOR EXISTING WALLS)
	PROPOSED WALL		GRAVEL AREA
	SIDE WALK		DEMOLITION WORK
	PAINTED RUMBLE STRIP		SOFT LANDSCAPE AREA
	BUILDING ENTRANCE		FIRE ROUTE
	STOP SIGN		
TOTAL CURB LENGTH = 0'-0" LFT.			

**CHINTAN VIRANI**  
ARCHITECT INC.  
B. ARCH. | OAA, MRAC. | AA | COA

8888 HOLLY CRESCENT,  
WINDSOR, ONTARIO,  
CANADA N9R 1Z3

PHONE: (519) 978-8017  
CELL: (519) 567-1800  
FAX: (519) 978-8008  
EMAIL: chintan@chintan.ca  
WWW.CHINTAN.CA



BUILT - UP AREA STATISTICS						
	AREA - sq.m.	EXISTING AREA - sq.m.	DEMOLISH AREA - sq.m.	TOTAL EXISTING TO REMAIN AREA - sq.m.	PROPOSED AREA - sq.m.	TOTAL LOT COVERAGE AREA - sq.m.
SITE AREA	8,856.00					
BASEMENT BELOW FIRST FLOOR					2,532.72	
BASEMENT PARKING BELOW GRADE					3,063.08	
BASEMENT AREA - TOTAL					5,595.80	
FIRST FLOOR AREA					2,644.25	
SECOND FLOOR AREA					2,593.00	
THIRD FLOOR AREA					1,710.39	
FOURTH FLOOR AREA					1,434.12	
FIFTH FLOOR AREA					1,414.00	
TOTAL BUILDING AREA					15,391.56	
TOTAL LOT COVERAGE					2,644.25	2,644.25
ASPHALT PAVEMENT AREA					2,675.49	2,675.49
LANDSCAPE AREA STATISTICS						
SOFT LANDSCAPE AREA					2,654.68	
HARD LANDSCAPE CONCRETE AREA					101.05	
POROUS PAVEMENT AREA					681.60	
TOTAL LANDSCAPE AREA					3,336.28	3,336.28
CONCRETE CURB = 497.50 L.M.						

HARD LANDSCAPE		HARD LANDSCAPE	
CONCRETE CURB AREA = 94.08 S.M.	POROUS PAVEMENT EAST SIDE = 259.39 S.M.	CONCRETE CURB AREA = 94.08 S.M.	POROUS PAVEMENT EAST SIDE = 259.39 S.M.
FRONT CONCRETE PAVEMENT = 681.60 S.M.	POROUS PAVEMENT WEST SIDE = 271.47 S.M.	FRONT CONCRETE PAVEMENT = 681.60 S.M.	POROUS PAVEMENT WEST SIDE = 271.47 S.M.
TOTAL CONCRETE AREA = 101.05 S.M.	POROUS PAVEMENT FRONT PARKING = 681.60 S.M.	TOTAL CONCRETE AREA = 101.05 S.M.	POROUS PAVEMENT FRONT PARKING = 681.60 S.M.
	TOTAL POROUS AREA = 580.55 S.M.		TOTAL POROUS AREA = 580.55 S.M.
	TOTAL = 681.60 S.M.		TOTAL = 681.60 S.M.

UNITS:	
FIRST FLOOR	= 20 UNITS
SECOND FLOOR	= 35 UNITS
THIRD FLOOR	= 24 UNITS
FOURTH FLOOR	= 20 UNITS
FIFTH FLOOR	= 20 UNITS
TOTAL	= 119 UNITS

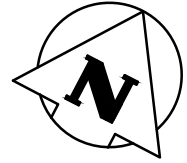
SINGLE BEDROOM UNITS = 1.25 SPACES FOR RESIDENTS - TOTAL UNITS = 111  
TWO BED ROOM UNITS = 1.50 SPACES FOR RESIDENTS - TOTAL UNITS = 008  
PERSONAL SERVICE SHOPS/ RETAIL = 8.4 SPACES PER 100M<sup>2</sup> GFA  
PARKING SPACES REQUIRED FOR RESIDENTIAL - 1 BED ROOM UNITS = 111 X 1.25 = 139 SPACES  
- 2 BED ROOM UNITS = 008 X 1.50 = 012 SPACES  
PARKING SPACES REQUIRED FOR SHOPS/RETAIL = 119.4 M<sup>2</sup> ÷ 100 = 1.194 X 8.4 = 8.44 = 007 SPACES  
TOTAL REQUIRED SPACES = 139 SPACES + 012 SPACES + 007 SPACES = 158 SPACES  
HANDICAPPED PARKING = 004 SPACES  
PROVIDED PARKING = 179 SPACES  
PROVIDE = [ON GRADE] + [83 REGULAR] + [24 + 28 = 4 HANDICAP] + [BASEMENT = 112] = 179 SPACES  
(LOADING SPACES REQUIRED = 1 LOADING SPACES PROVIDED = 1)

**PROPOSED SITE PLAN -**  
SCALE: 1:250

PROJECT		PROPOSED SENIOR CONDO BUILDING	
7211 & 7233 AIRPORT ROAD		PARTS # 1, 2 & 3	
MISSISSAUGA, ONTARIO			
DRAWING TITLE		- SITE PLAN - - PARKING OPTION-3	
NOTE:		DO NOT SCALE DRAWINGS. ALL DIMENSIONS TO BE CHECKED AND VERIFIED ON THE JOB SITE. ANY AND ALL DISCREPANCIES TO BE REPORTED TO THE ARCHITECT. ALL DRAWINGS REMAIN THE PROPERTY OF THE ARCHITECT.	
PROJECT NO. 1625		DRAWN BY A.V.	
DATE JUNE 2016		CHECKED BY C.V.	
DRAWING NO.		SP-100	
		24"x36"	

**NOTE:**

THIS FIGURE IS SCHEMATIC ONLY  
AND IS NOT TO BE SCALED.



MORNING STAR  
DRIVE

7256 AIRPORT ROAD  
NORTH ACCESS

7256 AIRPORT ROAD  
SOUTH ACCESS

BEVERLEY  
STREET

AIRPORT  
ROAD

VICTORY  
CRESCENT

SITE  
ACCESS B

SITE ACCESS A

SITE

**LEGEND:**



SIGNAL CONTROL



STOP CONTROL



YIELD CONTROL



ROUND ABOUT

XX(YY) WEEKDAY AM(PM)  
TRIP DISTRIBUTION

AIRSTAR HOLDINGS INC.  
7211 & 7233 AIRPORT ROAD  
CITY OF MISSISSAUGA

2017 EXISTING CONDITIONS  
(BALANCED VOLUMES)



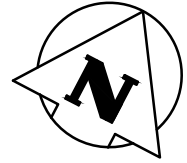
**CROZIER  
& ASSOCIATES**  
Consulting Engineers

2800 HIGH POINT DRIVE  
SUITE 100  
MILTON, ON L9T 6P4  
905 875-0026 T  
905 875-4915 F  
WWW.CFCROZIER.CA

Drawn	R.G.	Design	R.G.	Project No.	1190-4286
Check	P.A.	Check	R.A.W.	Scale	N.T.S.
				Dwg.	FIG. 03

**NOTE:**

THIS FIGURE IS SCHEMATIC ONLY  
AND IS NOT TO BE SCALED.



MORNING STAR  
DRIVE

7256 AIRPORT ROAD  
NORTH ACCESS

7256 AIRPORT ROAD  
SOUTH ACCESS

BEVERLEY  
STREET

AIRPORT  
ROAD

VICTORY  
CRESCENT

SITE  
ACCESS B

SITE ACCESS A

SITE

**LEGEND:**



SIGNAL CONTROL



STOP CONTROL



YIELD CONTROL



ROUND ABOUT

XX(YY) WEEKDAY AM(PM)  
TRIP DISTRIBUTION

AIRSTAR HOLDINGS INC.  
7211 & 7233 AIRPORT ROAD  
CITY OF MISSISSAUGA

2022 FUTURE BACKGROUND  
TRAFFIC VOLUMES



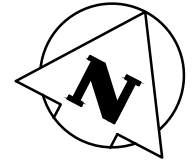
**CROZIER  
& ASSOCIATES**  
Consulting Engineers

2800 HIGH POINT DRIVE  
SUITE 100  
MILTON, ON L9T 6P4  
905 875-0026 T  
905 875-4915 F  
WWW.CFCROZIER.CA

Drawn	N.K.	Design	N.K.	Project No.	1190-4286
Check	R.A.W.	Check	R.A.W.	Scale	N.T.S.
				Dwg.	FIG. 04

**NOTE:**

THIS FIGURE IS SCHEMATIC ONLY  
AND IS NOT TO BE SCALED.



MORNING STAR  
DRIVE

7256 AIRPORT ROAD  
NORTH ACCESS

7256 AIRPORT ROAD  
SOUTH ACCESS

BEVERLEY  
STREET

AIRPORT  
ROAD

VICTORY  
CRESCENT

SITE  
ACCESS B

SITE ACCESS A

SITE

**LEGEND:**



SIGNAL CONTROL



STOP CONTROL



YIELD CONTROL



ROUND ABOUT

XX(YY) WEEKDAY AM(PM)  
TRIP DISTRIBUTION

AIRSTAR HOLDINGS INC.  
7211 & 7233 AIRPORT ROAD  
CITY OF MISSISSAUGA

2027 FUTURE BACKGROUND  
TRAFFIC VOLUMES



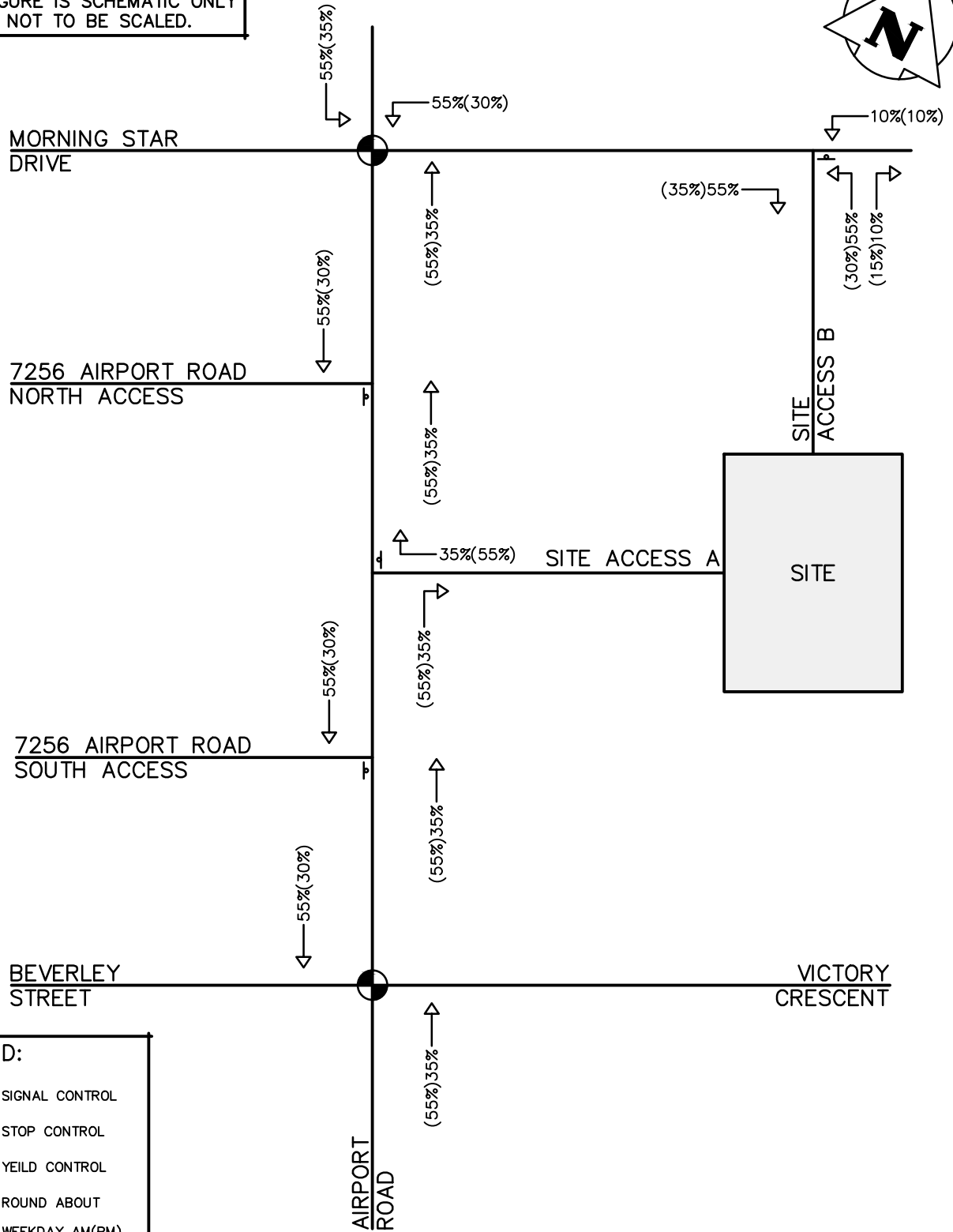
**CROZIER  
& ASSOCIATES**  
Consulting Engineers

2800 HIGH POINT DRIVE  
SUITE 100  
MILTON, ON L9T 6P4  
905 875-0026 T  
905 875-4915 F  
WWW.CFCROZIER.CA






Drawn	R.G.	Design	R.G.	Project No.	1190-4286
Check	PA.	Check	R.A.W.	Scale	N.T.S.
				Dwg.	FIG. 05

**NOTE:**

THIS FIGURE IS SCHEMATIC ONLY  
AND IS NOT TO BE SCALED.



**LEGEND:**

-  SIGNAL CONTROL
-  STOP CONTROL
-  YIELD CONTROL
-  ROUND ABOUT
-  WEEKDAY AM (PM) TRIP DISTRIBUTION

**AIRSTAR HOLDINGS INC.**  
**7211 & 7233 AIRPORT ROAD**  
**CITY OF MISSISSAUGA**

**SITE TRIP DISTRIBUTION**



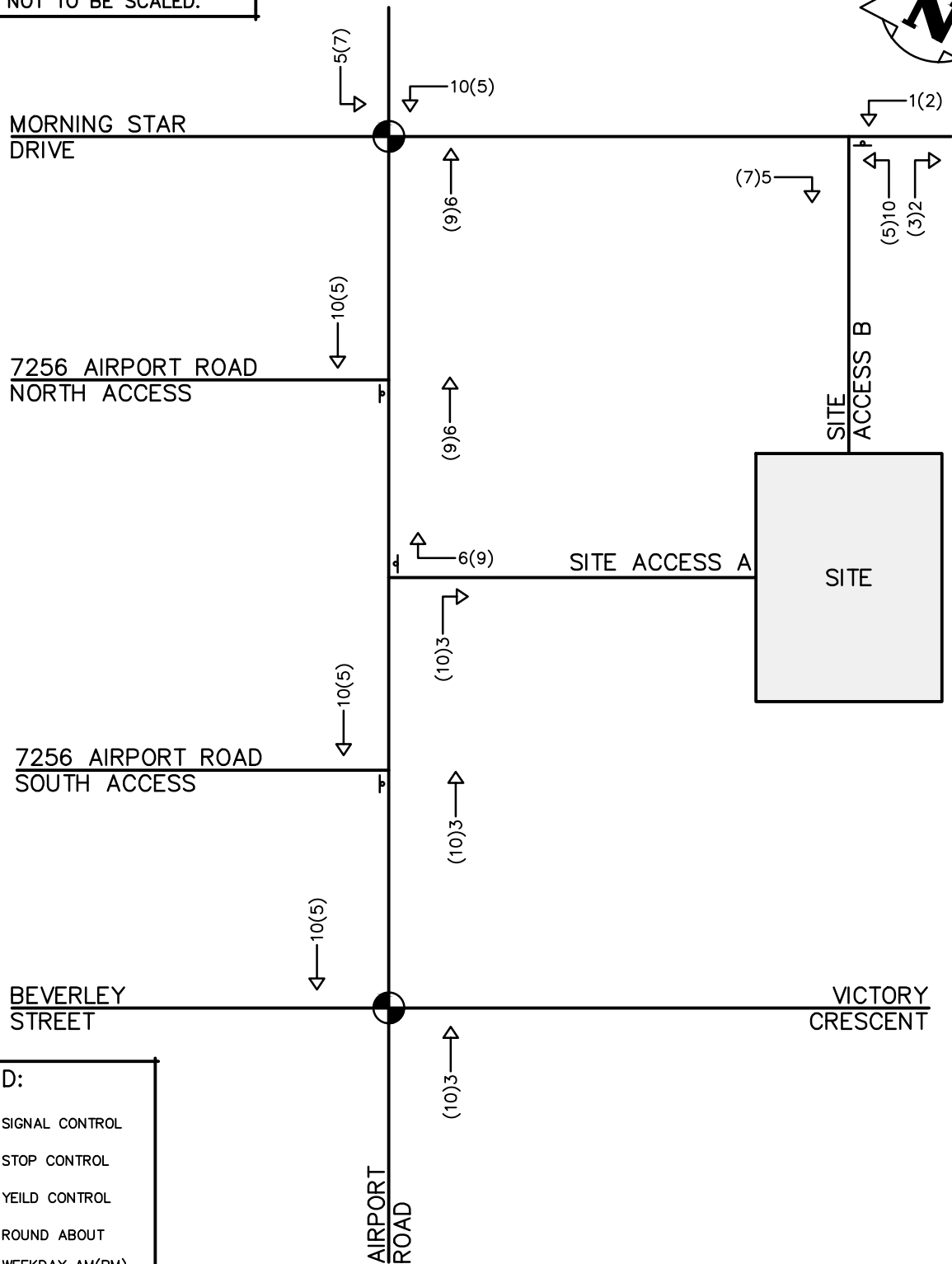
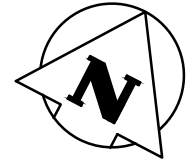
**CROZIER  
& ASSOCIATES**  
Consulting Engineers

2800 HIGH POINT DRIVE  
SUITE 100  
MILTON, ON L9T 6P4  
905 875-0026 T  
905 875-4915 F  
WWW.CFCROZIER.CA






Drawn	R.G.	Design	R.G.	Project No.	<b>1190-4286</b>
Check	P.A.	Check	R.A.W.	Scale	N.T.S.
					<b>Dwg. FIG. 06</b>

**NOTE:**

THIS FIGURE IS SCHEMATIC ONLY  
AND IS NOT TO BE SCALED.



**LEGEND:**

-  SIGNAL CONTROL
-  STOP CONTROL
-  YIELD CONTROL
-  ROUND ABOUT
-  WEEKDAY AM(PM)  
TRIP DISTRIBUTION

**AIRSTAR HOLDINGS INC.**  
**7211 & 7233 AIRPORT ROAD**  
**CITY OF MISSISSAUGA**

**SITE TRIP ASSIGNMENT**



**CROZIER  
& ASSOCIATES**  
Consulting Engineers

2800 HIGH POINT DRIVE  
SUITE 100  
MILTON, ON L9T 6P4  
905 875-0026 T  
905 875-4915 F  
WWW.CFCROZIER.CA

Drawn	R.G.	Design	R.G.	Project No.	1190-4286
Check	P.A.	Check	R.A.W.	Scale	N.T.S.
				Dwg.	FIG. 07

**NOTE:**

THIS FIGURE IS SCHEMATIC ONLY  
AND IS NOT TO BE SCALED.



MORNING STAR  
DRIVE

7256 AIRPORT ROAD  
NORTH ACCESS

7256 AIRPORT ROAD  
SOUTH ACCESS

BEVERLEY  
STREET

AIRPORT  
ROAD

SITE ACCESS A

SITE  
ACCESS B

SITE

VICTORY  
CRESCENT

(-15%)-15%

(+15%)+15%

(+15%)+15%

**LEGEND:**



SIGNAL CONTROL



STOP CONTROL



YIELD CONTROL



ROUND ABOUT

XX(YY)

WEEKDAY AM(PM)  
TRIP DISTRIBUTION

NOTE: The percentages are based on  
the northbound right-turning traffic  
volume at the intersection of Airport  
Road at Morning Star Drive.

AIRSTAR HOLDINGS INC.  
7211 & 7233 AIRPORT ROAD  
CITY OF MISSISSAUGA

EXISTING RESIDENTIAL  
TRIP REDISTRIBUTION



**CROZIER  
& ASSOCIATES**  
Consulting Engineers

2800 HIGH POINT DRIVE  
SUITE 100  
MILTON, ON L9T 6P4  
905 875-0026 T  
905 875-4915 F  
WWW.CFCROZIER.CA

Drawn	R.G.	Design	R.G.	Project No.	1190-4286
Check	P.A.	Check	R.A.W.	Scale	N.T.S.
				Dwg.	FIG. 08

**NOTE:**

THIS FIGURE IS SCHEMATIC ONLY  
AND IS NOT TO BE SCALED.



MORNING STAR  
DRIVE

7256 AIRPORT ROAD  
NORTH ACCESS

7256 AIRPORT ROAD  
SOUTH ACCESS

BEVERLEY  
STREET

AIRPORT  
ROAD

SITE ACCESS A

SITE  
ACCESS B

SITE

VICTORY  
CRESCENT

(-30)-12

(+30)+12

(+30)+12

**LEGEND:**



SIGNAL CONTROL



STOP CONTROL



YIELD CONTROL



ROUND ABOUT

XX(YY)

WEEKDAY AM(PM)  
TRIP DISTRIBUTION

AIRSTAR HOLDINGS INC.  
7211 & 7233 AIRPORT ROAD  
CITY OF MISSISSAUGA

2022 EXISTING RESIDENTIAL  
TRIP REASSIGNMENT



**CROZIER  
& ASSOCIATES**  
Consulting Engineers

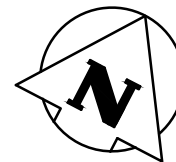
2800 HIGH POINT DRIVE  
SUITE 100  
MILTON, ON L9T 6P4  
905 875-0026 T  
905 875-4915 F  
WWW.CFCROZIER.CA

Drawn	R.G.	Design	R.G.	Project No.	1190-4286
Check	P.A.	Check	R.A.W.	Scale	N.T.S.
				Dwg.	FIG. 09



**NOTE:**

THIS FIGURE IS SCHEMATIC ONLY  
AND IS NOT TO BE SCALED.



MORNING STAR  
DRIVE

7256 AIRPORT ROAD  
NORTH ACCESS

7256 AIRPORT ROAD  
SOUTH ACCESS

BEVERLEY  
STREET

AIRPORT  
ROAD

SITE ACCESS A

SITE  
ACCESS B

SITE

VICTORY  
CRESCENT

(-33)-13

(+33)+13

(+33)+13

**LEGEND:**



SIGNAL CONTROL



STOP CONTROL



YIELD CONTROL



ROUND ABOUT

XX(YY)

WEEKDAY AM(PM)  
TRIP DISTRIBUTION

AIRSTAR HOLDINGS INC.  
7211 & 7233 AIRPORT ROAD  
CITY OF MISSISSAUGA

2027 EXISTING RESIDENTIAL  
TRIP REASSIGNMENT



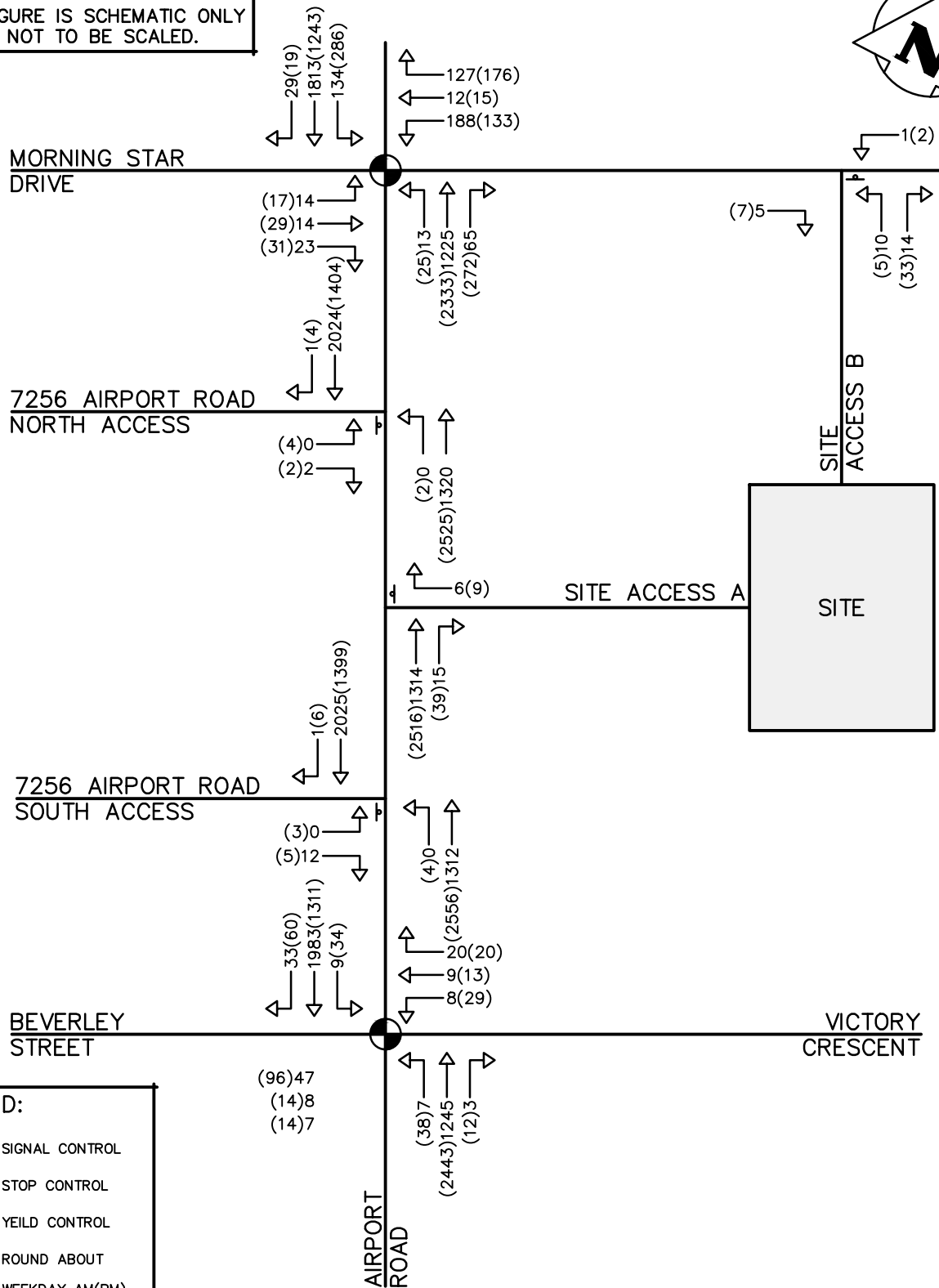
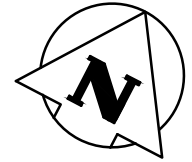
**CROZIER  
& ASSOCIATES**  
Consulting Engineers

2800 HIGH POINT DRIVE  
SUITE 100  
MILTON, ON L9T 6P4  
905 875-0026 T  
905 875-4915 F  
WWW.CFCROZIER.CA

Drawn	R.G.	Design	R.G.	Project No.	1190-4286
Check	P.A.	Check	R.A.W.	Scale	N.T.S.
				Dwg.	FIG. 10

**NOTE:**

THIS FIGURE IS SCHEMATIC ONLY  
AND IS NOT TO BE SCALED.



**AIRSTAR HOLDINGS INC.**  
**7211 & 7233 AIRPORT ROAD**  
**CITY OF MISSISSAUGA**

**2022 TOTAL TRAFFIC VOLUMES**



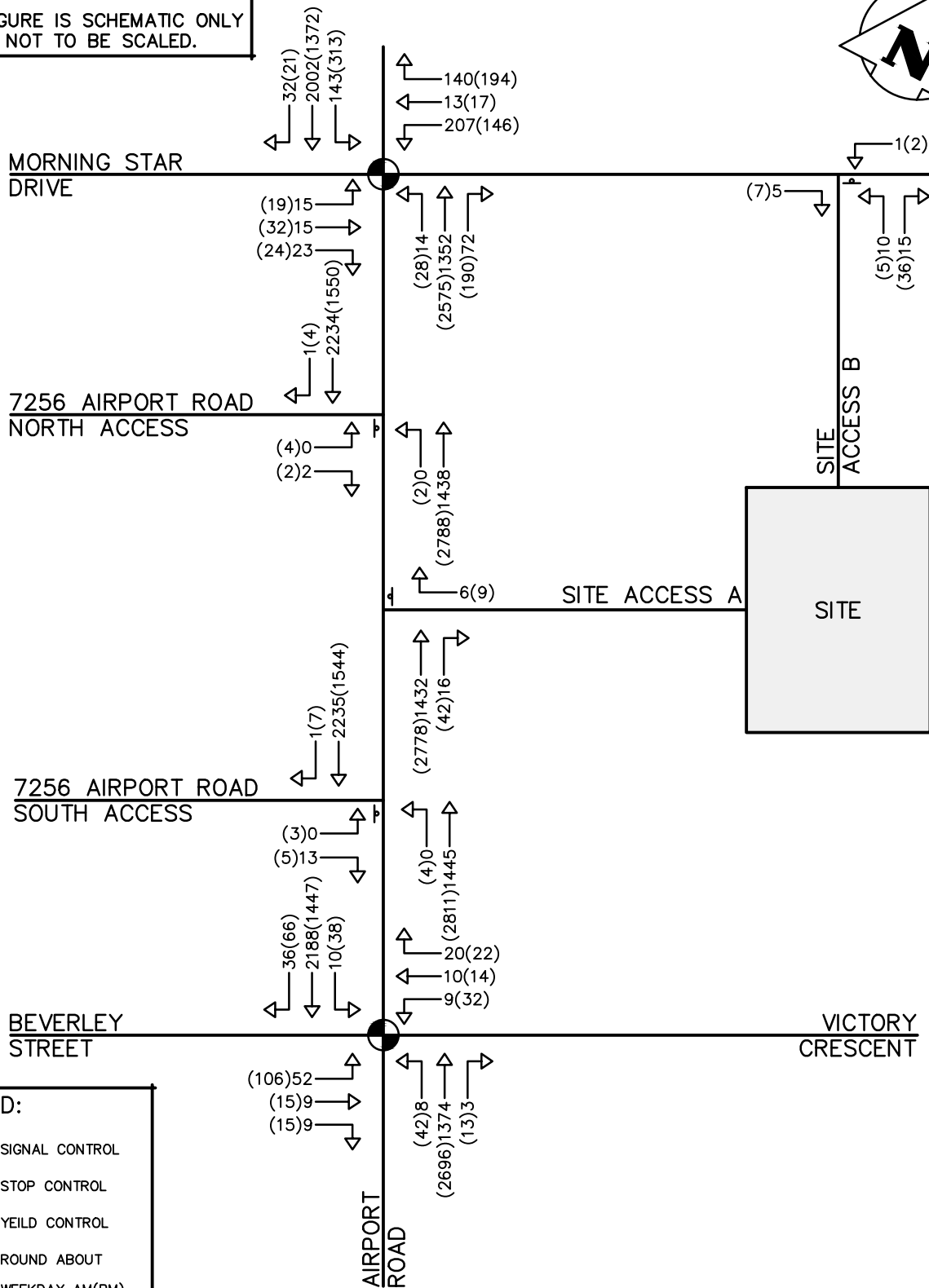
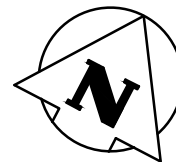
**CROZIER & ASSOCIATES**  
Consulting Engineers

2800 HIGH POINT DRIVE  
SUITE 100  
MILTON, ON L9T 6P4  
905 875-0026 T  
905 875-4915 F  
WWW.CFCROZIER.CA

Drawn	R.G.	Design	R.G.	Project No.	1190-4286
Check	P.A.	Check	R.A.W.	Scale	N.T.S.
				Dwg.	FIG. 11

**NOTE:**

THIS FIGURE IS SCHEMATIC ONLY  
AND IS NOT TO BE SCALED.



**AIRSTAR HOLDINGS INC.**  
**7211 & 7233 AIRPORT ROAD**  
**CITY OF MISSISSAUGA**

**2027 TOTAL TRAFFIC VOLUMES**



**CROZIER & ASSOCIATES**  
Consulting Engineers

2800 HIGH POINT DRIVE  
SUITE 100  
MILTON, ON L9T 6P4  
905 875-0026 T  
905 875-4915 F  
WWW.CFCROZIER.CA

Drawn	R.G.	Design	R.G.	Project No.	<b>1190-4286</b>
Check	P.A.	Check	R.A.W.	Scale	N.T.S.
					<b>Dwg. FIG. 12</b>