TOWN OF CALEDON
PLANNING
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October 31, 2023

TRANSPORTATION IMPACT STUDY

TULLAMORE INDUSTRIAL GP LIMITED
TULLAMORE LANDS,
0 & 12245 TORBRAM ROAD

TOWN OF CALEDON
REGION OF PEEL

PREPARED FOR:

TULLAMORE INDUSTRIAL GP LIMITED

PREPARED BY:

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ORIGINAL: JUNE 2021
UPDATE 1: DECEMBER 2021
UPDATE 2: APRIL 2023
UPDATE 3: OCTOBER 2023

CFCA FILE NO. 2022-5842

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CROZIER
CONSULTING ENGINEERS

Revision Number	Date	Comments
Rev.0	June 2021	Issued for 1st Submission
Rev.1	December 2021	Updated and issued for 2nd Submission
Rev.2	April 2023	Updated and issued for 3rd Submission
Rev.3	October 2023	Updated and issued for 4th Submission

Executive Summary

C.F. Crozier & Associates Inc. (Crozier) was retained by Tullamore Industrial GP Limited to undertake a Transportation Impact Study in support of the planning applications for the development of Tullamore Lands, situated at 0 & 12245 Torbram Road in the Town of Caledon. The development lands encompass a total approximate area of 502 acres (203 ha) and consists primarily of greenfield area, the proposed project envisions the development of an industrial park.

A Transportation Impact Study (TIS) was previously prepared and submitted in June 2021 based on an older Site Plan, the TIS was updated an issued for resubmission in December 2021 and April 2023. This Transportation Impact Study Update has been prepared address the Town and Region's comments dated September 29, 2023 regarding the Official Plan Amendment (OPA) and Draft Plan of Subdivision (DPS) submissions associated with the Tullamore Lands.

The Transportation Study analyzes the following existing intersections:

- External Road Network
    - Torbram Road at Old School Road
    - Mayfield Road at Torbram Road
    - Mayfield Road at Street "B"
    - Mayfield Road at Airport Road
    - Airport Road at Davis Lane/ Perdue Crescent
    - Airport Road at 12333 Airport Road/Street "A"
- Internal Road Network
    - Torbram Road at Street "C"
    - Torbram Road at Site Access 1
    - Torbram Road at Site Access 2
    - Street "B" & Street "A"
    - Street "B" & Street "C"
    - Street "B" & Potential Future Street "D"/ Block 3 Access

The intersection of Airport Road with Mayfield Road is currently operating at LOS "C" during the weekday a.m. and p.m. peak hours. The intersection's maximum control delay is 24.0 seconds and 31.3 seconds in the weekday a.m. and p.m. peak hours respectively Furthermore, no queuing or capacity constraints are forecast at the roundabout.

The remaining signalized intersections of Mayfield Road at Torbram Road, and Airport Road at 12333 Airport Road/Street "A" are currently operating acceptably with LOS "C" or better during the a.m. and p.m. peak hours. Again, no queuing or capacity constraints are forecast at the roundabout.

The unsignalized intersection of Airport Road at Perdue Court/Davis Lane currently operates at LOS "F". While the volumes may not warrant signalization, it should be strongly considered in the future to address the long delays.

As per comments by the Town of Caledon, an industry standard growth rate of 2.0% per annum was applied to Town Collector roads (Torbram Road and Old School Road) beyond the existing condition year. It is noted that growth is not required to be applied to local roads.

The remaining Regional Roads (Airport Road and Mayfield Road) were grown according to growth forecasts in coordination with the Region. However, no forecasts for Regional roadways were available in the horizons beyond 2031. As a result, reasonable growth rates were assumed for the Regional Roads beyond the 2031 horizon until 2036.

The growth rates applied for all roadways were generally 450 with the approved Block 48-2 TIS. The growth rates used are summarized in **Table E1**.

Table E1: Background Growth Rates

Corridor	Growth Rate	
	2022-2031	2031-2036
Airport Road (Regional Road 7)	1%	
Mayfield Road (Regional Road 14)	5%	2%
Torbram Road	2%	
Perdue Court/Davis Lane	0%	
Old School Road	2%	

A 2% growth rate was applied to Mayfield Road traffic volumes after the 2031 horizon since the 5% per annum growth rate is not expected to be sustained over a 15-year period especially after accounting for all the background traffic.

As a result of the significant growth expected in the area, the Region, as well as the approved Block 48-2 TIS, has identified and recommended several future background roadway improvements in the study area to be accounted for within specific horizon years, a number of the associated improvements recommended in Block 48-2 and per the Region's Transportation Master Plan have been implemented. However, additional planned improvements associated with the buildout of Block 48-2 are still expected, such as the 1.0 km long widening of Airport Road 1.0 km north of Mayfield Road.

The improvements are summarized in **Table E2** below.

Table E2: Future Background Roadway Improvements (Capital Projects)

Roadway	Segment / Intersection	Improvement	Timeline	Source
Mayfield Road	Bramalea Road to Airport Road (RR 7)	Widening from two (2) lanes to six (6) lanes	Completed[1] (2022)	Region of Peel 2021 Budget / Region of Peel Transportation Master Plan
	Airport Road (RR 7) to The Gore Road (RR 8)	Widening from two (2) lanes to five (5) lanes	2023	
	Airport Road (RR 7) to Clarkway Drive	Widening from five (5) lanes to six (6) lanes	2026-2031	
Airport Road	1 km North of Mayfield Road (RR 14) to King Street (RR 9)	Widening from two (2) lanes to five (5) lanes	2024	Region of Peel 2021 Budget / Region of Peel Transportation Master Plan
	Airport Road (RR 7) and King Street	Traffic calming measures: Implement Roundabout	2024	Region of Peel Environmental Study Report (October 2015)
	Airport Road (RR 7) and Healey Road / Old School Road	Traffic calming measures: Implement Roundabout	2024	

Note 1: The widening of Mayfield Road from Bramalea Road to Airport Road was included in this analysis as the base condition.

Appendix J contains information regarding the planned and recommended background roadway improvements.

Intersection analysis of the ultimate 2036 future background traffic volumes indicate the boundary road network will continue to operate at "D" or better with the exception of Airport Road at Davis Lane/ Perdue Crescent. The maximum volume-to-capacity ratio of 1.05 was observed for westbound left movement for Mayfield Road at Torbram Road, the intersection is operating with a maximum control delay of 41.8 seconds or less.

Summary of Future Background Recommended Improvements

The following capacity improvements are recommended to accommodate expected future background growth total volumes in the ultimate 2036 horizon year:

- **Mayfield Road at Torbram Road (Signalized Intersection)**
    - Westbound left turn lane with 195 m storage (90 m increase from Existing).
    - Northbound left turn lane with 185 m storage (105m increase from Existing).
    - Actuated coordination of the Mayfield Road corridor from Torbram Road to Airport Road including cycle length increases to Mayfield Road at Torbram Road to 120 seconds and 135 seconds in the a.m. and p.m. peak hours, respectively.
- **Mayfield Road at Block 48-2 Street "C" (Signalized Access)**

  - Eastbound right turn lane with 75 m storage.
  - Northbound left turn lane with 60 m storage.
  - Actuated coordination of the Mayfield Road corridor from Torbram Road to Airport Road including cycle length of 120 seconds and 135 seconds in the a.m. and p.m. peak hours, respectively, for Mayfield Road at Street "B"/Block 48-2 Street "C".

- **Mayfield Road at Airport Road (Signalized Intersection)**
  - Eastbound left turn lane with 310 storage (110 m increase from Existing).
  - Eastbound right turn lane with 80 m storage (20 m increase from Existing).
  - Northbound left turn lane with 185 m storage (90 m increase from Existing). This can be accommodated within the concrete median.
  - Add westbound left protected permissive phase in signal timing plan.
- **Airport Road at Davis Lane/ Perdue Crescent (Minor Stop-Controlled Intersection)**
  - Monitor traffic volumes and implement signalization to address minor street delays.
  - Westbound left turn lane with 40 m storage (10 m increase from Existing). Note the existing pavement width can accommodate this via pavement markings.

The proposed industrial warehouse development is forecasted to generate approximately 719 and 737 total two-way passenger car trips during the weekday a.m. and p.m. peak hours, respectively, and approximately 179 and 186 total two-way heavy truck trips during the weekday a.m. and p.m. peak hours, respectively.

Analysis of 2026, 2031 and 2036 future total traffic operations indicate that the addition of site traffic to boundary road network is expected to have a minor impact on traffic delay and queues when compared to 2026, 2031 and 2036 future background traffic operations.

The signalized intersection of Airport Road and Mayfield Road is expected to operate at a level of service (LOS) "D" during the weekday a.m. and p.m. peak hours. Compared to the future background conditions, site generated traffic is expected to increase the control delay by 5.9s and 6.1s during the weekday a.m. and p.m. peak periods, respectively. From an overall perspective, site-generated traffic is not expected to materially impact the main intersection of Mayfield Road and Airport Road. The maximum volume-to-capacity ratios for individual movements are 0.98 (EBL) and 1.01 (NBL) in the weekday a.m. and p.m. peak hours, respectively. These ratios indicate that the intersection is expected to operate at capacity during the weekday a.m. and p.m. peak hours.

The proposed signalized site access to Airport Road is expected to operate at LOS "A" and "B" in the weekday a.m. and p.m. peak hours, respectively.

The proposed signalized site access to Mayfield Road is expected to operate at LOS "D" and "B" in the weekday a.m. and p.m. peak hours, respectively.

The remaining proposed unsignalized site accesses are expected to operate at LOS "B" or better the weekday a.m. and p.m. peak hours.

Summary of Future Total Recommended Improvements

In addition to the background improvements proposed in the road network as summarized in **Table E2** and those summarized in the preceding section, the following improvements are recommended for consideration at the noted intersections to accommodate site generated traffic.

- **Airport Road at Street "A"/ 12333 Airport Road (Signalized Access)**
    - Construct a northbound left turn lane with at least 55m storage.
    - Construct an eastbound left turn lane with at least 55m of storage (TWLTL available)
    - Construct a westbound left turn lane with at least 50m of storage (pavement width currently available and can be implemented via pavement markings)
    - Construct a southbound right turn lane with at least 25 m of storage (min. required for Wb-20 trucks).
- **Mayfield Road at Street "B" (Signalized Access)**
    - Construct an eastbound left turn lane with at least 100 m of storage.
    - Construct an eastbound right turn lane with at least 70 m of storage.
    - Construct a northbound left turn lane with at least 60 m of storage.
    - Construct a westbound right turn lane with at least 45 m of storage (to accommodate potential LCVs).
- **Torbram Road and Street "C" (Unsignalized Access)**
    - Construct a westbound left turn lane with minimum 20m of storage.
- **Mayfield Road at Torbram Road (Signalized Intersection)**
    - In order to accommodate the 95th percentile eastbound left turn queues, 190 m storage (90 m increase from Future Background) would be required. However, a review of the simulation indicates that the increase in queuing is primarily due to eastbound through traffic queues extending past the taper such that vehicles intending to access the auxiliary turn lane would be required to wait until the through queues cleared sufficiently to access the turn lane. Moreover, the increase from 37 to 116 vehicles per hour as a result of the development traffic in the critical a.m. peak hour would not by itself trigger 90 m of additional storage under normal circumstances.
    - Similarly, in order to accommodate 95th percentile eastbound right turn lane queues, an auxiliary lane with 270 m storage (190 m increase from Future Background) would be required. However, based on a review of the simulation the increase in queuing was similarly found to be due to through traffic queues extending past the beginning of the eastbound right-turn lane. Moreover, the proposed development contributes no traffic volumes to this movement.

- On this basis, it is recommended that traffic along the Mayfield corridor be monitored as surrounding growth advances to avoid overbuilding infrastructure, since a relatively high growth rate of 5% until 2031 was adopted as requested by the Region.

- **Mayfield Road at Airport Road (Signalized Intersection)**
  - Eastbound right turn lane with 80m storage (0m increase from Future Background).
  - Westbound left turn lane with 295 m storage (can be accommodated as part of 2026-2031 road widening).
  - Westbound right turn lane with 170 m storage (can be accommodated as part of 2026-2031 road widening).
  - Northbound left turn lane with 195 m storage (10 m increase from Future Background).
  - Southbound left turn lane with 105 m storage (can be accommodated as part of 2026-2031 road widening)
  - Implement a protected WBL turn phase in both peak hours and optimize the signal timing. This includes considering a reduction in pedestrian walk times to 3 seconds, the pedestrian "do not walk" times remain unchanged from existing. It is recommended that traffic along the Mayfield corridor be monitored over time to confirm traffic growth and signal timing coordination.
- **Airport Road at Davis Lane/ Perdue Crescent (Minor Stop-Controlled Intersection)**
  - Consider signalization of the intersection to reduce minor street delays as recommended for future background conditions. It is noted that the long delays are generally associated with background traffic volumes and not as a result of the site traffic.
  - Increase Westbound left turn lane to 45 m storage (5 m increase from Future Background). Note the existing pavement width can accommodate this via pavement markings.
- **Internal Road Network**
  - 3.0m Multiuse paths are recommended and proposed on both sides of all internal collector roadways.
  - Thought not warranted from a traffic control perspective, All-Way Stop Controls are recommended to provide safe pedestrian crossings at the internal collector road intersections of:
    - Street "B" and Street "A"
    - Street "B" and Street "C"
  - In the future when Street "D" is implemented between Airport Road and Street D, an all-way stop control is recommended to be implemented at the Street "B" and Future Potential Street "D" intersection to provide safe pedestrian crossing opportunities.

- Subject Development will adopt an urban cross section for all three internal collector roadways, Street "A", Street "B", and Street "C", as well as the future potential Street "D" once implemented. This cross section proposes two 3.5m curb lanes, a 5.0m two-way left turn lane, and 3.0m multiuse pathways (MUPs) on both sides of the roadway. The MUPs will also be separated from the roadway by 3.0m boulevards. This cross section supports all modes of transportation.

- **Mayfield Road Corridor**

  - Implement coordination of the Mayfield Road corridor from Torbram Road to Airport Road including cycle length increases throughout the corridor to 120 seconds and 135 seconds in the a.m. and p.m. peak hours, respectively to match the Airport Road and Mayfield Road intersection. Recommended for Future Background conditions as well.

  - We also note that the speed limit along Mayfield Road within the study area for westbound traffic is 60km/h from Airport Road to approximately 440m west of Airport Road, after which the speed limit transitions to 80km/h speed limit. For eastbound traffic along Mayfield Road, the speed limit is 80km/h between Torbram Road to approximately 450m west of Airport Road. As the subject lands in addition to the Block 48-2 residential community develop, the mobility environment along Mayfield Road is expected to change due to increased pedestrian and cycling activity, as well as new transit stops proposed along Mayfield Road. Accordingly, we recommend the Region consider reductions in posted speed limit to provide a consistent 60 km/h across the site's frontage in the future as the environment is transformed.

- **Torbram Road Corridor**

  - It is understood that the Town has additional considerations for the ultimate buildout of Torbram Road as either a two-lane or four-lane urban cross section. The Town's Official Plan indicates Torbram will be a Town Arterial Road with a 30 m ROW, as such, this study has assumed a two-lane urban cross section to ensure a conservative assessment until additional details are available. The details of the ultimate ROW considerations, and scheduling of this roadway will be subject to the completion of the ongoing Multimodal Transportation Master Plan currently being undertaken by the Town. Relevant excerpts from the Town's Official Plan can be found in **Appendix N.**

- **Transit Routes**

  - The site's orientation offers opportunities for a bus loop route internal to the site for existing transit routes (e.g., Brampton Transit Route 30), as is similarly existing with the industrial development east of Airport Road (12333 Airport Road). Further discussions with the transit agencies are recommended to identify and plan for future transit routes within the site.

  - It is also recommended that bus stops adjacent to the internal intersections Street "B" at Street "A" and Street "B" at Street "C" be protected for, to permit installation when transit routes are finalized.

  - In the interim condition a bus stop is recommended southwest corner of the intersection of Airport Road at Street "B" to provide connectivity to the existing Brampton Transit Route 30 without modification the route required as the current

route services the properties at 12333 Airport Road and can service the Subject Lands as it turns left onto Airport Road before continuing south.

- We recommend further coordination with Brampton Transit and the Town to explore opportunities to further extend Route 14 (Torbram Road) to provide service within the lands. The existing Route 14 is already proposed to extend to Mayfield Road once Block 48-2 is built out; and we understand that bus route extensions may require transit supportive development to occur prior to the implementation of new or extended routes. Nonetheless, the 26 m ROW proposed for all internal collectors is adequate to support bus stop facilities within the subject development once future routes are confirmed.

- Any proposed bus stops should be located within 400 m walking distance of principal entrances to each building. As Street "B" is the main north-south spinal road servicing the developments, it should be adequately equipped to provide bus stops within 400 m of all building entrances with mid-block bus stops provided as necessary.

- **Proposed and Recommended Mobility Network**

  - Per discussion with the Town of Caledon, a network of continuous collector roadways is preferred as the Town looks to establish a collector road network. A potential collector roadway network beyond the subject lands is capable of meeting the objectives set out by the Town.

  - It is re-iterated that any visualization of a potential road network beyond the development proposal represents a potential road network that could be established as part of future block plan, secondary plan or LOG work and is not intended to represent a specific proposal of collector road alignments through adjacent lands. A future secondary plan or LOG work would be required to establish a wider transportation network.

  - The development will adopt a 26 m ROW urban cross section for the internal collector roadways including a 3.0 m multi-use path on both sides of the roadway. This cross-section can adequately support future transit along the internal roadways and facilitate safe and connected active transportation network in the area.

- **Transportation Demand Management Strategies**

  - A number of TDM Strategies have been recommended for consideration at the overall development lands and future individual building Site Plan Application level including:

    - Protect for future transit routes along the internal collector network and potential bus stop locations at the internal collector intersections.

  - Encourage bicycle parking during the future development of individual building Site Plans.

  - Encourage off-peak shift changes to reduce automobile traffic demand during the roadway peak hours.

  - Encourage implementation of EV charging during the individual building Site Plan development process.

- Encourage future tenants to join Smart Commute.
- Encourage implementation of priority carpool spaces near building entrances etc.

Provide direct pedestrian connections from bus stops to adjacent blocks where possible. Provide direct pedestrian connections from the collector road sidewalks where possible. The proposed development can be supported from a traffic operations perspective with the recommended improvements as the site-generated traffic is not expected have a material effect on the operations of the existing roadway network. The internal roadways can facilitate future transit routes, and coordination with transit agencies are recommended to plan and protect for the implementation of future transit services internal to the site.

Furthermore, the sensitivity analysis indicates that the widening of Torbram Road is not required to support full buildout of the development lands. Specifically, the full buildout of the lands can be supported prior to the widening of Torbram Road, with the recommendations noted below on the Airport Road and Torbram Road intersections.

A number of TDM opportunities including transit implementation, provision of priority carpool parking, Smart Commute integration and promotion, and bicycle parking should be explored and further refined through subsequent submissions.

The proposed loading supply satisfies the Zoning By-law requirements for the site while the proposed parking supply does not. It is noted that the parking and loading requirements have been assessed on a high level and the parking and loading supply for each building will be assessed in detail on an individual basis during the Site Plan Application stage. It is also noted that while the car parking supply is currently deficient, the trailer parking supply was not accounted for in either the loading bay or car parking supply.

The analysis contained within this report was prepared using the information received from the proponent, the most recent Draft Plan prepared by Weston Consulting dated October 24, 2023, as well as the Site Plan prepared by Turner Fleisher Architects Inc. dated October 26, 2023. Any minor changes to the Draft Plan or the Site Plan are not expected to affect the conclusions contained within this report.

In conclusion, the proposed industrial development at Tullamore Industrial lands in the town of Caledon, can be supported from a transportation operations and safety perspective.

TABLE OF CONTENTS

1.0 INTRODUCTION 1

1.1 Background 1
1.2 Development Proposal 1

2.0 EXISTING CONDITIONS 5

2.1 Development Lands 5
2.2 Study Road Network 7
2.3 Public Transit 9
2.4 Traffic Data 9
2.5 Traffic Modeling 11
2.6 Intersection Operations 11

2.6.1 Traffic Signal Warrant Assessment - Airport Road at Perdue Court/Davis Lane 13

3.0 FUTURE BACKGROUND CONDITIONS 13

3.1 Study Horizons 13
3.2 Background Developments 13

3.2.1 2022 "Existing" Study Horizon 14
3.2.2 2026 - 2036 Study Horizons 14

3.3 Traffic Growth Rates 18
3.4 Future Roadway Improvements 18

3.4.1 GTA West Corridor (Highway 413) 23

3.5 Intersection Modelling 24
3.6 Intersection Operations 25
3.7 Summary of Recommended Improvements to Accommodate Background Growth 30

3.7.1 Torbram Road Widening 31

4.0 SITE GENERATED TRAFFIC 31

4.1 Division of Sites 31
4.2 Trip Generation 33
4.3 Trip Distribution and Assignment 36

4.3.1 Passenger Cars 36
4.3.2 Passenger Trips 37
4.3.3 Heavy Trucks 38

5.0 TOTAL TRAFFIC CONDITIONS 42

5.1 Intersection Operations 42

5.1.1 Traffic Signal Warrant Assessment – Mayfield Road at Street "B" 53
5.1.2 Traffic Signal Warrant Assessment – Torbram Road at Street "C" 53
5.1.3 Traffic Signal Warrant Assessment – Internal Intersections 53
5.1.4 Auxiliary Right and Left-Turn Lane Analysis – Unsignalized Torbram Road Intersections 54

5.2 Torbram Road Sensitivity Analysis 54
5.3 Summary of Recommended Improvements to Accommodate Site-Generated Traffic 56

6.0 SIGHT DISTANCE REVIEW 58

7.0 PARKING & LOADING REVIEW 58

8.0 PROPOSED & POTENTIAL MOBILITY NETWORK 60

8.1 Internal Collector Road Network 60
8.2 Cross Section Requirements 61
8.3 Mobility from a Wider Context 62

8.3.1 Considerations for Continuous Collector Roadways 62
8.3.2 Collector Roadway Considerations & Connectivity Constraints 63
8.3.3 Potential Collector Network Opportunities 64

8.4 Potential Collector Network Policy Conformance Opportunities 66
8.5 Potential Collector Roadway Network Policy Conformance 66

9.0 TRANSPORTATION DEMAND MANAGEMENT CONSIDERATIONS 67

9.1 Active Transportation Plan 67

9.1.1 Active Transportation Future Considerations 69

9.2 Future Transit Considerations 69
9.3 Electric Vehicle Parking and Carpooling 72
9.4 Smart Commute 72
9.5 Operational Planning 73
9.6 Education/Resources and Wayfinding 73

10.0 FUNCTIONAL DESIGN CONSIDERATIONS & TRUCK TURNING 73

10.1 External Intersection Improvements 73
10.2 Preliminary Truck Turning Templates 74

11.0 CONCLUSION AND RECOMMENDATIONS 75

11.1 Future Background Recommendations 75
11.2 Site Generated Traffic 76
11.3 Future Total Recommendations 77

LIST OF FIGURES

Figure 1: Draft Plan 3
Figure 2: Site Location 6
Figure 3: Existing Lane Configurations 8
Figure 4: 2022 Existing Traffic Volumes 10
Figure 5: 2026 Future Lane Configurations 16
Figure 6: Background Development Volumes 17
Figure 7: 2026 Future Background Volumes 19
Figure 8: 2031 & 2036 Future Lane Configurations 20
Figure 9: 2031 Future Background Volumes 21
Figure 10: 2036 Future Background Volumes 22
Figure 11: Site Generated Traffic Zones 32
Figure 12: Total Passenger Trip Assignment 39
Figure 13: Total Truck Trip Assignment 40
Figure 14: Overall Total Trip Assignment 41
Figure 15: 2026 Future Total Traffic Volumes 43
Figure 16: 2031 Future Total Traffic Volumes 44
Figure 17: 2036 Future Total Traffic Volumes 45
Figure 18: Proposed 26m Cross-Section 62
Figure 19: Potential Future Town of Caledon Collector Roadway Network 65
Figure 20: Proposed Active Transportation Plan 68
Figure 21: Potential Transit Route to Service Subject Development 70

LIST OF TABLES

Table 1: Development Proposal....1
Table 2: Development Proposal (Comparison) 2
Table 3: Transit Routes 9
Table 4: Traffic Data....9
Table 5: 2022 Existing Levels of Service....12
Table 6: Background Developments....14
Table 7: Background Growth Rates....18
Table 8: Planned Roadway Improvements (Capital Projects) 23
Table 9: Airport Road at Old School Road – Roundabout Geometry 24
Table 10: 2026 Future Background Level of Service 25
Table 11: 2026 Future Background (Optimized) Level of Service 26
Table 12: 2031 Future Background Level of Service 27
Table 13: 2036 Future Background Level of Service 28
Table 14: Airport Rd./Old School Rd./Healey Rd. Roundabout Future Background Level of Service....29
Table 15: Transportation Zones....31
Table 16: Total Vehicle Trip Generation 34
Table 17: Passenger Car Trip Generation 35
Table 18: Truck Trip Generation....36
Table 19: Trip Distribution....37
Table 20: Passenger Trip Zone Directional Distributions 37
Table 21: Passenger Trip Inbound and Outbound Total Distributions 38
Table 22: 2026 Future Total Level of Service 46
Table 23: 2026 Future Total (Optimized) Level of Service....47
Table 24: 2031 Future Total Level of Service 48
Table 25: 2036 Future Total Level of Service 49
Table 26: 2036 Future Total (Optimized) Level of Service....51
Table 27: Airport Rd./Old School Rd./Healey Rd. Roundabout Future Total Level of Service....52

Table 28: 2036 Future Total Level of Service – Torbram Sensitivity Analysis 55

Table 29: Minimum Zoning By-law Parking and Loading Requirements 59

Table 30: Internal Collector Road Network 60

1.0 Introduction

1.1 Background

C.F. Crozier & Associates Inc. (Crozier) was retained by Tullamore Industrial GP Limited to undertake a Transportation Impact Study (TIS) in support of the planning applications for the industrial development located in the Tullamore Lands, 0 & 12245 Torbram Road in the Town of Caledon.

A Transportation Impact Study (TIS) was previously prepared and submitted in June 2021 based on an older Site Plan, the TIS was updated an issued for resubmission in December 2021 and April 2023. This TIS Update has been prepared address the Town and Region's comments dated September 29, 2023, regarding the Official Plan Amendment (OPA) and Draft Plan of Subdivision (DPS) submissions associated with the Tullamore Lands.

The Town and Region's comments with associated responses, and the established Terms of References are included in **Appendix A**.

1.2 Development Proposal

The development proposes an industrial park consisting of a total of approximately 4,935,000 sq. ft. **Table 1** summarizes the proposed development statistics. The most recent Draft Plan prepared by Weston Consulting dated October 24, 2023, has been provided as **Figure 1.** The Site Plan prepared by Turner Fleisher Architects Inc. dated October 26, 2023, showing the building statistics has been provided in **Appendix B**.

Table 1: Development Proposal

Block	Building	Land Use	GFA (ft^2)	Parking Supply		
				Loading Bays	Car Parking	Trailer Parking
1	Building A	Industrial Warehouse	1,083,946	157	540	505
3	Building C[1]		784,700	81	320[1]	220
4	Building D		1,009,216	183	506	148
7	Building E		1,008,900	100	445	277
8	Building F		797,500	170	425	149
5	Building H		975,874	100	450	68
2	Building I		360,760	74	335	56
2	Building J		99,000	26	140	12
Total			**6,119,896**	**891**	**3,161**	**1,435**

Note 1: 25 cab parking spaces are proposed for Building C in addition to the car and trailer parking spaces.

Table 2 outlines the proposed development's gross floor area (GFA) in comparison that outlined in the previously submitted TIS Update (Crozier, April 2023). The table also illustrates that the current proposal has slightly larger GFA when compared with the previous proposal; however, it should be noted that from a trip generation perspective, a minor increase in trips would result. **Section 4.0** reviews the trip generation of the current proposal in greater detail.

Table 2: Development Proposal (Comparison)

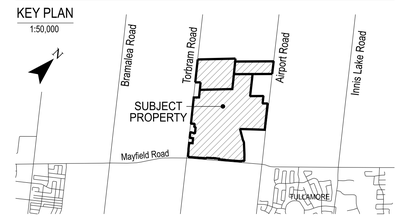
Block	Building	GFA (sq. ft)	
		Previous Submission April 2023	**Current Proposal October 2023**
1	Building A	1,083,946	1,083,946
3	Building C[1]	811,849	784,700 (-27,149)
4	Building D	1,009,216	1,009,216
7	Building E	1,015,740	1,008,900 (-6,840)
8	Building F	797,500	797,500
5	Building H	722,768	975,874 (+253,106)
2	Building I	360,760	360,760
2	Building J	99,000	99,000
6	Building K	152,640	- (-152,640)
Total		**6,053,419**	**6,119,896 (+66,477)**

DRAFT

FOR DISCUSSION PURPOSES ONLY

DRAFT PLAN OF SUBDIVISION

PART OF LOTS 18, 19 AND 20, CONCESSION 6 EAST OF HURONTARIO STREET
PART OF LOTS THE ROAD ALLOWANCE BETWEEN LOTS 17 AND 18, CONCESSION 6 EAST OF HURONTARIO STREET
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL



OWNER'S CERTIFICATE:

I authorize Weston Consulting Group Inc. to prepare and submit this plan for draft approval.

Date: _____

Tullamore Industrial GP Limited
John McGovern, Senior Vice President, Policy and Planning
75 Tiverton Court, Markham, Ontario L3R 4M8
TEL: 905.888.1277 x 228
e: john.mcgovern@rlcegroup.ca

SURVEYOR'S CERTIFICATE:

I hereby certify that the boundaries of the lands being subdivided and their correct relationship to the adjacent lands are accurately and correctly shown on this plan.

Date: _____

Name of Surveyor, OLIP
Ontario Land Surveyor

YOUNG & YOUNG SURVEYING INC.
2 HOLLAND DRIVE, UNIT 5, BOLTON,
ONTARIO L7E 1E1
PHONE: 905.951.6000,FAX: 905.857.4811
www.youngsurveying.ca, info@youngsurveying.ca

ADDITIONAL INFORMATION:

[Section 51(17) of the Planning Act, R.S.O. 1990, c. P.13], as amended to October 12, 2023.
a), b), e), f), g), & j) - on plan.
c) - on key plan
d) - see statistics
h) - piped water to be installed by developer
i) - clay loam / loam
k) - all services to be made available by developer
l) - nil

DEVELOPMENT STATISTICS:

BLOCKS	AREA(HA)
Industrial [Block 1-5,7-8]:	137.859 ha
Reserve Block [Block 6]:	0.876 ha
Future Community Block [Block 10]:	2.135 ha
Greenbelt [Block 11]:	25.937 ha
Environmental Protection Area [Block 9,12]:	15.886 ha
SWMP [Blocks 13,14]:	8.994 ha
Buffer Block [Block 15]:	1.361 ha
Block 16:	0.046 ha
Sanitary Easement [Blk 17]:	0.246 ha
Road Widening [Block 18-21]:	1.161 ha
0.3m Reserve [Block 22-32]:	0.035 ha
Roads:	8.378 ha
Total:	202.914 ha

WESTON CONSULTING

1-800,363,3558 westonconsulting.com

Vaughan: 201 Millway Ave, Suite 19
Vaughan, Ontario L4K 5K8
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Toronto: 268 Berkeley St.
Toronto, Ontario M5A 2X1
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REVISIONS LIST

24 OCT 2023	Revise Crest of Slope & Woodlot+setbacks per GEI Mapping & SWM-EPA-Buffer per Crozier
03 APR 2023	Revise block numbering
28 MAR 2023	Revise block limits per Site Plan. Modify Park blk to include parking area & link.
18 JAN 2023	Revise block limits per 2023-01-12 Site Plan & TRCA limits
16 DEC 2022	Exclude NHS Constraints. Modify Blk 4 & per Turner Fleischer 2022-12-13 Site Plan
13 DEC 2022	Revise per Crozier Street A modifications & Crest of Slope - NHS Constraints per GEI
23 NOV 2022	Adjusted Blocks per Crozier site plan & R-Plan boundaries
18 FEB 2022	Adjusted Blocks and updated TRCA survey with natural features
13-20 OCT 2021	Combine blocks 1 and 2. Adjust plan with ground topo survey
12 OCT 2021	Increase channel width, revise street and adjust all blocks accordingly
23-24 AUG 2021	Increased SWMP Revise Street A & B sight triangles
19 JUL 2021	First draft

Drawing Number:

File Number:	10208
Drawn By:	SM
Planner:	SS
Scale:	1:3500
CAD:	10208/Draft plans/D6_2023-10-24.dgn

D6

0 50 100 200 300
SCALE METRES

1.3 Purpose and Scope

The purpose of this study is to evaluate the impacts of the proposed development on the surrounding road network, and to recommend mitigation measures to address the transportation impacts, if warranted.

The study reviews the following key aspects of the proposed development from a transportation engineering perspective:

- Existing, future background, and future total traffic operations on the boundary road network during the weekday a.m. and p.m. peak hours.
- Forecasted trip generation and distribution of the proposed development.
- Mitigation measures to support the proposed development, if required.
- Transportation safety components, including sight distance requirements at the site accesses, access spacing and restrictions, and general safety issues pertaining to road users.
- Feasibility of the proposed site-specific parking rates in lieu of the rates per the Town's By-Laws.
- Transportation Demand Management (TDM) opportunities to reduce single-occupancy vehicle (SOV) trips.

The following intersections were reviewed as part of the study area:

- External Road Network
    - Torbram Road at Old School Road
    - Mayfield Road at Torbram Road
    - Mayfield Road at Street "B"
    - Mayfield Road at Airport Road
    - Airport Road at Davis Lane/ Perdue Crescent
    - Airport Road at 12333 Airport Road/Street "A"
- Internal Road Network
    - Torbram Road at Street "C"
    - Torbram Road at Site Access 1
    - Torbram Road at Site Access 2
    - Street "B" & Street "A"
    - Street "B" & Street "C"
    - Street "B" & Future Potential Street "D"

The following horizon timeframes were analyzed in this study, consistent with the Region of Peel Traffic Impact Study guidelines:

- Existing conditions (2022)
- Full-build out horizon (2026) Future Conditions
- Five years horizon (2031) and ten-year horizon (2036) post build-out
- Weekday a.m. and p.m. peak hours

This study has been completed in accordance with the procedures set out by Peel Region's Traffic Impact Study Guidelines, with the associated analysis and findings outlined herein.

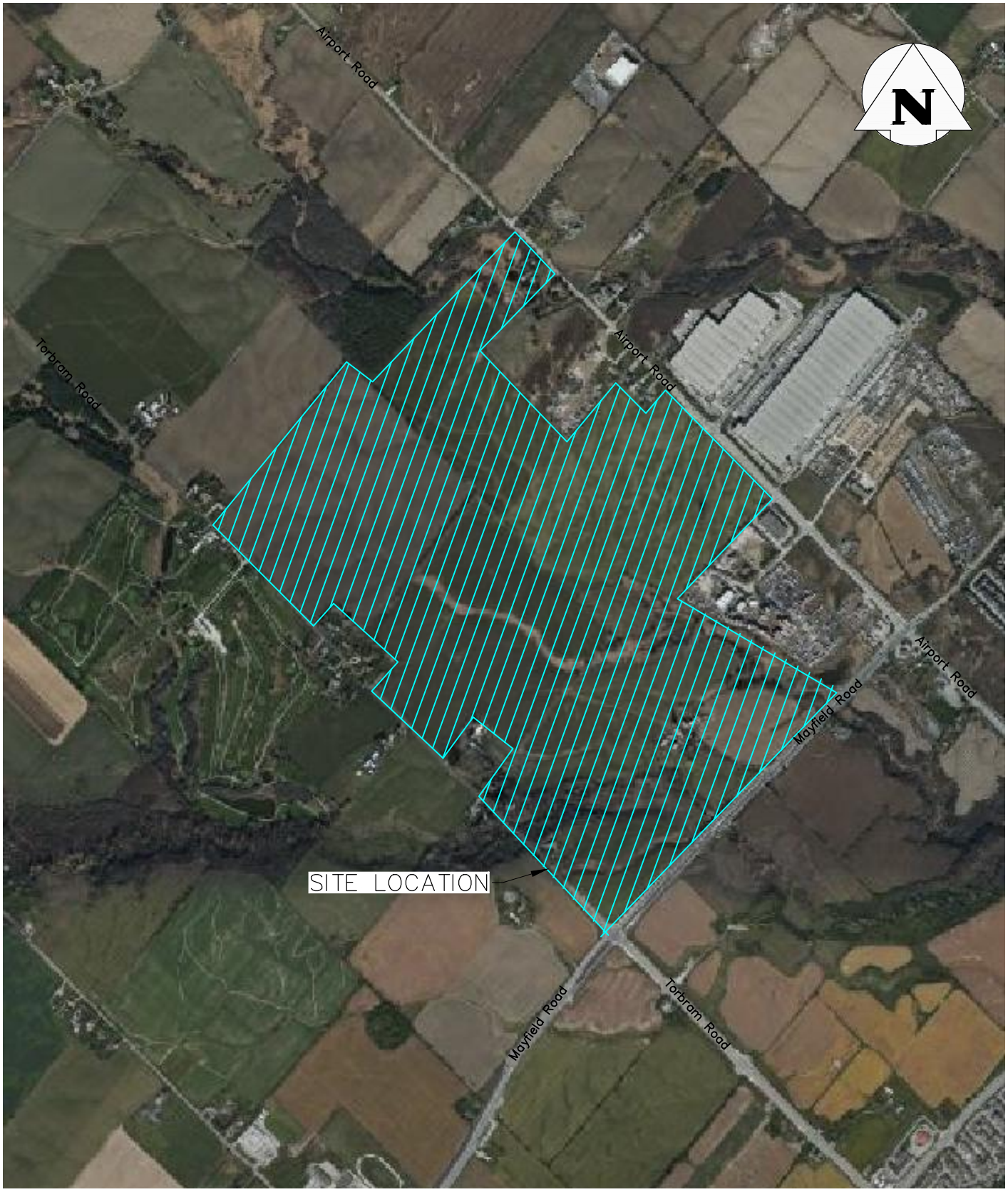
The report has been prepared in accordance with the established Terms of References received from the Town and Region on December 16, 2022, and December 2, 2022, respectively. The established Terms of References from the Town and Region are included in **Appendix C.**

2.0 Existing Conditions

2.1 Development Lands

The development lands encompass a total approximate area of 502 acres (203 ha) and consists primarily of greenfield area. The subject lands are zoned by the Town of Caledon By-Law. The site is located in Zone 4 and classified as Agricultural (A1) and segments of the study lands are zoned as an Environmental Protection Area (EPA2). Relevant zoning map excerpts are included in **Appendix D.**

Figure 2 illustrates the study area.



TULLAMORE LANDS, 0 & 12245 TORBRAM ROAD, TOWN OF CALEDON

SITE LOCATION

CROZIER CONSULTING ENGINEERS
211 YONGE STREET
SUITE 600
TORONTO, ON M5B 1M4
416-477-3392 T
WWW.CFCROZIER.CA

Drawn	Design	Project No.	
I.A.	T.D.S.	2022-5842	
Date	Check	Scale	Dwg.
2023/01/30	M.L.	N.T.S	FIG. 02

2.2 Study Road Network

The directional orientation of the study roadways is slightly skewed; however, it is generally understood that to/away from the lake are considered the north/south directions and parallel along the lake are considered the east/west directions. To ensure clarity and consistency in this report, the direction of Airport Road and Torbram Road are designated as north-south roadways while Mayfield Road, Old School Road/Healey Road, and Perdue Court/Davis Lane are designated as east-west roadways.

Airport Road (Regional Road 7) is a north-south roadway with a four-lane urban cross-section. Airport Road is under the jurisdiction of Peel Region and is defined as an arterial road. The roadway has a mixed-use path available on the east side of the roadway and has a posted speed limit of 80 km/h and 60 km/h north and south of Perdue Court/Davis Lane, respectively.

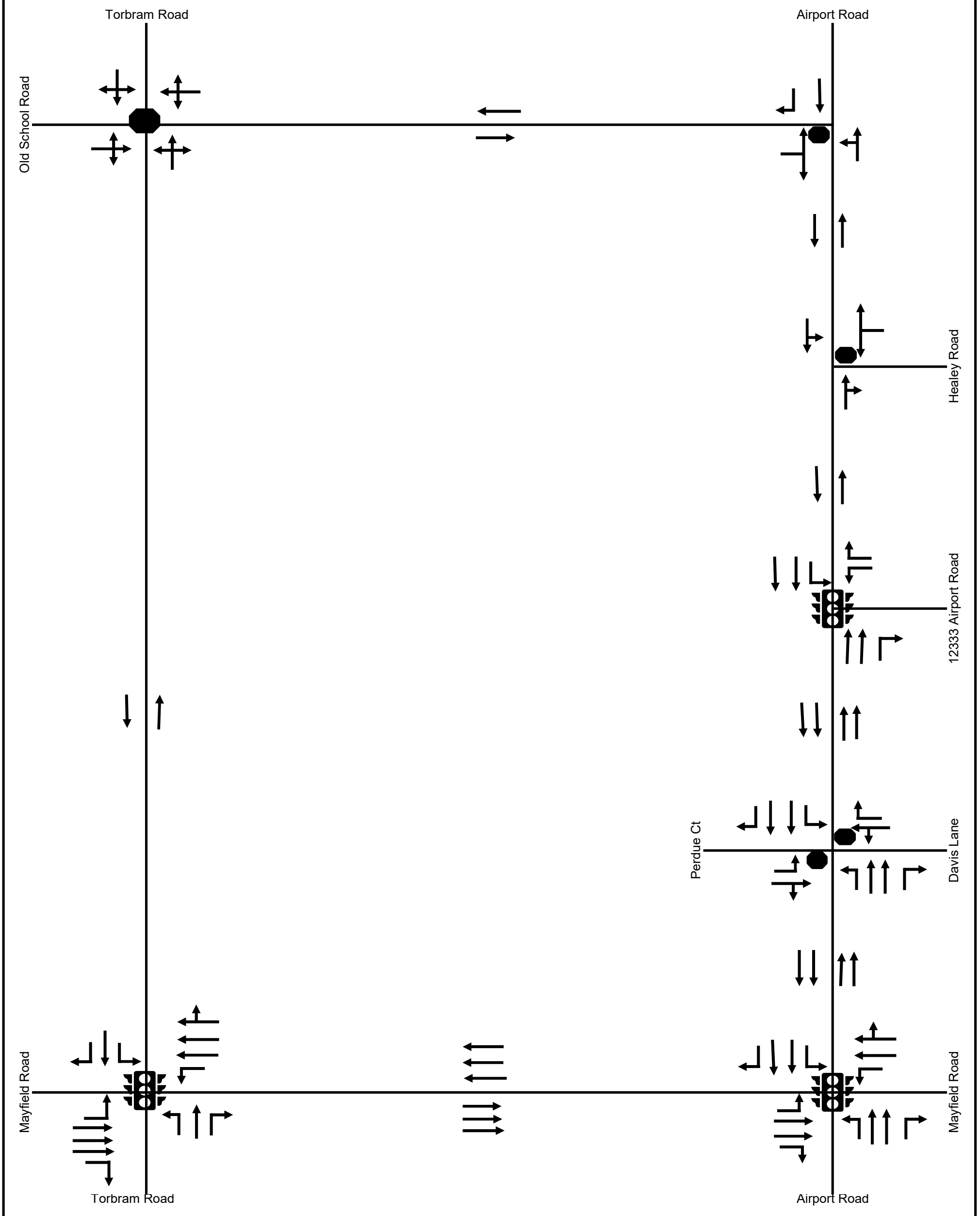
Mayfield Road (Regional Road 14) is an east-west roadway with a four-lane urban cross-section. Mayfield Road is under the jurisdiction of Peel Region and defined as an arterial road. The roadway has a multiuse path available on one side of the roadway. For westbound traffic, Mayfield Road has a posted speed limit of 60 km/h from Airport Road to approximately 460 m west of Airport Road, after which the speed limit transitions to 80 km/h. For eastbound traffic, the posted speed limit of 80 km/h exists from Torbram Road to approximately 4.

Torbram Road is a north-south roadway and is defined as a collector road. Torbram Road is under the jurisdiction of the Town of Caledon and the City of Brampton on the segments north and south of Mayfield Road, respectively. The roadway segment south of Mayfield Road has a four-lane urban cross-section and has a sidewalk and mixed-use path available on either side. The roadway segment north of Mayfield Road has a two-lane rural cross-section and no sidewalks available on either side. The posted speed limit on Torbram Road is 70 km/h throughout the study area.

Perdue Court/Davis Lane are east-west roadways, and both are classified as local roads under the jurisdiction of the Town of Caledon. Davis Lane is the roadway segment east of Airport Road and has a two-lane rural cross-section, with no sidewalks available on either side. Perdue Court is the roadway segment west of Airport Road and has a two-lane urban cross-section with a sidewalk available on one side of the road. The speed limit on these roadways is assumed to be 50 km/h.

Old School Road/Healey Road is an east-west roadway and is classified as a collector road under the jurisdiction of the Town of Caledon. The road has a two-lane rural cross-section, with no sidewalks available on either side. The posted speed limit on Old School Road is 70 km/h throughout the study area, and the speed limit on Healey Road is assumed to be 70 km/h.

Figure 3 illustrates the study road network.



Legend

Stop Controlled

Signal Controlled

Tullamore Industrial

Existing Lane Configurations

CROZIER CONSULTING ENGINEERS

Figure 3

Project No. 2022-5842

Date. 2023.10.20

Analyst. TDS

2.3 Public Transit

Brampton Transit operates bus routes within the study area. **Table 3** below outlines the existing transit routes, days of operation, peak hour headways, and the location of bus stops in the study area.

Table 3: Transit Routes

Route	Direction	Span	Days of Operation	Peak Hour Headways (min)	Transit and Connecting Stops in Study Area
Brampton Transit, 30 Airport Road	Two-Way North-South	Mayfield Road/ 12333 Airport Rd (Legacy warehouse) to Westwood Mall Terminal	Monday – Sunday	8 mins	12333 Airport Rd (Legacy warehouse)

As shown above, Brampton transit operates one local bus within the study area. The existing stops on Airport Road north of Mayfield Road would provide limited access to the proposed site and would require long walking trips to and from the existing bus stops. **Appendix E** contains the systemwide transit map for route mapping by Brampton Transit.

2.4 Traffic Data

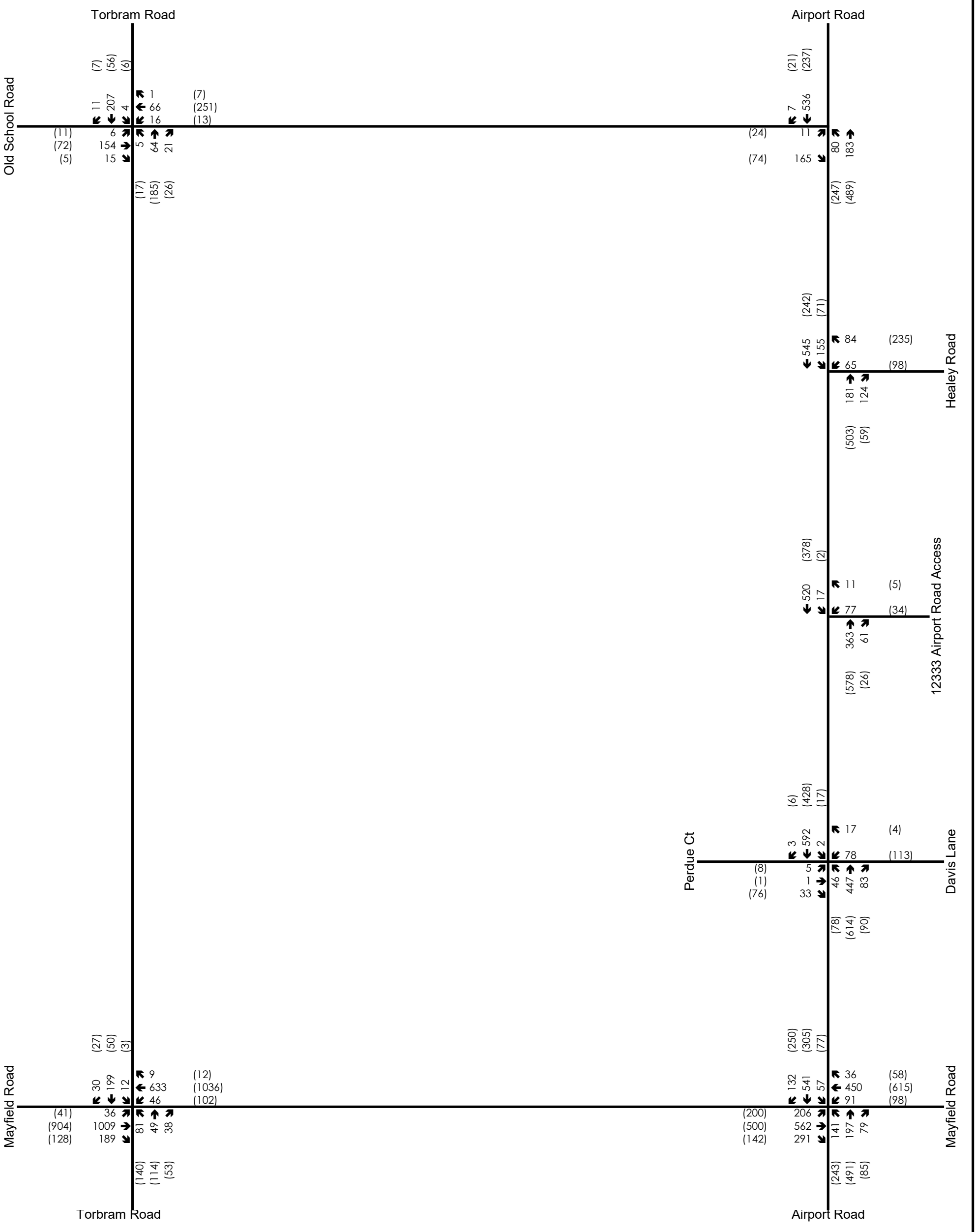
In accordance with the Town and Region Terms of Reference, new turning movement counts for the 2022 were collected at the following intersections by Spectrum Traffic Inc. at the associated timeframes as summarized in **Table 4**.

Signal timing plans for the study intersection were provided by Peel Region staff for modelling purposes. Intersection analysis was conducted utilizing peak hour factors (PHFs) of 1.0 per Region of Peel modelling guidelines.

Table 4: Traffic Data

Intersection	TMC Date	Timing Plan Date
Torbram Road at Old School Road	September 13, 2022	N/A
Mayfield Road at Torbram Road	September 13, 2022	June 18, 2021
Mayfield Road at Airport Road	September 13, 2022	June 23, 2021
Airport Road at Davis Lane/Perdue Crescent	September 13, 2022	N/A
Airport Rd & 12333 Airport Rd	September 13, 2022	June 18, 2021
Airport Road at Healey Road	September 13, 2022	N/A
Airport Road at Old School Road	September 13, 2022	N/A

The traffic count data and signal timing plans are provided in **Appendix E.** Existing traffic volumes are illustrated in **Figure 4**.



Legend

xx A.M. Peak Hour Traffic Volumes
(xx) P.M. Peak Hour Traffic Volumes

Tullamore Industrial

2022 Existing Traffic Volumes

CROZIER CONSULTING ENGINEERS

Figure 4

Project No. 2022-5842
Date. 2023.10.20
Analyst. TDS

2.5 Traffic Modeling

The assessment of intersections is based on the method outlined in the "Highway Capacity Manual, 2000" using Synchro 11 modelling software. Intersections are assessed using the Level of Service (LOS) metric, with ranges of delay designated a letter ranging from "A" to "F". For stop-controlled intersections, a Level of Service "A" or "B" would typically be expected during off-peak hours when there are lower traffic volumes on roadways. Levels of Service "C" to "F" would characteristically be measured during commuter peak hours when greater traffic volumes produce longer travel times. The Level of Service definitions for signalized and stop-controlled intersections is included in **Appendix F**.

Per the Region's modelling guidelines, Peak Hour Factors of 1.0 were used for all horizons. No lost time adjustments or adjustments to saturation flow rates or any other modelling parameters were adopted.

2.6 Intersection Operations

The traffic operations at the study intersections were analyzed based on the traffic volumes and signal timing plans as summarized in **Table 4**. Detailed capacity analyses are included in **Appendix G**. The intersection operation was analyzed based on the traffic volumes illustrated in **Figure 4**. **Table 5** outlines the 2022 existing traffic operations.

Table 5: 2022 Existing Levels of Service

Intersection	Control	Peak Hour	Intersection Control Delay - LOS[1]	Critical Individual Movement Delays	Critical V/C Ratio [2]	95th Percentile Queue > Storage Length
Torbram Road at Old School Road	Stop Control (All Way)	A.M.	9.9 s [A]	None	0.32 (SBLTR)	None
		P.M.	11.1 s [B]	None	0.40 (WBTR)	None
Mayfield Road at Torbram Road	Signal	A.M.	27.0 s [C]	None	0.49 (EBT)	None
		P.M.	26.8 s [C]	None	0.43 (WBTR)	None
Mayfield Road at Airport Road	Signal	A.M.	24.0 s [C]	None	0.60 (EBL)	None
		P.M.	31.3 s [C]	None	0.63 (NBL)	None
Airport Road at Davis Lane/ Perdue Crescent	Stop Control (Minor)	A.M.	32.7 s [D]	None	0.38 (WBL)	None
		P.M.	118.2 s [F]	118.2 s [F] (WBL)	0.89 (WBL)	None
Airport Road & 12333 Airport Road/Street "A"	Signal	A.M.	7.8 s [A]	None	0.48 (WBL)	None
		P.M.	4.5 s [A]	None	0.23 (WBL)	None
Airport Road at Healey Road	Stop Control (Minor)	A.M.	28.3 s [D]	None	0.52 (WBLR)	None
		P.M.	62.1 s [F]	62.1 s [F] (WBLR)	0.93 (WBLR)	None
Airport Road at Old School Road	Stop Control (Minor)	A.M.	15.5 s [C]	None	0.34 (EBLR)	None
		P.M.	16.8 s [C]	None	0.24 (EBLR)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (Synchro/ICU). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road movement (HCM 2000).

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.90 for through or shared through/turning movements, as well as greater than 1.00 for exclusive movements are highlighted.

All intersections are currently operating acceptably with LOS "C" or better during the weekday a.m. and p.m. peak hours with the exception of Airport Road at Davis Lane/ Perdue Crescent and Airport Road at Healey Road.

The unsignalized intersection of Airport Road at Healey Road is currently operates at LOS "D" and "F" during the weekday a.m. and p.m. peak hours respectively. It is noted that this intersection is to be altered into a roundabout with connections to Old School Road and operations are expected to improve significantly in future horizon years as is discussed in the following sections.

The unsignalized intersection of Airport Road at Perdue Court/Davis Lane currently operates at LOS "D" and "F" during the weekday a.m. and p.m. peak hours respectively. These conditions are due to the stop-controlled conditions, particularly westbound left turn movements intending to travel south on Airport Road. As discussed below, the intersection will likely need to be signalized in the future to address traffic delays to increased traffic on Airport Road.

2.6.1 Traffic Signal Warrant Assessment - Airport Road at Perdue Court/Davis Lane

Traffic signal warrant analysis was conducted using an Ontario Traffic Manual (OTM) Book 12 configured excel sheet based on the average hourly volume approach for the intersection of Airport Road at Perdue Court/Davis Lane.

Based on delays to cross traffic, traffic signals are warranted at the intersection of Airport Road at Perdue Court/Davis Lane under existing conditions. It is recommended that signalization be considered for this intersection to alleviate existing the high levels of delay for minor street movements. Signalization would also increase the safety for left turning vehicles onto Airport Road.

It is noted that Airport Road is to be widened to 4 lanes throughout the study area in 2024 and traffic conditions are expected to improve along the corridor. Therefore, the intersection of Airport Road and Perdue Court/Davis Lane should be monitored, and signalization should be implemented if warranted or to provide safe pedestrian crossing opportunities as the area develops.

As discussed in following sections, this study intersection is recommended to be signalized in the future based on high delays to left turning traffic from Perdue Court/Davis Lane result but has not been modelled as such in this analysis. The intersection serves as an access to two developments not associated with the subject development of this property.

Signal Warrant analysis excerpts are included in **Appendix H**.

3.0 Future Background Conditions

3.1 Study Horizons

Based on the Terms of Reference correspondence included in **Appendix C**, study horizon years of the full build-out (2026), as well as a five-year horizon (2031) and ten-year horizon (2036) post build-out were considered for analysis.

3.2 Background Developments

Refer to **Table 6** below for a list of background developments from which traffic volume forecasts were derived to estimate future background traffic volumes.

It is noted that all developments in **Table 6** were initially forecasted to be completed and implemented by 2022. However, a number of the major developments, particularly Block 48-1 and Block 48-2 were only partly built out by the existing 2022 horizon based on a review of aerial imagery. **Section 3.2.1** outlines the methodology of deriving the remaining background assignments for the 2026, 2031 and 2036 horizons.

Table 6: Background Developments

No.	Development Address	Proposed Development	Buildout Horizon	Source
1	Block 48-2 Brampton Area 48 Landowners	1,723 single-detached units 240 semi-detached units 1,208 townhouse units 220 Apartment units 9.34 ha District Retail 4.09 ha mixed use 1.0 ha convenience retail 3 Elementary Schools 2 secondary schools 2 Places of Worship	100% Build-out 2026	Block 48-2 TIS (Cole, 2017)
2	Block 48-1 Countryside Villages	1,323 low density residential units 1,324 med-density residential units 11,295 sq. m retail GFA 4 Elementary Schools	50% by 2022 100% by 2026	Block 48-1 TIS (MMM, 2015)
3	Countryside Villages Secondary Plan – Employment Centre	6,080 employees	25% Build-out 2022 Full Build-out 2023	Block 48-1 TIS (MMM, 2015)
4	0 Airport Road/ 6034 Mayfield Road	479,375 ft^2 of General Light Industrial Land Use	100% Build-out 2026	6034 Mayfield Road TIS (WSP, 2021)

3.2.1 2022 "Existing" Study Horizon

As of the 2022 existing study horizon, approximately 50% of the Block 48-1 Phase 1 development was built-out and assumed to be occupied based on a review of aerial imagery. The remaining 50% of Block 48-1 was assumed to be completed by the 2026 horizon year.

Additionally, none of Block 48-2 has not been built out based on aerial imagery by the 2022 horizon. The Block 48-2 development is expected to be fully built out by 2026.

Lastly, the Countryside Villages Secondary Plan – Employment Centre was assumed to only be built out 25% by 2022. The remaining 75% of this development would be expected to be built out by 2026.

3.2.2 2026 - 2036 Study Horizons

Therefore, the total background assignment for the 2026 horizon comprised of 50% of Block 48-1 site trips, 75% of the Countryside Villages Secondary Plan – Employment Traffic site trips, in addition to site generated traffic associated with the Block 48-2 development.

50% of the site traffic from the Block 48-1 development (extracted from the MMM Report) was subtracted from the volumes from Figure 5-3 of the Cole Report to determine the 2026 background volumes from Block 48-1.

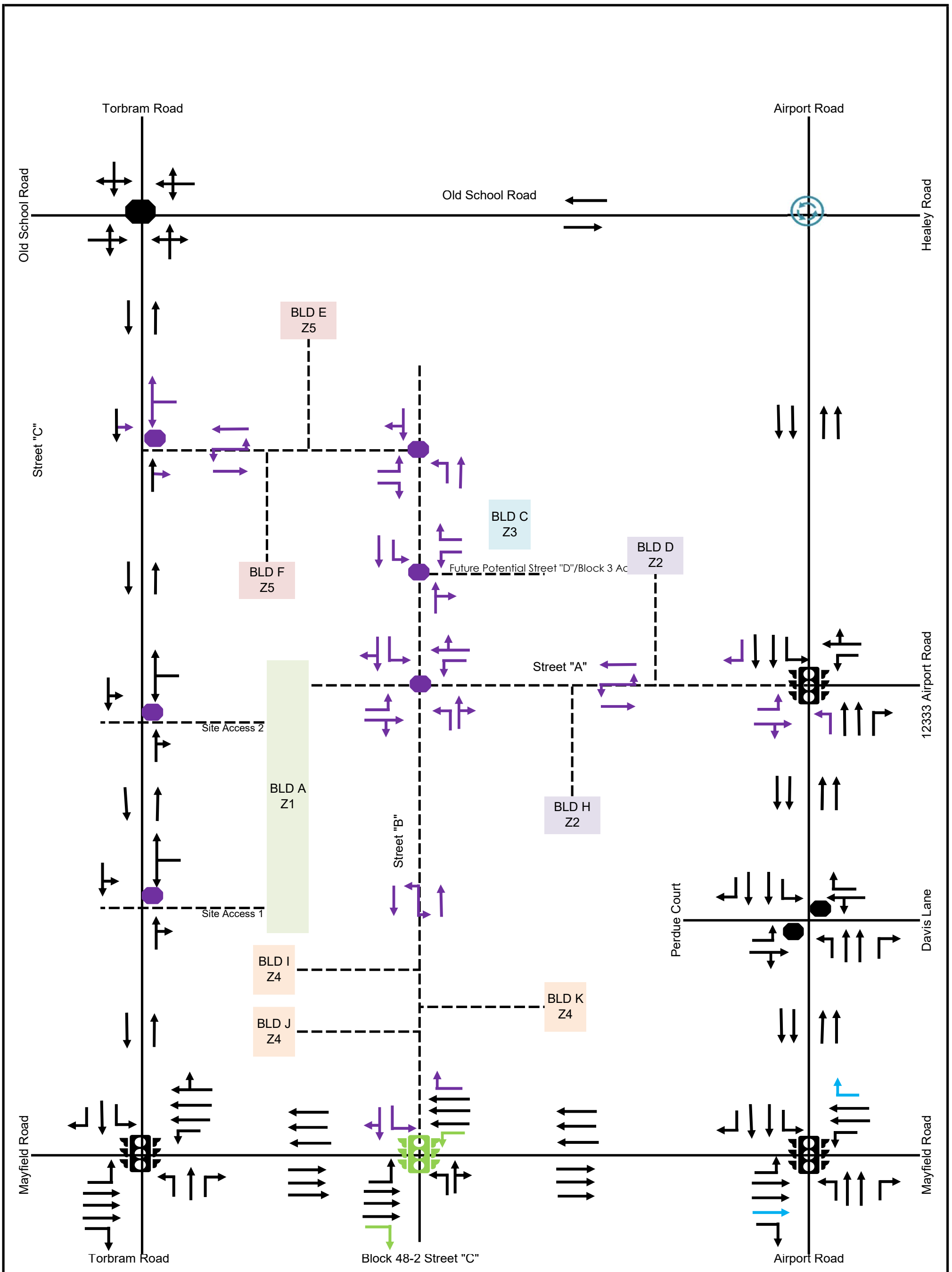
75% of the site traffic from the Countryside Villages Secondary Plan – Employment Traffic was derived by subtracting the 2015 background traffic from the 2020 background traffic in the Block 48-1 TIS (MMM, 2015) and multiplying the volumes by a factor of 1.5. The Block 48-1 TIS (MMM, 2015) provided multiple background development volumes amalgamate into the 2015 horizon years and including 50% of site traffic from Countryside Villages Secondary Plan – Employment Traffic, the 2020 horizon year used the same value and added just the remaining 50% of the Countryside Villages Secondary Plan – Employment Traffic. Therefore, the difference in the two sets of volumes yielded 50% of the background traffic volumes associated with the Countryside Villages Secondary Plan – Employment Traffic. These volumes were then multiplied by a factor of 1.5 to yield 75% of the background traffic volumes associated with the Countryside Villages Secondary Plan – Employment which would be applicable to future horizon years within this analysis.

It is noted that the volumes from the Block 48-1 development presented at the intersection of Mayfield Road at Bramalea Road were assumed to all be through trips going east/west along Mayfield Road in the study area.

As requested by Town and Region staff, the background development at 6034 Mayfield Road was included in the Future Background horizons. It is noted that the development will be included as a background development in the April 2023 TIS Update analysis but was not noted in **Table 6.** The development has now been added to the table but already existed in the analysis, it is noted that the background volumes have not changed for this reason.

The 2026 Future Lane Configurations of the boundary road network are shown in **Figure 5**. The background development volumes are illustrated in and **Figure 6**.

Details on the background developments are included in **Appendix I.**



Legend

Control	Improvements
Stop Controlled	Planned
Signal Controlled	FB Recommended
Roundabout	FT Recommended

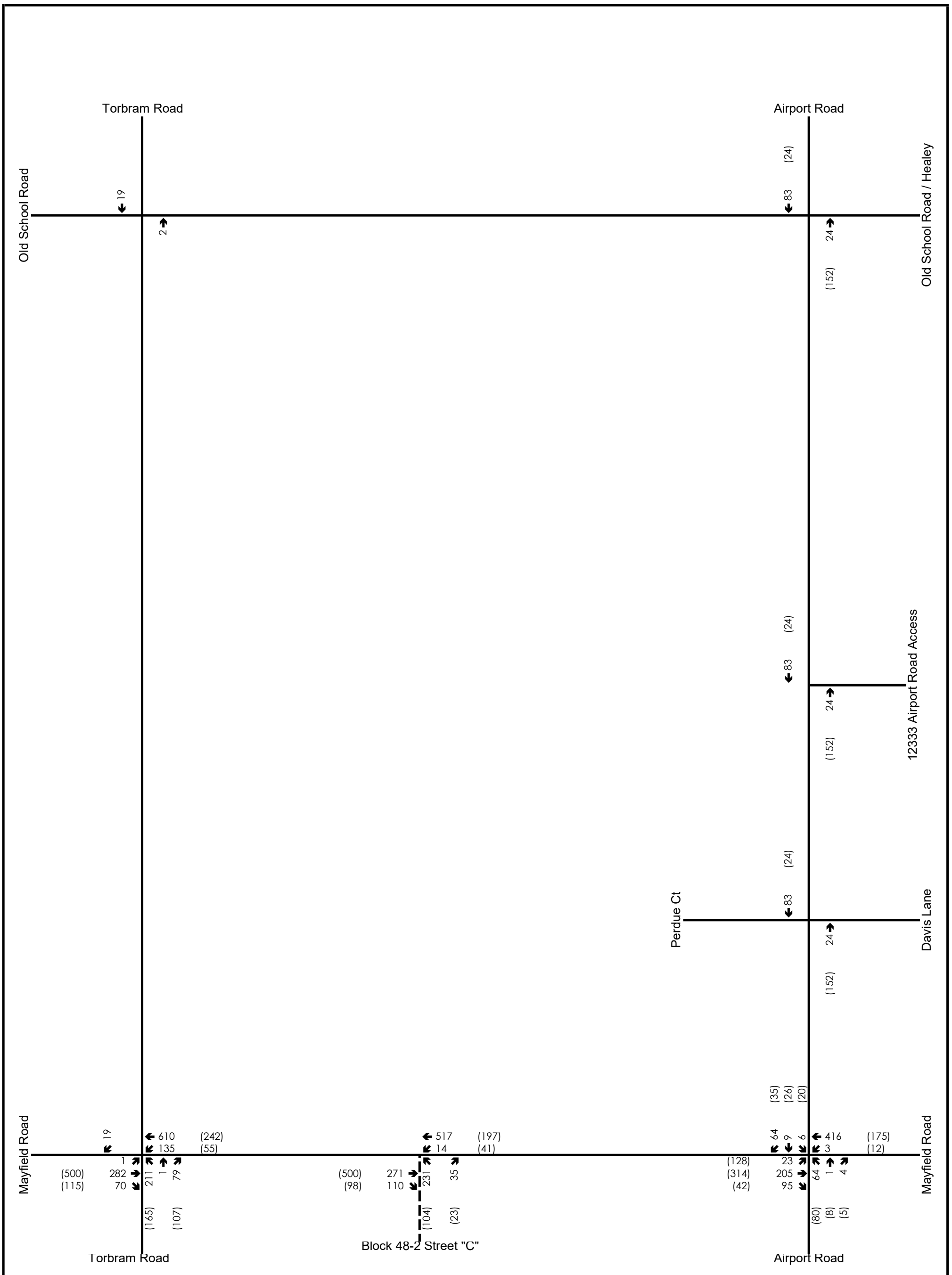
Tullamore Industrial

2026 Lane Configurations

CROZIER CONSULTING ENGINEERS

Figure 5

Project No. 2022-5842
Date. 2023.10.20
Analyst. TDS



Legend	Tullamore Industrial	CROZIER CONSULTING ENGINEERS	Figure 6
xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes	Background Development Volumes		Project No. 2022-5842 Date. 2023.10.20 Analyst. TDS

3.3 Traffic Growth Rates

As per comments by the Town of Caledon, an industry standard growth rate of 2.0% per annum was applied to Town Collector roads. Growth is not required to be applied to local roads.

Growth rates are extracted from Block 48-2, City's approved Block 48-2 TIS and Sandringham East Plan Traffic Letter Update and are replicated in **Table 7** below:

Table 7: Background Growth Rates

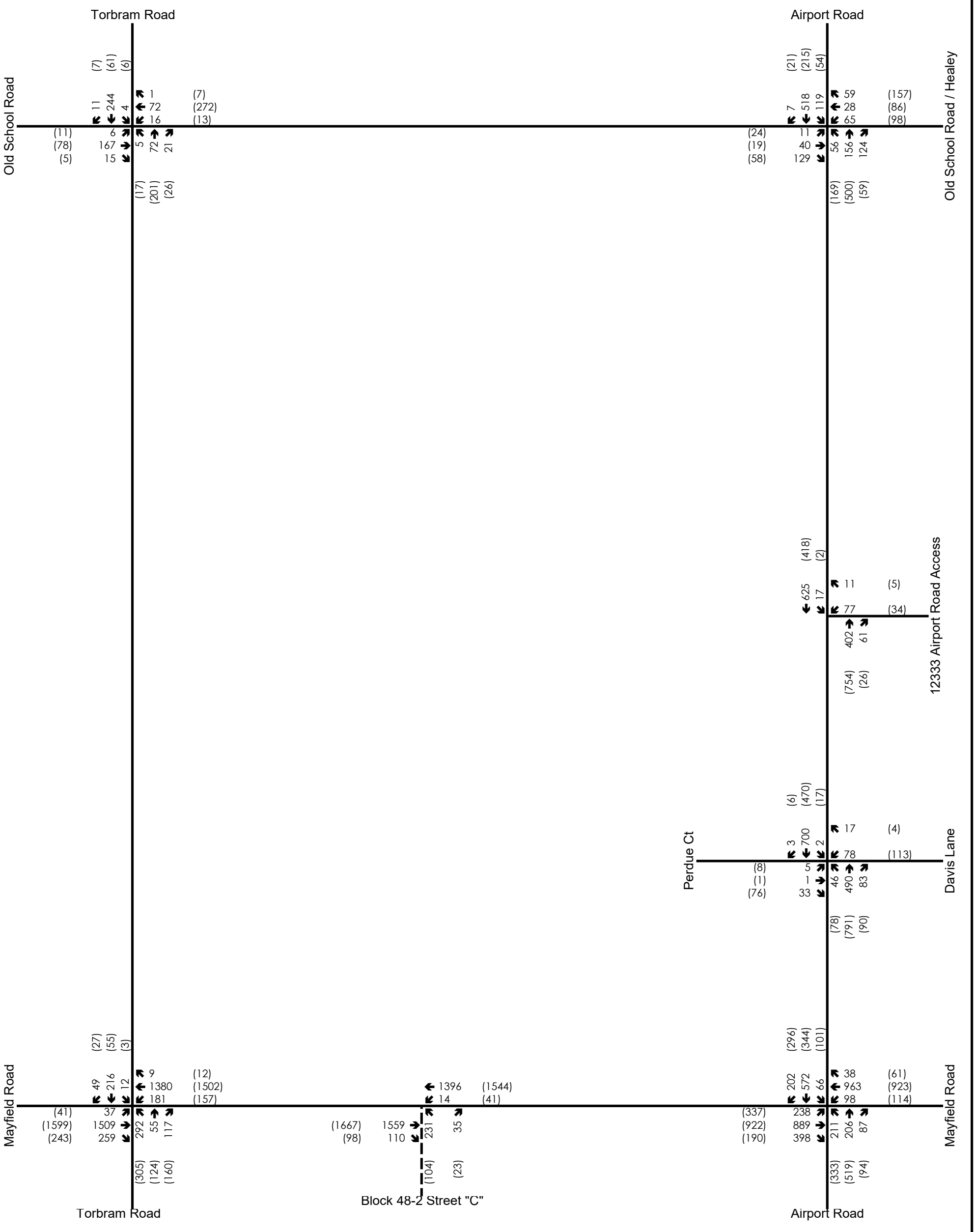
Intersection	Growth Rates	
	2022-2031	2031-2036
Airport Road (Regional Road 7)	1%	
Mayfield Road (Regional Road 14)	5%	2%
Torbram Road	2%	
Perdue Court/Davis Lane	0%	
Old School Road/Healey Road	2%	

Given the high levels of background traffic assigned, a 2% growth rate was applied to Mayfield Road traffic volumes after the 2031 horizon. This was applied as consistent with the Town collector growth rates requested, as a 5% growth rate compounded over a 15-year horizon may result in over-estimates for an extended period.

The 2026, 2031 and 2036 future background traffic volumes are also illustrated in **Figure 7**, **Figure 9** and **Figure 10**, respectively. **Figure 8** summarizes the 2031 & 2036 Future Lane configuration of the boundary road network. Details on background traffic volumes and developments are also included per **Appendix I.**

3.4 Future Roadway Improvements

The Region as well as the approved Block 48-2 TIS has identified and recommended several future background roadway improvements in the study area to be accounted for in the in their appropriate horizons. It is noted that with the recent completion of the Mayfield Road widening to a six-lane cross section west Airport Road, a number of the associated improvements recommended in Block 48-2 and per the Region's Transportation Master Plan have been implemented. However, additional planned improvements associated with the buildout of Block 48-2 and Airport Road widening from 1.0 km north of Mayfield Road have also been identified. The improvements are summarized in **Table 8** below.



Legend

xx A.M. Peak Hour Traffic Volumes
(xx) P.M. Peak Hour Traffic Volumes

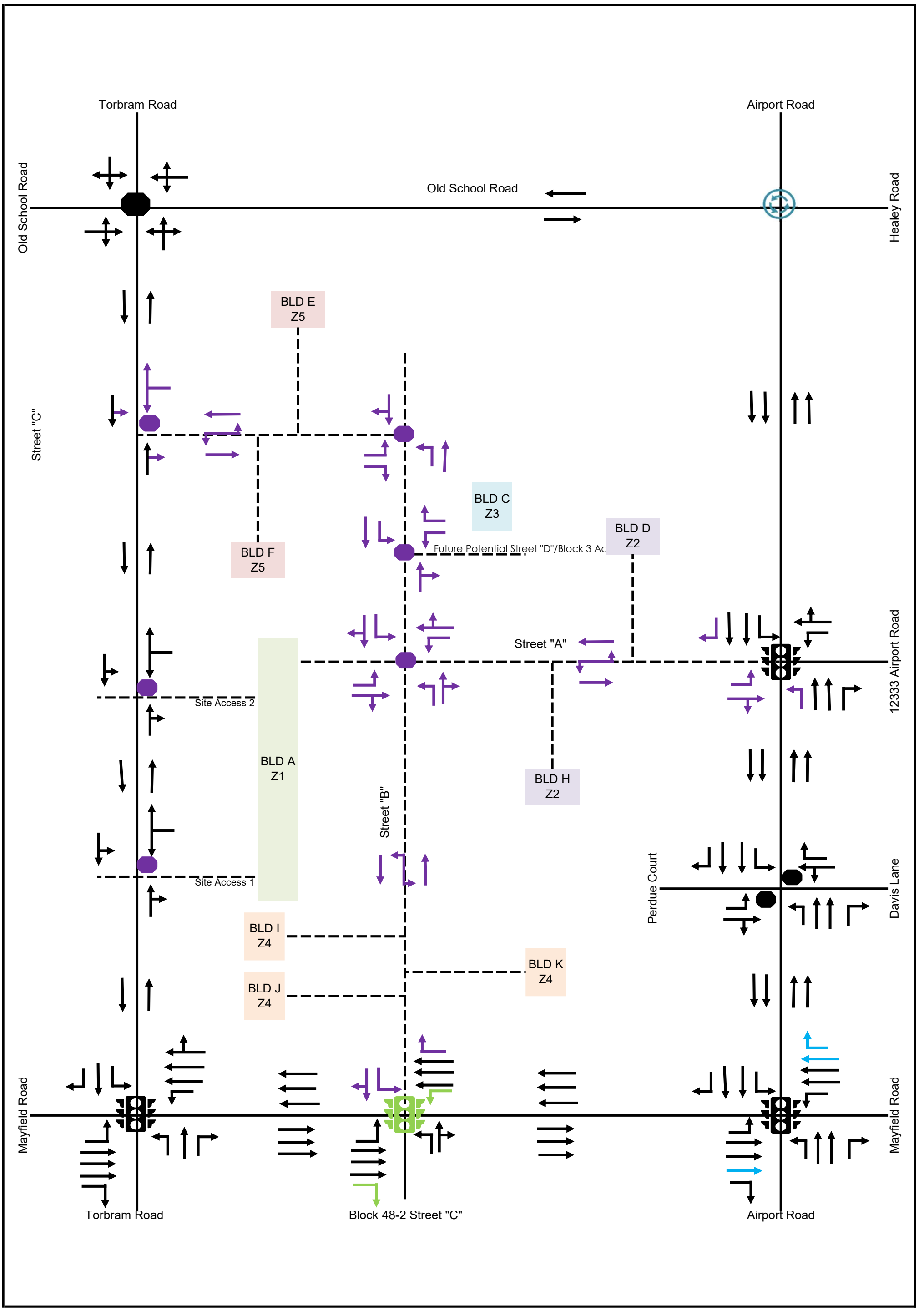
Tullamore Industrial

2026 Future Background Traffic

CROZIER CONSULTING ENGINEERS

Figure 7

Project No. 2022-5842
Date. 2023.10.20
Analyst. TDS



Legend

Control	Improvements
Stop Controlled	Planned
Signal Controlled	FB Recommended
Roundabout	FT Recommended

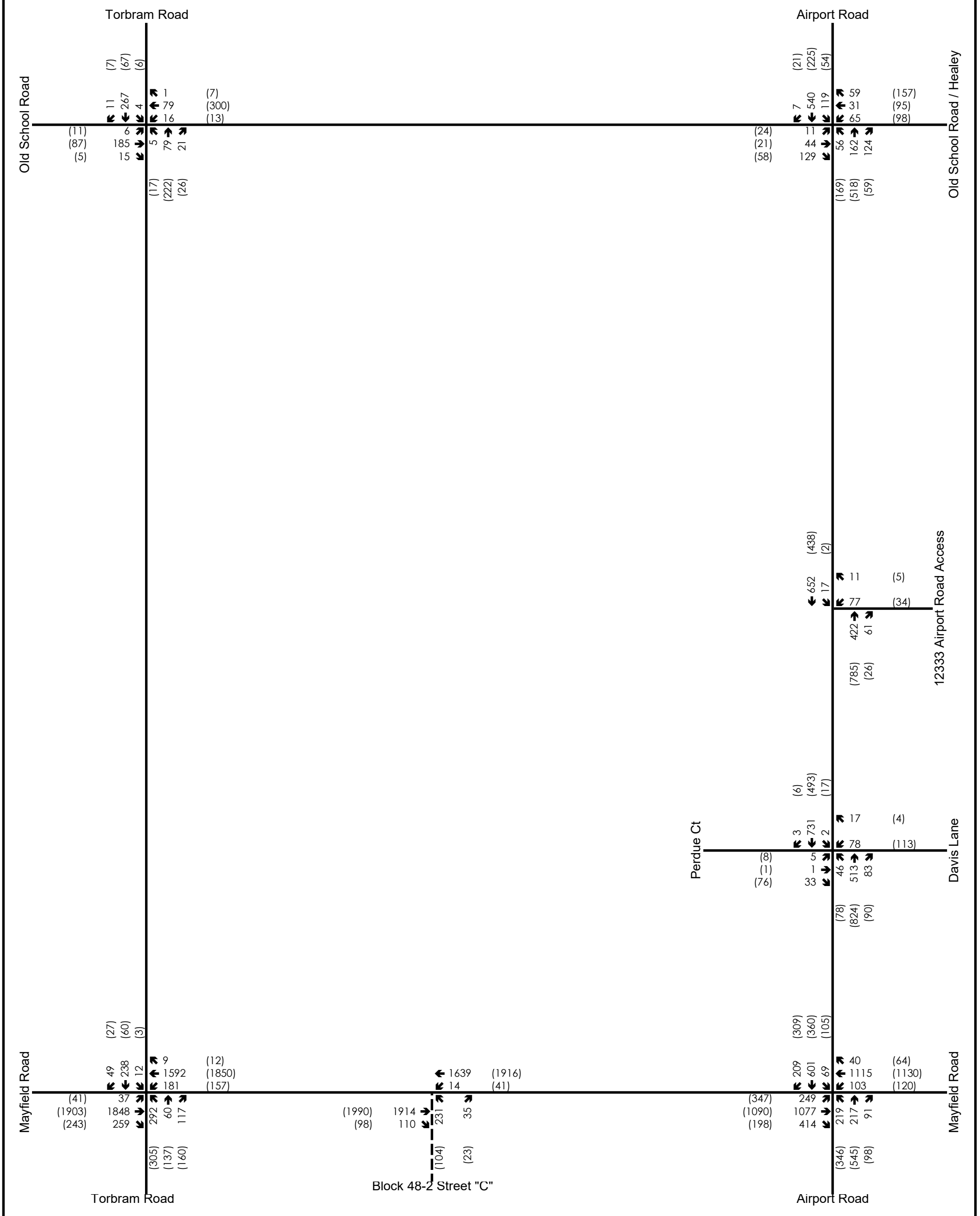
Tullamore Industrial

2031 & 2036 Lane Configurations

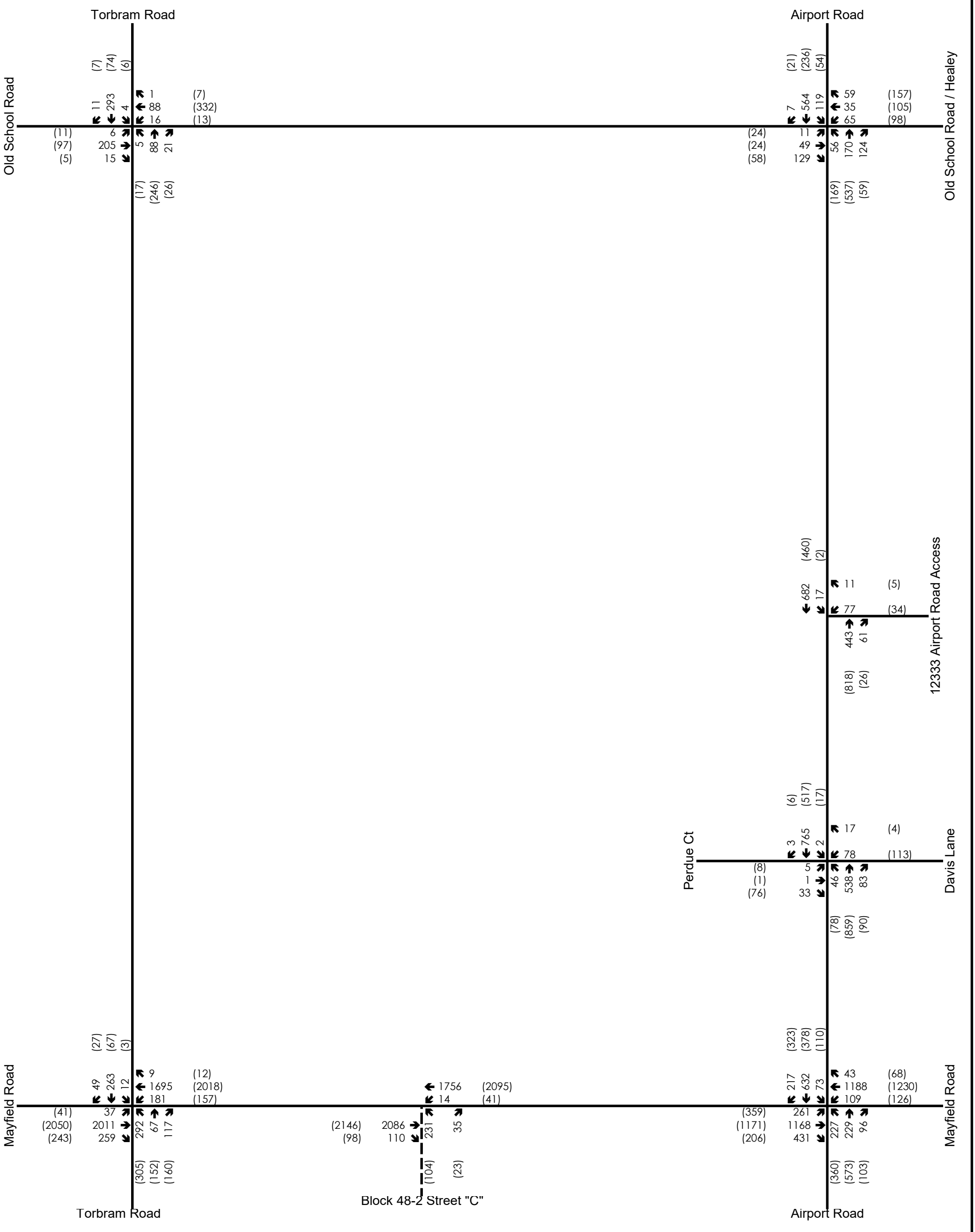
CROZIER CONSULTING ENGINEERS

Figure 8

Project No. 2022-5842
Date. 2023.10.20
Analyst. TDS



Legend	Tullamore Industrial	CROZIER CONSULTING ENGINEERS	Figure 9
xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes	2031 Future Background Traffic		Project No. 2022-5842 Date. 2023.10.20 Analyst. TDS



Legend	Tullamore Industrial	CROZIER CONSULTING ENGINEERS	Figure 10
xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes	2036 Future Background Traffic		Project No. 2022-5842 Date. 2023.10.20 Analyst. TDS

Table 8: Planned Roadway Improvements (Capital Projects)

Roadway	Segment / Intersection	Improvement	Timeline	Source
Mayfield Road	Bramalea Road to Airport Road (RR 7)	Widening from two (2) lanes to six (6) lanes	Completed[1] (2022)	Region of Peel 2021 Budget / Region of Peel Transportation Master Plan
	Airport Road (RR 7) to The Gore Road (RR 8)	Widening from two (2) lanes to five (5) lanes	2023	
	Airport Road (RR 7) to Clarkway Drive	Widening from five (5) lanes to six (6) lanes	2026-2031	
Airport Road	1 km North of Mayfield Road (RR 14) to King Street (RR 9)	Widening from two (2) lanes to five (5) lanes	2024	
	Airport Road (RR 7) and King Street	Traffic calming measures: Implement Roundabout	2024	Region of Peel Environmental Study Report (October 2015)
	Airport Road (RR 7) and Healey Road / Old School Road	Traffic calming measures: Implement Roundabout	2024	

Note 1: The widening of Mayfield Road from Bramalea Road to Airport Road was included in this analysis as the base condition.

Appendix J contains information regarding the planned and recommended background roadway improvements.

3.4.1 GTA West Corridor (Highway 413)

Surrounding the study area, the Province of Ontario has plans to develop a GTA West Corridor (also and herein referred to as Highway 413) which would connect Peel, Halton, and York Region. The development of Highway 413 would consist of 400-series highway, a transitway, and potential goods movement priority features.

The implementation of Highway 413 is expected to alleviate existing traffic congestion along the east-west direction, as well as support further population and employment growth within the GTA. Furthermore, the construction of this new highway will provide convenient routing options as an expressway to get to major destinations across the GTA.

The alignment of the future Highway 413 would include several proposed interchanges including with Airport Road north of the site, which would be expected to provide additional connectivity to traffic in the surrounding road network.

The impacts of the implementation of the future Highway 413 with respect to changes in background traffic volumes and trip distribution during the analysis horizon years have not been identified at this time. Moreover, it is understood that the planning for this new connection is still in the early stages and is not expected for completion within the ultimate study horizon. Accordingly, related impacts have not been accounted for in this analysis.

3.5 Intersection Modelling

The intersections were modelled per the planned roadway improvements summarized in **Table 8** above. The modelling parameters surrounding these improvements are discussed below.

Airport Road at Old School Road

Roundabout analysis at the intersection of Airport Road at Old School Road was completed based on the parameters shown below.

As identified in the Airport Road EA, the intersection of Airport Road and Old School Road is planned for a future roundabout. Similar to the Airport Road EA, the ARCADY model using the ARCADY Junctions 8 analysis software was used to assess the operational performance of the intersection under the future horizon scenarios. The roundabout geometrics inputs used to calibrate the model are outlined in **Table 7**. These geometrics were determined through measurements of the 60% civil design drawings of the Airport Road widening project.

Table 9: Airport Road at Old School Road – Roundabout Geometry

Leg/Approach	Approach Road Half-Width (m)	Entry Width (m)	Effective Flare Length (m)	Entry Radius (m)	Inscribed Circle Diameter (m)	Conflict (Entry) Angle (Deg)
Airport Road (North)	7.4	10.0	40.0	30.0	45.0	16.0
Airport Road (South)	7.4	10.0	30.0	29.0	55.0	18.0
Healey Road (East)	7.4	10.0	30.0	24.0	55.0	20.0
Old School Road (West)	3.4	3.4	0.0	31.0	55.0	15.0

Moreover, a y-intercept value of 90% was also used as consistent with the Airport Road EA, which was used to account for the unfamiliarity of roundabouts to motorists in the GTA compared to in the United Kingdom. In subsequent submissions, this intersection along with the Torbram Road at Old School Road intersection will be reviewed.

Relevant Excerpts from the Airport Road EA can be found in **Appendix K**.

Mayfield at Torbram Road

As mentioned in **Table 6**, the background development of Block 48-2 is expected to be built out by the 2026 horizon year, this development includes the addition of an actuated-coordinated intersection at Mayfield Road at Block 48-2 "Street C". Mayfield Road at Torbram Road is currently a pre-timed signalized intersection, it was updated to be actuated-coordinated with the same cycle length as other existing and planned intersections along the Mayfield Road corridor.

3.6 Intersection Operations

The future background intersection operations at the study intersections were analyzed using the 2026, 2031 and 2036 future background traffic volumes illustrated previously in **Figure 7, Figure 9** and **Figure 10**, respectively.

Due to the various road improvements within the study area as discussed in **Section 4.4**, signal timing plans are expected to change, therefore, optimized signal timings splits were used for analysis in future horizon years following 2022. Furthermore, a protected permissive phase was added for the westbound left turn at Mayfield Road and Airport Road under optimized conditions in the 2026 horizon year and then implemented in all future horizons as the base assumption. Detailed capacity analysis worksheets and tables are included in **Appendix G**.

Table 10, Table 11, Table 12, and **Table 13** outline the 2026, 2026 (optimized) 2031 and 2036 future background traffic operations, respectively. **Table 14** outlines the operations of the proposed roundabout in all three horizon years.

Table 10: 2026 Future Background Level of Service

Intersection	Control	Peak Hour	Intersection Control Delay - LOS[1]	Critical Individual Movement Delays	Critical V/C Ratio [2]	95th Percentile Queue > Storage Length
Torbram Road at Old School Road	Stop Control (All Way)	A.M.	10.7 s [B]	None	0.38 (SBLTR)	None
		P.M.	11.9 s [B]	None	0.44 (WBLTR)	None
Mayfield Road at Torbram Road	Signal	A.M.	27.8 s [C]	None	0.86 (EBT)	120m > 80m (NBL)
		P.M.	25.3 s [C]	None	0.82 (EBT)	90m > 80m (NBL)
Mayfield Road at Block 48-2 Street "C"	Signal	A.M.	50.4 s [D]	None	0.75 (EBT)	70m (EBR)[3]
		P.M.	52.0 s [D]	None	0.71 (EBT)	70m (EBR)[3]
Mayfield Road at Airport Road	Signal	A.M.	37.8 s [D]	90.9 s [F] (EBL)	0.92 (EBL)	85m > 60m (EBR) 75m > 60m (WBR) 120m>90m (NBL)
		P.M.	42.7 s [D]	113.5 s [F] (EBL) 85.9 s [F] (WBL)	0.97 (EBL) 0.93 (WBT)	205m>200m (EBL) 210m > 165m (WBL) 850m > 60m (WBR) 215m > 95m (NBL)
Airport Road at Davis Lane/ Perdue Crescent	Stop Control (Minor)	A.M.	42.2 s [E]	None	0.45 (WBL)	None
		P.M.	271.9 s [F]	271.9 s [F] (WBL)	1.27 (WBL)	35m>30m(WBL)
Airport Road & 12333 Airport Road	Signal	A.M.	7.2 s [A]	None	0.44 (WBL)	None
		P.M.	4.4 s [A]	None	0.26 (NBT)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (Synchro/ICU). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road movement (HCM 2000).

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.90 for through or shared through/turning movements, as well as greater than 1.00 for exclusive movements are highlighted.

Note 3: The intersection of Mayfield Road at Street "B" has not been constructed yet. Therefore, these queues indicate higher than standard storage distances for auxiliary turn lanes and serve as a recommendation for the storage lengths the intersection should be constructed with.

The signal timing plans at Mayfield Road at Airport Road were optimized under 2026 conditions to add a westbound left protected permissive phase. The westbound left is currently the only left turn phase at the intersection without a protected permissive phase, therefore the protected phase was added based on traffic volumes and delays to improve operations. The protected phase was implemented into the base condition for 2031 and 2036 horizon years.

The comparison of operation with and without the protected westbound left turn lane are shown in **Table 9** below.

Table 11: 2026 Future Background (Optimized) Level of Service

Intersection	Control	Peak Hour	Intersection Control Delay - LOS[1]	Critical Individual Movement Delays	Critical V/C Ratio [2]	95th Percentile Queue > Storage Length
Mayfield Road at Airport Road	Signal	A.M.	37.8 s [D]	90.9 s [F] (EBL)	0.92 (EBL)	85m > 60m (EBR) 75m > 60m (WBR) 120m>90m (NBL)
		P.M.	42.7 s [D]	113.5 s [F] (EBL) 85.9 s [F] (WBL)	0.97 (EBL) 0.93 (WBT)	205m>200m (EBL) 210m > 165m (WBL) 850m > 60m (WBR) 215m > 95m (NBL)
	Signal (Opt.)	A.M.	37.9 [D]	94.9 s [F] (EBL)	0.93 (EBL)	80m > 60m (EBR) 150m > 95m (NBL)
		P.M.	41.6 [D]	113.5 s [F] (EBL)	0.97 (EBL) 0.93 (WBT)	125m > 60m (WBR) 210m > 95m (NBL)

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (Synchro/ICU). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM 2000).

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.90 for through or shared through/turning movements, as well as greater than 1.00 for exclusive movements are highlighted.

Table 12: 2031 Future Background Level of Service

Intersection	Control	Peak Hour	Intersection Control Delay - LOS[1]	Critical Individual Movement Delays	Critical V/C Ratio [2]	95th Percentile Queue > Storage Length
Torbram Road at Old School Road	Stop Control (All Way)	A.M.	11.5 s [B]	None	0.42 (SBLTR)	None
		P.M.	13.1 s [B]	None	0.50 (WBLTR)	None
Mayfield Road at Torbram Road	Signal	A.M.	33.6 s [C]	None	0.92 (EBT)	185m > 80m (NBL)
		P.M.	27.3 s [C]	None	0.87 (EBT)	95m > 80m (NBL)
Mayfield Road at Block 48-2 Street "C"	Signal	A.M.	36.4 s [D]	None	0.76 (EBT)	80m (EBR)[3] 55m (NBL)[3]
		P.M.	39.3 s [D]	None	0.69 (EBT)	70m (EBR)[3]
Mayfield Road at Airport Road	Signal	A.M.	35.9 s [D]	None	0.90 (EBL)	85m > 60m (EBR) 155m > 95m (NBL)
		P.M.	38.1 s [D]	97.1 s [F] (EBL)	0.97 (EBL)	235m>200m (EBL) 65m > 60m (EBR) 195m > 95m (NBL)
Airport Road at Davis Lane/ Perdue Crescent	Stop Control (Minor)	A.M.	47.1 s [E]	None	0.49 (WBL)	None
		P.M.	323.3 s [F]	323.3 s [F] (WBL)	1.39 (WBL)	40m > 30m (WBL)
Airport Road & 12333 Airport Road	Signal	A.M.	7.2 s [A]	None	0.44 (WBL)	None
		P.M.	4.3 s [A]	None	0.27 (NBT)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (Synchro/ICU). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road movement (HCM 2000).

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.90 for through or shared through/turning movements, as well as greater than 1.00 for exclusive movements are highlighted.

Note 3: The intersection of Mayfield Road at Street "B" has not been constructed yet. Therefore, these queues indicate higher than standard storage distances for auxiliary turn lanes and serve as a recommendation for the storage lengths the intersection should be constructed with.

Table 13: 2036 Future Background Level of Service

Intersection	Control	Peak Hour	Intersection Control Delay - LOS[1]	Critical Individual Movement Delays	Critical V/C Ratio [2]	95th Percentile Queue > Storage Length
Torbram Road at Old School Road	Stop Control (All Way)	A.M.	12.6 s [B]	None	0.47 (SBLTR)	None
		P.M.	15.0 s [B]	None	0.56 (WBLTR)	None
Mayfield Road at Torbram Road	Signal	A.M.	39.2 s [D]	114.4 [F] (WBL)	1.05 (WBL) 0.97 (EBT)	195m>125m (EBR) 150m>105m (WBL) 185m>80m (NBL)
		P.M.	30.6 s [C]	None	0.90 (EBT)	115m>80m (NBL)
Mayfield Road at Block 48-2 Street "C"	Signal	A.M.	31.4 s [C]	None	0.77 (EBT)	70m (EBR)[3] 60m (NBL)[3]
		P.M.	33.1 s [C]	None	0.70 (EBT)	75m (EBR)[3]
Mayfield Road at Airport Road	Signal	A.M.	36.4 s [D]	82.1 s [F] (EBL)	0.94 (EBL)	80m>60m (EBR) 145m>95m (NBL)
		P.M.	41.8 s [D]	97.5 s [F] (EBL)	1.00 (EBL) 0.93 (WBT)	310m>200m (EBL) 80m>60m (EBR) 185m>95m (NBL)
Airport Road at Davis Lane/ Perdue Crescent	Stop Control (Minor)	A.M.	53.4 s [E]	53.4 s [F] (WBL)	0.53 (WBL)	None
		P.M.	384.5 s [F]	384.5 s [F] (WBL)	1.52 (WBL)	40m>30m (WBL)
Airport Road & 12333 Airport Road	Signal	A.M.	7.1 s [A]	None	0.44 (WBL)	None
		P.M.	4.3 s [A]	None	0.28 (NBT)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (Synchro/ICU). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road movement (HCM 2000).

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.90 for through or shared through/turning movements, as well as greater than 1.00 for exclusive movements are highlighted.

Note 3: The intersection of Mayfield Road at Street "B" has not been constructed yet. Therefore, these queues indicate higher than standard storage distances for auxiliary turn lanes and serve as a recommendation for the storage lengths the intersection should be constructed with.

Table 14: Airport Rd./Old School Rd./Healey Rd. Roundabout Future Background Level of Service

Horizon Year	Weekday A.M. Peak Hour						Weekday P.M. Peak Hour					
	Overall	App.[1]	Delay	LOS	V/C	95th % Queue[1]	Overall	App.[1]	Delay	LOS	V/C	95th % Queue[1]
2026	Delay: 2.72s LOS: A	EB	7.87s	A	0.28	~1	Delay: 2.29s LOS: A	EB	5.34s	A	0.13	~1
		NB	1.91s	A	0.15	~1		NB	2.07s	A	0.30	~1
		WB	1.74s	A	0.07	~1		WB	2.07s	A	0.16	~1
		SB	2.05s	A	0.27	~1		SB	2.11s	A	0.15	~1
2031	Delay: 2.77s LOS: A	EB	8.12s	A	0.29	~1	Delay: 2.32s LOS: A	EB	5.40s	A	0.13	~1
		NB	1.92s	A	0.15	~1		NB	2.10s	A	0.30	~1
		WB	1.75s	A	0.07	~1		WB	2.10s	A	0.17	~1
		SB	2.08s	A	0.28	~1		SB	2.13s	A	0.15	~1
2036	Delay: 2.83s LOS: A	EB	8.42s	A	0.31	~1	Delay: 2.35s LOS: A	EB	5.47s	A	0.14	~1
		NB	1.94s	A	0.16	~1		NB	2.12s	A	0.31	~1
		WB	1.76s	A	0.07	~1		WB	2.13s	A	0.18	~1
		SB	2.12s	A	0.29	~1		SB	2.15s	A	0.16	~1

Note 1: App. – Intersection Approach.

The intersection of Airport Road and Old School Road / Healey Road is projected to operate acceptably under each of the future background scenarios, at a LOS "A" during both the a.m. and p.m. peak hours. Additionally, no queuing or capacity constraints are forecast at the roundabout.

The signalized intersection of Airport Road and Mayfield Road is expected to operate at a level of service (LOS) "D". The intersection's maximum control delay is 36.4 seconds and 41.8 seconds in the weekday a.m. and p.m. peak hours respectively, the maximum volume-to-capacity ratios are 0.94 (EBL) and 1.00 (EBL) in the weekday a.m. and p.m. peak hours, respectively and the maximum 95th percentile queue length is 205 metres and 230 metres in the weekday a.m. and p.m. peak hours, respectively.

These metrics indicate that the intersection is operating efficiently with moderate delays in the weekday a.m. and p.m. peak hours. These metrics also indicate that intersection performance is expected to improve materially with the additional widening of Mayfield Road east of Airport Road, to a six-lane cross section as compared to with existing conditions. As we understand that the detailed design of the east approach has not yet been finalized, westbound left turn lane geometry should be designed to accommodate ultimate queues in the 2026 through 2036 study horizons.

The signalized intersection of Mayfield Road and Torbram Road is expected to operate at a level of service (LOS) "D" and "C" during the weekday a.m. and p.m. peak hours, respectively. No critical control delay in the weekday a.m. or p.m. peak hours is expected, the maximum volume-to-capacity ratios are 1.05 (WBL) and 0.90 (EBT) in the weekday a.m. and p.m. peak hours, respectively. The maximum 95th percentile queue length is 145 metres and 100 metres in the weekday a.m. and p.m. peak hours, respectively. These metrics indicate that the intersection is operating efficiently with acceptable delays and reserve capacity to accommodate future increases in traffic volume.

The unsignalized intersection of Airport Road at Perdue Court/Davis Lane is expected to operate at LOS "E" and "F" during the weekday a.m. and p.m. peak hours respectively. As discussed in **Section 2.6**, this is largely attributed to the stop-controlled movements and westbound left turns, this intersection may need to be signalized in the future as traffic volumes increase along the Airport Road corridor, as signalization is already warranted at this time.

The remaining intersections are operating acceptably at LOS "C" or better in the weekday a.m. and p.m. peak hours.

3.7 Summary of Recommended Improvements to Accommodate Background Growth

Based on the growth expected around the boundary road network, the following improvements are recommended for consideration at the noted intersections to accommodate the growth without considerations of site generated traffic.

- **Mayfield Road at Torbram Road (Signalized Intersection)**
    - Westbound left turn lane with 195 m storage (90 m increase from Existing).
    - Northbound left turn lane with 185 m storage (105m increase from Existing).
    - Actuated coordination of the Mayfield Road corridor from Torbram Road to Airport Road including cycle length increases to Mayfield Road at Torbram Road to 120 seconds and 135 seconds in the a.m. and p.m. peak hours, respectively.
- **Mayfield Road at Block 48-2 Street "C" (Signalized Access)**
    - Eastbound right turn lane with 75 m storage.
    - Northbound left turn lane with 60 m storage.
    - Actuated coordination of the Mayfield Road corridor from Torbram Road to Airport Road including cycle length of 120 seconds and 135 seconds in the a.m. and p.m. peak hours, respectively, for Mayfield Road at Street "B"/Block 48-2 Street "C".
- **Mayfield Road at Airport Road (Signalized Intersection)**
    - Eastbound left turn lane with 310 storage (110 m increase from Existing).
    - Eastbound right turn lane with 80 m storage (20 m increase from Existing).
    - Northbound left turn lane with 185 m storage (90 m increase from Existing). This can be accommodated within the concrete median.
    - Add westbound left protected permissive phase in signal timing plan.
- **Airport Road at Davis Lane/ Perdue Crescent (Minor Stop-Controlled Intersection)**
    - Monitor traffic volumes and implement signalization to address minor street delays.
    - Westbound left turn lane with 40 m storage (10 m increase from Existing). Note the existing pavement width can accommodate this via pavement markings.

3.7.1 Torbram Road Widening

We understand that the Town has additional considerations for the ultimate buildout of Torbram Road as a two-lane or four-lane urban cross section. However, the details of the ultimate ROW considerations, and scheduling of this roadway will be subject to the completion of the ongoing Multimodal Transportation Master Plan currently being undertaken by the Town. In addition, completion of a Class Environmental Assessment may also be required. It is noted that operational analysis was conducted for all horizon years with the current two-lane cross section and no operational issues were noted.

4.0 Site Generated Traffic

The proposed development will result in additional vehicles on the surrounding network that previously did not exist, and the following section outlines the methodology used to estimate the generation and distribution of trips expected to be generated by the proposed development.

4.1 Division of Sites

It is noted the most recent Site Plan (attached in **Appendix B**), eight buildings are proposed for the subject development. For the purpose of transportation analysis within this report, different zones have been assigned to the proposed development for trip distribution purposes, as summarized in **Table 15** below and are illustrated in

Figure 11.

Table 15: Transportation Zones

Zone	Building(s)
1	Building A
2	Building D
	Building H
3	Building C
4	Building I
	Building J
	Building K
5	Building E
	Building F

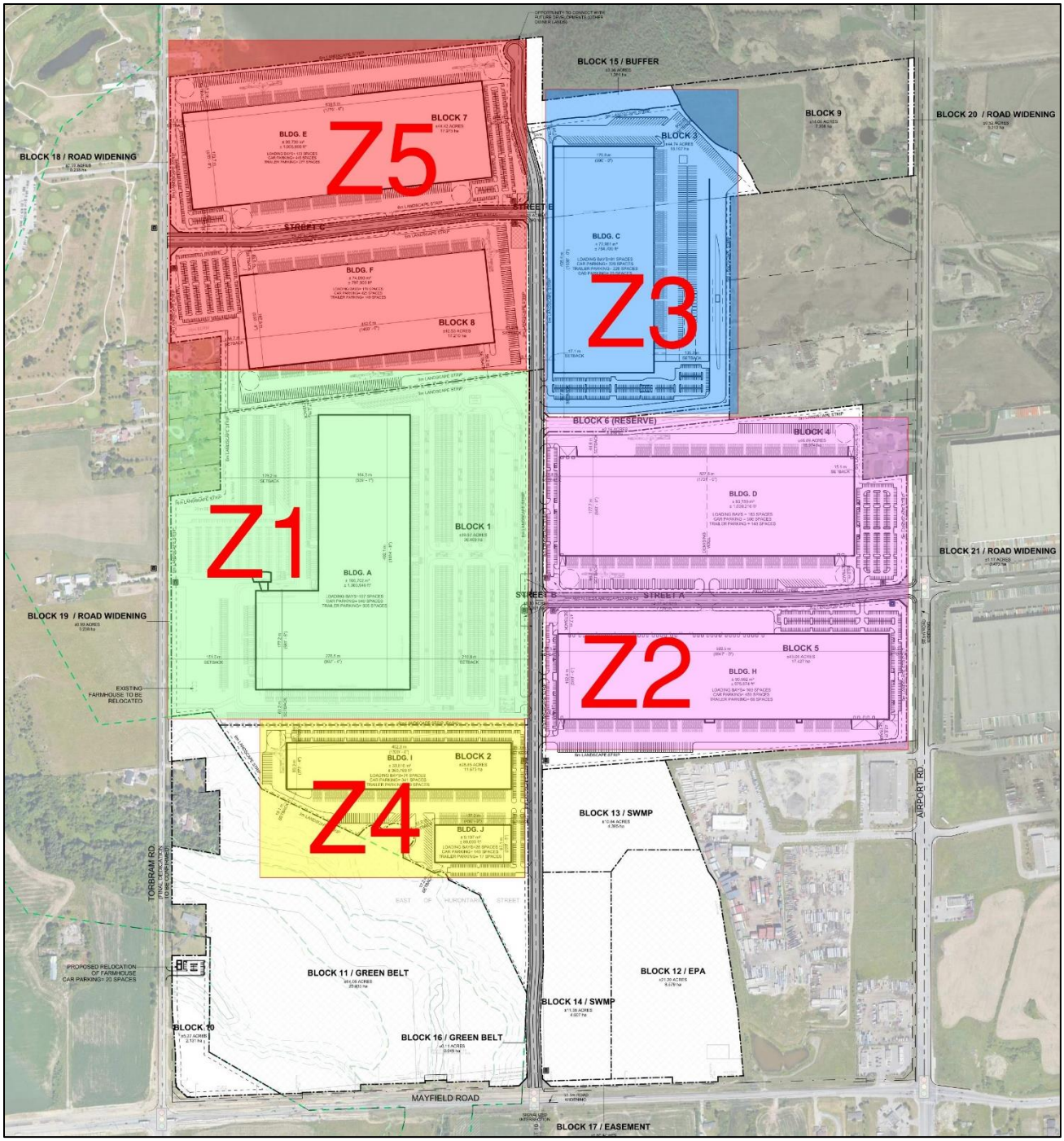


Figure 11: Site Generated Traffic Zones

4.2 Trip Generation

The trip generation at the proposed development was forecasted using the rates provided in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. Land Use Code (LUC) 150 "Warehousing" was used to generate the estimated site trips generated by the proposed industrial development. A fitted curve equation is provided for LUC 150 "Warehousing", and the number of data plots exceeds 20 points. As such, the fitted curve equation was used to forecast trip generation for the proposed development during the a.m. and p.m. peak periods.

2016 Transportation Tomorrow Survey (TTS) data was used to determine the existing modal split. Based on the available data for the zone of the development (2006 GTA Zone 3014) and a nearby industrial development zone (2006 GTA Zone 3015), a modal split of 0% was determined. As such, there was no modal split adjustment for trips generated at the proposed site. However, we understand that future transit considerations may contribute to peak hour automobile mode split reductions.

Per the ITE Trip Generation Handbook 3rd Edition Table I.1, approximately 20% of site generated traffic with LUC 150 "Warehousing" during weekdays consists of heavy truck traffic. Site traffic generated by similar land use LUC 130 "Industrial Park" consists of between 1-31% of heavy truck traffic during the weekday peak hours with an average of 13%, and site traffic generated by similar land use LUC 152 "High-Cube Warehouse/Distribution Centre" consists of between 9-29% of heavy truck traffic during the weekday peak hours. Therefore, an estimate of 20% for heavy truck traffic is considered reasonable.

The trip generation characteristics for each zone has been broken down in terms of the total vehicle trip generation, passenger car trip generation and heavy truck traffic trip generation in **Table 16, Table 17,** and **Table 18** respectively. **Figure 12, Figure 13,** and **Figure 14** illustrate the trip assignment for cars, trucks, and the overall total for the proposed development, respectively.

Table 16: Total Vehicle Trip Generation

Zone	Building(s)	Size (SF GFA)	A.M. Peak Trip Generation			P.M. Peak Trip Generation		
			T = 0.12 X + 23.62			T = 0.12 X + 26.48		
			In	Out	Total	In	Out	Total
1	Building A	1,083,946	118	35	154	44	113	157
Zone 1 Total			**118**	**35**	**154**	**44**	**113**	**157**
2	Building D	1,009,216	111	33	145	41	106	148
	Building H	975,874	73	68	141	40	103	144
Zone 2 Total			**185**	**101**	**285**	**82**	**210**	**291**
3	Building C	784,700	91	27	118	34	87	121
Zone 3 Total			**91**	**27**	**118**	**34**	**87**	**121**
4	Building I	360,760	52	15	67	20	50	70
	Building J	99,000	27	8	35	11	28	39
Zone 4 Total			**79**	**23**	**102**	**31**	**78**	**109**
5	Building E	1,008,900	111	33	145	41	106	148
	Building F	797,500	62	57	119	34	88	122
Zone 5 Total			**173**	**91**	**264**	**76**	**194**	**270**
Total		**6,119,896**	**646**	**277**	**923**	**266**	**681**	**947**

Table 17: Passenger Car Trip Generation

Zone	Building(s)	Size (SF GFA)	A.M. Peak Trip Generation			P.M. Peak Trip Generation		
			80% Total Vehicle Traffic					
			In	Out	Total	In	Out	Total
1	Building A	1,083,946	95	28	123	35	90	125
Zone 1 Total			**95**	**28**	**123**	**35**	**90**	**125**
2	Building D	1,009,216	89	27	116	33	85	118
	Building H	975,874	59	54	113	32	83	115
Zone 2 Total			**148**	**81**	**228**	**65**	**168**	**233**
3	Building C	784,700	73	22	94	27	69	97
Zone 3 Total			**73**	**22**	**94**	**27**	**69**	**97**
4	Building I	360,760	42	12	54	16	40	56
	Building J	99,000	22	6	28	9	22	31
Zone 4 Total			**63**	**18**	**82**	**25**	**62**	**87**
5	Building E	1,008,900	89	27	116	33	85	118
	Building F	797,500	50	46	95	27	70	98
Zone 5 Total			**139**	**72**	**211**	**60**	**155**	**216**
Total		**6,119,896**	**518**	**221**	**738**	**212**	**544**	**758**

Table 18: Truck Trip Generation

Zone	Building(s)	Size (SF GFA)	A.M. Peak Trip Generation			P.M. Peak Trip Generation		
			20% Total Vehicle Traffic					
			In	Out	Total	In	Out	Total
1	Building A	1,083,946	23	7	31	9	23	32
Zone 1 Total			**23**	**7**	**31**	**9**	**23**	**32**
2	Building D	1,009,216	22	6	29	8	21	30
	Building H	975,874	14	14	28	8	20	29
Zone 2 Total			**37**	**20**	**57**	**17**	**42**	**58**
3	Building C	784,700	18	5	24	7	18	24
Zone 3 Total			**18**	**5**	**24**	**7**	**18**	**24**
4	Building I	360,760	10	3	13	4	10	14
	Building J	99,000	5	2	7	2	6	8
Zone 4 Total			**16**	**5**	**20**	**6**	**16**	**22**
5	Building E	1,008,900	22	6	29	8	21	30
	Building F	797,500	12	11	24	7	18	24
Zone 5 Total			**34**	**19**	**53**	**16**	**39**	**54**
Total		**6,119,896**	**128**	**56**	**185**	**55**	**138**	**190**

The proposed industrial warehouse development is expected to generate approximately 923 and 947 two-way trips, inclusive of passenger cars and trucks. A total of 738 and 758 two-way passenger car trips are expected during the weekday a.m. and p.m. peak hours, respectively; and approximately 185 and 190 total two-way truck trips are expected during the weekday a.m. and p.m. peak hours, respectively.

The Site Plan statistics shown are from the latest Site Plan (dated, October 26, 2023), provided in **Appendix B**.

4.3 Trip Distribution and Assignment

4.3.1 Passenger Cars

The passenger car trips generated at the proposed industrial development were distributed to the surrounding road network based on 2016 Transportation Tomorrow Survey (TTS) data. The TTS is a comprehensive survey consisting of transportation patterns for households in the Greater Toronto and Hamilton Area (GTHA) and surrounding area.

The subject property is located in 2006 GTA Zone 3014, with primarily agricultural and some existing industrial buildings. The adjacent zone, (GTA Zone 3015) also consists of industrial facilities and was included in the trip distribution analysis to determine more accurate results as representative proxy sites. As such, the TTS results were filtered to reflect auto trips within the two zones during the

weekday a.m. and p.m. periods. From this query, trip origins were determined, and the percentage of trips assigned from each origin was accounted for.

Appendix L includes the TTS data. The resulting trip distribution is summarized in **Table 19.**

Table 19: Trip Distribution

Arriving From / Departing To	A.M.		P.M.	
	Inbound	Outbound	Inbound	Outbound
North	20%	10%	15%	30%
South	35%	45%	44%	20%
East	10%	20%	12%	10%
West	35%	25%	29%	40%

The distribution of trips outlined in **Table 19** were further divided based on the most convenient travel route expected for each gateway to each zone, as further elaborated upon in the following sections.

4.3.2 Passenger Trips

The passenger trip distributions for each zone, summarized in **Table 20** were derived based on the most convenient travel route expected from each gateway based on the proximity of passenger vehicle entrance/exits expected to be used for buildings situated in each zone. Zone-based site-generated trips were then distributed to the study road network based on the distributions outlined below.

For instance, the majority of northbound/southbound traffic destined for Zone 2 (Buildings C, D, or H) are expected to use the Airport Road access to the site via Airport Road. As such, the distribution of northbound/southbound-destined inbound and outbound traffic for Zone 2 would be expected to wholly use Airport Road, as demonstrated in **Table 20** below.

Table 20: Passenger Trip Zone Directional Distributions

Direction	North		East		South		West	
Zone/via	Torbram	Airport	Mayfield	Healey	Torbram	Airport	Mayfield	Old School
1	100%	0%	90%	10%	100%	0%	90%	10%
2	0%	100%	80%	20%	0%	100%	90%	10%
3	0%	100%	100%	0%	30%	70%	100%	0%
4	0%	100%	100%	0%	30%	70%	100%	0%
5	0%	100%	100%	0%	30%	70%	100%	0%

The total distribution of the passenger trips is represented in **Table 21** below.

Table 21: Passenger Trip Inbound and Outbound Total Distributions

Direction	North		East		South		West		Total
Zone/via	Torbram	Airport	Mayfield	Healey	Torbram	Airport	Mayfield	Old School	
A.M.									
Inbound	4%	16%	9%	1%	12%	23%	33%	2%	100%
Outbound	1%	9%	18%	2%	13%	32%	24%	1%	100%
P.M.									
Inbound	3%	12%	11%	1%	15%	29%	28%	1%	100%
Outbound	5%	25%	9%	1%	7%	13%	38%	2%	100%

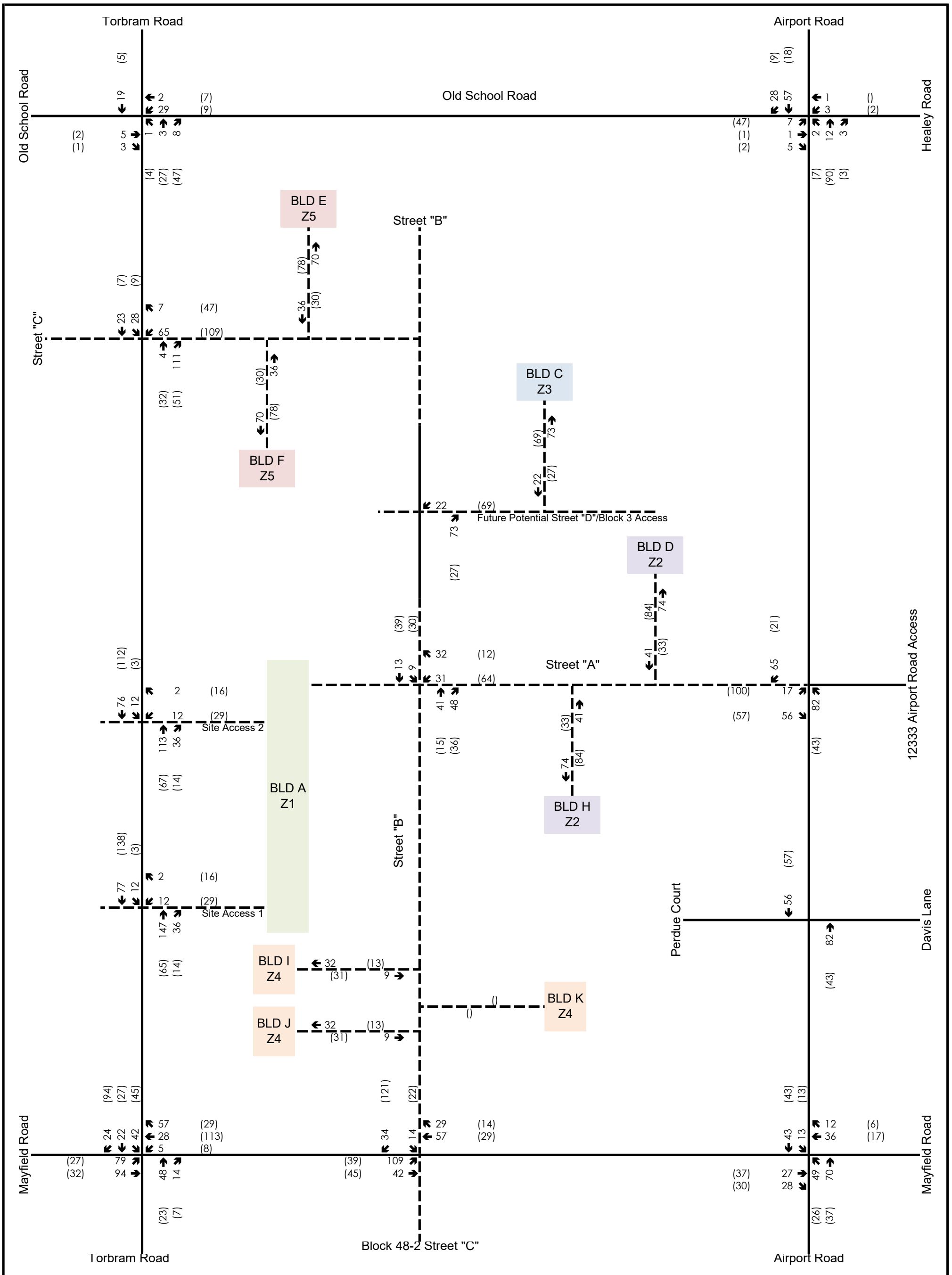
We understand that it is the intent of the Town to either reconstruct Torbram to a two-lane urban cross section, or a four-lane urban cross section. However, details on Torbram Road plans will result from the Town's ongoing Multimodal Transportation Master Plan (MMTMP) and additional commentary will be provided at such time.

Additionally, a sensitivity analysis was conducted to analyze operations under the assumption that all Zone 5 traffic only uses the internal road network via Mayfield Road and Airport Road. The results are shown in **Section 5.0** and conclude that the traffic operations can function adequately under this assumption.

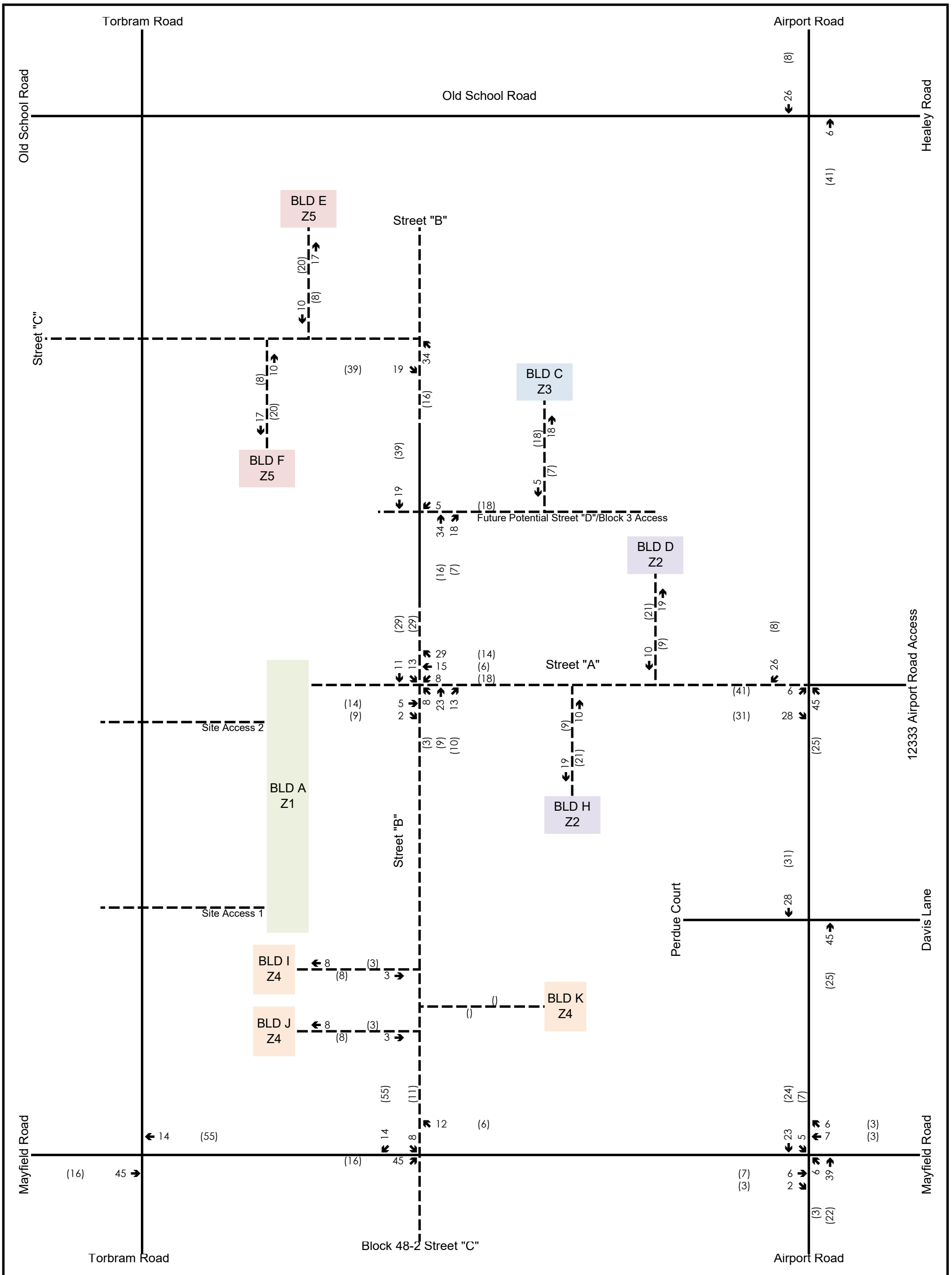
4.3.3 Heavy Trucks

The heavy vehicle trips generated by the proposed development were distributed to the boundary road network for each zone based on expected travel routes for heavy truck traffic, and roadways which permit heavy truck traffic. Truck trip volumes on the existing road network and the Region's Goods Movement Strategy were also reviewed. It was determined that the distribution of trucks would primarily rely on Airport Road for north-south connectivity, and Mayfield Road for east-west connectivity, as Torbram Road, Old School Road and Healey Road are not expected to provide sufficient capacity for heavy vehicle traffic. As such, all heavy vehicle trips were distributed to Airport Road for north-south trips, and Mayfield Road for east-west trips. The site trips were assigned similarly to the passenger vehicle distributions, using the most logical routes expected for each gateway to the nearest site access(es).

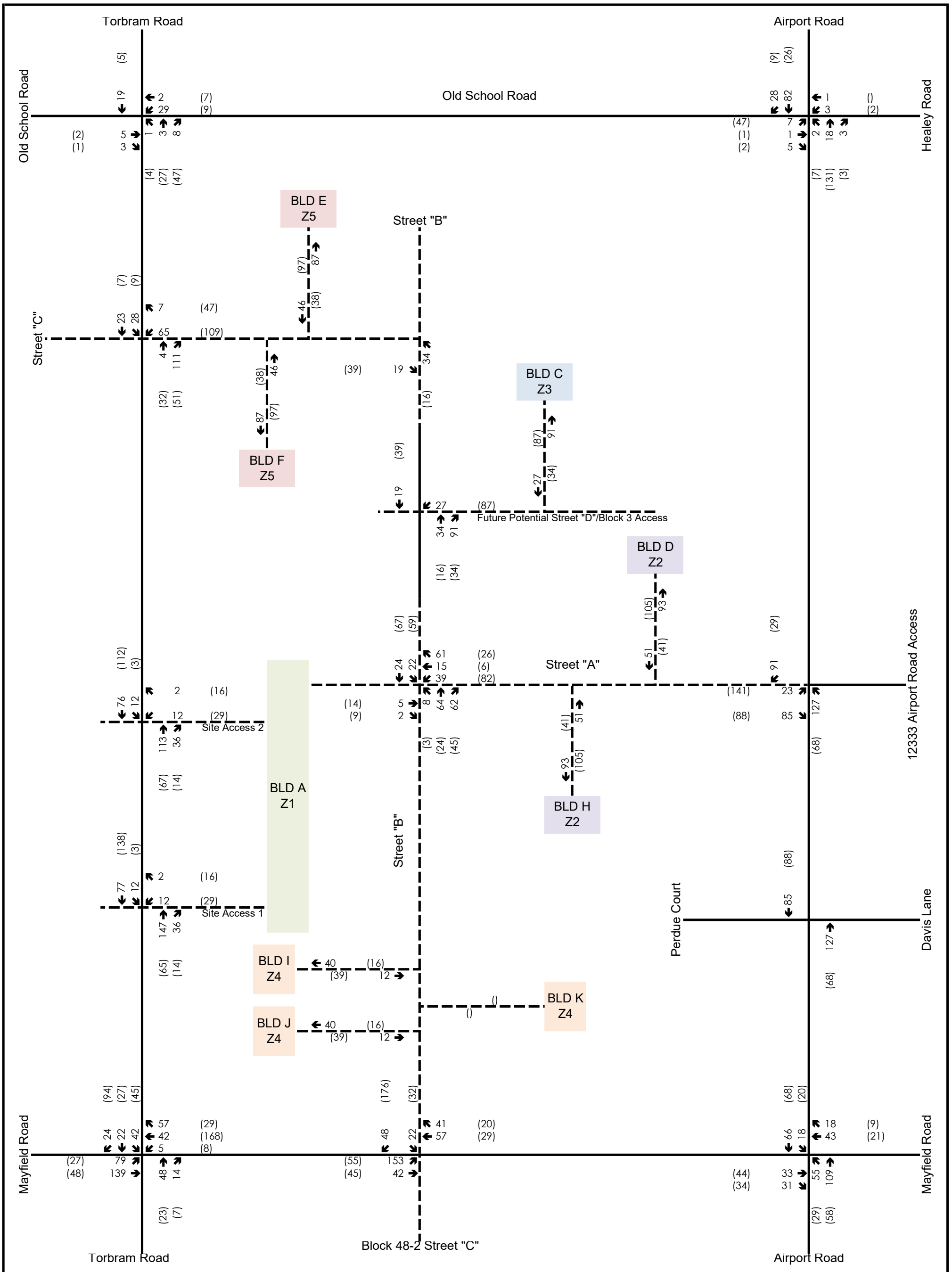
Appendix M contains detailed trip distribution worksheets. The total passenger, truck and overall trip assignments have been provided in **Figure 12, Figure 13,** and **Figure 14**.



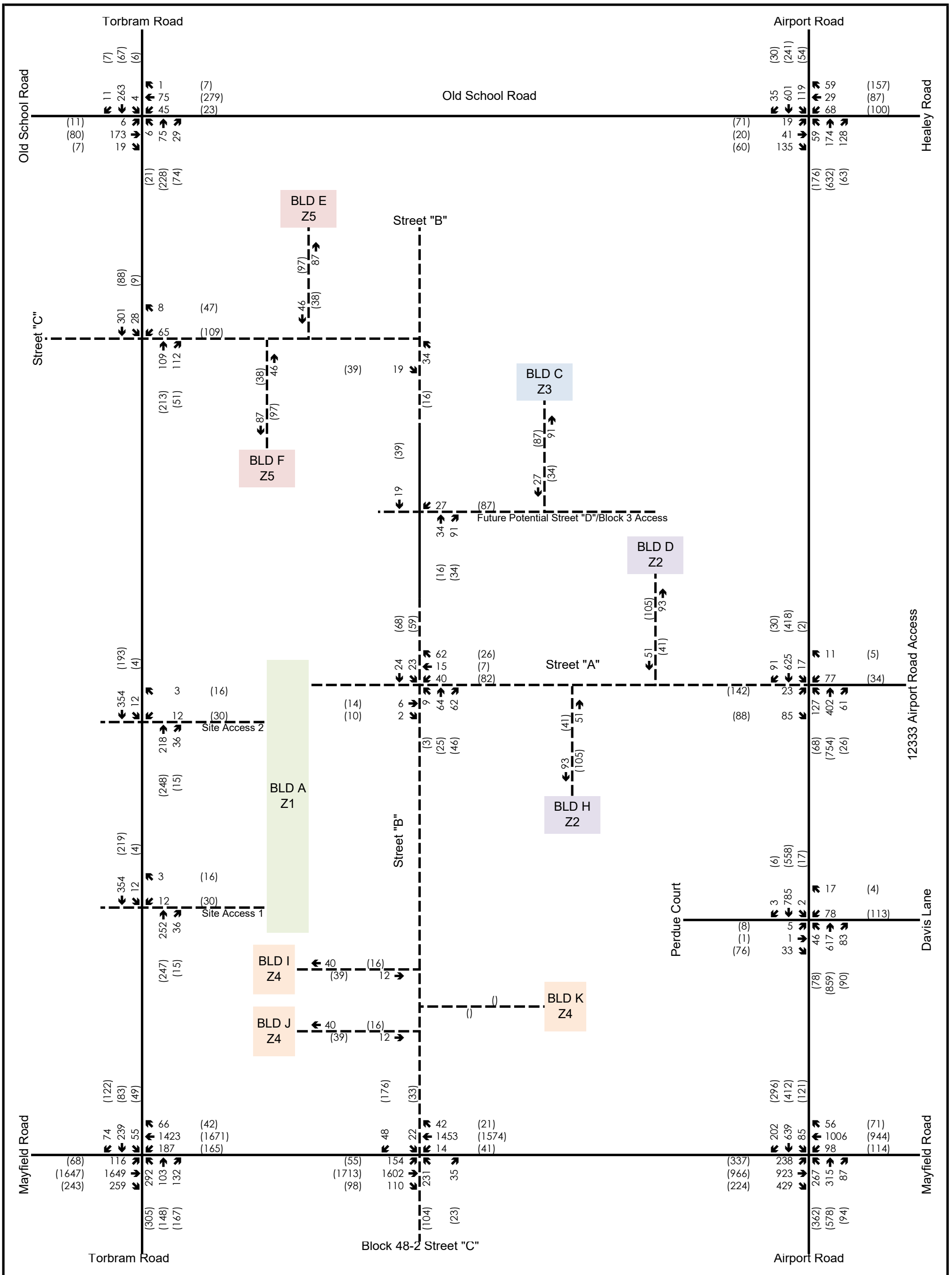
Legend	Tullamore Industrial	CROZIER CONSULTING ENGINEERS	Figure 12
xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes	Trip Assignment (Car)		Project No. 2022-5842 Date. 2023.10.20 Analyst. TDS



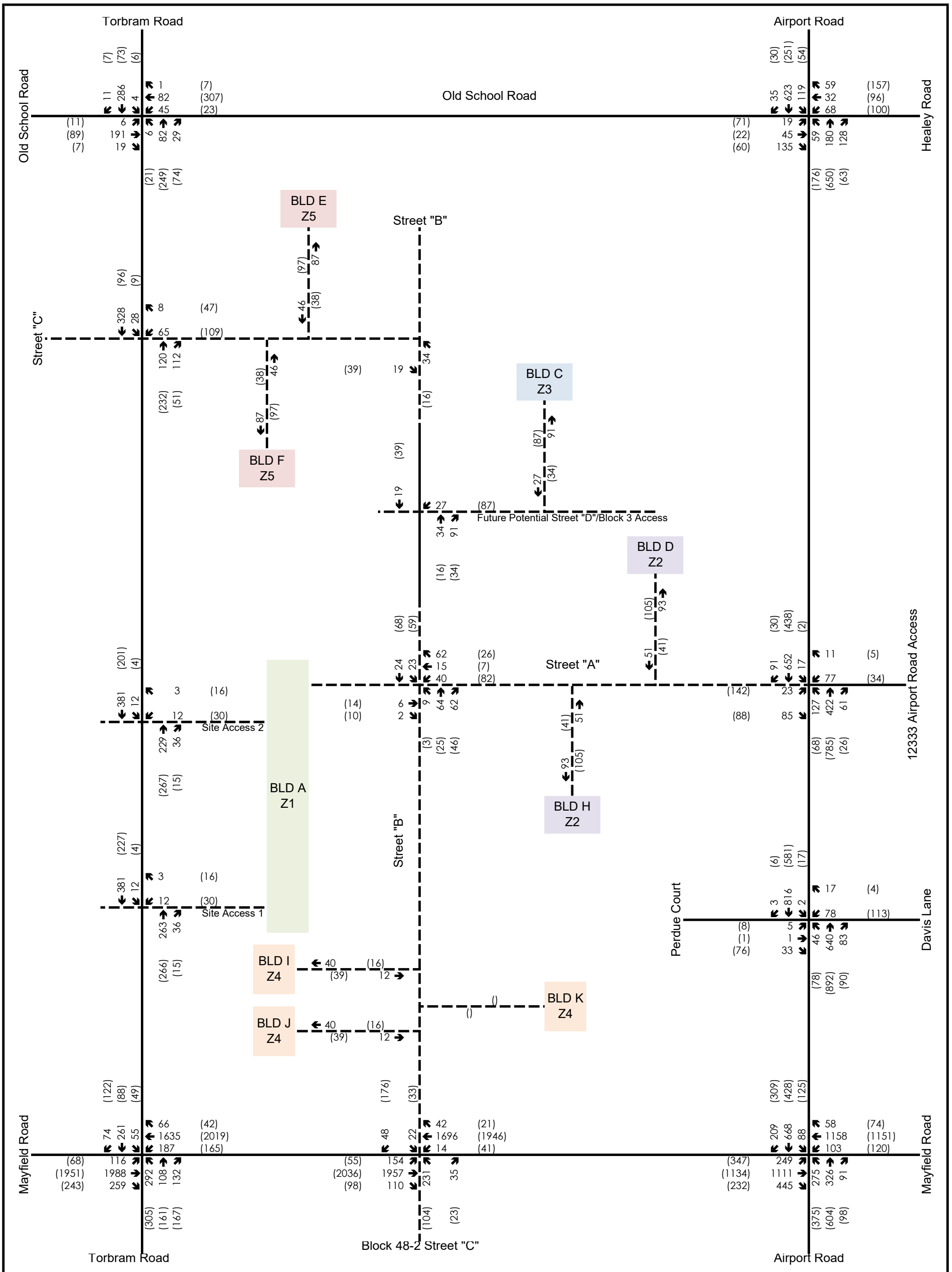
Legend	Tullamore Industrial	CROZIER CONSULTING ENGINEERS	Figure 13
xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes	Trip Assignment (Trucks)		Project No. 2022-5842 Date. 2023.10.20 Analyst. TDS



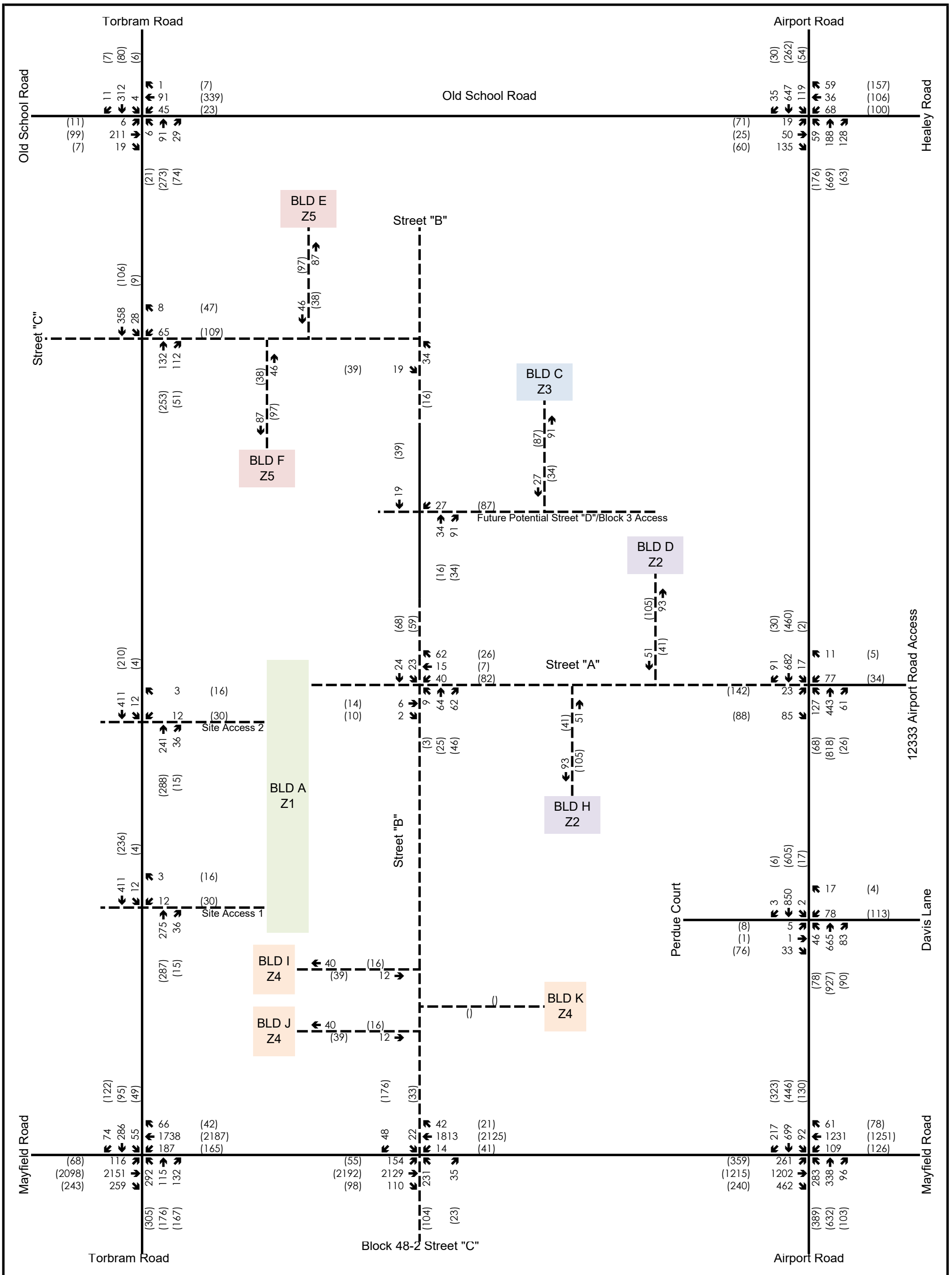
Legend	Tullamore Industrial	CROZIER CONSULTING ENGINEERS	Figure 14
xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes	Trip Assignment (Total)		Project No. 2022-5842 Date. 2023.10.20 Analyst. TDS



Legend	Tullamore Industrial	CROZIER CONSULTING ENGINEERS	Figure 15
xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes	2026 Future Total Traffic		Project No. 2022-5842 Date. 2023.10.20 Analyst. TDS



Legend	Tullamore Industrial	CROZIER CONSULTING ENGINEERS	Figure 16
xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes	2031 Future Total Traffic		Project No. 2022-5842 Date. 2023.10.20 Analyst. TDS



Legend	Tullamore Industrial	CROZIER CONSULTING ENGINEERS	Figure 17
xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes	2036 Future Total Traffic		Project No. 2022-5842 Date. 2023.10.20 Analyst. TDS

Table 22: 2026 Future Total Level of Service

Intersection	Control	Peak Hour	Intersection Control Delay - LOS[1]	Critical Individual Movement Delays	Critical V/C Ratio [2]	95th Percentile Queue > Storage Length
Torbram Road at Old School Road	Stop Control (All Way)	A.M.	11.7 s [B]	None	0.42 (SBLTR)	None
		P.M.	13.6 s [A]	None	0.51 (NBLTR)	None
Torbram Road at Street "C"	Stop Control (Minor)	A.M.	13.9 s [B]	None	0.15 (WBL)	None
		P.M.	12.2 s [B]	None	0.19 (WBL)	None
Mayfield Road at Torbram Road	Signal	A.M.	33.4 s [C]	None	0.92 (WBL)	130m>105m (WBL) 175m > 80m (NBL)
		P.M.	25.7 s [C]	None	0.82 (WBL)	120m > 80m (NBL)
Mayfield Road at Street "B"	Signal	A.M.	44.0 s [D]	None	0.83 (WBT)	80m (EBL)[3] 60m (EBR)[3] 60m (WBR)[3] 55m (NBL)[3]
		P.M.	48.5 s [D]	None	0.72 (WBT)	75m (EBR)[3]
Mayfield Road at Airport Road	Signal	A.M.	40.6 s [D]	96.3 s [F](WBL)	0.96 (EBL) 0.91(WBT)	250m > 200m (EBL) 85m > 60m (EBR) 90m > 60m (WBR) 215m > 95m (NBL)
		P.M.	44.5 s [D]	129.8 s [F] (EBL) 86.7s [F] (WBL)	1.05 (EBL) 0.95 (NBL) 0.92(WBT) 0.95(NBL)	300m > 200m (EBL) 310m > 165m (WBL) 120m > 60m (WBR) 210m > 95m (NBL)
Airport Road at Davis Lane/ Perdue Crescent	Stop Control (Minor)	A.M.	70.7 s [F]	70.7 s [F] (EBL)	0.62 (WBL)	35m > 30m(WBL)
		P.M.	418.5 s [F]	418.5 s [F] (EBL)	1.59 (WBL)	40m > 30m (WBL)
Airport Road at 12333 Airport Road/Street "A"	Signal	A.M.	7.8 s [A]	None	0.55 (WBL)	None
		P.M.	11.7 s [B]	None	0.69 (EBL)	None
Torbram Road at Site Access 1	Stop Control (Minor)	A.M.	13.5 s [B]	None	0.18 (NBTR)	None
		P.M.	11.8 s [B]	None	0.17 (NBTR)	None
Torbram Road at Site Access 2	Stop Control (Minor)	A.M.	13.1 s [B]	None	0.16 (NBTR)	None
		P.M.	11.6 s [B]	None	0.17 (NBTR)	None
Street "B" & Street "A"	Stop Control (All Way)	A.M.	7.7 s [A]	None	0.17 (NBTR)	None
		P.M.	8.3 s [A]	None	0.14 (WBL)	None
Street "B" & Street "C"	Stop Control (All Way)	A.M.	7.4 s [A]	None	0.05 (NBL)	None
		P.M.	7.0 s [A]	None	0.05 (EBR)	None

Intersection	Control	Peak Hour	Intersection Control Delay - LOS[1]	Critical Individual Movement Delays	Critical V/C Ratio [2]	95th Percentile Queue > Storage Length
Street "B" & Potential Future Street "D"/Block 3 Access	Stop Control (All Way)	A.M.	7.7 s [A]	None	0.15 (NBL)	None
		P.M.	7.9s [A]	None	0.14 (WBL)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (Synchro/ICU). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road movement (HCM 2000).
Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.90 for through or shared through/turning movements, as well as greater than 1.00 for exclusive movements are highlighted.
Note 3: The intersection of Mayfield Road at Street "B" has not been constructed yet. Therefore, these queues indicate higher than standard storage distances for auxiliary turn lanes and serve as a recommendation for the storage lengths the intersection should be constructed with.

The signal timing plans at Mayfield Road at Airport Road were optimized under 2026 conditions to add a westbound left protected permissive phase. The westbound left is currently the only left turn phase at the intersection without a protected permissive phase, therefore the protected phase was added based on traffic volumes and delays to improve operations. The protected phase was implemented into the base condition for 2031 and 2036 horizon years.

The comparison of operation with and without the protected westbound left turn lane are shown in **Table 21** below.

Table 23: 2026 Future Total (Optimized) Level of Service

Intersection	Control	Peak Hour	Intersection Control Delay - LOS[1]	Critical Individual Movement Delays	Critical V/C Ratio [2]	95th Percentile Queue > Storage Length
Mayfield Road at Airport Road	Signal	A.M.	40.6 s [D]	96.3 s [F](WBL)	0.96 (EBL) 0.91(WBT)	205m > 200m (EBL) 80m > 60m (EBR) 115m > 60m (WBR) 215m > 95m (NBL)
		P.M.	44.5 s [D]	129.8 s [F] (EBL) 86.7s [F] (WBL)	1.05 (EBL) 0.95 (NBL) 0.92(WBT) 0.95(NBL)	280m > 200m (EBL) 320m > 165m (WBL) 105m > 60m (WBR) 195m > 95m (NBL)
	Signal (Opt.)	A.M.	41.5 s [D]	92.2 s [F] (EBL)	0.94 (EBL) 0.93 (WBT)	80m > 60m (EBR) 110m > 60m (WBR) 200m > 95m (NBL)
		P.M.	43.3 s [D]	121.1 s [F] (EBL) 85.8 s [F] (NBL)	1.02 (EBL) 1.01 (NBL)	260m > 200m (EBL) 120m > 60m (WBR) 185m > 95m (NBL)

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (Synchro/ICU). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road movement (HCM 2000).
Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.90 for through or shared through/turning movements, as well as greater than 1.00 for exclusive movements are highlighted.
Note 3: The intersection of Mayfield Road at Street "B" has not been constructed yet. Therefore, these queues indicate higher than standard storage distances for auxiliary turn lanes and serve as a recommendation for the storage lengths the intersection should be constructed with.

Table 24: 2031 Future Total Level of Service

Intersection	Control	Peak Hour	Intersection Control Delay - LOS[1]	Critical Individual Movement Delays	Critical V/C Ratio [2]	95th Percentile Queue > Storage Length
Torbram Road at Old School Road	Stop Control (All Way)	A.M.	12.6 s [B]	None	0.47 (SBLTR)	None
		P.M.	15.2 s [C]	None	0.56 (WBLTR, NBLTR)	None
Torbram Road at Street "C"	Stop Control (Minor)	A.M.	14.5 s [B]	None	0.16 (WBL)	None
		P.M.	12.5 s [B]	None	0.20 (WBL)	None
Mayfield Road at Torbram Road	Signal	A.M.	38.6 s [D]	None	0.97 (EBT)	155m > 100m (EBL) 175m>125m (EBR) 175m > 80m (NBL)
		P.M.	30.3 s [C]	None	0.87 (EBT)	125m > 80m (NBL)
Mayfield Road at Street "B"	Signal	A.M.	37.7 s [D]	None	0.85 (WBT)	100m (EBL) [3] 70m (EBR) [3] 50m (WBR) [3] 60m (NBL) [3]
		P.M.	35.6 s [D]	None	0.73 (WBT)	75m (EBR) [3]
Mayfield Road at Airport Road	Signal	A.M.	40.0 s [D]	90.6 s [F] (EBL)	0.96 (EBL)	245m>200m (EBL) 80m > 60m (EBR) 180m > 95m (NBL)
		P.M.	42.6 s [D]	104.0 s [F] (EBL)	0.99 (EBL)	295m > 200m (EBL) 80m > 60m (EBR) 200m > 95m (NBL)
Airport Road at Davis Lane/ Perdue Crescent	Stop Control (Minor)	A.M.	81.2 s [F]	81.2 s [F] (WBL)	0.66 (WBL)	None
		P.M.	487.3 s [F]	487.3 s [F] (WBL)	1.73 (WBL)	45m > 30m (WBL)
Airport Road at 12333 Airport Road/Street "A"	Signal	A.M.	7.8 s [A]	None	0.55 (WBL)	None
		P.M.	11.6 s [B]	None	0.69 (EBL)	None
Torbram Road at Site Access 1	Stop Control (Minor)	A.M.	13.9 s [B]	None	0.19 (NBTR)	None
		P.M.	12.1 s [B]	None	0.18 (NBTR)	None
Torbram Road at Site Access 2	Stop Control (Minor)	A.M.	13.5 s [B]	None	0.17 (NBTR)	None
		P.M.	11.8 s [B]	None	0.18 (NBTR)	None
Street "B" & Street "A"	Stop Control (All Way)	A.M.	7.7 s [A]	None	0.17 (NBTR)	None
		P.M.	8.3 s [A]	None	0.14 (WBL)	None
Street "B" & Street "C"	Stop Control (All Way)	A.M.	7.4 s [A]	None	0.05 (NBL)	None
		P.M.	7.4 s [A]	None	0.05 (EBR)	None

Intersection	Control	Peak Hour	Intersection Control Delay - LOS[1]	Critical Individual Movement Delays	Critical V/C Ratio [2]	95th Percentile Queue > Storage Length
Street "B" & Potential Future Street "D"/Block 3 Access	Stop Control (All Way)	A.M.	7.7 s [A]	None	0.15 (NBTR)	None
		P.M.	7.9 s [A]	None	0.14 (WBL)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (Synchro/ICU). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road movement (HCM 2000).
Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.90 for through or shared through/turning movements, as well as greater than 1.00 for exclusive movements are highlighted.
Note 3: The intersection of Mayfield Road at Street "B" has not been constructed yet. Therefore, these queues indicate higher than standard storage distances for auxiliary turn lanes and serve as a recommendation for the storage lengths the intersection should be constructed with.

Table 25: 2036 Future Total Level of Service

Intersection	Control	Peak Hour	Intersection Control Delay - LOS[1]	Critical Individual Movement Delays	Critical V/C Ratio [2]	95th Percentile Queue > Storage Length
Torbram Road at Old School Road	Stop Control (All Way)	A.M.	12.2 s [B]	None	0.52 (SBLTR)	None
		P.M.	17.8 s [C]	None	0.63 (WBLTR, NBLTR)	None
Torbram Road at Street "C"	Stop Control (Minor)	A.M.	15.2 s [C]	None	0.17 (WBL)	None
		P.M.	12.9 s [B]	None	0.21 (WBL)	None
Mayfield Road at Torbram Road	Signal	A.M.	48.1 s [D]	None	1.05 (EBT)	190m>100m (EBL) 270m>125m (EBR) 160m > 80m (NBL)
		P.M.	30.3 s [C]	None	0.87 (EBT)	120m > 80m (NBL)
Mayfield Road at Street "B"	Signal	A.M.	37.4 s [D]	None	0.86 (WBT)	100m (EBL)[3] 70m (EBR)[3] 60m (NBL)[3]
		P.M.	18.0 s [B]	None	0.79 (WBT)	None
Mayfield Road at Airport Road	Signal	A.M.	42.0 s [D]	92.3 s [F] (EBL)	0.98 (EBL)	210m>200m (EBL) 80m > 60m(EBR) 190m > 95m (NBL)
		P.M.	47.8 s [D]	None	1.00 (NBL) 0.98 (EBL) 0.97 (WBT)	225m>200m (EBL) 60m>60m (EBR) 295m>165m (WBL) 170m> 60m(WBR) 195m > 95m (NBL) 105m>100m (SBL)
Airport Road at Davis Lane/ Perdue Crescent	Stop Control (Minor)	A.M.	95.3 s [F]	95.3 s [F] (WBL)	0.72 (WBL)	30m > 30m (WBL)
		P.M.	567.9 s [F]	567.9 s [F] (WBL)	1.89 (WBL)	45m>30m (WBL)

Intersection	Control	Peak Hour	Intersection Control Delay - LOS[1]	Critical Individual Movement Delays	Critical V/C Ratio [2]	95th Percentile Queue > Storage Length
Airport Road at 12333 Airport Road/Street "A"	Signal	A.M.	8.0 s [A]	None	0.57 (WBL)	None
		P.M.	11.6 s [B]	None	0.69 (EBL)	None
Torbram Road at Site Access 1	Stop Control (Minor)	A.M.	14.5 s [B]	None	0.20 (NBTR)	None
		P.M.	12.4 s [B]	None	0.19 (NBTR)	None
Torbram Road at Site Access 2	Stop Control (Minor)	A.M.	14.0 s [B]	None	0.18 (NBTR)	None
		P.M.	12.2 s [B]	None	0.19 (NBTR)	None
Street "B" & Street "A"	Stop Control (All Way)	A.M.	7.7 s [A]	None	0.17 (NBTR)	None
		P.M.	8.3 s [A]	None	0.14 (WBL)	None
Street "B" & Street "C"	Stop Control (All Way)	A.M.	7.4 s [A]	None	0.05 (NBL)	None
		P.M.	7.4 s [A]	None	0.05 (EBR)	None
Street "B" & Potential Future Street "D"/Block 3 Access	Stop Control (All Way)	A.M.	7.7 s [A]	None	0.15 (NBL)	None
		P.M.	7.9 s [A]	None	0.14 (WBL)	None

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (Synchro/ICU). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road movement (HCM 2000).

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.90 for through or shared through/turning movements, as well as greater than 1.00 for exclusive movements are highlighted.

Note 3: The intersection of Mayfield Road at Street "B" has not been constructed yet. Therefore, these queues indicate higher than standard storage distances for auxiliary turn lanes and serve as a recommendation for the storage lengths the intersection should be constructed with.

In the ultimate condition, further optimized signal timing plans were evaluated at the intersection of Mayfield Road at Airport Road. Walk times were reduced to 3 seconds and the splits have been optimized. Additionally, a LOS time adjust of -2 was applied to left turns at Mayfield Road at Airport Road to account for inter-green left turn movements given the high left turn volumes and opposing through traffic.

The comparison of operation with and without the protected westbound left turn lane are shown in **Table 26** below.

Table 26: 2036 Future Total (Optimized) Level of Service

Intersection	Control	Peak Hour	Intersection Control Delay - LOS[1]	Critical Individual Movement Delays	Critical V/C Ratio [2]	95th Percentile Queue > Storage Length
Mayfield Road at Airport Road	Signal	A.M.	42.0 s [D]	92.3 s [F] (EBL)	0.98 (EBL)	210m>200m (EBL) 80m > 60m(EBR) 190m > 95m (NBL)
		P.M.	47.8 s [D]	None	1.00 (NBL) 0.98 (EBL) 0.97 (WBT)	225m>200m (EBL) 60m>60m (EBR) 295m>165m (WBL) 170m> 60m(WBR) 195m > 95m (NBL) 105m>100m (SBL)
	Signal (Opt.)	A.M.	41.4 s [D]	None	0.88 (EBL)	195m>200m (EBL) 165m > 80m (NBL)
		P.M.	41.4 s [D]	None	0.94 (NBL) 0.93 (EBL)	120m > 95m (NBL)

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (Synchro/ICU). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road movement (HCM 2000).
Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.90 for through or shared through/turning movements, as well as greater than 1.00 for exclusive movements are highlighted.
Note 3: The intersection of Mayfield Road at Street "B" has not been constructed yet. Therefore, these queues indicate higher than standard storage distances for auxiliary turn lanes and serve as a recommendation for the storage lengths the intersection should be constructed with.

The signalized intersection of Airport Road and Mayfield Road is expected to operate at a level of service (LOS) "D" during the weekday a.m. and p.m. peak hours. The intersection's maximum control delay is 42.0 seconds and 47.8 seconds in the weekday a.m. and p.m. peak hours respectively, the maximum volume-to-capacity ratios are 0.98 (EBL) and 1.00 (NBL) in the weekday a.m. and p.m. peak hours, respectively and the maximum 95th percentile queue length is 215 metres and 295 metres in the weekday a.m. and p.m. peak hours respectively. Some movements in the intersection are also forecasted to operate at or above the theoretical capacity with queues occasionally extended beyond the provided storage length and vehicles may require more than one cycle length to proceed during the peak hours. These conditions are typical within congested areas during the peak periods. It is noted that while some queues may exceed the storage length, the additional queues may be accommodated in the provided taper. In addition, while select individual movements are expected to operate at capacity, the overall delay is moderate.

Compared to the future background conditions, site generated traffic is expected to increase the control delay by 5.6 s and 6.0 s during the weekday a.m. and p.m. peak periods, respectively. From an overall perspective, site-generated traffic is not expected to materially impact the main intersection of Mayfield Road and Airport Road.

In the optimized signal timing plan scenario, the intersection of Airport Road at Mayfield Road is expected to operate at LOS "D" during the weekday a.m. and p.m. peak hours with a maximum control delay of by 41.4 seconds and 41.4 seconds in the weekday a.m. and p.m. peak hours, respectively. The optimization resulted in the maximum volume-to-capacity ratios are 0.88 (EBL) and 0.94 (NBL) in the weekday a.m. and p.m. peak hours respectively, and the maximum 95th percentile queue length is 195 metres and 120 metres in the weekday a.m. and p.m. peak hours respectively.

The signalized intersection of Mayfield Road and Torbram Road is expected to operate at a level of service (LOS) "D" and "C" during the weekday a.m. and p.m. peak hours respectively. The intersection's maximum control delay is 48.1 seconds in weekday a.m. and 30.3 seconds in the weekday p.m. peak hours respectively, with no critical control delays. The maximum volume-to-capacity ratios are 1.05 (EBT) and 0.87 (EBT) in the weekday a.m. and p.m. peak hours respectively, and the maximum 95th percentile queue length is 270 metres and 120 metres in the weekday a.m. and p.m. peak hours respectively.

The unsignalized intersection of Airport Road at Perdue Court/Davis Lane is expected to operate at LOS "F" during the weekday a.m. and p.m. peak hours. As discussed in **Section 2.6**, this is largely attributed to the stop-controlled movements and westbound left turns, this intersection will likely need to be signalized in the future, as signalization is warranted at this time.

The signalized intersection of Mayfield Road at the Street "B" is expected to operate acceptably with LOS "D" and "B" during the weekday a.m. and p.m. peak hours, respectively. Furthermore, no queuing or capacity constraints are forecast at the intersection.

All proposed site accesses, as well as internal north-south and east-west collector roadways are expected to operate with a LOS "B" or better with the exception or Mayfield Road and Street "B" which is expected to operate at a LOS "D" in the weekday a.m. peak hour. The two internal stop-controlled intersections are expected to operate at a LOS "A". Therefore, all site accesses are expected to operate satisfactorily.

Table 27: Airport Rd./Old School Rd./Healey Rd. Roundabout Future Total Level of Service

Horizon Year	Weekday A.M. Peak Hour						Weekday P.M. Peak Hour					
	Overall	App.[1]	Delay	LOS	V/C	95th % Queue[1]	Overall	App.[1]	Delay	LOS	V/C	95th % Queue[1]
2026	Delay: 2.96s LOS: A	EB	9.09s	A	0.33	~1	Delay: 2.61s LOS: A	EB	5.82s	A	0.20	~1
		NB	1.95s	A	0.16	~1		NB	2.40s	A	0.37	~1
		WB	1.76s	A	0.07	~1		WB	2.29s	A	0.18	~1
		SB	2.26s	A	0.32	~1		SB	2.15s	A	0.16	~1
2031	Delay: 3.02s LOS: A	EB	9.43s	A	0.35	~1	Delay: 2.64s LOS: A	EB	5.91s	A	0.20	~1
		NB	1.96s	A	0.17	~1		NB	2.44s	A	0.38	~1
		WB	1.76s	A	0.07	~1		WB	2.32s	A	0.19	~1
		SB	2.30s	A	0.33	~1		SB	2.18s	A	0.17	~1
2036	Delay: 3.10s LOS: A	EB	9.84s	A	0.36	~1	Delay: 2.68s LOS: A	EB	6.00s	A	0.21	~1
		NB	1.97s	A	0.17	~1		NB	2.47s	A	0.38	~1
		WB	1.77s	A	0.07	~1		WB	2.36s	A	0.19	~1
		SB	2.34s	A	0.34	~1		SB	2.20s	A	0.17	~1

Note 1: App. – Intersection Approach.

The intersection of Airport Road and Old School Road / Healey Road is projected to operate acceptably under each of the future total scenarios, at a LOS "A" during both the a.m. and p.m. peak hours. Compared to future background conditions, the intersection is expected to operate with no more than two seconds of additional control delay per vehicle during the peak hours as a

result of development traffic. Furthermore, no queuing or capacity constraints are forecast at the roundabout.

An important consideration to note is that some of the future background growth rates adopted in the study as provided by the Region can be considered relatively high (e.g. 5% on Mayfield Road from 2022 – 2031). As evidenced by the newest turning movement counts conducted in 2022, traffic growth previously forecasted has not yet materialised and the observed 2022 volumes are lower than the traffic volumes formerly predicted. In addition, changes in workplace policies across the GTA to permit hybrid (work from home and periodic office attendance) arrangements has resulted in changes to travel patterns on major commuter corridors. In addition, a number of significant approved background developments (e.g. Block 48-1 & Block 48-2) have not been built out at the rate previously anticipated; meanwhile the subject development is planning for construction to commence in 2024 with relevant permits for construction access as well as topsoil stripping. Accordingly, it is recommended that the traffic volumes be monitored along the Mayfield Road corridor as the surrounding area is built out to confirm future traffic volumes and timing for anticipated roadway improvements.

5.1.1 Traffic Signal Warrant Assessment – Mayfield Road at Street "B"

Traffic signal warrant analysis was conducted using an Ontario Traffic Manual (OTM) Book 12 configured excel sheet based on the average hourly volume approach for the intersection of Mayfield Road at Street "B".

Based on minimum vehicular traffic and delays to cross traffic, traffic signals are warranted at the intersection of Mayfield Road at Street "B" under full-build out conditions. The intersection has been modelled as such for this analysis.

Signal Warrant analysis excerpts are included in **Appendix H**.

5.1.2 Traffic Signal Warrant Assessment – Torbram Road at Street "C"

Traffic signal warrant analysis was conducted using an Ontario Traffic Manual (OTM) Book 12 configured excel sheet based on the average hourly volume approach for the intersection of Torbram Road at Street "C".

Based on minimum vehicular traffic, delays to cross traffic, and 4-hour volumes associated with the intersection, traffic signals are not technically warranted at the intersection of Torbram Road at Street "B" under full-build out conditions. As such the intersection has been modelled with stop control for this analysis.

Although signalization is not warranted at this approach based on vehicle volumes, it may be considered in the future to increase pedestrian mobility and safety in the area, particularly in the future once development west of Torbram Road occurs.

Signal Warrant analysis excerpts are included in **Appendix H**.

5.1.3 Traffic Signal Warrant Assessment – Internal Intersections

Traffic signal warrant analysis was conducted using an Ontario Traffic Manual (OTM) Book 12 configured excel sheet based on the average hourly volume approach for all internal intersections as requested by the Town. These intersections include Street B at Street A, Street B at Street C, and Street B at the Potential Future Street D/Block 3 Access.

Based on minimum vehicular traffic, delays to cross traffic, and 4-hour volumes associated with the intersections, traffic signals are not technically warranted at any of the internal intersections under full-build out conditions. As such the intersections have been modelled with stop control for this analysis.

5.1.4 Auxiliary Right and Left-Turn Lane Analysis – Unsignalized Torbram Road Intersections

Ultimate auxiliary southbound left-turn lane and auxiliary northbound right-turn lane requirements were analyzed at the proposed Torbram Road Connections at Street "C", Site Access 1, and Site Access 2. Under 2026 and 2036 Future Total conditions no auxiliary left or right turn lanes are warranted.

Auxiliary Left-Turn Lane and Right-Turn Warrant analysis excerpts are included in **Appendix H**.

5.2 Torbram Road Sensitivity Analysis

As discussed in **Section 3.7.1**, we understand that the Town has additional considerations for the ultimate buildout of Torbram Road as a two-lane or four-lane urban cross section. However, the details of the ultimate ROW considerations, and scheduling of this roadway will be subject to the completion of the ongoing Multimodal Transportation Master Plan currently being undertaken by the Town. In addition, completion of a Class Environmental Assessment may also be required for ultimate delivery of an upgraded Torbram Road.

Based on the above, a sensitivity analysis was conducted where traffic is generally diverted away from Torbram Road such that Street "C" roadway is not utilized by any of the site generated traffic. Instead, all the traffic is modelled so that the traffic enters and exits via the Street "A" and Street "B" accesses with exception of some of Zone 1's passenger vehicle traffic, which has proposed a direct access to Torbram to serve passenger vehicles. The purpose of this sensitivity analysis is to determine if the full buildout of the development can be supported prior to the formal upgrading of Torbram Road, and if any modifications to the Mayfield and Airport Road intersections would be required to do so.

Table 28: 2036 Future Total Level of Service – Torbram Sensitivity Analysis

Intersection	Control	Peak Hour	Intersection Control Delay - LOS[1]	Critical Individual Movement Delays	Critical V/C Ratio [2]	95th Percentile Queue > Storage Length
Mayfield Road at Torbram Road	Signal (Opt.)	A.M.	52.8 s [D]	89.0 s [F](WBL)	1.08 (EBT)	190m > 100m (EBL) 270m > 125m (EBR) 120m > 105m (WBL) 165m > 80m (NBL)
		P.M.	34.1 s [C]	None	0.93 (EBT)	145m > 80m (NBL)
Mayfield Road at Street "B"[4]	Signal	A.M.	34.1 s [C]	None	0.88 (EBL)	100m (EBL)[3] 75m (EBR)[3] 60m (NBL)[3]
		P.M.	18.9 s [B]	None	0.79 (WBT)	None
Mayfield Road at Airport Road	Signal (Opt.)	A.M.	41.4 s [D]	None	0.98 (EBL)	210m>200m (EBL) 80m > 60m (EBR) 210m > 95m (NBL)
		P.M.	47.8 s [D]	None	1.00 (NBL) 0.98 (EBL) 0.97 (WBT)	255m > 200m (EBL) 240m > 165m (WBL) 160m > 60m (WBR) 185m > 95m (NBL)
Airport Road at Davis Lane/ Perdue Crescent	Stop Control (Minor)	A.M.	95.3 s [F]	95.3 s [F] (WBL)	0.72 (WBL)	35m > 30m (WBL)
		P.M.	567.9 s [F]	567.9 s [F] (WBL)	1.89 (WBL)	45m > 30m (WBL)
Airport Road at 12333 Airport Road/Street "A"[4]	Signal	A.M.	8.0 s [A]	None	0.57 (WBL)	None
		P.M.	14.3 s [B]	None	0.76 (EBL)	65m > 55m (EBL)

Note 1: The Level of Service of a signalized intersection is based on the average control delay per vehicle (Synchro/ICU). The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road movement (HCM 2000).

Note 2: The critical v/c ratio is considered to be the maximum v/c ratio for movements at the intersection. In addition, all v/c ratios greater than 0.90 for through or shared through/turning movements, as well as greater than 1.00 for exclusive movements are highlighted.

Note 3: The intersection of Mayfield Road at Street "B" has not been constructed yet. Therefore, these queues indicate higher than standard storage distances for auxiliary turn lanes and serve as a recommendation for the storage lengths the intersection should be constructed with.

Note 4: Due to the Draft Plan being in development at the time this analysis was being conducted the naming convention of the internal road network used in the final Draft Plan differs from the naming convention used in this analysis. The internal roads listed as Steet "A". Street "B", and Street "C" in the latest Draft Plan and this report are named Airport Connector, Mayfield Connector, and Torbram Connector, respectively within the Synchro and Sim Traffic reports attached to Appendix G.

The sensitivity analysis indicates that the widening of Torbram Road is not required to support full buildout since the resulting operations of the major intersections and remaining site accesses remain similar when compared to the base case analysis. While we understand that Torbram Road will ultimately require widening in the future, the results indicate that the full buildout can be supported prior to the completion of the widening works. It should also be noted that the base case scenario also did not account for a widening of the Torbram Road cross-section.

5.3 Summary of Recommended Improvements to Accommodate Site-Generated Traffic

In addition to the background improvements proposed in the road network as summarized in **Section 3.4** and **Table 6**, as well as the improvements to accommodate background growth summarized in **Section 3.7**, the following improvements are recommended for consideration at the noted intersections to accommodate the site generated traffic.

- **Mayfield Road at Torbram Road (Signalized Intersection)**
    - In order to accommodate the 95th percentile eastbound left turn queues, 190 m storage (90 m increase from Future Background) would be required. However, a review of the simulation indicates that the increase in queuing is primarily due to eastbound through traffic queues extending past the taper such that vehicles intending to access the auxiliary turn lane would be required to wait until the through queues cleared sufficiently to access the turn lane. Moreover, the increase from 37 to 116 vehicles per hour as a result of the development traffic in the critical a.m. peak hour would not by itself trigger 90 m of additional storage under normal circumstances.
    - Similarly, in order to accommodate 95th percentile eastbound right turn lane queues, an auxiliary lane with 270 m storage (190 m increase from Future Background) would be required. However, based on a review of the simulation the increase in queuing was similarly found to be due to through traffic queues extending past the beginning of the eastbound right-turn lane. Moreover, the proposed development contributes no traffic volumes to this movement.
    - On this basis, it is recommended that traffic along the Mayfield corridor be monitored as surrounding growth advances to avoid overbuilding infrastructure, since a relatively high growth rate of 5% until 2031 was adopted as requested by the Region.
- **Mayfield Road at Street "B" (Signalized Access)**
    - Construct an eastbound left turn lane with at least 100 m of storage.
    - Construct an eastbound right turn lane with at least 70 m of storage.
    - Construct a northbound left turn lane with at least 60 m of storage.
    - Construct a westbound right turn lane with at least 45 m of storage (to accommodate potential LCVs).
- **Airport Road at Street "A" (Signalized Access)**
    - Construct a northbound left turn lane with at least 55m of storage.
    - Construct an eastbound left turn lane with at least 55m of storage (TWLTL available)
    - Construct a westbound left turn lane with at least 50m of storage (pavement width currently available and can be implemented via pavement markings)
    - Construct a southbound right turn lane with at least 25m of storage. (min. required for Wb-20 trucks).
- **Mayfield Road at Airport Road (Signalized Intersection)**

- Eastbound right turn lane with 80m storage (0m increase from Future Background).
- Westbound left turn lane with 295 m storage (can be accommodated as part of 2026-2031 road widening).
- Westbound right turn lane with 170 m storage (can be accommodated as part of 2026-2031 road widening).
- Northbound left turn lane with 195 m storage (10 m increase from Future Background).
- Southbound left turn lane with 105 m storage (can be accommodated as part of 2026-2031 road widening)
- Implement a protected WBL turn phase in both peak hours and optimize the signal timing. This includes reducing the pedestrian walk times to 3 seconds, the pedestrian "do not walk" times remain unchanged from existing. It is recommended that traffic along the Mayfield corridor be monitored over time to confirm traffic growth and signal timing coordination.

- **Airport Road at Davis Lane/ Perdue Crescent (Minor Stop-Controlled Intersection)**
  - Consider signalization of the intersection to reduce minor street delays as recommended for future background conditions. It is noted that the long delays are generally associated with background traffic volumes and not as a result of the site traffic.
  - Increase Westbound left turn lane to 45 m storage (5 m increase from Future Background). Note the existing pavement width can accommodate this via pavement markings.

- **Internal Road Network**
  - The internal road network should be constructed with one lane in each direction as well as a two-way-left-turn lane to facilitate left turn movements for an overall three lane cross section. Further details on the proposed cross-section are discussed in **Section 8.2**.
  - All way stop-controlled intersections are proposed for the three internal intersections to facilitate safe pedestrian and bicycle crossing.
  - 3.0 metre Multiuse Paths are recommended on both sides of all internal roadways.

- **Mayfield Road Corridor**
  - Implement coordination of the Mayfield Road corridor from Torbram Road to Airport Road including cycle length increases throughout the corridor to 120 seconds and 135 seconds in the a.m. and p.m. peak hours, respectively to match the Airport Road and Mayfield Road intersection (also recommended for Future Background conditions). As previously noted, it is recommended that traffic along the Mayfield corridor be monitored as the area is built out to confirm traffic growth and signal timing coordination.

- We also note that the speed limit along Mayfield Road within the study area for westbound traffic is 60km/h from Airport Road to approximately 440m west of Airport Road, after which the speed limit transitions to 80km/h speed limit. For eastbound traffic along Mayfield Road, the speed limit is 80km/h between Torbram Road to approximately 450m west of Airport Road. As the subject lands in addition to the Block 48-2 residential community develop, the mobility environment along Mayfield Road is expected to change due to increased pedestrian and cycling activity, as well as new transit stops proposed along Mayfield Road. Accordingly, we recommend the Region consider reductions in posted speed limit to provide a consistent 60 km/h across the site's frontage in the future as the environment is transformed.

- **Torbram Road Corridor**

  - It is understood that the Town has additional considerations for the ultimate buildout of Torbram Road as either a two-lane or four-lane urban cross section. The Town's Official Plan indicates Torbram will be a Town Arterial Road with a 30 m ROW, as such, this study has assumed a two-lane urban cross section to ensure a conservative assessment until additional details are available. The details of the ultimate ROW considerations, and scheduling of this roadway will be subject to the completion of the ongoing Multimodal Transportation Master Plan currently being undertaken by the Town. Relevant excerpts from the Town's Official Plan can be found in **Appendix N.**

6.0 Sight Distance Review

The available sightlines at the future intersections of Airport Road at 12333 Airport Road/Street "A" and Mayfield Road at Street "B" were measured and compared to the standards set out in the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (GDGCR), June 2017.

Per Case D of the TAC GDGCR, at signalized intersections the first vehicle stopped on one approach should be visible to drivers of the first vehicle stopped at the other approaches. These conditions are satisfied and therefore sight distance is not expected to be an issue. In addition, as these proposed connections represent the fourth leg of an existing or planned intersection, final design of these intersections will be required to ensure adequate sight distance exists and that proposed lane configurations can accommodate the swept paths of the design vehicles (WB-20 trucks).

Per Town and Region's comments, the intersection angles are required to be within 85-95 degrees. The proposed connections to Mayfield Road, Torbram Road, and Airport Road also satisfy these requirements.

As the internal public roadways are relatively straight with little horizontal curvature, no issues with sight distance are expected for the proposed accesses to the north-south collector and east-west collectors. Moreover, individual Site Plans are expected to be further refined and final designs will ensure that site accesses provide adequate sight distance and facilitate safe internal circulation.

7.0 Parking & Loading Review

Per the Town of Caledon's Zoning By-Law minimum parking requirements, the proposed development can be categorized as "Warehouse". The requirements per the Town's Zoning By-law are noted below:

If accessory office and retail net floor areas are 15% or less of the total net floor area:

- 78 spaces + 1 space per 145 m^2 of net floor area or portion thereof over 7,000 m^2
- 168 spaces + 1 space per 170 m^2 of net floor area or portion thereof over 20,000 m^2

Per the Town of Caledon's Zoning By-Law minimum loading space requirements, industrial buildings with similar land use to the proposed development with a net floor area of 7,441 m^2 or greater are required to provide:

- 3 loading spaces +1 space/9,300 m^2 or portion thereof in excess of 7,441 m^2

Given that, all of the proposed buildings exceed the 7,441 m^2 threshold, this requirement was used to evaluate the loading supply for all buildings in the proposed industrial park.

The above parking requirements assume that the gross floor areas equal net floor area as the Draft Plans are not sufficiently advanced to identify net floor area for each building. The statistics also assume that office areas do not exceed more than 15% of the total net floor area warehouse building.

Accordingly, the loading and parking space requirement and supply by building is outlined is outlined in **Table 29** below.

Table 29: Minimum Zoning By-law Parking and Loading Requirements

Building(s)	Size (SM GFA)	Parking Supply				
		Loading Bay Supply	Required Loading	Car Parking Supply	Required Car Parking	Trailer Parking Supply
Building A	100,702	157	14	540	643	505
Building C	72,901	81	11	345	480	220
Building D	93,759	183	13	506	602	148
Building E	93,730	93	13	445	602	277
Building F	74,090	170	11	425	487	149
Building H	90,662	100	12	450	584	68
Building I	33,516	74	6	341	248	50
Building J	9,197	26	4	140	94	17
Total	568,557	884	84	3,192	3,770	1,434

As outlined above, the Town's Zoning By-Law requires the proposed development to provide a total of 84 loading spaces and 3,770 parking spaces. Since the Site Plan proposes the use of 884 loading spaces and 3,192 parking spaces, the development proposed of a loading surplus of 800 spaces and a parking deficit of 578 spaces. Therefore, the proposed loading supply satisfies the Zoning By-law requirements for the site while the proposed parking supply does not. It is noted that the parking and loading requirements have been assessed on a high level and the parking and loading supply for each building will be assessed in detail on an individual basis during the Site Plan Application stage. It is also noted that while the car parking supply is currently deficient, the trailer parking supply was not accounted for in either the loading bay or car parking supply.

The Town By-Law excerpts are included in **Appendix O**.

8.0 Proposed & Potential Mobility Network

At the Town's request, this section reviews the potential for a mobility road network from a wider context, for lands beyond the proposed industrial subdivision. The proposed mobility network provides details for proposed internal infrastructure in the Subject Development, as well as potential collector roadways and transit routes to service the Town of Caledon from a wider context.

This section herein highlights additional considerations for a transportation network beyond the subject lands, per request by the Town. It is underscored that while lands beyond the proposed development are **not** the subject of this development application, the Town has requested a review of a potential transportation network beyond the lands to ensure that policy objectives can be met, and that the proposed development does not preclude the development of an extended collector road network. The purpose of this review, therefore, is to illustrate that a future transportation network beyond the subject lands could be implemented, while satisfying the City and Region's policy objectives.

It is underscored that any visualization of a potential road network beyond the development proposal represents a potential road network that could be established as part of future development process and is not intended to represent a specific proposal of collector road alignments through adjacent lands. Moreover, illustrations of collector roadways represent a connection in-principle, and not specific alignment proposals. Further study by the Town and/or relevant landowners would be required to refine locations of collector roadways where required.

8.1 Internal Collector Road Network

The subject development will be supported by 3 collector roadways. Street "A", Street "B", and Street "C" connect to Airport Road, Mayfield Road, and Torbram Road, respectively. Street "A" and Street "C" will function as east-west collector roadways which connect to the proposed north-south collector roadway, Street "B", which acts as a spine through the development lands. The internal collector roadways are represented on the Draft Plan attached as **Figure 1**.

The proposed specifications for the internal collector roadways can are shown in **Table 30** below.

Table 30: Internal Collector Road Network

Street	Direction	External Road Network Connection	Control	Spacing to Closest Intersection	Proposed Right of Way
Street "A	East-West	Airport Road	Signal	>400m to Airport Road at Davis Lane/ Perdue Crescent	26m
Street "B"	North-South	Mayfield Road	Signal	>650m to future Mayfield Road and Torbram Road	26m
Street "C"	East-West	Torbram Road	Stop	>500m to Future Site Access 1	26m
Future Potential Street "D"	East-West	N/A; Future Extension to Airport Road	Stop	>350m to Street A at Street B	26m

Intersection Spacing

Within the study area per the Region's Road Characterization Study, Airport Road is classified as a Suburban Connector which requires a spacing of 300m between full moves intersections. Similarly, Mayfield Road is classified as an Industrial Connector which required a 450m spacing between full moves intersections.

Per discussion with Town staff, the desired spacing for collector road intersections is 400m. The proposed internal collector intersections have a spacing of 400m or greater to the nearest intersection with the exception of Future Potential Street D and Street A which has a spacing of at least 300m along Street B.

We note that the Town requested the extension of Street "C" from Street B to Airport Road; however, multiple environmental constraints (discussed in **Section 8.3**) prohibited the feasibility of an east-west collector in this area. In lieu of this request, a reserve block (Block 6) has been proposed in the Draft Plan to accommodate a Future Street "D", consistent with a 26m ROW for the internal collector road network. The Future Street D would to connect Street B to Airport Road and potentially continue eastward to Innis Lake Road. The continuation of the Future Street "D" beyond the subject lands will also depend on future redevelopment associated with the properties fronting Airport Road, with the ability to satisfy the Region's minimum 300m spacing between full moves accesses along Airport Road. The future Street "D" is also at least 300 m north of Street "A", along Street "B". The remaining proposed intersection locations therefore do not preclude future signalization opportunities, if warranted.

Per **Section 5.1.1**, the intersection of Mayfield Road at Steet "B" is warranted for signalization and has been proposed as such, consistent with the future requirements of the Block 48-2 road network. The intersection Airport Road at Street "A" proposed to be signalized as the existing intersection is already signalized, and Street "A" will form the fourth (western) leg of this existing T-intersection. The intersection of Torbram Road at Street "C" is proposed to be stop controlled but has the required access spacing to be signalized in the future, should it be warranted. It should be noted that a signal is not warranted at the intersection within our study horizon; however, in the future as development to the west occurs and Street "C" extends west of Torbram Road, signalization may be explored to provide safe pedestrian crossing opportunities in the future. Signal Warrant analysis excerpts are included in **Appendix H**.

8.2 Cross Section Requirements

Per correspondence with the Town of Caledon, an urban cross section consistent with the section used for George Bolton Parkway in the Town is preferred for the Subject Development's internal collector roadways. The Subject Development will adopt this cross section for all three internal collector roadways, Street "A", Street "B", Street "C", and the Future Street "D". This cross section proposes two 3.5m curb lanes, a 5.0m two-way left turn lane, and 3.0m multiuse pathways (MUPs) on both sides of the roadway. The MUPs will also be separated from the roadway by 3.0m boulevards. This cross section supports all modes of transportation, and provides added separation between active transportation and vehicular traffic, which is of increased importance to a development such as the subject proposal that anticipates frequent heavy truck traffic Details for the cross section can be found in **Figure 18.**

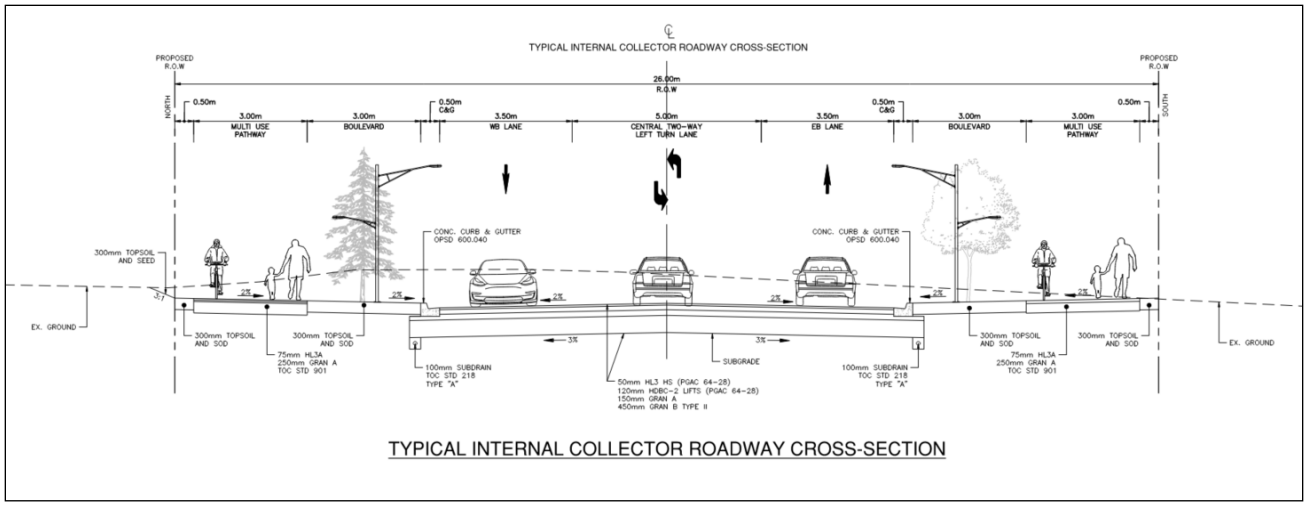


Figure 18: Proposed 26m Cross-Section

The Town of Caledon official drawings for the cross section can be found in **Appendix P**.

8.3 Mobility from a Wider Context

8.3.1 Considerations for Continuous Collector Roadways

At the Town's request, this section reviews the potential for a collector road network from a wider context, for lands beyond the proposed industrial development. It should be noted that a potential road network beyond the subject lands represents a potential collector network only and is not being proposed as part of this development application. The potential collector network illustrated should serve as a concept that could potentially be implemented, which builds upon the mobility network proposed in the Subject development application. Prior to proposing a detailed collector road network, further review and study from the Town or relevant landowners will be required. The illustrations of potential road network concepts beyond these lands do not represent proposed locations, or crossings. The illustrations, however, represent one of many potential concepts that could be implemented with the future buildout of the surrounding area. Moreover, the illustrated network does not preclude the addition of further collector and local roadways that would otherwise contribute to the creation of a modified grid system.

Per discussion with the Town of Caledon, continuous east-west connectivity is desired as the Town looks to establish a wider mobility network beyond the Subject Lands. However, in the southern part of Caledon within the study area it should be noted that there are several Natural Heritage System constraints that may impact the feasibility of ultimately implementing continuous network, without conducting further review. Such constraints are also compounded by intersection spacing requirements discussed in **Section 8.1**, property constraints, as well as practical grading considerations of how existing roadways currently cross these constraints.

Further to the above, the Town's Draft Official Plan (2022) describes collector roads as follows:

- Roadways under the Town's jurisdiction.
- Serve low to moderate volumes of short distance traffic between local and arterial roads.
- Provide individual property access with some limitations.
- Will have a 20 to 26 metre road allowance with 2 to 4 lane capability.

- On-street parking may be permitted.
- Require the provision of pedestrian facilities on both sides of the road, as deemed feasible.

The proposed internal network satisfies all these requirements and can be achieved for lands beyond the subject development.

In reviewing the opportunities for a connected collector road network beyond the Subject Lands, opportunities were reviewed from a number of perspectives including:

- Property constraints
- Natural Heritage System constraints
- Grading considerations
- Intersection spacing considerations

With these considerations in mind, opportunities for a potential collector network have been identified, that demonstrates the ability for both east-west and north-south connectivity beyond the Subject Lands in a modified grid pattern. Per discussion with the Town, an expanded study area generally bound by Mayfield Road, Bramalea Road, Old School Road and Innis Lake Road was considered. The sections that follow.

The Potential Future of Caledon Network was evaluated based on multiple criteria to optimise the network. The preference of the Town of Caledon is for the collector roadway network to feature continuous roadways; while the Subject Lands are able to provide the foundation for a continuous north-south collector, environmental and grading constraints limit opportunities for multiple continuous east-west collectors within the extended study area.

8.3.2 Collector Roadway Considerations & Connectivity Constraints

The subject lands propose a foundation for a continuous north-south collector through the lands, beyond which there are opportunities for extended east-west collector roadways. However, within the subject lands, the proposed east-west collector network is based on local constraints and design requirements for each block.

Street "A" forms the west approach of the existing Airport Road intersection with 12333 Airport Road access. It is noted that the east approach of this intersection is a private roadway and does not provide public connectivity opportunities east of Airport Road. Moreover, this private road does not extend beyond Salt Creek and therefore would not provide a continuous east-west road connection to Innis Lake Road.

Similarly, due to the Environmental Policy Area 1 Zone in the northeast corner of the site fronting Airport Road, Street "C" is limited in the extent of it's east-west connectivity beyond its current terminus at Street "B". The northeast area of the Draft Plan has a number of environmental constraints including those associated with Redside Dace habitat, Salt Creek and its valleylands, existing wetlands and wetland buffers, and the northern Significant Woodland and its buffer. Additional details of these environmental constraints can be found in the Tullamore Employment Lands Comprehensive Environmental Impact Study and Management Plan (CEISMP), prepared by GEI Consultants (October 2023). An excerpt from the CEISMP (Figure 12) is attached herein as **Appendix R**. Were Street C to extend eastwards towards Airport Road, additional constraints at the Norris Bridge along Airport Road also exist which impact feasibility when considering future infrastructure associated with a ne intersection such as auxiliary turn lanes. Street "C" however has

the potential to extend west of Torbram Road; but an extension to Bramalea Road will be subject to further review, given the Natural Heritage constraints within this area west of Torbram Road.

In consideration of these constraints, a reserve block to accommodate a Future Potential Street "D" was proposed, between Street "A" and Street "C", as reflected on the Draft Plan. The preferred alignment of Street "D" as illustrated in the Draft Plan was selected as a feasible opportunity for additional east-west connectivity between Street B and Airport Road and avoids the Salt Creek Corridor and associated environmental constraints in the area. The Future Street "D" also considers property lines of neighbouring lands fronting Airport Road, and upon future redevelopment Streer D can be extended eastward to Airport Road creating a future signalized intersection with Airport Road approx. 400m north of Street A, exceeding the Region's minimum spacing criteria. Subject to review of additional environmental constraints, the future roadway will also have the potential to extend eastward to connect to Innis Lake Road.

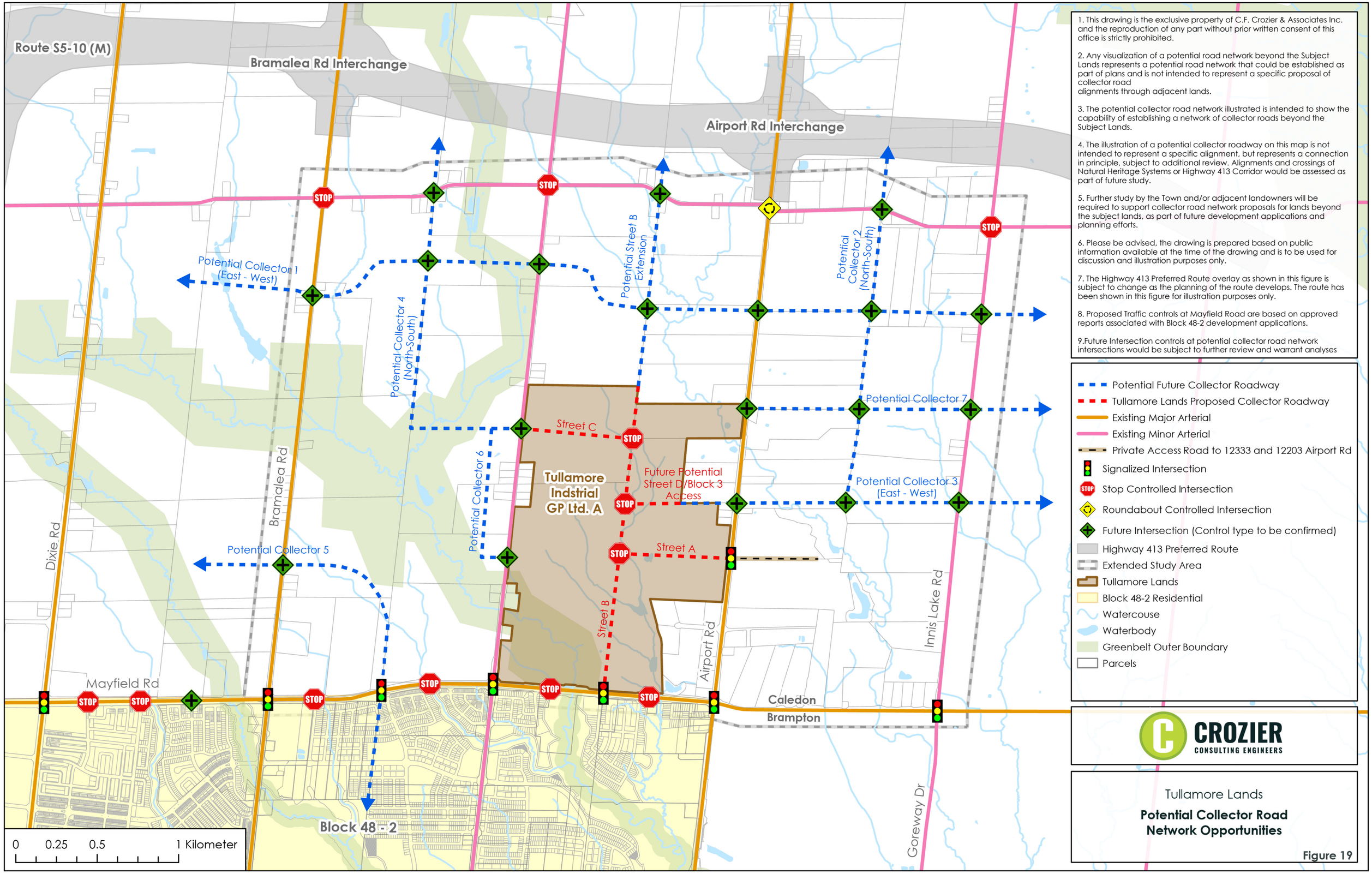
It should also be noted that grading and environmental constraints for east-west crossing opportunities have been noted along the north-south arterials of Innis Lake Road, Airport Road, Torbram Road, and Bramalea Road. As these constraints and Natural Heritage System crossings generally occur in different locations along these corridors, opportunities for continuous east-west collectors in a traditional grid pattern over larger distances within the extended study area will be subject to additional study due to these considerations.

Relevant excerpts from the Town's Zoning By-Law Maps can be found in **Appendix D**.

8.3.3 Potential Collector Network Opportunities

An illustration showing a potential Town of Caledon collector roadway network is shown in **Figure 19**. It is noted that additional collector connections beyond those illustrated in **Figure 19** are possible, subject to the requirements for individual parcel and/or land assembly access, within a similar or modified mobility framework. As previously noted, the presence of Natural Heritage Systems west of Torbram Road may result in constraints to achieving multiple continuous east-west collectors between Innis Lake Road and Bramalea Road; however, east-west connectivity is provided as part of this potential network, and the collector functions can operate consistent with the functional requirements identified per the Town's Draft Official Plan (2022) as discussed in **Section 8.3**.

The Potential Future Town of Caledon Collector Road Network is represented in **Figure 19**.



1. This drawing is the exclusive property of C.F. Crozier & Associates Inc. and the reproduction of any part without prior written consent of this office is strictly prohibited.

2. Any visualization of a potential road network beyond the Subject Lands represents a potential road network that could be established as part of plans and is not intended to represent a specific proposal of collector road alignments through adjacent lands.

3. The potential collector road network illustrated is intended to show the capability of establishing a network of collector roads beyond the Subject Lands.

4. The illustration of a potential collector roadway on this map is not intended to represent a specific alignment, but represents a connection in principle, subject to additional review. Alignments and crossings of Natural Heritage Systems or Highway 413 Corridor would be assessed as part of future study.

5. Further study by the Town and/or adjacent landowners will be required to support collector road network proposals for lands beyond the subject lands, as part of future development applications and planning efforts.

6. Please be advised, the drawing is prepared based on public information available at the time of the drawing and is to be used for discussion and illustration purposes only.

7. The Highway 413 Preferred Route overlay as shown in this figure is subject to change as the planning of the route develops. The route has been shown in this figure for illustration purposes only.

8. Proposed Traffic controls at Mayfield Road are based on approved reports associated with Block 48-2 development applications.

9.Future Intersection controls at potential collector road network intersections would be subject to further review and warrant analyses

- Potential Future Collector Roadway
- Tullamore Lands Proposed Collector Roadway
- Existing Major Arterial
- Existing Minor Arterial
- Private Access Road to 12333 and 12203 Airport Rd
- Signalized Intersection
- Stop Controlled Intersection
- Roundabout Controlled Intersection
- Future Intersection (Control type to be confirmed)
- Highway 413 Preferred Route
- Extended Study Area
- Tullamore Lands
- Block 48-2 Residential
- Watercouse
- Waterbody
- Greenbelt Outer Boundary
- Parcels

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Potential Collector Road Network Opportunities

Figure 19

Crozier Project No. 2022-5842

The Town's Transportation Master Plan and Draft Official Plan (2022) defines collector roads as roads which "serve low to moderate volumes of short distance traffic between local and arterial roads.". Streets A, B, C, and Future Potential Street D within the Subject Lands allow for connectivity to the boundary arterial network in an efficient manner and provides pedestrian facilities on both sides of the roadway. As illustrated in **Figure 19**, collector road connectivity from a wider context beyond the subject lands is not precluded with the establishment of the proposed collector road network within the development. As it is expected that active transportation facilities will be supported on both sides of future roadways, and future collector roads will support future transit service, there is potential to establish a wider collector road network that serves the needs of all road users including pedestrians, cyclists, transit riders and motorists.

In addition, due to the scale of industrial development being proposed, it is expected that passenger car and truck traffic utilizing Streets "A, "B", C, and Future Street "D" would be destined to the subject site and potential future development abutting the lands to the north, instead of using the collector roads as a thoroughfare to bypass surrounding arterials. This is not atypical for more modern large scale business parks, which require much larger blocks due to larger GFA requirements for industrial warehouses and distribution centres. This trend can be seen in similar existing developments within the Town that are surrounded by Natural Heritage Systems such as the as the Employment Lands at within the Coleraine West Employment Area – within which George Bolton Parkway is the only east-west collector road between Mayfield Road and Healy Road.

Notwithstanding the above, the Town's vision for more continuous east-west collectors is achievable and can be facilitated by the proposed mobility network within the Draft Plan. Specifcially, the proposed road network does not preclude the Town from establishing further east-west connectivity beyond the subject lands, creating a modified grid road network to support future development**.** We recommend further study by the Town and/or adjacent landowners to assess local constraints and further develop a wider collector network beyond the subject lands.

8.4 Potential Collector Network Policy Conformance Opportunities

It is re-iterated that any visualization of a potential road network beyond the development proposal represents a potential road network that could be established as part of future study by the Town or adjacent landowners. It is recognized that the establishment of any potential network will be required to demonstrate its abilities to meet the Town's transportation policy objectives per the Town's prevailing Official Plan and Draft Official Plan (2022). Key aspects of the potential collector network's conformance with these Official Plans are highlighted in a checklist provided in **Appendix Q**, which demonstrate that the proposed development does not preclude the establishment of a wider collector road network that satisfies the Town's transportation policy objectives.

The Potential Future of Caledon Network was evaluated based on multiple criteria to optimise the network. The preference of the Town of Caledon is for the collector roadway network to feature continuous roadways; while the Subject Lands are able to provide the foundation for a continuous north-south collector, multiple environmental and grading constraints prohibit a continuous east-west collector through the lands.

8.5 Potential Collector Roadway Network Policy Conformance

It is re-iterated that any visualization of a potential road network beyond the development proposal represents a potential road network that could be established as part of future block plan, secondary plan or LOG work and is not intended to represent a specific proposal of collector road alignments through adjacent lands.

The potential future network has been evaluated and designed to meet transportation policies in the prevailing Town of Caledon Official Plan, key aspects of the Official Plan conformance within the potential collector roadway network are highlighted in a checklist provided in **Appendix Q**.

A future secondary plan or LOG work would be required to establish a wider transportation network, the checklist provides rational to support that the potential collector roadway network can achieve the Town's policy objectives.

9.0 Transportation Demand Management Considerations

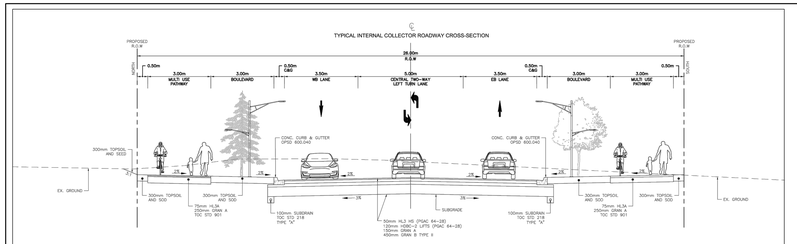
To reduce single-occupant vehicle (SOV) use, the following Transportation Demand Management (TDM) Plan proposes several low-impact opportunities to promote alternative modes of transportation for the overall industrial area. The considerations are generally high-level for the entire area and will be refined in greater detail as part of refinements to the Draft Plan and as part of the individual Site Plan Applications for each building in the future.

9.1 Active Transportation Plan

As discussed in **Section 8.2**, the subject lands will adopt a 26.0m urban cross section including a 3.0 metre multi-use path on both sides of all internal collector roadways. The multi-use path's enable pedestrian and cyclist mobility and connectivity with the surrounding lands.

The existing boundary road networks use mixed-use pedestrian cyclist paths (such as the south side of Mayfield Road) to provide access for active transportation. As such, the proposed multi-use paths connecting buildings to the surrounding multiuse path network will promote active transportation in the area via dedicated facilities. Further pedestrian and cyclist friendly design standards should also be employed with the paths, such as the provision of adequate lighting, and avoiding steep grades or stairwells for grade transitions. The proposed active transportation plan also provides direct connectivity to planned and existing transit stops within the area. As the active transportation facilitates are multiuse paths accommodating both pedestrians and cyclists, It is expected that intersection crossings will accommodate bicycle crossing features consistent with Ontario Traffic Manual (OTM) Book 18 – Cycling Facilitates requirements. Illustrations of the crossings are also highlighted in **Appendix S**.

The proposed Active Transportation Plan for the Subject Lands is illustrated in **Figure 20**.



TYPICAL INTERNAL COLLECTOR ROADWAY CROSS-SECTION

LEGEND

	Property Line
	Existing 2.0m Multi–Use Pathway
	Existing 3.0m Multi–Use Pathway
	Future Proposed Pedestrian and Cyclist Crosswalk
	Existing Pedestrian and Cyclist Crosswalk
	Potential Maitenance Road for SWM Ponds/off Road Trail
	Future 3.0m Multi–Use Pathway
	Future 2.0m Multi–Use Pathway
	Existing Traffic Signals
	Proposed Traffic Signals
	Proposed Stop Sign
	Proposed Internal Collector Roadway
	Existing 1.5m Sidewalk
	Proposed 1.5m Sidewalk

NOTES:

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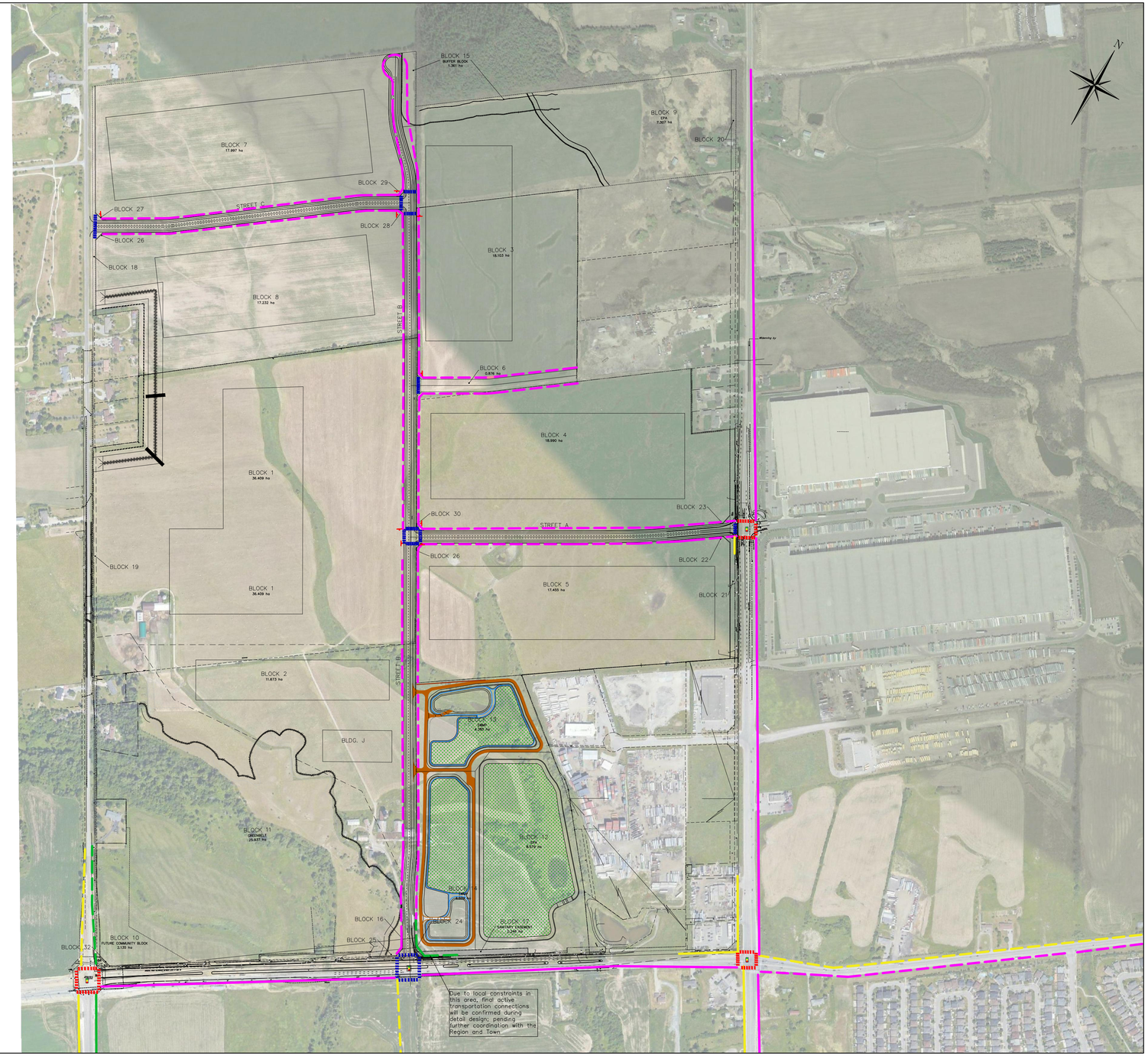
2. Please be advised, the active transportation features beyond the subjects lands illustrated have been prepared based on public information available at the time of the drawing and is to be used for discussion and illustration purposes only.
3. This figure is not to be scaled.



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PROJECT
TULLAMORE LANDS
TOWN OF CALEDON

Drawing
ACTIVE TRANSPORTATION PLAN

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Check By T.D.S.	Check By M.L.	Scale N.T.S.	Drawing FIG 20

9.1.1 Active Transportation Future Considerations

Several initiatives can be implemented at the site to promote active transportation within the proposed development area.

Specifically, for pedestrians, weather protection may also be provided at high-pedestrian volume areas such as main intersections, building entrances, transit stops and other major locations within the site. Street furniture such as benches and facilities may also be provided for refuge and creating distinct pedestrian zones, though the positioning of these facilities should not impede accessibility. The materials, colors, and styles of these fixtures should ideally be complementary to the architectural style of the proposed development and overall community.

For cyclists, secure bicycle parking facilities may be considered for employees. Additionally, the addition of showering, changing and clothing storage facilities on-site would ease the use of cycle commuting for employees.

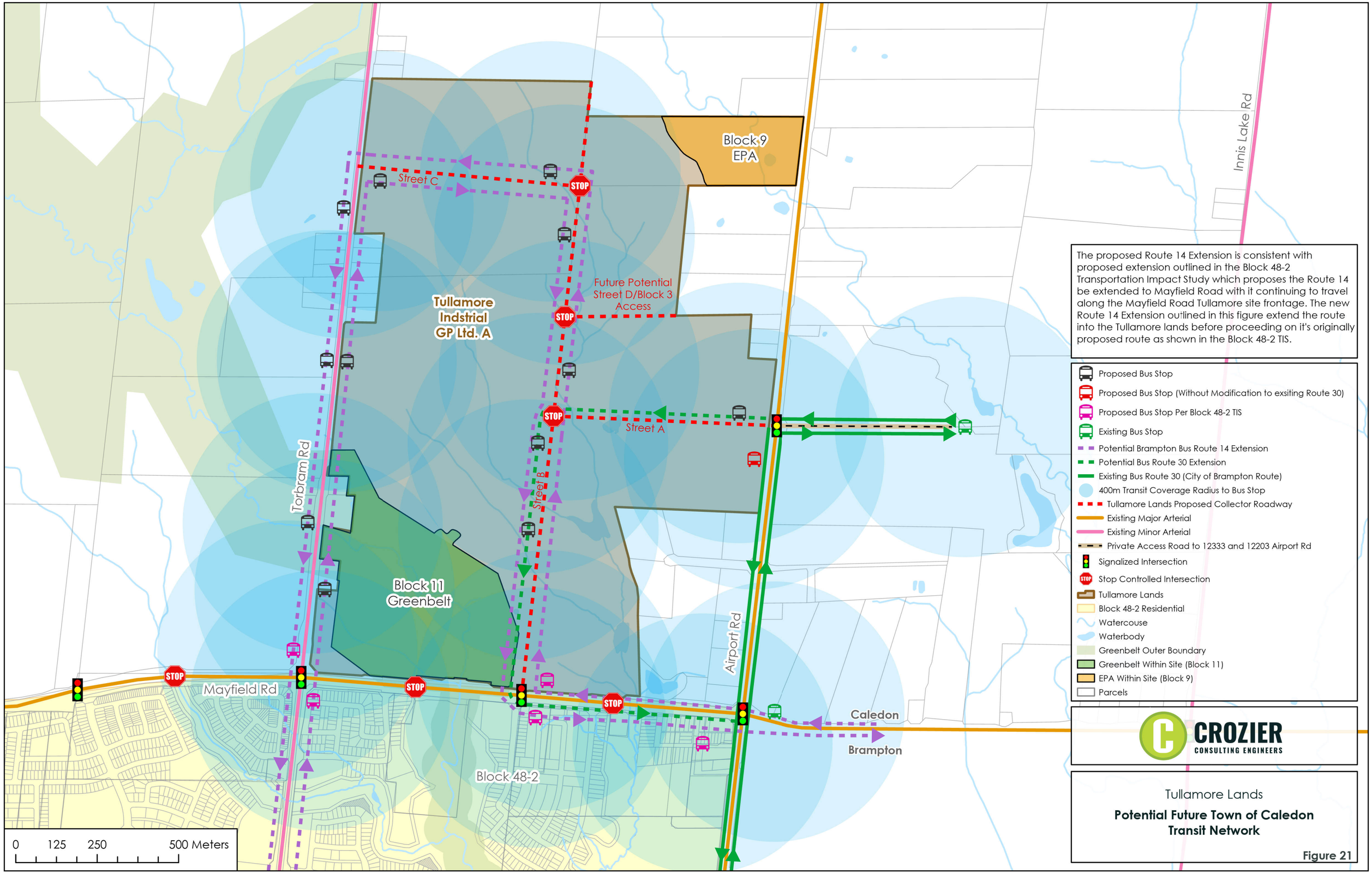
The Town of Caledon currently does not have minimum bicycle paring requirements. However, the minimum bike parking facilities for industrial use per the Peel Region Health Study Framework is 0.06 units per 100 sq. m. for occupants, and 0.1 for 100 sq. m. for visitors. This therefore would require 338 employee and 563 visitor bike spaces at the proposed development from this perspective. We also understand that the Town is currently preparing an Active Transportation Master Plan, and per the PIC#3 bike parking rate of 1 bike parking space per net 200 m^2 of net floor area of office space is being contemplated.

It is recommended that bicycle parking be provided for the subject site to support cycling as primary mode share, particularly for future employees that reside within a reasonable cycling distance from the development (e.g., within Block 48-1 and Block 48-2). However, final cycling supply requirements should be discussed with the Town as individual building Site Plans advance in lieu of Zoning By-law requirements from the Town.

9.2 Future Transit Considerations

The implementation of transit TDM measures are to promote public transit as an accessible and desirable mode of transit to the proposed site. While limited transit is available to the subject site along Mayfield Road and Airport Road, the development is expected to accommodate a number of employees in the future that would benefit from increased transit service availability.

The internal north-south and east-west collector roadways propose a 26.0m ROW as discussed in **Section 8.2**. This cross section can accommodate future transit vehicles along the internal roadways, and the ROW is adequate to accommodate future transit stops/bus pads internal to the site once transit routes are further established. The site's orientation offers opportunities for a bus loop route internal to the site for existing transit routes (e.g., Brampton Transit Route 30 and Brampton Transit Route 14), as is similarly existing with the industrial development east of Airport Road (12333 Airport Road). It is recommended that the existing Route 30 and the future extended Route 14 be extended into the subject lands to facilitate the development. **Figure 21** illustrates a potential transit route to service the site, this route would serve as extension to the existing Brampton Transit Route 30. It is noted that the Town of Caledon prefers bus stops located within 300-400m walking distance of the principal entrances to each building. Given the proposed 26m ROW and cross section discussed in **Section 8.2**, ample opportunities to ensure bus stops are located close to the intersections and building entrances are available. As Street "B" is the main north-south spinal road servicing the developments, it should be adequately equipped to provide bus stops spaced less than 400m away with mid-block bus stops provided as necessary. **Figure 21** illustrates the Site's transit coverage within 400m of each bus stop location.



The proposed Route 14 Extension is consistent with proposed extension outlined in the Block 48-2 Transportation Impact Study which proposes the Route 14 be extended to Mayfield Road with it continuing to travel along the Mayfield Road Tullamore site frontage. The new Route 14 Extension outlined in this figure extend the route into the Tullamore lands before proceeding on it's originally proposed route as shown in the Block 48-2 TIS.

- Proposed Bus Stop
- Proposed Bus Stop (Without Modification to exsiting Route 30)
- Proposed Bus Stop Per Block 48-2 TIS
- Existing Bus Stop
- Potential Brampton Bus Route 14 Extension
- Potential Bus Route 30 Extension
- Existing Bus Route 30 (City of Brampton Route)
- 400m Transit Coverage Radius to Bus Stop
- Tullamore Lands Proposed Collector Roadway
- Existing Major Arterial
- Existing Minor Arterial
- Private Access Road to 12333 and 12203 Airport Rd
- Signalized Intersection
- Stop Controlled Intersection
- Tullamore Lands
- Block 48-2 Residential
- Watercouse
- Waterbody
- Greenbelt Outer Boundary
- Greenbelt Within Site (Block 11)
- EPA Within Site (Block 9)
- Parcels

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Potential Future Town of Caledon Transit Network

Figure 21

Based on discussions with Brampton Transit and the Town of Caledon there are multiple opportunities to service the Subject Lands. It should be noted that further discussions with the transit agencies are recommended to identify and plan for future transit routes within the site. Two potential routes servicing the Subject Lands via a modification of Brampton Transit Route 30 were discussed. Moreover, another potential route to service the west and north portions of the subject lands are via a modification of Brampton Transit Route 14, which was proposed to be extended once Block 48-2 was implemented. Both routes would utilise Steet "B" as the main north-south transit spine of the Subject Lands:

Route 30 Extension

- Option 1: In the interim condition a bus stop should be provided at the southwest corner of the intersection of Airport Road at Street "B". The current Brampton Transit route would be maintained as it services the properties at 12333 Airport Road and can service the Subject Lands as it turns left onto Airport Road before continuing south. Since, Buildings D and H are planned to be built out first among the buildings proposed for the Subject Lands, the bus stop in the southwest corner would be an immediate and implementable transit solution as it would not require any modification to the existing Route 30 and would be within 400m of entrances to Buildings D and H as required by the Town of Caledon. This bus stop is depicted in **Figure 21** outlined with a red circle, and is also detailed in functional design per **Appendix S**.

- Option 2: As shown in **Figure 21**, a route extension/modification to Route 30 which forms a loop in the southern half has been discussed as a preferred route to service the lands as they are built out further. It is noted that the Buildings C, F, and E in the northern portion of the subject lands are planned as the last phase of the buildings within the subject development and this route would not adequately service those buildings. The Route is illustrated in the figure so that it continues the regular route before turning left onto Street A, turning left onto Street B, and turning left onto Mayfield Road before turning right onto Airport Road and continuing south. It is noted that this loop can be flipped so that the bus would turn left onto Mayfield Road with proceeding right turns through the Subject Lands before returning to Airport Road to continue south. This would reduce delays as right-turns are generally preferred to left-turns, but the orientation of the route is subject to review by operational planning team at Brampton Transit.

Route 14 Extension

- As shown in **Figure 21**, there is further potential for Brampton Transit's Route 14 to be extended on Torbram Road past Mayfield Road to the Subject Development's Street C. It is noted that this Route 14 Extension to Mayfield Road is already proposed in the Block 48-2 with it continuing to travel along the Mayfield Road, and subject site's frontage. The new potential Route 14 Extension outlined in this **Figure 21** extends the route into the Tullamore Lands via Torbram Road before looping back to Mayfield Road via Street B on its originally proposed route as shown in the Block 48-2 TIS. The route proposed in the Block 48-2 TIS is included in **Appendix I**.

Implementation of transit service is expected to contribute to reduced automobile mode share, which was not accounted for in the preceding analysis as implementation of transit within the site has not been confirmed at this time.

Additionally, further consultation can be undertaken with Brampton Transit to provide additional facilities at the transit stops servicing the site, including weather-protected shelters and benches. We recommend further discussions with the Town and Brampton Transit to collaborate on route design,

and timing, once tenants and operational details such as shift change times are known following future building occupancy.

9.3 Electric Vehicle Parking and Carpooling

The focus of parking and carpooling related TDM measures would be to reduce SOV commuting patterns and avoid parking surplus.

- Electric Vehicle (EV) Infrastructure
    - There is an opportunity to include energized outlets capable of providing charging for electric vehicle spaces. These parking spaces are recommended to be priority spaces for electric vehicles. This will be evaluated during the individual building Site Plan Approval process.
- Carpooling Opportunities
    - As the site is not located with access to significant transit opportunities, the provision of carpool opportunities is recommended to provide reasonable TDM opportunities for employees to reduce SOV trips. The provision of dedicated or priority carpool parking spots may also be implemented to promote carpooling. These carpooling spots should offer benefits such as being located in favorable locations (close to main entrances or buildings). As referenced in the following section, resources to access carpooling may be facilitated through resources such as Smart Commute or through the employer(s) at the proposed site.

9.4 Smart Commute

Smart Commute is a not-for-profit Transportation Management Association (TMA) committed to acting on climate change, mitigating traffic congestion, and improving air quality. The proposed industrial development is situated in the Smart Commute Brampton-Caledon division. Smart Commute collaborates with various organizations and employers across 13 regions of the Greater Toronto and Hamilton Area (GTHA) to provide resources and tools to promote alternative transportation modes. Smart Commute offers the following services:

- Evaluate workplaces to determine willingness of employees to change commute patterns and work with places of employment to assess existing active transportation facilities and TDM measures and working on areas of improvement.
- Online tools providing easy access to carpooling opportunities, carpooling locations, and providing information on the benefits of carpooling.
- Online tools to help employees set walking and cycling goals, and access resources such as cycling maps and handbooks.
- Promote flexible work arrangements through adjusting shift times and providing remote work options via Telework, overall reducing gridlock and boosting productivity in situations such as road closures.
- Support transit pass programs and accessibility, as well as providing education on transit options.

Smart Commute Peel will work with various organizations and employers in the region to reduce SOV trips and promote active transportation. As such, collaboration between Smart Commute and the

place(s) of employment situated at the proposed development poses the opportunity to promote alternative modes of transit and reduce automobile dependency. The new Smart Commute trip planning tool is currently undergoing upgrades and currently only operational for Durham Region, City of Hamilton and York Region; however, upon completion of the upgrades the tool will allow future employees to efficiently plan carpool routes and provide alternative commute options.

9.5 Operational Planning

It is recommended that the proponents of the buildings implement off-peak shift changes to reduce automobile traffic demand during the regular weekday a.m. and p.m. peak hours.

9.6 Education/Resources and Wayfinding

Other educational materials and resources may be provided at the site, including way planning and travel planning resources.

Including maps on the employer's website of nearby transit access points will encourage visitors to use public transit to access the site. Similarly, marketing of employment can be highlighted with the TDM measures implemented at the site, such as access to transit, safe cycling and pedestrian facilities, carpooling facilities, and other incentives offered with employment.

Furthermore, these initiatives can be supplemented on site using effective wayfinding signage on site, clearly illustrating directions to walking/cycling pathways, and the directions to transit stop(s) near the site.

10.0 Functional Design Considerations & Truck Turning

10.1 External Intersection Improvements

As requested by the Region, functional designs of the external intersection improvements (Street A at Airport Road and Street B at Mayfield Road) were prepared and included for review. The functional design parameters were based on the following standards and documents:

- Transportation Association of Canada's Geometric Design Guide for Canadian Roads (TAC April 2020)
- Ontario Ministry of Transportation – Ontario Provincial Standard Specifications/Drawings (OPSS/OPSD)
- Public Works Design, Specifications & Procedures Manual for the Region Peel (February 2010)
- Ontario Traffic Manuals (OTM): Book 5 (Regulatory Signs) and Book 11 (Pavement, Hazard, and Delineation Markings)
- Town of Caledon Engineering Standards
- Region of Peel Engineering Standards

The functional design was also based on initial discussions with Region staff while also considering constraints noted along Mayfield Road as detaile in **Appendix S**. Refer to **Appendix S** for functional design of the external intersections with Mayfield Road and Airport Road.

As part of the functional design process, the external intersections considered the potential for Long Combination Vehicles (LCVs) for future tenants of the business park. We understand that the Ontario Ministry of Transport (MTO) will ultimately approve LCV routes and should a future tenant require LCV as part of their operations separate permits will be required by MTO. To consider this possibility, logical LCV turning movements were reviewed and formed the basis of the swept path design limits for the external intersection improvements. It was assumed that along the Mayfield Road corridor eastbound left (from Highway 410) and westbound right (Bolton, Hwy 50 and Hwy 427) turns may reasonably

occur, and vice versa when leaving the industrial park. Accordingly, the functional design is illustrated to accommodate such maneuvers. Similarly for the Street A at Airport Road intersection, it was assumed that LCVs would make a northbound left maneuver to enter and eastbound right to leave the industrial park, as the most reasonable route. Should no LCVs be required within the industrial park, the current functional design would be considered conservative.

10.2 Preliminary Truck Turning Templates

As requested by the Town, truck turning templates were also prepared for the internal intersections of Street "A" at Street "B", and Street "B" at Street "C". These turning templates were prepared using Wb-20 design vehicles for left and right turns at the internal intersections. It should be noted that the swept paths are illustrated on the typical cross section without curb and lane modifications. Accordingly, the truck wheels and overhand in some instances are illustrated to traverse the curb; however, it should be noted that the swept paths were prepared to illustrate that the 26m ROW is adequate and can support the turning requirements associated with the design vehicle (Wb-20).

The detail design of the internal intersections will be completed in a subsequent submission process coinciding with the detail design of the internal roadways. At this stage, the curb radii and intersection details will be refined to satisfy required design criteria. Regardless, no issues are expected as a result of the preliminary swept paths. LCV turning templates were not reviewed for internal roadway intersections as it is assumed that approved routes will minimize turns and associated impacts and would primarily travel northbound/southbound through at the Street A at Street B intersection or eastbound/westbound through as the most direct routes before turning directly into the relevant block. Should a future tenant require LCV route permit for deliveries, they will be required to demonstrate that the intersections through which the trucks traverse can safely accommodate swept paths and recommend improvements if warranted through the permit process with MTO in consultation with the Town and Region. However at this time Wb-20 maneuvers are considered adequate as the typical design vehicle for the business park.

11.0 Conclusion and Recommendations

The conclusions of our analysis are summarized below:

- The intersection of Airport Road with Mayfield Road is currently operating at LOS "C" during the weekday a.m. and p.m. peak hours. The intersection's maximum control delay is 24.0 seconds and 31.3 seconds in the weekday a.m. and p.m. peak hours respectively.

- The remaining signalized intersections are operating at a LOS "C" or better during the peak hours.

- The unsignalized intersections of Airport Road at Perdue Court/Davis Lane is currently operating at LOS "F". Based on existing volumes, signalization is warranted at this time based on current volumes, it should be considered due to increased traffic expected on Airport Road.

- A total of 4 background developments have been reviewed and added to the boundary road network. In addition, growth rates were also applied to the base traffic volumes to forecast 2026, 2031 and 2036 future background conditions.

- During the peak hours in the future background traffic conditions for the ultimate 2036 horizon year, all intersections will continue to operate at LOS "D" or better with the exception of Airport Road at Davis Lane/ Perdue Crescent.

- The unsignalized intersection of Airport Road and Perdue Court/Davis Lane is expected to continue operating at LOS "F". However, as previously mentioned to maintain acceptable traffic operations, signalization should be considered.

11.1 Future Background Recommendations

The following capacity improvements are recommended to accommodate expected future background growth total volumes in the ultimate 2036 horizon year:

- **Mayfield Road at Torbram Road (Signalized Intersection)**
    - Westbound left turn lane with 195 m storage (90 m increase from Existing).
    - Northbound left turn lane with 185 m storage (105m increase from Existing).
    - Actuated coordination of the Mayfield Road corridor from Torbram Road to Airport Road including cycle length increases to Mayfield Road at Torbram Road to 120 seconds and 135 seconds in the a.m. and p.m. peak hours, respectively.
- **Mayfield Road at Block 48-2 Street "C" (Signalized Access)**
    - Eastbound right turn lane with 75 m storage.
    - Northbound left turn lane with 60 m storage.
    - Actuated coordination of the Mayfield Road corridor from Torbram Road to Airport Road including cycle length of 120 seconds and 135 seconds in the a.m. and p.m. peak hours, respectively, for Mayfield Road at Street "B"/Block 48-2 Street "C".

- **Mayfield Road at Airport Road (Signalized Intersection)**
    - Eastbound left turn lane with 310 storage (110 m increase from Existing).
    - Eastbound right turn lane with 80 m storage (20 m increase from Existing).
    - Northbound left turn lane with 185 m storage (90 m increase from Existing). This can be accommodated within the concrete median.
    - Add westbound left protected permissive phase in signal timing plan.
- **Airport Road at Davis Lane/ Perdue Crescent (Minor Stop-Controlled Intersection)**
    - Monitor traffic volumes and implement signalization to address minor street delays.
    - Westbound left turn lane with 40 m storage (10 m increase from Existing). Note the existing pavement width can accommodate this via pavement markings.

11.2 Site Generated Traffic

- The development is expected to generate approximately 738 and 758 total two-way passenger car trips during the weekday a.m. and p.m. peak hours, respectively, and approximately 185 and 190 total two-way heavy truck trips during the weekday a.m. and p.m. peak hours, respectively.
- In the 2036 Future Total horizon, the signalized intersection of Airport Road and Mayfield Road is expected to operate at a level of service (LOS) "D" during the weekday a.m. and p.m. peak hours. Compared to the future background conditions, site generated traffic is expected to increase the control delay by 5.6 s and 6.0 s during the weekday a.m. and p.m. peak periods, respectively. From an overall perspective, site-generated traffic is not expected to materially impact the main intersection of Mayfield Road and Airport Road. The maximum volume-to-capacity ratios for individual movements are 0.98 (EBL) and 1.01 (NBL) in the weekday a.m. and p.m. peak hours, respectively. These ratios indicate that the intersection is expected to operate at capacity during the weekday a.m. and p.m. peak hours.
- The proposed signalized site access to Airport Road is expected to operate at LOS "A" and "B" in the weekday a.m. and p.m. peak hours, respectively.
- The proposed signalized site access to Mayfield Road is expected to operate at LOS "D" and "B" in the weekday a.m. and p.m. peak hours, respectively.
- The remaining proposed unsignalized site accesses are expected to operate at LOS "B" or better the weekday a.m. and p.m. peak hours. The proposed development can be supported from a traffic operations perspective with the recommended improvements as the site-generated traffic is not expected have a material effect on the operations of the existing roadway network. The internal roadways can facilitate future transit routes, and coordination with transit agencies are recommended to plan and protect for the implementation of future transit services internal to the site.
- Furthermore, the sensitivity analysis indicates that the widening of Torbram Road is not required to support full buildout of the development lands. Specifically, the full buildout of the lands can be supported prior to the widening of Torbram Road, with the recommendations noted in **Section 11.3** for the Airport Road and Torbram Road intersections.

- Based on an overall review, the parking and loading supply proposed at the site will satisfy the Town's Zoning By-law requirements. Furthermore, the loading and parking supplies provided at each building will be reviewed in greater detail as part of their individual Site Plan Applications.

- A number of TDM opportunities including transit implementation, provision of priority carpool parking, Smart Commute integration and promotion, and bicycle parking should be explored and further refined through subsequent submissions.

- The Town of Caledon currently does not have minimum bicycle paring requirements. However, the minimum bike parking facilities for industrial use per the Peel Region Health Study Framework is 0.06 units per 100 sq. m. for occupants, and 0.1 for 100 sq. m. for visitors. This therefore would require 338 employee and 563 visitor bike spaces at the proposed development from this perspective. We also understand that the Town is currently preparing an Active Transportation Master Plan, and per the PIC#3 bike parking rate of 1 bike parking space per net 200 m^2 of net floor area of office space is being contemplated. It is recommended that bicycle parking be provided for the subject site to support cycling as primary mode share, particularly for future employees that reside within a reasonable cycling distance from the development (e.g., within Block 48-1 and Block 48-2). However, final cycling supply requirements should be discussed with the Town as the Town as the individual building Site Plans advance in lieu of current Zoning By-law requirements from the Town.

11.3 Future Total Recommendations

As a result of the above operations and site generated traffic several recommended improvements have been made to support the proposed development. It is noted that these improvements are in addition to the background improvements identified and recommended per the Airport Road and Mayfield Road EAs, the Region's Transportation Master Plan and the approved Block 48-2 TIS. The ultimate auxiliary lane storage lengths recommended below are based on the sensitivity analysis prior to completion of Torbram Road widening.

The following additional capacity improvements are recommended to accommodate expected future total volumes in the ultimate 2036 horizon year:

- **Airport Road at Street "A"/ 12333 Airport Road (Signalized Access)**
    - Construct a northbound left turn lane with at least 55m storage.
    - Construct an eastbound left turn lane with at least 55m of storage (TWLTL available)
    - Construct a westbound left turn lane with at least 50m of storage (pavement width currently available and can be implemented via pavement markings)
    - Construct a southbound right turn lane with at least 25 m of storage. (min. required for Wb-20 trucks).
- **Mayfield Road at Street "B" (Signalized Access)**
    - Construct an eastbound left turn lane with at least 100 m of storage.
    - Construct an eastbound right turn lane with at least 70 m of storage.
    - Construct a northbound left turn lane with at least 60 m of storage.

- Construct a westbound right turn lane with at least 45 m of storage (to accommodate potential LCVs).

- **Torbram Road and Street "C" (Unsignalized Access)**

  - Construct a westbound left turn lane with minimum 20m of storage.

- **Mayfield Road at Torbram Road (Signalized Intersection)**

  - In order to accommodate the 95th percentile eastbound left turn queues, 190 m storage (90 m increase from Future Background) would be required. However, a review of the simulation indicates that the increase in queuing is primarily due to eastbound through traffic queues extending past the taper such that vehicles intending to access the auxiliary turn lane would be required to wait until the through queues cleared sufficiently to access the turn lane. Moreover, the increase from 37 to 116 vehicles per hour as a result of the development traffic in the critical a.m. peak hour would not by itself trigger 90 m of additional storage under normal circumstances.

  - Similarly, in order to accommodate 95th percentile eastbound right turn lane queues, an auxiliary lane with 270 m storage (190 m increase from Future Background) would be required. However, based on a review of the simulation the increase in queuing was similarly found to be due to through traffic queues extending past the beginning of the eastbound right-turn lane. Moreover, the proposed development contributes no traffic volumes to this movement.

  - On this basis, it is recommended that traffic along the Mayfield corridor be monitored as surrounding growth advances to avoid overbuilding infrastructure, since a relatively high growth rate of 5% until 2031 was adopted as requested by the Region.

- **Mayfield Road at Airport Road (Signalized Intersection)**

  - Eastbound right turn lane with 80m storage (0m increase from Future Background).

  - Westbound left turn lane with 295 m storage (can be accommodated as part of 2026-2031 road widening).

  - Westbound right turn lane with 170 m storage (can be accommodated as part of 2026-2031 road widening).

  - Northbound left turn lane with 195 m storage (10 m increase from Future Background).

  - Southbound left turn lane with 105 m storage (can be accommodated as part of 2026-2031 road widening)

  - Implement a protected WBL turn phase in both peak hours and optimize the signal timing. This includes reducing the pedestrian walk times to 3 seconds, the pedestrian "do not walk" times remain unchanged from existing. It is recommended that traffic along the Mayfield corridor be monitored over time to confirm traffic growth and signal timing coordination.

- **Airport Road at Davis Lane/ Perdue Crescent (Minor Stop-Controlled Intersection)**

- Consider signalization of the intersection to reduce minor street delays as recommended for future background conditions. It is noted that the long delays are generally associated with background traffic volumes and not as a result of the site traffic.

- Increase Westbound left turn lane to 45 m storage (5 m increase from Future Background). Note the existing pavement width can accommodate this via pavement markings.

- **Internal Road Network**

  - 3.0m Multiuse paths are recommended and proposed on both sides of all internal collector roadways.

  - Thought not warranted from a traffic control perspective, All-Way Stop Controls are recommended to provide safe pedestrian crossings at the internal collector road intersections of:

    - Street "B" and Street "A"

    - Street "B" and Street "C"

  - In the future when Street "D" is implemented between Airport Road and Street D, an all-way stop control is recommended to be implemented at the Street "B" and Future Potential Street "D" intersection to provide safe pedestrian crossing opportunities.

  - Subject Development will adopt an urban cross section for all three internal collector roadways, Street "A", Street "B", and Street "C", as well as the future potential Street "D" once implemented. This cross section proposes two 3.5m curb lanes, a 5.0m two-way left turn lane, and 3.0m multiuse pathways (MUPs) on both sides of the roadway. The MUPs will also be separated from the roadway by 3.0m boulevards. This cross section supports all modes of transportation.

- **Mayfield Road Corridor**

  - Implement coordination of the Mayfield Road corridor from Torbram Road to Airport Road including cycle length increases throughout the corridor to 120 seconds and 135 seconds in the a.m. and p.m. peak hours, respectively to match the Airport Road and Mayfield Road intersection. Recommended for Future Background conditions as well.

  - We also note that the speed limit along Mayfield Road within the study area for westbound traffic is 60km/h from Airport Road to approximately 440m west of Airport Road, after which the speed limit transitions to 80km/h speed limit. For eastbound traffic along Mayfield Road, the speed limit is 80km/h between Torbram Road to approximately 450m west of Airport Road. As the subject lands in addition to the Block 48-2 residential community develop, the mobility environment along Mayfield Road is expected to change due to increased pedestrian and cycling activity, as well as new transit stops proposed along Mayfield Road. Accordingly, we recommend the Region consider reductions in posted speed limit to provide a consistent 60 km/h across the site's frontage in the future as the environment is transformed.

- **Torbram Road Corridor**

- It is understood that the Town has additional considerations for the ultimate buildout of Torbram Road as either a two-lane or four-lane urban cross section. The Town's Official Plan indicates Torbram will be a Town Arterial Road with a 30 m ROW, as such, this study has assumed a two-lane urban cross section to ensure a conservative assessment until additional details are available. The details of the ultimate ROW considerations, and scheduling of this roadway will be subject to the completion of the ongoing Multimodal Transportation Master Plan currently being undertaken by the Town. Relevant excerpts from the Town's Official Plan can be found in **Appendix N.**

- **Transit Routes**

  - The site's orientation offers opportunities for a bus loop route internal to the site for existing transit routes (e.g., Brampton Transit Route 30), as is similarly existing with the industrial development east of Airport Road (12333 Airport Road). Further discussions with the transit agencies are recommended to identify and plan for future transit routes within the site.

  - It is also recommended that bus stops adjacent to the internal intersections Street "B" at Street "A" and Street "B" at Street "C" be protected for, to permit installation when transit routes are finalized.

  - In the interim condition a bus stop is recommended southwest corner of the intersection of Airport Road at Street "B" to provide connectivity to the existing Brampton Transit Route 30 without modification the route required as the current route services the properties at 12333 Airport Road and can service the Subject Lands as it turns left onto Airport Road before continuing south.

  - We recommend further coordination with Brampton Transit and the Town to explore opportunities to further extend Route 14 (Torbram Road) to provide service within the lands. The existing Route 14 is already proposed to extend to Mayfield Road once Block 48-2 is built out; and we understand that bus route extensions may require transit supportive development to occur prior to the implementation of new or extended routes. Nonetheless, the 26 m ROW proposed for all internal collectors is adequate to support bus stop facilities within the subject development once future routes are confirmed.

  - Any proposed bus stops should be located within 400 m walking distance of principal entrances to each building. As Street "B" is the main north-south spinal road servicing the developments, it should be adequately equipped to provide bus stops within 400 m of all building entrances with mid-block bus stops provided as necessary.

- **Proposed and Recommended Mobility Network**

  - Per discussion with the Town of Caledon, a network of continuous collector roadways is preferred as the Town looks to establish a collector road network. A potential collector roadway network beyond the subject lands is capable of meeting the objectives set out by the Town.

  - It is re-iterated that any visualization of a potential road network beyond the development proposal represents a potential road network that could be established as part of future block plan, secondary plan or LOG work and is not intended to represent a specific proposal of collector road alignments through

adjacent lands. A future secondary plan or LOG work would be required to establish a wider transportation network.

- The development will adopt a 26 m ROW urban cross section for the internal collector roadways including a 3.0 m multi-use path on both sides of the roadway. This cross-section can adequately support future transit along the internal roadways and facilitate safe and connected active transportation network in the area.

- **Transportation Demand Management Strategies**

  - A number of TDM Strategies have been recommended for consideration at the overall development lands and future individual building Site Plan Application level including:

    - Protect for future transit routes along the internal collector network and potential bus stop locations at the internal collector intersections.

  - Encourage bicycle parking during the future development of individual building Site Plans.

  - Encourage off-peak shift changes to reduce automobile traffic demand during the roadway peak hours.

  - Encourage implementation of EV charging during the individual building Site Plan development process.

  - Encourage future tenants to join Smart Commute.

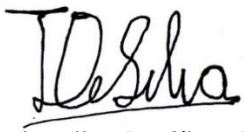
  - Encourage implementation of priority carpool spaces near building entrances etc.

  - Provide direct pedestrian connections from bus stops to adjacent blocks where possible. Provide direct pedestrian connections from the collector road sidewalks where possible.

We trust that this review satisfies any transportation concerns associated with the Site Plan for this development. Please feel free to contact any of the undersigned for any further information required.

Respectfully submitted,

C.F. CROZIER & ASSOCIATES INC.



Theshantha De Silva, EIT
Engineering Intern, Transportation

C.F. CROZIER & ASSOCIATES INC.



Michael A. Linton, MASc., P. Eng.
Associate, Transportation

TDS/ML

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Appendix A

Town and Region Comment Response Matrix

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MEMO

DATE	October 27, 2023	**PROJECT NO.**	2022-5842
RE	Tullamore Lands, 0 & 12245 Torbram Road		

TO	Kavleen Sachdeva Younan, P.Eng. (Town of Caledon) Rani Kol (Region of Peel) Hashim Hamdani (Region of Peel)
FROM	Michael A. Linton, MASc., P.Eng. Theshantha De Silva, EIT
CC	Michael Mendes (Rice Group) Aarthi Thaya (Rice Group)

Dear Kavleen, Rani and Hashim,

C.F. Crozier & Associates Inc. (Crozier) was retained by Tullamore Industrial GP Limited to undertake a Transportation Impact Study (TIS) in support of the planning applications for the industrial development located in the Tullamore Lands, 0 & 12245 Torbram Road in the Town of Caledon.

The following submissions were previously prepared in support of the development:

- Transportation Impact Study (Crozier, June 2021)
- Transportation Impact Study Update (Crozier, December 2021)
- Transportation Impact Study Update (Crozier, April 2023)

The Transportation Comment Response Memo herein accompanies the TIS Update (Crozer, October 2023), and summarizes the comment responses from addressing the Town and Region's comments for the Draft Plan of Subdivision (DPS) dated September 29, 2023, and the Official Plan Amendment (OPA) dated September 29, 2023. **Table 1** below shows the comment responses for the DPS and **Table 2** below shows the comment responses for the OPA, only transportation related comments have been included.

The material in this memo 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.

Table 1: DPS Comments

#		Comment	Response
Town of Caledon, Engineering, Public Works and Transportation Department, Development Engineering			
14	**a**	The applicant is to demonstrate due consideration within the 26 m right of way to accommodate utilities, street trees and low impact development required to meet CLI ECA criteria. The Functional Servicing & Stormwater Management Report (C.F. Crozier & Associates Inc, April 2023) should be revised to include preliminary ROW cross sections that accommodate all proposed functions of the road network. This requirement must be met prior to Draft Plan Approval.	The FSR has been updated to include ROW cross-sections provided by the Town. The TIS also includes the preliminary ROW cross-sections.
14	**b**	The Town's comments require the applicant to investigate the characterization of the woodlot to determine the appropriate buffer. This determination may require Street B to be realigned to avoid impact to the required buffer to the Woodlot and all plans should be updated accordingly, prior to approval of the Draft Plan. Please note that any realignment must be designed in conformance with the Town's engineering standards, respecting the physical constraint.	The woodlot buffer has been revised per GEI's review and woodlot characterization review. The northern terminus of Street B has been realigned to reflect this revision.
14	**c**	Town standards require that all intersection angles are between 85 and 90 degrees. Identify the angles on the draft plan for each of the intersections internal and external to the site for review and approval of the plan.	The draft plan has been revised to illustrate the intersection angles. Note Table 1.2 of Town's geometric road design standards identify 85–95-degree range for intersection angles, not the 85-90 quoted in the Town's comment.
14	**d**	Include the radius of all horizontal curves for each road for review and approval of the plan of subdivision.	The Draft Plan has been revised to illustrate horizontal curve radii.
14	**e**	Include a 0.3 m reserve at the northern end of Street B for review and approval of the plan.	The 0.3m reserve has been included at the northern end of Street B.
17		OUTSTANDING COMMENT: An AutoTURN assessment should be provided for all new intersections, access driveways, on-site circulation and critical parking spaces.	AutoTURN assessment has been included as part of the functional intersection design associated with the Street A at Airport Road intersection and Street B at Mayfield Road intersection. Detailed AutoTURN assessment of internal intersections will be completed as part of detailed

			design of the internal roadways; however, preliminary AutoTURN has been included within the TIS as Appendix S for review. AutoTURN assessments for driveways and critical parking spaces will be undertaken as part of future site plan applications associated with each block and building.
18		Please revise the plans (draft plan and site plan) to include crossing provisions for cyclists at all intersections. Currently, only pedestrian crossings are identified. Please recommend an appropriate treatment in accordance with OTM Book 18.	As the cycling provisions will be accommodated within the ROW, the Draft Plan will not reflect such detail. However, as part of the detailed design stage, cycling crossings and pavement marking details will be identified at internal intersections. Preliminary pedestrian and cyclist crossing details have been illustrated in the functional design per Appendix S in accordance with OTM Book 18, but it is noted that these elements will be completed during the detail design of the internal road network.
19		Section 7: As there is no parkland being accepted by the Town, please revise the sites parking supply. Please note that if off-site parking is proposed, year-round pedestrian connectivity should be proposed. The "potential off-road trail" illustrated in the active transportation plan is insufficient information to deem the parkland as connected to the industrial site.	Noted. The parking supply statistics have been updated accordingly. The potential off-road trail has now been removed due to the removal of the parkland.
20	**a**	Parks staff are no longer requesting a park on the subject lands and are instead requesting cash in lieu. Please remove the park from the draft plan of subdivision.	**Noted**
20	**b**	Town staff continue to request improved east-west road connections. Please review the draft plan to provide an additional east-west connection in a location which is not environmentally constrained.	The Draft Plan has the provision of an additional east west connection (Street D) via a reserve block (Block 6) and is proposed between Street B and Airport Road, approximately 350m north of Street A.
22	**a**	The TIS identifies a network of multi-use pathways along the proposed collector roads, but staff need to	Each building and block will be required to detail active

		also understand how active transportation connections will be provided to each building.	transportation connections to the collector road MUP network as part of individual Site Plan applications for each block. Sidewalk connections from each building entrance to the MUP network and future potential bus stops will also be required. As the detail of each building will be illustrated during subsequent Site Plan applications, the principle of connectivity from each block to the network has been illustrated within the TIS.
22	**b**	The TIS identifies potential bus stop locations, but confirmation that this transit service will be available is needed, and additional stops should be added to the northern half of the plan area. The TIS also recommends that bus stops be located 300-400m walking distance of the principal entrance to each building, and along Street B. Pedestrian connections from each bus stop should be identified on the future concept plan.	Noted. Additional bus stop locations have been added to the northern part of the plan to support future transit service Pedestrian connections from individual buildings will also be detailed during Site Plan application for each block, as each block will be required to accommodate direct connections to the active transportation network and future bus stops. At this time, conceptual connections have been illustrated on the concept plan. Per previous discussion with the Town and Brampton Transit, additional coordination between the Town and Brampton Transit will be required to confirm long term transit implementation on the internal network. It is noted that extensions of existing Brampton Transit routes have been proposed as part of Block 48-2; however, it is also acknowledged that these routes may not be extended until Block 48-2 has advanced. In the interim and as discussed with Town and Brampton Transit staff, a bus

			layby is currently proposed at the southwest quadrant of the Street A at Airport Road intersection. This new stop will allow immediate service along the existing Route 30. Details are highlighted in the functional intersection design (Appendix S). The TIS has been updated to identify future potential route modifications. We understand that further discussions between the Town and Brampton transit will be required to confirm future route modifications, which will ultimately impact preferred bus stop locations, however future detail design of the internal road network will accommodate bus stops as required within the ROW. Figure 21 of the TIS has been updated to include more detail accordingly.
Region of Peel			
8		The proposed development abuts Mayfield Road (Regional Road #14) and Airport Road (Regional Road # 7). Region of Peel will not permit any changes to grading within Regional Roads ROW along the frontage of proposed development unless approved by the Region. No lots or blocks shall have direct access to Regional Roads. Any future access shall be in accordance with The Region Access Control By-law. Under no circumstance should the flow of storm water be diverted along the Regional right of way (by pipe or channel) without the prior written consent of the Region. The Owner is advised that the Region has recently undertaken design for road improvements along Mayfield Road and Airport Road. It is recommended the Owner, or his consultant contact the Project Manager Olek Garbos (olek.garbos@peelregion.ca) of the Region to clarify specific road improvement requirements prior to preparation of detailed engineering plans and/or reports.	**Noted**
9		Provided the Draft Plan of subdivision proceeds ahead of any site plan, prior to registration of the subdivision, all property requirements and intersection works will need to be completed to the Region's Satisfaction. Should the Site Plan for Phase 1 proceed ahead of the subdivision being registered, all property requirements and intersection	Noted. The park lands have been removed from the draft plan.

		works will need to be completed prior to Site Plan approval. • Any proposed access/roadway connections are to align with the road network of the approved Secondary Plan 48-2 as it appears to be shown and proposed. Finer details will be addressed in forthcoming submissions. The Region notes that no additional accesses will be supported off of Airport Road or Mayfield Road outside of the approved Secondary Plan, the Region is not in support of the access to the Park Lands as shown on the plan.	
10		The Region is in receipt of a TIS for 21T-21002C; the Region offers the following comments to be addressed and TIS updated. Should the Phase 1 Site Plan proceed ahead the registration of the associated subdivision, the following will need to be addressed will need to be addressed in an updated TIS prior to Site Plan approval of Phase 1: • The new intersection of Airport Road and Street 'A' should include a southbound right turn lane, eastbound right turn lane; all turning movements should be captured with auxiliary turn lanes. • The new intersection of Mayfield Road and Street 'B' should include a west and eastbound right turn lane, a westbound left turn lane; all turning movements should be captured with auxiliary turn lanes. • The Region requires a Traffic Signals Warrant Assessment for future Mayfield Road at Street 'B'. • The Region requires the intersection geometrics meet TAC minimum requirements. The Region requests that a functional design be included as part of the next submission which addresses auxiliary turn lane requirements and geometrics for both new intersections, Airport Road & Street 'A' and Mayfield Road and Street 'B.' The Region also requires a truck turning template in that package for review and comment.	Noted. The intersection of Airport Road and Street 'A' will include a southbound right turn lane. Negligible eastbound through volumes are anticipated as this leads to private development. Therefore the eastbound through/right lane is expected to operate as a de facto right turn lane. On this basis an additional auxiliary eastbound right turn lane would be considered redundant given the limited through volumes expected. The intersection of Mayfield Road and Street B will include a westbound right turn lane as part of the detailed design. An eastbound right turn lane would be provided (as recommended in the Block 48-2 TIS) but constructed when Block 48-2 proceeds. Negligible southbound through volumes are also anticipated as this leads to a smaller residential subdivision within Block 48-2. Therefore the southbound through/right lane is expected to operate as a de facto right turn lane, and operations at this intersection are satisfactory. On this basis an additional auxiliary southbound right turn lane would be redundant.

			The Traffic Signals Warrants at all intersections are included. Functional Designs are also included as part of the TIS resubmission in Appendix S.
11		• The Region requests the gratuitous dedication of lands to meet the Regional Official Plan requirement for Regional Road 14 (Mayfield Road) which has a mid block right-of-way of 50 metres, 25.0 metres from the centreline of the road allowance, within 245 metres of intersections additional property as per the Official Plan requirement will be required, 55.5 metres, for a single left turn lane intersection configuration (27.75 metres) from the centreline of Mayfield Road, to protect for the provision of but not limited to: utilities, sidewalks, multiuse pathways and transit bay/shelters; • The Region requests the gratuitous dedication of lands to meet the Regional Official Plan requirement for Regional Road 7 (Airport Road) which has a mid block right-of-way of 45 metres, 22.25 metres from the centreline of the road allowance, within 245 metres of intersections additional property as per the Official Plan requirement will be required, 50.5 metres, for a single left turn lane intersection configuration (25.25 metres) from the centreline of Airport Road, to protect for the provision of but not limited to: utilities, sidewalks, multiuse pathways and transit bay/shelters; • The Region will require the gratuitous dedication of two 15x15 metre daylight triangles at the intersections of both Airport Road & Street 'A' and Mayfield Road & Street 'B'. • The Region will require the gratuitous dedication of a 0.3 metre reserve along the frontage Regional Road 7 (Airport Road) & Regional Road 14 (Mayfield Road) behind the property line and daylight triangles, except at any approved access point; • The applicant is required to gratuitously dedicate these lands to the Region, free and clear of all encumbrances. All costs associated with the transfer are the responsibility of the applicant. The applicant must provide the Region with the necessary title documents and reference plan(s) to confirm the Regions right-of-way; A draft reference plan will be required for our review and approval prior to the plans being deposited. All costs associated with preparation of plans and the transfer of the lands will be solely at the expense of the applicant.	**Noted.**

12		• Landscaping, signs, fences, cranes, gateway features or any other encroachments are not permitted within the Region's easements and/or Right of Way limits. Cranes will not be permitted to swing over a Regional Road unless a crane swing license has been granted.	**Noted**
13		• A detailed engineering submission of road and access works will be required for our review and comment, designed, stamped and signed by a Licensed Ontario Professional Engineer. The engineering submission MUST include the removals, new construction and grading, typical sections and pavement markings and signing drawings. All works within Region of Peel's right of way must be designed in accordance to the Public Works, "Design Criteria and Development Procedures Manual" and "Material Specifications and Standard Drawings Manual" • The Owner shall submit to the Region a detailed cost estimate, stamped and signed by a Licensed Ontario Professional Engineer, of the proposed road and access works within the Regional right of way; • Securities shall be submitted in the form of either a letter of credit or certified cheque, in the amount of 100% of the approved estimated cost of road and access works along Regional Road 7 (Airport Road) and Regional Road 14 (Mayfield Road); • A 10.8% engineering and inspection fee shall be paid to the Region based on the approved estimated cost of road and access works (minimum $1,724.41); • The Owner will be required to submit the following prior to commencement of works within the Region's right-of-way: o Completed Road Occupancy Permit and a permit fee as per the Region's user fees and charges By-law; o Completed Notice to Commence Work ; o Provide proof of insurance with the Region of Peel added to the certificate as an additional insured with $5 million minimum from the Contractor; o Please note that any proposed construction within the Region of Peel's right of way is pending PUCC approval (minimum six week process). Please note that PUCC circulation requirements have recently changed. We require PDF version of the full drawing set it is to be sent via email, and cannot exceed 10MB per email. All costs associated with the design and construction of road and access works will be 100% paid by the Owner;	**Noted**

Table 2: OPA Comments

#	Comment	Response
18	Road Network: The Town has reviewed the proposed road network. The Town requested a continuous east/west road network through the site while the current proposal has a fragmented road network. This requirement was noted through various discussions and design charettes with the applicant. Knowing there are significant environmental features that make a continuous east/west road north of the proposed development more challenging, the Town would like the applicant to explore another location for a continuous Street C from Torbram Road to Airport Road. Alternatively, the applicant can keep Street C in its current location and explore including another collector road from Street B to Airport Road roughly 400m north of Street A. This will include assessing the feasibility of connecting Potential Collector 3 (Figure 19 of Crozier's Transportation Impact Study) to the future street. The CEISMP is to be updated to reflect any proposed changes that arise from this investigation and final road pattern. This comment must be addressed in support of the proposed Secondary Plan and prior to approval of the OPA.	There are additional environmental constraints that would make providing a continuous east-west Street C infeasible. Block 9 which fronts airport road serves as an EPA block and would therefore prohibit an east west connection through this area should Street C be extended eastwards to Airport Road. In addition, the Norris Bridge currently exists along Airport Road where a Street C extension would intersect with Airport Road, adding additional constraints for infrastructure associated with a new connection such as southbound right turn lanes. Environmental constraints include those associated with Redside Dace habitat, Salt Creek and its valleylands, existing wetlands and wetland buffers, and the northern Significant Woodland and its buffer. The feasibility of providing an additional east-west collector between Blocks 3 and 4 connecting Street B to Airport Road has been reviewed and a new reserve block (Block 6 - Future Potential Street D) has been added in the updated Draft Plans. Figure 19 has also been updated accordingly. Refer to Section 8.3 in the TIS Update for additional details.

21	Section 2.3; ONGOING COMMENT - More details such as frequency and route map should be provided for the transit services in the study area. Thank you for appending a map & stating number of busses per direction per day. Please discuss transit service periods and typical frequency.	Section 2.3 has been updated to include a table with service periods and typical frequency.
22	Section 4.3; It is noted that truck drivers have been routed to the intersection of Airport Road and Mayfield Road despite failing operations and excessive delays. What measures will the applicants and future occupants take to prevent truck drivers from accessing Town Roads not designed for heavy truck traffic?	Pursuant to the Towns by law, heavy trucks are not currently permitted Torbram Road. Tenants will be required to inform expected delivery drivers about permitted routes which is typical in the operations of warehouse land use facilities. Future Tenants who may also require LCV routes will require approval from MTO which will also account for truck route prohibitions by the Town. We further note that particularly with the early phases of the development, no truck access to Torbram Road is accounted for within the Block designs. It should be noted that the delays at the Airport Road at Mayfield intersection are primarily due to key turning movements and through movements are operating with lower delays. Truck drivers traveling from the west or east on Mayfield Road can navigate this intersection via the lower delay through movements and enter the industrial park via the Street B signalized intersection. Similarly, trucks already travelling along Airport Road can enter via the Street A signalized intersection, also utilizing the

		lower delay through movements at the Airport Road at Mayfield intersection. Given Street C's location within the industrial park, it would be a circuitous route for truck drivers to access the facility via Street C to access the majority of the truck areas.
23	Section 9; If Transportation Demand Management is to be used to support a parking reduction this section should be updated to include specific measures and their anticipated impact on the parking requirements of the site. This reduction in parking demand should be supported by data.	The TDM measures are proposed to support reduced SOV trips as well as the Town's sustainable travel objectives. Each block provides the required parking per the Town's zoning by law, the TDM measures are not proposed as a justification for reduced parking. Should individual sites wish to justify a reduced parking rate in the future, TDM impacts and other justification means would be required during Site Plan Applications.
24	Section 9.2; ONGOING COMMENT- In addition to the transit recommendations provided in the 1st TIS submission, please include recommendations on appropriate bus stop locations along the new public roads to provide adequate transit coverage for the development. a) The proposed bus stop locations and shelters should be included as part of the detailed design of Streets A and B. Please note that where busses are to make a left turn Brampton transit often prefers far side bus stops. Subject to confirmation by Brampton Transit the internal bus stops at the intersection of Street A and B should be consolidated to a single transit stop after exiting the intersection in the southbound direction. b) Street C is not proposed to be served by transit, please comment on the anticipated walking distance from the proposed internal bus stops and if That distance is considered an acceptable level of service.	Section 9.2 has been revised accordingly. Figure 21 has been revised accordingly. During the detailed design of the internal collector network, bus stop locations and turning movements will be included for review. This is noted in the TIS report section 9.2 for reference. Conceptual bus stops have also been identified on the Concept Plan, and will be confirmed following continued discussions with the Town and Brampton Transit. Regardless, the proposed bus stops will be

		accommodated within the collector road ROW.
25	Section 2.2; please note that Mayfield Road has a posted speed limit of 80km/h approximately 460 m west of Airport Road.	Noted. Section 2.2 has been updated accordingly
26	Section 2.4; Please ensure that the latest turning movement counts, dated 2022, are included in the Appendices. Currently, the data in Table 2 and Figure 4 does not align with the information provided in the appendix. It is important to include the updated data in the appendices of the revised Transportation Impact Study (TIS), especially considering the concerns raised by residents during the public information session on June 13th, 2023, held during the planning and development committee public meeting of the council.	Appendix E has been updated with the most recent and utilized Turning Movement Counts.
27	Figure 3; For the intersection of 12333 Airport Road driveway at Airport Road, please include a westbound left turn lane and correct the address. The address currently states '1233 Airport Road' as opposed to '12333 Airport Road'.	Figure 3 has been revised accordingly.
28	Section 2.6; Please note some existing Sim Traffic Reports report 95th percentile queues exceeding the available storage length while this is not reflected in the Existing Levels of Service Reported in Table 3. Please ensure conclusions and recommendations are updated as required.	Section 2.6 – Table 3 has been revised accordingly.
29	Section 3.2; OUTSTANDING COMMENT - As per the requested TOR comments, the background development situated at 0 Airport Road and 6034 Mayfield Road (OPA 2021-0008 – 0 Airport Road) should be incorporated into the report. a) OPA 2021-0008 – 0 Airport Road (TIS can be found here: https://www.caledon.ca/en/town-services/0-airport-road-and-6034-mayfield-road.aspx) b) b) Please either include this study or provide justification for not including this study	The background trip assignments associated with the 6034 Mayfield Road TIS were included in the analysis and Future Background volumes per Figure 6 of the previous TIS submission. However the list of the developments was not updated to reflect this inclusion. Table 4 of the TIS Addendum (October 2023) has been updated to reflect this. Note, the future background volumes would be unchanged as these volumes were already included in the previous submission.

30	Section 3.2.2; the report states that Figure 5-3 from the Cole report was used. Figure 5-3 provided in Appendix I shows the lane configurations and not site volumes. Please correct the text within the report to refer to the appropriate figure number. Additionally, it is requested that individual background developments figures for each horizon year, as applied to the study intersections, be appended.	Appendix I has been revised to include the site volumes from the Cole report. Sub-figures have been included as Figures 6A, 6B, and 6C to reflect the individual background developments figures for each horizon year
31	Section 3.4; ONGOING COMMENT: Please provide lane configuration figures for the future road network differentiating between planned improvements by the Region/Town and recommendations from the Background developments. This can be achieved by color coding the existing Figure 8.	Figure 5 has been revised to reflect Town vs Background development recommendations. Figure 8 has also been revised to reflect background vs Future Total development recommendations
32	Section 3.6; report states that for the intersection of Mayfield Road at Torbram Road is projected to have a maximum v/c ratio of 1.05 for the westbound left turn movement, it also states that there is reserve capacity to accommodate future growth. If there are movements operating above the capacity (v/c >1. 0), the intersection does not have reserve capacity. Please correct the verbiage to describe the intersection operations.	The Section 3.6 verbiage has been updated
33	Section 4.3; There is a discrepancy in the use of different TTS Data for the AM and PM periods in the appendix, while only AM data is summarized in Table 17. It is important to ensure that the table references both peak periods within the report. In future applications with the Town, it is recommended to summarize all TTS data in the main body of the report for clarity and consistency.	Table 17 has been revised to reflect the PM distribution and summary. Note, this will not impact the analysis as the revisions provide clarification. The PM distribution was used in the analysis.
34	Section 8; The applicant states that Street C has the opportunity to the west (though environmental protection) but not to the east due to environmental protections. Transportation Engineering defers to staff more experienced with Environmental restrictions in reviewing the validity of this argument.	Noted. Section 8.3 provides additional detail on constraints associated with extending Street C east.
35	Section 8; It is noted that slight curves have been included in the design for Street A and Street C. Please provide justification for the proposed roadway orientation.	The slight curves noted comply with the min radii per the Town's engineering design criteria. The curves are also required to ensure the intersection angles satisfy

		the Town's requirement of 85-95 degrees for the collector-collector intersections, considering the requirements to connect with existing intersections.
36	Section 8; Transportation Staff is requesting a feasibility study to assess the viability of a potential new east-west collector roadway that would connect Street B to the 'Potential Collector 3' roadways. The proposed location for this potential roadway is approximately 400m north of the planned intersection of Street A and Airport Road.	Noted. Section 8.3 discusses the viability of providing an additional east-west collector between Street A and Street C.
37	Please explore the possibility of extending the existing sidewalk at Airport and Mayfield, westward to connect into the proposed SWM trail. Please also provide a direct connection from the SWP trail to the intersection of Street B and Mayfield	There are a number of constraints associated with extended the existing sidewalk at Airport Road and Mayfield Road, given the culvert crossing, OGS structure and grading constraints. Similar constraints also prohibit pedestrian facilities west of Street B as previously discussed with the Region. However, sidewalk connections along the north side of Mayfield Road have been proposed between Street B and the SWM pond limits and illustrated in the Functional Design per Appendix S of the TIS Update. Further discussion with the Region is expected during detail design of Street B and Mayfield intersection.
38	Please note that Transportation Engineering reserves the right for additional comments based on a revised submission. Transportation Engineering requests that the Traffic Consultant provide a response with the re-submission package clearly reiterating the Town's comments in order and including details for how each comment has been addressed	**N**oted

We trust that the Town and Region's concerns have been addressed; however, should you have any questions or require any further information, please do not hesitate to contact the undersigned.

Sincerely,

C.F. CROZIER & ASSOCIATES INC.

Theshantha De Silva, EIT
Engineering Intern, Transportation

C.F. CROZIER & ASSOCIATES INC.

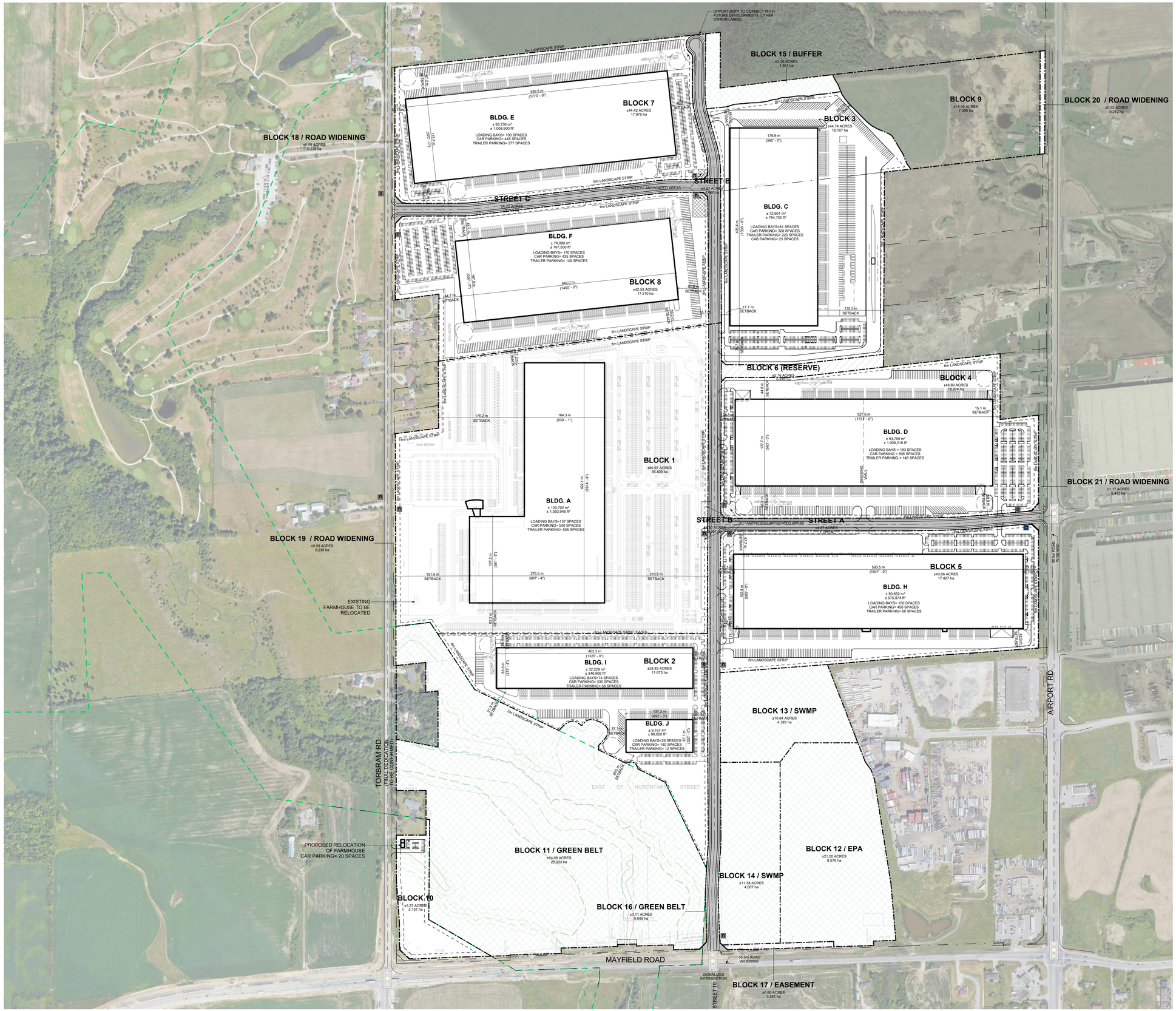
Michael A. Linton, MASc., P. Eng.
Associate, Transportation

tds

I:\2000\2022 - Rice Group\5842 - Tullamore Lands\Reports\2023.10.20 Transportation Impact Study Update\Memo - Comment Response - For Appendix\2023.10.25 Tullamore Comment Response Memo.docx

Appendix B

Site Plan



ZONING

A1 ZONE / AGRICULTURAL		
MP RE-ZONED / PRESTIGE INDUSTRIAL	**REQUIRED**	**PROPOSED**
MINIMUM LOT AREA	925 S.M.	REFER TO STATS
MINIMUM LOT FRONTAGE	30 M.	
MINIMUM BUILDING SETBACK		
FRONT YARD (ABUTTING A RESIDENTIAL ZONE)	20 M.	MIN. 176 M.
FRONT YARD (ABUTTING A PROVINCIAL HIGHWAY)	14 M.	MIN. 21 M.
FRONT YARD (ANY OTHER)	9 M.	MIN. 15 M.
REAR YARD (ABUTTING A RESIDENTIAL ZONE)	15 M.	MIN. 15 M.
REAR YARD (ABUTTING A PROVINCIAL HIGHWAY)	14 M.	MIN. 30 M.
REAR YARD (ANY OTHER)	7.5 M.	MIN. 15 M.
INT. YARD (ABUTTING A RESIDENTIAL ZONE)	15 M.	MIN. 60 M.
INT. YARD (ANY OTHER)	3 M. ONE SIDE AND 6 M. OTHER SIDE	MIN. 6 M.
EXT. YARD (ABUTTING A RESIDENTIAL ZONE)	15 M.	N/A
EXT. YARD (ABUTTING A PROVINCIAL HIGHWAY)	14 M.	MIN. 15 M.
EXT. YARD (ANY OTHER)	7.5 M.	MIN. 15 M.
DRIVEWAY SETBACKS (MIN.)		
ABUTTING A RESIDENTIAL ZONE	4.5 M.	MIN. 6 M.
ANY OTHER	1.5 M.	MIN. 3 M.
PARKING SPACE SETBACKS (MIN.)		
FROM ANY FRONT LOT LINE	6 M.	6 M.
FROM ANY OTHER LOT LINE	3 M.	3 M.
MAX. BUILDING HEIGHT	18 M.	TBD

SITE STATS

	REQUIRED	PROVIDED	
BLOCK 1		±89.97 ACRES	±364,097 S.M.
NET FLOOR AREA		28%	
BUILDING A AREA		±1,083,946 S.F.	±100,702 S.M.
LOADING SPACE	14 SPACES	157 SPACES	
TRAILER PARKING		505 SPACES	
CAR PARKING	438 SPACES	540 SPACES	
* 1/230 S.M. OF GFA		.5/1,000 S.F.	.54/100 S.M.
BLOCK 2		±28.85 ACRES	±116,752 S.M.
NET FLOOR AREA		37%	
BUILDING I AREA		±360,760 S.F.	±33,516 S.M.
LOADING SPACE	6 SPACES	74 SPACES	
TRAILER PARKING		56 SPACES	
CAR PARKING	146 SPACES	335 SPACES	
* 1/230 S.M. OF GFA		.93/1,000 S.F.	1./100 S.M.
BUILDING J AREA		±99,000 S.F.	±9,197 S.M.
LOADING SPACE	4 SPACES	26 SPACES	
TRAILER PARKING		12 SPACES	
CAR PARKING	40 SPACES	140 SPACES	
* 1/230 S.M. OF GFA		1.41/1,000 S.F.	1.52/100 S.M.
BLOCK 3		±44.74 ACRES	±181,057 S.M.
NET FLOOR AREA		40%	
BUILDING C AREA		±784,700 S.F.	±72,901 S.M.
LOADING SPACE	11 SPACES	81 SPACES	
TRAILER PARKING		220 SPACES	
CAB PARKING		25 SPACES	
CAR PARKING	317 SPACES	320 SPACES	
* 1/230 S.M. OF GFA		.41/1,000 S.F.	.44/100 S.M.
BLOCK 4		±46.89 ACRES	±189,756 S.M.
NET FLOOR AREA		49%	
BUILDING D AREA		±1,009,216 S.F.	±93,759 S.M.
LOADING SPACE	13 SPACES	183 SPACES	
TRAILER PARKING		148 SPACES	
CAR PARKING	408 SPACES	506 SPACES	
* 1/230 S.M. OF GFA		.5/1,000 S.F.	.54/100 S.M.
BLOCK 5		±43.06 ACRES	±174,258 S.M.
NET FLOOR AREA		53%	
BUILDING H AREA		±975,874 S.F.	±90,662 S.M.
LOADING SPACE	12 SPACES	100 SPACES	
TRAILER PARKING		68 SPACES	
CAR PARKING	394 SPACES	450 SPACES	
* 1/230 S.M. OF GFA		.46/1,000 S.F.	.5/100 S.M.
BLOCK 7		±44.42 ACRES	±179,762 S.M.
NET FLOOR AREA		52%	
BUILDING E AREA		±1,008,900 S.F.	±93,730 S.M.
LOADING SPACE	13 SPACES	100 SPACES	
TRAILER PARKING		277 SPACES	
CAR PARKING	408 SPACES	445 SPACES	
* 1/230 S.M. OF GFA		.44/1,000 S.F.	.47/100 S.M.
BLOCK 8		±42.53 ACRES	±172,113 S.M.
NET FLOOR AREA		43%	
BUILDING F AREA		±797,500 S.F.	±74,090 S.M.
LOADING SPACE	11 SPACES	170 SPACES	
TRAILER PARKING		149 SPACES	
CAR PARKING	322 SPACES	425 SPACES	
* 1/230 S.M. OF GFA		.53/1,000 S.F.	.57/100 S.M.
BLOCK 9		±18.06 ACRES	±73,087 S.M.
BLOCK 10		±5.27 ACRES	±21,327 S.M.
BLOCK 11 / GREEN BELT		±64.08 ACRES	±259,324 S.M.
BLOCK 12 / EPA		±21.20 ACRES	±85,794 S.M.
BLOCK 13 / SWMP		±10.84 ACRES	±43,868 S.M.
BLOCK 14 / SWMP		±11.38 ACRES	±46,053 S.M.
BLOCK 15 / BUFFER		±3.36 ACRES	±13,597 S.M.
BLOCK 16 / GREEN BELT		±0.11 ACRES	±45.1598ET
BLOCK 17 / EASEMENT		±0.60 ACRES	±2,428 S.M.
BLOCK 18-19-20-21 / ROAD WIDENING		±2.87 ACRES	±11,615 S.M.
STREET A		±4.27 ACRES	±17,280 S.M.
STREET B		±8.30 ACRES	±33,589 S.M.
STREET B - PHASE 2		±3.93 ACRES	±15,904 S.M.
STREET C		±4.22 ACRES	±17,078 S.M.
BLOCK 6 (RESERVE)		±2.16 ACRES	±8,741 S.M.
RESERVES 0.30m		±0.21 ACRES	±854 S.M.
TOTAL SITE AREA		**±478.23 ACRES**	**±1,935,336 S.M.**
TOTAL BUILDING AREA		**±6,119,896 S.F.**	**±568,507 S.M.**
TOTAL LOADING SPACE		**891 SPACES**	
TOTAL CAR PARKING		**3161 SPACES**	
TOTAL TRAILER PARKING		**1435 SPACES**	
DRIVE AISLE		MIN 6 M.	
SIZE OF PARKING SPACE		2.75 M. X 6.00 M.	
SIZE OF LOADING SPACE (MIN)		3.50 M. X 14.00 M.	

LEGEND:

- PROPOSED BUS STOP LAYBYS.
- PROPOSED BUS STOP LAYBYS WITHOUT MODIFICATION TO EXISTING ROUTE 30

NOTE: FINAL BUS ROUTE AND BUS STOP LOCATIONS ARE TO BE DETERMINED IN CONSULTATION WITH THE TOWN OF CALEDON AND BRAMPTON TRANSIT

- SIGNALIZED INTERSECTION

TURNER FLEISCHER

Turner Fleischer Architects Inc.

67 Lesmill Road
Toronto, ON, M3B 2T8
T 416 425 2222
turnerfleischer.com

This drawing, as an instrument of service, is provided by and is the property of Turner Fleischer Architects Inc. The contractor must verify and accept responsibility for all dimensions and conditions on site and must notify Turner Fleischer Architects Inc. of any variations from the supplied information. This drawing is not to be scaled. The architect is not responsible for the accuracy of digital files or reproductions of this drawing. Construction must conform to all applicable codes and requirements of authorities having jurisdiction. The contractor working from drawings not specifically marked 'For Construction' must assume full responsibility and bear costs for any corrections or damages resulting from his work.

#	DATE	DESCRIPTION	BY
66	2023-10-26	ISSUED FOR COORDINATION (A1-113)	RLA
65	2023-10-24	ISSUED FOR COORDINATION (A1-112)	RLA

RICE GROUP

PROJECT
TULLAMORE LANDS
CALEDON, ON

DRAWING
SITE PLAN

PROJECT NO.	20.302SD
PROJECT DATE	2023-10-26
DRAWN BY	HHO
CHECKED BY	JJK
SCALE	As indicated

DRAWING NO. A100

2023-10-26 2:18:53 PM

Appendix C

Town and Region Terms of Reference Correspondence

REGION TERMS OF REFERENCE

Theshantha De Silva

From: Kol, Rani <rani.kol@peelregion.ca>
Sent: Friday, December 2, 2022 2:15 PM
To: Theshantha De Silva
Cc: Michael Linton; Brandon Bradt; Christina Marzo; Razao, Ricardo; Amaral, Patrick; Hashim Ali Hamdani
Subject: Traffic Development Comments - Terms of Reference - Tullamore Industrial Lands Development - TIS Requirements - 21T-21002C

Theshantha,

We support the below proposed Terms of Reference to be incorporated into the updated TIS for the Tullamore Industrial Lands Development. We look forward to reviewing the TIS and providing feedback.

Regards,

Rani Kol
Specialist
Traffic Development & Permits
Region of Peel
10 Peel Centre Drive, Suite B, 4th Floor
Brampton, ON L6T 4B9

This email, including any attachments, is intended for the recipient specified in the message and may contain information which is confidential or privileged. Any unauthorized use or disclosure of this email is prohibited. If you are not the intended recipient or have received this e-mail in error, please notify the sender via return email and permanently delete all copies of the email. Thank you.

From: Amaral, Patrick <patrick.amaral@peelregion.ca>
Sent: November 21, 2022 11:57 AM
To: Theshantha De Silva <tdesilva@cfcrozier.ca>; Kol, Rani <rani.kol@peelregion.ca>; Hamdani, Hashim <hashimali.hamdani@peelregion.ca>
Cc: Michael Linton <mlinton@cfcrozier.ca>; Brandon Bradt <bbradt@cfcrozier.ca>; Marzo, Christina <christina.marzo@peelregion.ca>; Razao, Ricardo <ricardo.razao@peelregion.ca>
Subject: RE: Tullamore Industrial Lands Development - TIS Requirements

Good morning Theshantha,

Thanks for connecting with us. I have forwarded your email to Rani Kol who has taken over this file from Rosalie.

@Kol, Rani @Hamdani, Hashim Please see the questions in the email chain below (email from Nov 18) and drawings attached. This is related to Region file 21T-21002C, we have also received a related PARC application that I will circulated to your group shortly.

Thank you,

Patrick Amaral MES(PI)
Principal Planner
Planning and Development Services | Region of Peel
Tel: 905-791-7800 ext. 4093
E-mail: patrick.amaral@peelregion.ca

In response to the emergence of the novel coronavirus, the Region of Peel is implementing various measures to protect our customers, employees and workplaces. Development Services will endeavour to maintain the continuity of our business operations, however delays in service may still be experienced. We appreciate your patience during this time.

From: Razao, Ricardo <ricardo.razao@peelregion.ca>
Sent: November 18, 2022 12:42 PM
To: Theshantha De Silva <tdesilva@cfcrozier.ca>
Cc: Michael Linton <mlinton@cfcrozier.ca>; Brandon Bradt <bbradt@cfcrozier.ca>; Marzo, Christina <christina.marzo@peelregion.ca>; Amaral, Patrick <patrick.amaral@peelregion.ca>
Subject: FW: Tullamore Industrial Lands Development - TIS Requirements

Hi Theshantha,

Thanks for reaching out. I no longer have carriage of Caledon files but copied Patrick Amaral, who can point you to the right person in Traffic Development and Development Services.

Thanks,
Ricardo Razao
Acting Principal Planner
Policy Development | Planning and Development Services
Region of Peel
10 Peel Centre Drive, 4th Floor, Suite B
(905) 791-7800 ext. 4426

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From: Theshantha De Silva < >
Sent: November 18, 2022 12:05 PM
To: Razao, Ricardo <ricardo.razao@peelregion.ca>
Cc: Michael Linton <mlinton@cfcrozier.ca>; Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: Tullamore Industrial Lands Development - TIS Requirements

CAUTION: EXTERNAL MAIL. DO NOT CLICK ON LINKS OR OPEN ATTACHMENTS YOU DO NOT TRUST.

Sending along the attachments as well. My apologies.

Thanks,
Theshantha

Theshantha De Silva, EIT | Engineering Intern
211 Yonge Street, Suite 600 | Toronto, ON M5B 1M4
T: 416.477.3392



Crozier Connections:

Read our latest news and announcements here.

From: Theshantha De Silva
Sent: November 18, 2022 12:03 PM
To: 'ricardo.razao@peelregion.ca' <ricardo.razao@peelregion.ca>
Cc: Michael Linton <mlinton@cfcrozier.ca>; Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: Tullamore Industrial Lands Development - TIS Requirements

Good afternoon Ricardo,

We just had the below Terms of Reference email bounce back from Peel Region, It appears that Rosalie has left Peel Region. We were informed that you may be the Peel Region contact we should be reaching out to regarding our Terms of Reference for the Tullamore Industrial Development. Furthermore, should you not be the appropriate person for correspondence, it would be very appreciated to be directed to the appropriate contact.

Best regards,
Theshantha

From: Theshantha De Silva
Sent: November 18, 2022 10:10 AM
To: Rosalie Shan <rosalie.shan@peelregion.ca>; Jillian.Britto@caledon.ca; arash.olia@caledon.ca
Cc: Michael Linton <mlinton@cfcrozier.ca>; Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: Tullamore Industrial Lands Development - TIS Requirements

Good morning, Jillian, Arash, and Rosalie,

I hope all is well. I'm reaching out regarding an update to the previously submitted TIS for the Tullamore Industrial Development.

Since the previous submission, additional lands have been included to the north within the application, resulting in some revisions to the internal layout. Note the connections to Airport Road and Mayfield Road remain the same, and the proposed connection to Torbram Road is shifted further north. I understand these updated plans have been circulated to the Town and Region already.

You may recall the Town/Region initially had comments pertaining to the estimate of "existing 2021" counts during a pandemic horizon, where growth rates and background traffic assignments had to be applied to 2016-2019 TMCs originally captured prior to the completed Mayfield Road widening. This approach was confirmed in the initial Terms of Reference. As the estimated "existing" volumes were based on a number of forecasts, we took the opportunity to undertake new counts on September 13th, 2022, at all the study intersections requested. We can confirm that these counts were taken after schools have been re-opened and with normal commuter traffic generally returning to the road network. Furthermore, construction was not present near any the study intersections at the time of the counts.

We note that most of the background developments for which trip assignments we added are built and are therefore now assumed to be included in the newly collected counts. For your convenience we've summarized the difference in volumes in **Table 1** below and also illustrated on the figures attached.

We note that based on the comparison in **Table 1**, the new 2022 counts are much lower than the previously estimated 2021 counts with similar drops in both the AM and PM counts. As the Town previously noted the difference between 2019 observed and 2021 estimated counts were significant as construction along Mayfield occurred and 2016 volume had to be forecasted to 2021 to avoid pandemic impacts.

Interestingly, the difference for the intersections along Torbram Road were much less pronounced (15%-20%) compared to all the other intersections along Mayfield and Airport (40%-60%), which is generally due to background volumes not materializing along the Old School, Airport and Mayfield corridors, while Torbram experienced some growth since the 2016 counts as expected. This is further evident given the comparison between the 2016/2019 raw volumes to the 2022 counts shows that nearly all intersections experienced little growth between the original count date to 2022, with the exception of Torbram at Mayfield. Please see **Table 1** below and the attached figures for reference.

Table 1: % 2021 Projected Volumes vs. 2022 Actual Volumes Comparison

Intersection	Original TMC Dates Conducted	Latest TMC Dates Conducted	% Change Original TMC to 2022 Raw Volumes		% Change 2021 Projected to 2022 Raw Volumes	
			AM	PM	AM	PM
Torbram Road at Old School Road	September 7, 2017	September 13, 2022	-17.4%	-6.7%	-21.7%	-14.4%
Mayfield Road at Torbram Road	November 24, 2016	September 13, 2022	+29.7%	+33.8%	-15.6%	-12.1%
Mayfield Road at Airport Road	June 22, 2016	September 13, 2022	-3.4%	-3.5%	-41.1%	-40.0%
Airport Road at Davis Lane/Perdue Crescent	September 25, 2016	September 13, 2022	+10.4%	+2.6%	-40.1%	-39.6%
Airport Road at Street "A"	September 25, 2019	September 13, 2022	+3.5%	-6.5%	-47.9%	-50.9%
Airport Road at Healey Road	October 13, 2019	September 13, 2022	-13.9%	-9.0%	-50.7%	-47.9%
Airport Road at Old School Road	October 13, 2019	September 13, 2022	-15.3%	-15.5%	-54.5%	-52.1%

It would appear that the forecast of "2021 existing" volumes during the pandemic was quite conservative and using the 2022 TMCs would be more appropriate to avoid overestimating volumes and any associated capacity improvements. Could you confirm if using the 2022 TMCs would suffice?

<u>Background Developments Update</u>

Using the 2022 counts will also change the landscape of background developments to be used in the study. Background developments for 2016-2021 that have since been completed would be removed from the analysis given that the 2022 counts now account for them. Furthermore, the percent build-out of developments still in progress will now differ given the 2022 base year of analysis.

Table 2 outlines the new background development assumptions proposed for the TIS Update. Please review and provide any necessary changes to these background development assumptions.

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3	Vales North Special Study Area	2020	Block 48-2 TIS (Cole, 2017)	Complete
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As per comments by the Town of Caledon, an industry standard growth rate of 2.0% per annum will be applied to Town Collector roads (i.e. Torbram Road). Growth is not required to be applied to any local roads or existing driveway connections.

Growth rates established for the previous TIS submission (Crozier 2021) and are replicated in **Table 3** below for use in the updated analysis:

Table 3: Background Growth Rates

Corridor	Growth Rate	
	2022-2031	2031-2036
Airport Road (Regional Road 7)	1%	1%
Mayfield Road (Regional Road 14)	5%	2%
Torbram Road	2%	
Perdue Court/Davis Lane	0%	
Old School Road	2%	

Note: Given the significant amount of background traffic assigned, a 2% growth rate will be applied to Mayfield Road traffic volumes after the 2031 horizon. This will be applied as consistent with the Town collector growth rates requested, since a 5% growth rate compounded over a 15-year horizon would result in an unrealistic estimate of future growth.

Per your previous comments, growth rates will only be applied to through movements only, with the exception of T-intersections where they would be applied to the turning movements as well. Could you confirm this is still preferred?

Please let us know if the above is acceptable, feel free to contact us should you have questions.

Additionally, we were hoping you might be able to provide an update on the Multi-Modal Transportation Master Plan, we were informed it was in progress to be completed by now. It is our intent to include its contents in our TIS Update.

Best regards,
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From: Shan, Rosalie <rosalie.shan@peelregion.ca>
Sent: February 25, 2022 11:43 AM
To: Brandon Bradt <bbradt@cfcrozier.ca>
Cc: Michael Linton <mlinton@cfcrozier.ca>; Nezami, Sona <sona.nezami@peelregion.ca>; Garbos, Olek <olek.garbos@peelregion.ca>; Homagain, Abiral <abiral.homagain@peelregion.ca>; Hashim Ali Hamdani <hashimali.hamdani@peelregion.ca>
Subject: RE: Tullamore Industrial Lands Development - TIS Requirements

Hi Brandon,

Thank you for reaching out to us.

Please see my answers below in red.

Hope this helps and please let me know if you have any questions or need more information on this.

Regards,
Rosalie Shan, P.Eng., MScE
Technical Analyst
Traffic Development & Permits
Region of Peel
10 Peel Centre Drive Suite B, 4th Floor
Brampton, ON L6T 4B9
905 791-7800 Ext. 7999

Region of Peel
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Cc: Michael Linton <mlinton@cfcrozier.ca>; Nezami, Sona <sona.nezami@peelregion.ca>
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Regards

Olek Garbos, C.E.T.
Project Manager, Roads-Design and Construction
Transportation Division
Public Works, Region of Peel
905-791-7800 x – 7827

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Cc: Michael Linton <mlinton@cfcrozier.ca>
Subject: Tullamore Industrial Lands Development - TIS Requirements

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Good Afternoon Rosalie and Olek,

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I copied our Planner Abiral on the email if you have any questions regarding planning process.

We also note the site plans have provided sufficient dedications for the proposed widenings along Airport Road and Mayfield generally per the November comments.

If any of this is unclear, I am happy to have a call to discuss at your convenience. We are currently looking to submit an updated TIS in mid March so please let me know if there's anything I can do to expedite/aid your response.

Kind Regards,
Brandon

Brandon Bradt | Project Manager
211 Yonge Street, Suite 301 | Toronto, ON M5B 1M4
T: 416.477.3392

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CONSULTING ENGINEERS

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TOWN TERMS OF REFERENCE

Theshantha De Silva

From: Jillian Britto <Jillian.Britto@caledon.ca>
Sent: Friday, December 16, 2022 6:57 PM
To: Theshantha De Silva
Cc: Michael Linton; Brandon Bradt; Arash Olia; Emma Howlett
Subject: RE: Tullamore Industrial Lands Development - TIS Requirements - Town of Caledon

Hi Theshantha,

Happy Friday! Hope you had a good week.

Thank you for providing us an opportunity to review the terms of reference for the revised TIS for the above-noted development. The scope of work noted in the TOR is generally acceptable with the following comments:

- New 2022 counts will suffice for the existing conditions analysis.
- As noted in our comments on the TIS from the 1st submission, please provide details on the site trips from each background development in Appendix G of the previous TIS. The 1st submission only included volumes for Developments 1, 6 and a figure for the Sandringham East Plan Development. Considering the number of background developments, please provide a figure illustrating the locations of the development to help with the review along with volume figures illustrating the traffic volumes from each development.
- Please include the following background development in the analysis:
    - OPA 2021-0008 – 0 Airport Road (TIS can be found here: https://www.caledon.ca/en/town-services/0-airport-road-and-6034-mayfield-road.aspx)
- Please confirm the project status with Brampton for their respective developments.
- The proposed application of corridor growth is acceptable for the roads under the Town's jurisdiction. Please confirm corridor growth rates and application with the Region as well.
- The Town's MMTMP is now expected to go to council in Q3 of 2023, in alignment with the Town's Official Plan. Please note that draft Road Classification and Right-of-Way Schedules can be found on the Town's Have Your Say website (https://haveyoursaycaledon.ca/official-plan-review).
- In addition to the transit recommendations provided in the 1st TIS submission, please include recommendations on appropriate bus stop locations along the new public roads to provide adequate transit coverage for the development.
- Please ensure the revised TIS addresses all the comments from the 1st submission.

Please let us know if you have any questions or require any further information.

Have a great weekend.

Regards,

Jillian Britto, P.Eng., PTOE
Transportation Engineer
Engineering Services

Office: 905.584.2272 x 4108
Email: Jillian.Britto@caledon.ca

Town of Caledon | www.caledon.ca | www.visitcaledon.ca | Follow us @TownofCaledon

From: Theshantha De Silva <tdesilva@cfcrozier.ca>
Sent: Friday, December 9, 2022 3:07 PM
To: Jillian Britto <Jillian.Britto@caledon.ca>
Cc: Michael Linton <mlinton@cfcrozier.ca>; Brandon Bradt <bbradt@cfcrozier.ca>; Arash Olia <Arash.Olia@caledon.ca>; Emma Howlett <Emma.Howlett@caledon.ca>
Subject: RE: Tullamore Industrial Lands Development - TIS Requirements - Town of Caledon

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

Hi Jillian,

Perfect, we look forward to hearing from you next week.

Have a good weekend.

Best regards,
Theshantha

Theshantha De Silva, EIT | Engineering Intern
211 Yonge Street, Suite 600 | Toronto, ON M5B 1M4
T: 416.477.3392



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Read our latest news and announcements here.

From: Jillian Britto <Jillian.Britto@caledon.ca>
Sent: Friday, December 9, 2022 3:04 PM
To: Theshantha De Silva <tdesilva@cfcrozier.ca>
Cc: Michael Linton <mlinton@cfcrozier.ca>; Brandon Bradt <bbradt@cfcrozier.ca>; Arash Olia <Arash.Olia@caledon.ca>; Emma Howlett <Emma.Howlett@caledon.ca>
Subject: RE: Tullamore Industrial Lands Development - TIS Requirements - Town of Caledon

Good afternoon Theshantha,

Happy Friday! Hope you had a good week.

We are in the process of reviewing the TOR; yesterday afternoon's discussion provided some more clarity on the application.

We will provide a response by the end of next week.

Have a great weekend.

Regards,

Jillian Britto, P.Eng.
Transportation Engineer
Engineering Services

Office: 905.584.2272 x 4108
Email: Jillian.Britto@caledon.ca

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---

From: Theshantha De Silva <tdesilva@cfcrozier.ca>
Sent: Friday, December 9, 2022 1:50 PM
To: Jillian Britto <Jillian.Britto@caledon.ca>; Arash Olia <Arash.Olia@caledon.ca>
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Good afternoon Jillian and Arash,

Happy Friday! It is our understanding that there was a Pre-Application Review Committee (PARC) Meeting yesterday. We're reaching out to see if you had any questions or issues. As always, please don't hesitate to reach out to us.

Best regards,
Theshantha

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211 Yonge Street, Suite 600 | Toronto, ON M5B 1M4
T: 416.477.3392



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From: Theshantha De Silva
Sent: Monday, December 5, 2022 3:59 PM
To: Jillian.Britto@caledon.ca; arash.olia@caledon.ca
Cc: Michael Linton <mlinton@cfcrozier.ca>; Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: Tullamore Industrial Lands Development - TIS Requirements - Town of Caledon

Good afternoon Jillian and Arash,

We are following up about our Terms of Reference for the Tullamore Industrial Development sent to you on November 18th. Could you please provide an update on when we will be receiving feedback from the Town of Caledon, as we are aiming to submit this TIS Update before the end of the year.

We have just heard back from Peel Region (*see attached email*), they have approved the proposed Terms of Reference.

Best regards,
Theshantha

From: Theshantha De Silva
Sent: November 18, 2022 10:10 AM
To: Rosalie Shan <rosalie.shan@peelregion.ca>; Jillian.Britto@caledon.ca; arash.olia@caledon.ca
Cc: Michael Linton <mlinton@cfcrozier.ca>; Brandon Bradt <bbradt@cfcrozier.ca>
Subject: RE: Tullamore Industrial Lands Development - TIS Requirements

Good morning, Jillian, Arash, and Rosalie,

I hope all is well. I'm reaching out regarding an update to the previously submitted TIS for the Tullamore Industrial Development.

Since the previous submission, additional lands have been included to the north within the application, resulting in some revisions to the internal layout. Note the connections to Airport Road and Mayfield Road remain the same, and the proposed connection to Torbram Road is shifted further north. I understand these updated plans have been circulated to the Town and Region already.

You may recall the Town/Region initially had comments pertaining to the estimate of "existing 2021" counts during a pandemic horizon, where growth rates and background traffic assignments had to be applied to 2016-2019 TMCs originally captured prior to the completed Mayfield Road widening. This approach was confirmed in the initial Terms of Reference. As the estimated "existing" volumes were based on a number of forecasts, we took the opportunity to undertake new counts on September 13th, 2022, at all the study intersections requested. We can confirm that these counts were taken after schools have been re-opened and with normal commuter traffic generally returning to the road network. Furthermore, construction was not present near any the study intersections at the time of the counts.

We note that most of the background developments for which trip assignments we added are built and are therefore now assumed to be included in the newly collected counts. For your convenience we've summarized the difference in volumes in **Table 1** below and also illustrated on the figures attached.

We note that based on the comparison in **Table 1**, the new 2022 counts are much lower than the previously estimated 2021 counts with similar drops in both the AM and PM counts. As the Town previously noted the difference between 2019 observed and 2021 estimated counts were significant as construction along Mayfield occurred and 2016 volume had to be forecasted to 2021 to avoid pandemic impacts.

Interestingly, the difference for the intersections along Torbram Road were much less pronounced (15%-20%) compared to all the other intersections along Mayfield and Airport (40%-60%), which is generally due to background volumes not materializing along the Old School, Airport and Mayfield corridors, while Torbram experienced some growth since the 2016 counts as expected. This is further evident given the comparison between the 2016/2019 raw volumes to the 2022 counts shows that nearly all intersections experienced little growth between the original count date to 2022, with the exception of Torbram at Mayfield. Please see **Table 1** below and the attached figures for reference.

Table 1: % 2021 Projected Volumes vs. 2022 Actual Volumes Comparison

Intersection	Original TMC Dates Conducted	Latest TMC Dates Conducted	% Change Original TMC to 2022 Raw Volumes		% Change 2021 Projected to 2022 Raw Volumes	
			AM	PM	AM	PM
Torbram Road at Old School Road	September 7, 2017	September 13, 2022	-17.4%	-6.7%	-21.7%	-14.4%
Mayfield Road at Torbram Road	November 24, 2016	September 13, 2022	+29.7%	+33.8%	-15.6%	-12.1%
Mayfield Road at Airport Road	June 22, 2016	September 13, 2022	-3.4%	-3.5%	-41.1%	-40.0%
Airport Road at Davis Lane/Perdue Crescent	September 25, 2016	September 13, 2022	+10.4%	+2.6%	-40.1%	-39.6%
Airport Road at Street "A"	September 25, 2019	September 13, 2022	+3.5%	-6.5%	-47.9%	-50.9%
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Rosalie Shan, P.Eng., MScE
Technical Analyst
Traffic Development & Permits
Region of Peel
10 Peel Centre Drive Suite B, 4th Floor
Brampton, ON L6T 4B9
905 791-7800 Ext. 7999

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Transportation Division
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Cc: Michael Linton <mlinton@cfcrozier.ca>
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Please note I can only speak from Traffic Development perspective. The traffic comments are at high-level for the first submission. More detailed comments regarding engineering design will be provided after the submission of the detailed roadway design. Which is also bounded with the Traffic Impact Study. So the TIS will demonstrate the roadway requirement that support the development. Next steps will be the detailed engineering design and review.

I copied our Planner Abiral on the email if you have any questions regarding planning process.

We also note the site plans have provided sufficient dedications for the proposed widenings along Airport Road and Mayfield generally per the November comments.

If any of this is unclear, I am happy to have a call to discuss at your convenience. We are currently looking to submit an updated TIS in mid March so please let me know if there's anything I can do to expedite/aid your response.

Kind Regards,
Brandon

Brandon Bradt | Project Manager
211 Yonge Street, Suite 301 | Toronto, ON M5B 1M4
T: 416.477.3392

CROZIER
CONSULTING ENGINEERS

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Appendix D

Zoning Maps

SECTION 10
AGRICULTURAL AND RURAL ZONES

10.1 GENERAL PROHIBITION

No *person* shall, within any **Agricultural** and **Rural** *Zone*, use any land, or erect, *alter*, enlarge, use or maintain any *building* or *structure* for any *use* other than as permitted in **Table 10.1** of Subsection 10.2 and in accordance with the standards contained in **Table 10.2** of Subsection 10.3, the General Provisions contained in Section 4 and the Parking, Loading & Delivery Standards contained in Section 5.

10.2 PERMITTED USES

Uses permitted in an **Agricultural** or **Rural *Zone*** are noted by the symbol '✓' in the column applicable to that *Zone* and corresponding with the row for a specific permitted *use* in **Table 10.1**. A number(s) following the symbol '✓' , *zone* heading or identified permitted *use*, indicates that one or more conditions apply to the *use* noted or, in some cases, to the entire *Zone*. Conditions are listed below the Permitted Use **Table, Table 10.1**.

The **Agricultural** and **Rural *Zones*** established by this By-law are as follows:

A1 **Agricultural**
A2 **Rural**
A3 **Small Agricultural Holdings**
A1-ORM **Agricultural – Oak Ridges Moraine**
A2-ORM **Rural – Oak Ridges Moraine**
A3-ORM **Small Agricultural Holdings – Oak Ridges Moraine**

TABLE 10.1

USE	ZONE A1	ZONE A2	ZONE A3	ZONE A1-ORM	ZONE A2-ORM	ZONE A3-ORM
Agriculture-related Commercial Use	✓**(5)**	✓**(5)**	✓**(5)**			
Agriculture-related Industrial Use	✓**(5)**	✓**(5)**	✓**(5)**			
Agri-Tourism Use	✓**(6)**	✓**(6)**	✓**(6)**			
Apartment, Accessory	✓	✓	✓			
Agricultural Uses (ORM)				✓	✓	✓
Animal Agriculture (ORM)				✓	✓	✓
Bed and Breakfast Establishment				✓**(3)**	✓**(3)**	✓**(3)**
Bunkhouse, Accessory	✓**(2)**	✓**(2)**		✓**(2)**	✓**(2)**	
Dwelling, Accessory	✓	✓				
Dwelling, Accessory (ORM)				✓	✓	
Dwelling, Detached	✓	✓	✓	✓**(4)**	✓**(4)**	✓**(4)**

USE	ZONE A1	ZONE A2	ZONE A3	ZONE A1-ORM	ZONE A2-ORM	ZONE A3-ORM
Environmental Management				✓	✓	✓
Farm	✓	✓				
Farm-based Alcohol Production Facility	✓**(6)**	✓**(6)**	✓**(6)**			
Farm Equipment Storage Building	✓	✓	✓	✓	✓	✓
Farm Produce Outlet, Accessory	✓	✓	✓	✓	✓	✓
Farm Vacation Home (ORM)				✓	✓	✓
Forest Management				✓	✓	✓
Gasoline Pump Island, Accessory	✓	✓		✓	✓	
Hobby Farm			✓			
Home Business (ORM)				✓	✓	✓
Home Industry (ORM)				✓	✓	✓
Home Occupation	✓**(1)**	✓**(1)**	✓**(1)**			
Livestock Facility	✓	✓	✓	✓	✓	✓
Nursery, Horticultural	✓	✓	✓	✓	✓	✓
On Farm Diversified Use	✓**(6)**	✓**(6)**	✓**(6)**			
Open Storage, Accessory	✓	✓	✓	✓	✓	✓
Produce Storage Building	✓	✓	✓	✓	✓	✓
Transportation, Infrastructure & Utilities				✓	✓	✓

Footnotes for Table 10.1

(1) No more than 6 students are permitted in any one lesson for a *home occupation* involving the instruction of a craft or skill.

(2) A bunkhouse shall only be permitted on lots having a minimum lot area of 6 hectares.

(3) Permitted in a detached dwelling only.

(4) Permitted only on a vacant *lot* of record where a single *detached dwelling* would have been permitted as of November 15, 2001 and *accessory uses* thereto.

(5) i) An *agriculture-related commercial* or *agriculture-related industrial use* shall only be permitted as the principle *use* on *lots* having an area not exceeding 4 hectares and receiving site plan approval pursuant to Section 41 of the Planning Act.

ii) An *agriculture-related commercial* or *agriculture-related industrial use* shall also be permitted secondary to an active *farm* subject to the provisions of Section 10.5.

(6) Must comply with the provisions of Section 10.5.

10.3 ZONE STANDARDS

No *person* shall, within any **Agricultural** and **Rural *Zone***, use any *lot* or erect, *alter*, use any *building* or *structure* except in accordance with the following *zone* provisions. A number(s) following the *zone* standard, *zone* heading or description of the standard, indicates an additional *Zone* requirement. These additional standards are listed at the end of **Table 10.2**.

TABLE 10.2

STANDARD	ZONE A1	ZONE A2	ZONE A3	ZONE A1-ORM	ZONE A2-ORM	ZONE A3-ORM
***Lot Area* (Minimum)**	8 ha	6 ha	4 ha	8 ha	6 ha	4 ha
***Lot Frontage* (Minimum)**	120 m	90 m	55 m	120 m	90 m	55 m
***Building Area* (Maximum)**	**(1)(2)**	**(1)(2)**	5%	**(1)(2)**	**(1)(2)**	5%
***Yards*:**						
***Front Yard* (Minima)**	18 m	18 m	18 m	18 m	18 m	18 m
***Exterior Side Yard* (Minimum)**	18 m	18 m	18 m	18 m	18 m	18 m
***Rear Yards* (Minima)**	10 m	10 m		10 m	10 m	
Main building			15 m			15 m
Accessory building			10 m			10 m
***Interior Side Yards* (Minima)**			10 m			10 m
Existing *lots* of less than 8 ha	3 m			3 m		
Existing *lots* of less than 6 ha		3 m			3 m	
Other *lots*	15 m	15 m		15 m	15 m	
***Building Heights* (Maxima)**						
Residential *uses*	10.5 m	10.5 m	10.5 m	10.5 m	10.5 m	10.5 m
Non-Residential *uses*	12.2 m	12.2 m	12.2 m	12.2 m	12.2 m	12.2 m
***Landscaping Area* (Minimum)**	10%	10%	50%	10%	10%	50%
***Accessory Gasoline Pump Island Setback* (Minimum)**	9 m	9 m		9 m	9 m	
Driveway Setback (*Minimum*)	3m	3m	3m	3m	3m	3m
***Parking Space Setback (*Minimum)**						
From any *street line*	3m	3m	3m	3m	3m	3m

Footnotes For Table 10.2

(1) The maximum *building area* shall be the lesser of 5% or 0.8 hectares.

(2) The maximum *building area* shall not apply to *Public Uses* owned and operated by the Town of Caledon.

10.4 Agricultural and Rural *Zones* – Special Provisions and Standards

10.4.1 Application of RR *Zone* Provisions and Standards

Where an *existing lot* within the A1 or A2 or A3 *Zone* fails to comply with either one or both of the minimum *lot area* or minimum *lot frontage* standards of the applicable *zone*, such *lot* may be used as follows:

- For *uses* listed in the RR column of Table 6.1 in accordance with the applicable standards and provisions of Section 6; or

- For non-residential *uses* listed in the applicable A1 or A2 or A3 *Zone* identified in Table 10.1 in accordance with applicable standards and provisions of Section 10.

10.5 ON-farm diversified and agri-tourism special provisions

10.5.1 On-Farm Diversified Use shall comply with the following provisions:

10.5.2 No more than 2% to a maximum of 2000m2 (0.2ha) of the *lot area* shall be used for an *on-farm diversified use* including but not limited to *buildings or structures*, *parking areas* and all components used exclusively for the *use*.

10.5.3 A minimum of 1 *parking space* per 100m2 of total *floor area* is required.

10.5.4 There shall be no advertising on the property, other than a lawful sign, to indicate to persons outside that any part of the lot is being used for an *on-farm diversified use*.

10.5.5 No more than 25% of the area of the *dwelling unit* shall be used for an *on-farm diversified use*.

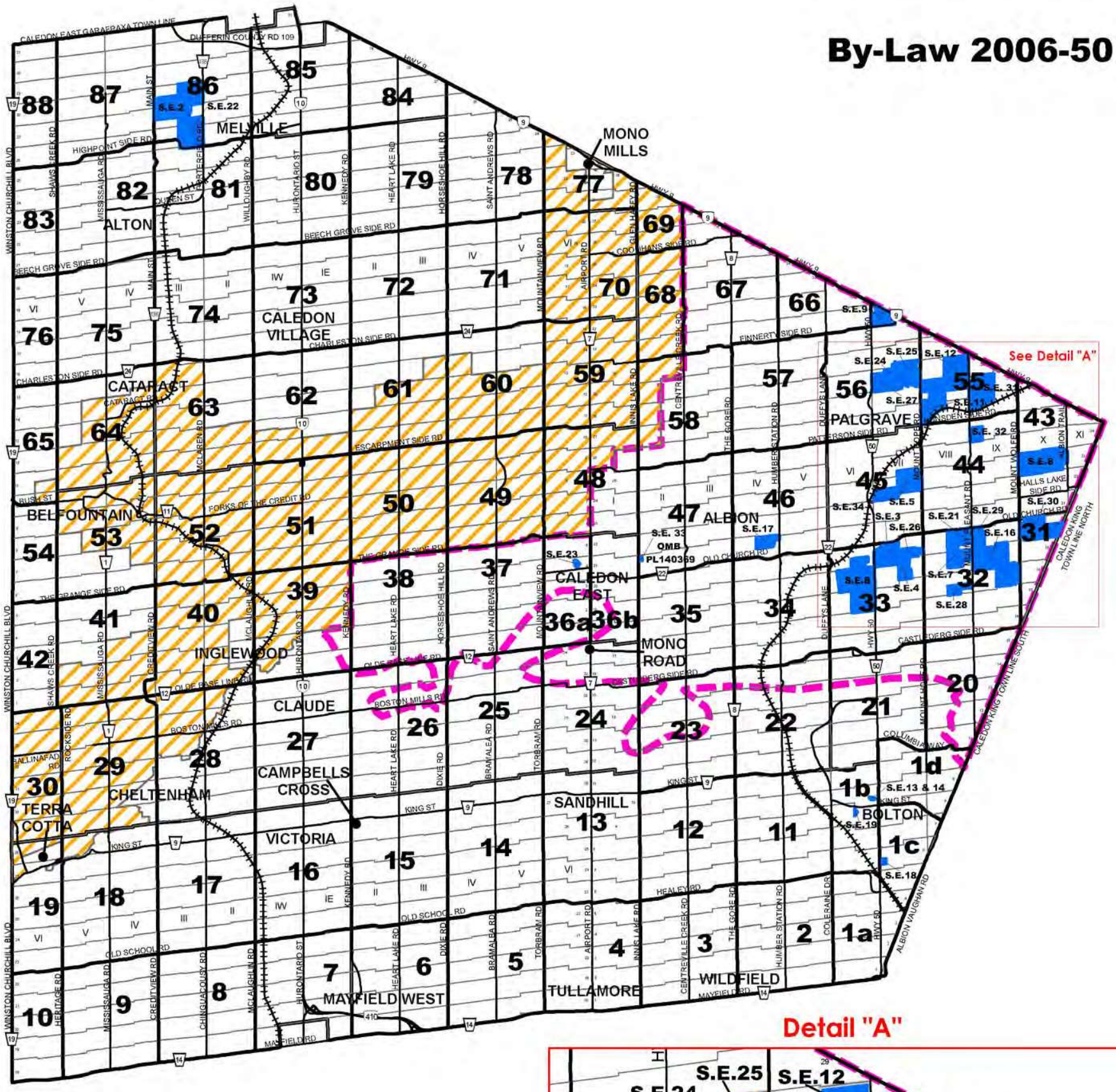
10.5.6 The *accessory display* and retail sale of on-farm diversified use goods, wares or merchandise is permitted subject to the following provisions:

i) the combined area of all areas devoted to retail sales and display shall not exceed 30% of the total *gross floor area* of the *on-farm diversified use.*

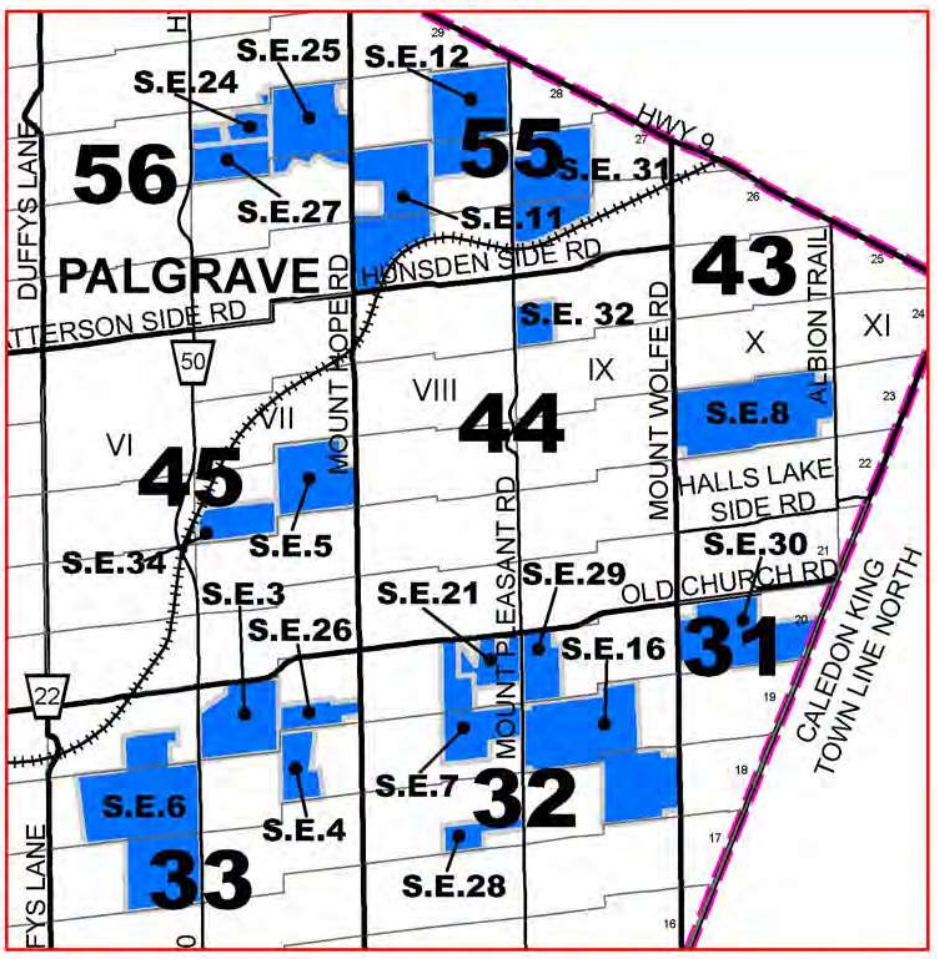
ii) the accessory display and retail sales component of an on-farm diversified use must be conducted by or directly involve the owner/operator of the *farm* operation.

10.5.7 Food concession stand(s) *accessory* to an *agri-tourism use* shall not exceed a combined total floor area of 50m2.

By-Law 2006-50



Detail "A"



Settlement Area Map Coverage

46 & 47 - Albion
81 & 82 - Alton
53 & 54 - Belfountain
1a, 1b, 1c & 1d - Bolton
36a & 36b - Caledon East
62 & 73 - Caledon Village
15 & 16 - Campbell's Cross
64 - Cataract
17, 18, 28 & 29 - Cheltenham
27 - Claude
39 & 40 - Inglewood
6 & 7 - Mayfield West
80, 81, 85 & 86 - Melville
77 - Mono Mills
24, 36a, 36b - Mono Road
45, 56 - Palgrave
13 - Sandhill
19 - Terra Cotta
4 - Tullamore
16 - Victoria
2 & 3 - Wildfield

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INDEX MAP
Not to scale



NIAGARA ESCARPMENT DEVELOPMENT CONTROL AREA

Lands lying within the Development Control area pursuant to the Niagara Planning and Development Act are subject to permit requirements under Ontario Regulations 685/50, as amended.

OAK RIDGES MORAINE CONSERVATION PLAN AREA BOUNDARY

STRUCTURAL ENVELOPE

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BY-LAW 2006-50
ZONE INDEX MAP

0 5 10 20 30 40 km

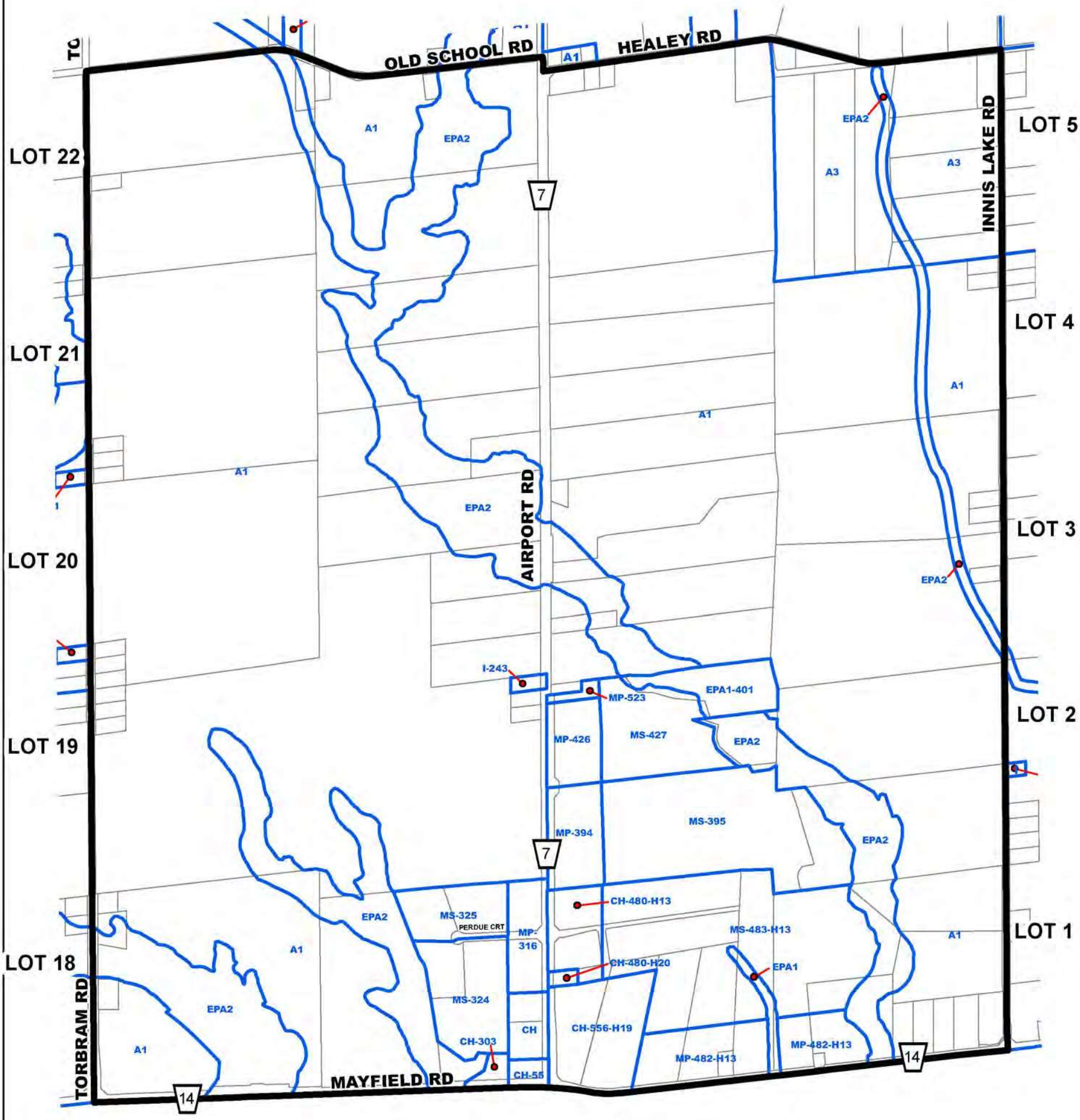
TOWN OF CALEDON

Date: 3 April 2006
Revised: August 2, 2019

File: S:\POLICY SECTION\GIS\zoning_bylaw\mxd\zone_map_template.mxd

CON. 6 E.H.S. (CHING)

CON. 1 (ALB)



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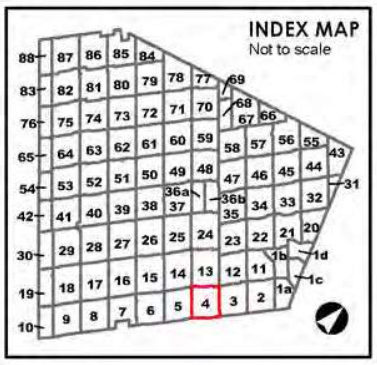
INDEX MAP
Not to scale



A2 ZONE SYMBOL

A2-### ZONE SYMBOL
Note: Number of suffixes represent Exceptions which can be looked up in the Exceptions section of the By-law.

ZONE BOUNDARY

STRUCTURAL ENVELOPE MAP

NIAGARA ESCARPMENT DEVELOPMENT CONTROL AREA
Lands lying within the Development Control area pursuant to the Niagara Planning and Development Act are subject to permit requirements under Ontario Regulations 685/50, as amended.

OAK RIDGES MORAINE CONSERVATION PLAN AREA BOUNDARY

WELLHEAD PROTECTION AREA BOUNDARY
WP-2 WP-5 WP-10 WP-25
Zone Maps amended to indicate the 2, 5, 10, and 25 year Wellhead Protection Areas.

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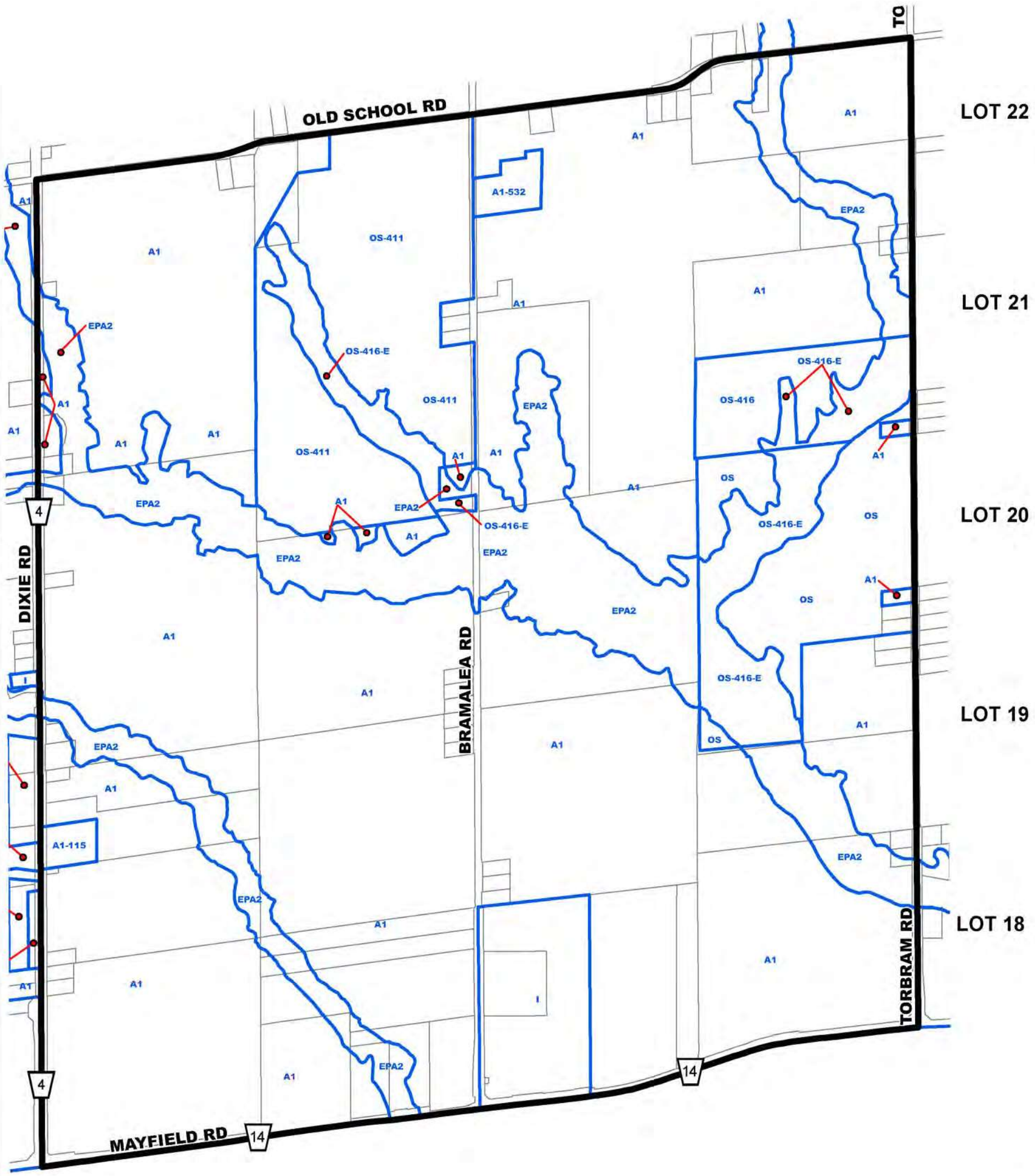
BY-LAW 2006-50
ZONE MAP 4
SCHEDULE "A"
0 137.5 275 550 m
TOWN OF CALEDON

Date: 3 April 2006
Revised: August 2, 2016
File: S:\POLICY SECTION\GIS\zoning_bylaw\2015_mxd

4

CON. 4 E.H.S. (CHING)

CON. 5 E.H.S. (CHING)



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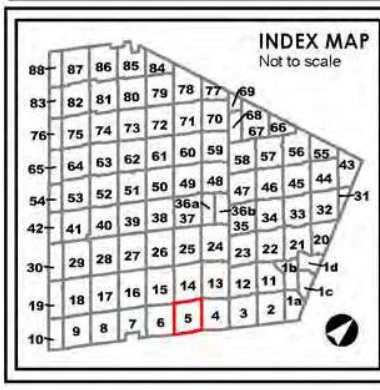
INDEX MAP
Not to scale



A2 ZONE SYMBOL

A2-### ZONE SYMBOL
Note: Number of suffixes represent Exceptions which can be looked up in the Exceptions section of the By-law.

ZONE BOUNDARY

STRUCTURAL ENVELOPE MAP

NIAGARA ESCARPMENT DEVELOPMENT CONTROL AREA
Lands lying within the Development Control area pursuant to the Niagara Planning and Development Act are subject to permit requirements under Ontario Regulations 685/50, as amended.

OAK RIDGES MORAINE CONSERVATION PLAN AREA BOUNDARY

WELLHEAD PROTECTION AREA BOUNDARY
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Zone Maps amended to indicate the 2, 5, 10, and 25 year Wellhead Protection Areas.

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BY-LAW 2006-50

ZONE MAP 5

SCHEDULE "A"

0 140 280 560 m

TOWN OF CALEDON

Date: 3 April 2006

Revised: August 21, 2015

File: S:\POLICY SECTION\GIS\zoning_pyaw2015_mxd

5

Appendix E

Traffic Data

TURNING MOVEMENT COUNTS

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & HEALEY RD
Date: Thu, Oct 03, 2019 Deployment Lead: Patrick Filopoulos

Turning Movement Count (96 . AIRPORT RD & HEALEY RD) CustID: 00720469 MioID:

Start Time	N Approach AIRPORT RD					E Approach HEALEY RD					S Approach AIRPORT RD					Int. Total (15 min)	Int. Total (1 hr)
	Left N:E	Thru N:S	UTurn N:N	Peds N:	Approach Total	Left E:S	Right E:N	UTurn E:E	Peds E:	Approach Total	Thru S:N	Right S:E	UTurn S:S	Peds S:	Approach Total		
07:00:00	43	166	0	0	209	10	20	0	0	30	59	15	0	0	74	313	
07:15:00	41	157	0	0	198	11	21	0	0	32	130	11	0	0	141	371	
07:30:00	47	188	0	0	235	6	24	0	0	30	37	12	0	0	49	314	
07:45:00	65	159	0	0	224	14	39	0	0	53	55	11	0	0	66	343	1341
08:00:00	32	179	0	0	211	11	21	0	0	32	36	11	0	0	47	290	1318
08:15:00	50	144	0	0	194	11	11	0	0	22	42	11	0	0	53	269	1216
08:30:00	35	116	0	0	151	7	12	0	0	19	30	12	0	0	42	212	1114
08:45:00	44	124	0	0	168	15	17	0	0	32	39	11	0	0	50	250	1021
BREAK																	
11:00:00	8	58	0	0	66	9	8	0	0	17	51	8	0	0	59	142	
11:15:00	3	70	0	0	73	11	8	0	0	19	47	5	0	0	52	144	
11:30:00	8	70	0	0	78	3	10	0	0	13	39	8	0	0	47	138	
11:45:00	9	56	0	0	65	8	10	0	0	18	43	7	0	0	50	133	557
12:00:00	14	43	0	0	57	12	16	0	0	28	41	6	0	0	47	132	547
12:15:00	15	47	0	0	62	9	14	0	0	23	39	4	0	0	43	128	531
12:30:00	9	44	0	0	53	9	8	0	0	17	34	2	0	0	36	106	499
12:45:00	9	41	0	0	50	9	14	0	0	23	51	5	0	0	56	129	495
13:00:00	13	50	0	0	63	8	13	0	0	21	47	3	0	0	50	134	497
13:15:00	12	54	0	0	66	6	14	0	0	20	47	4	0	0	51	137	506
13:30:00	14	52	0	0	66	6	13	0	0	19	61	9	0	0	70	155	555
13:45:00	14	51	0	0	65	5	14	0	0	19	57	7	0	0	64	148	574
BREAK																	
15:00:00	29	52	0	0	81	7	23	0	0	30	118	6	0	0	124	235	
15:15:00	29	43	0	0	72	13	35	0	0	48	115	13	0	0	128	248	
15:30:00	30	57	0	0	87	18	45	0	0	63	96	14	0	0	110	260	
15:45:00	30	50	0	0	80	16	43	0	0	59	104	7	0	0	111	250	993
16:00:00	22	55	0	0	77	24	63	0	0	87	153	12	0	0	165	329	1087
16:15:00	28	61	0	0	89	26	79	0	0	105	136	13	0	0	149	343	1182
16:30:00	31	55	0	0	86	13	54	0	0	67	157	10	0	0	167	320	1242
16:45:00	30	52	0	0	82	20	76	0	0	96	150	8	0	0	158	336	1328
17:00:00	15	64	0	0	79	21	59	0	0	80	149	9	0	0	158	317	1316
17:15:00	21	49	0	0	70	16	76	0	0	92	162	5	0	0	167	329	1302
17:30:00	15	59	0	0	74	18	62	0	0	80	148	11	0	0	159	313	1295
17:45:00	22	54	0	0	76	12	55	0	0	67	137	8	0	0	145	288	1247

Grand Total	787	2520	0	0	3307	384	977	0	0	1361	2610	278	0	0	2888	**7556**	-
Approach%	23.8%	76.2%	0%		-	28.2%	71.8%	0%		-	90.4%	9.6%	0%		-	**-**	-
Totals %	10.4%	33.4%	0%		43.8%	5.1%	12.9%	0%		18%	34.5%	3.7%	0%		38.2%	**-**	-
Heavy	12	293	0		-	34	16	0		-	231	39	0		-	**-**	-
Heavy %	1.5%	11.6%	0%		-	8.9%	1.6%	0%		-	8.9%	14%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & HEALEY RD
Date: Thu, Oct 03, 2019 Deployment Lead: Patrick Filopoulos

Peak Hour: 07:00 AM - 08:00 AM Weather: Moderate Rain (9.08 °C)

Start Time	N Approach AIRPORT RD					E Approach HEALEY RD					S Approach AIRPORT RD					Int. Total (15 min)
	Left	Thru	UTurn	Peds	Approach Total	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	
07:00:00	43	166	0	0	209	10	20	0	0	30	59	15	0	0	74	313
07:15:00	41	157	0	0	198	11	21	0	0	32	130	11	0	0	141	371
07:30:00	47	188	0	0	235	6	24	0	0	30	37	12	0	0	49	314
07:45:00	65	159	0	0	224	14	39	0	0	53	55	11	0	0	66	343
Grand Total	196	670	0	0	866	41	104	0	0	145	281	49	0	0	330	**1341**
Approach%	22.6%	77.4%	0%		-	28.3%	71.7%	0%		-	85.2%	14.8%	0%		-	**-**
Totals %	14.6%	50%	0%		64.6%	3.1%	7.8%	0%		10.8%	21%	3.7%	0%		24.6%	**-**
PHF	0.75	0.89	0		0.92	0.73	0.67	0		0.68	0.54	0.82	0		0.59	**-**
Heavy	3	27	0		30	5	1	0		6	47	3	0		50	**-**
Heavy %	1.5%	4%	0%		3.5%	12.2%	1%	0%		4.1%	16.7%	6.1%	0%		15.2%	**-**
Lights	193	643	0		836	36	103	0		139	234	46	0		280	**-**
Lights %	98.5%	96%	0%		96.5%	87.8%	99%	0%		95.9%	83.3%	93.9%	0%		84.8%	**-**
Single-Unit Trucks	0	13	0		13	0	0	0		0	15	0	0		15	**-**
Single-Unit Trucks %	0%	1.9%	0%		1.5%	0%	0%	0%		0%	5.3%	0%	0%		4.5%	**-**
Buses	3	1	0		4	0	1	0		1	12	2	0		14	**-**
Buses %	1.5%	0.1%	0%		0.5%	0%	1%	0%		0.7%	4.3%	4.1%	0%		4.2%	**-**
Articulated Trucks	0	13	0		13	5	0	0		5	20	1	0		21	**-**
Articulated Trucks %	0%	1.9%	0%		1.5%	12.2%	0%	0%		3.4%	7.1%	2%	0%		6.4%	**-**

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & HEALEY RD
Date: Thu, Oct 03, 2019 Deployment Lead: Patrick Filopoulos

Peak Hour: 01:00 PM - 02:00 PM Weather: Light Rain (9.06 °C)

Start Time	N Approach AIRPORT RD					E Approach HEALEY RD					S Approach AIRPORT RD					Int. Total (15 min)
	Left	Thru	UTurn	Peds	Approach Total	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	
13:00:00	13	50	0	0	63	8	13	0	0	21	47	3	0	0	50	134
13:15:00	12	54	0	0	66	6	14	0	0	20	47	4	0	0	51	137
13:30:00	14	52	0	0	66	6	13	0	0	19	61	9	0	0	70	155
13:45:00	14	51	0	0	65	5	14	0	0	19	57	7	0	0	64	148
Grand Total	53	207	0	0	260	25	54	0	0	79	212	23	0	0	235	**574**
Approach%	20.4%	79.6%	0%		-	31.6%	68.4%	0%		-	90.2%	9.8%	0%		-	**-**
Totals %	9.2%	36.1%	0%		45.3%	4.4%	9.4%	0%		13.8%	36.9%	4%	0%		40.9%	**-**
PHF	0.95	0.96	0		0.98	0.78	0.96	0		0.94	0.87	0.64	0		0.84	**-**
Heavy	2	33	0		35	6	0	0		6	26	6	0		32	**-**
Heavy %	3.8%	15.9%	0%		13.5%	24%	0%	0%		7.6%	12.3%	26.1%	0%		13.6%	**-**
Lights	51	174	0		225	19	54	0		73	186	17	0		203	**-**
Lights %	96.2%	84.1%	0%		86.5%	76%	100%	0%		92.4%	87.7%	73.9%	0%		86.4%	**-**
Single-Unit Trucks	1	17	0		18	0	0	0		0	9	3	0		12	**-**
Single-Unit Trucks %	1.9%	8.2%	0%		6.9%	0%	0%	0%		0%	4.2%	13%	0%		5.1%	**-**
Buses	1	3	0		4	1	0	0		1	8	0	0		8	**-**
Buses %	1.9%	1.4%	0%		1.5%	4%	0%	0%		1.3%	3.8%	0%	0%		3.4%	**-**
Articulated Trucks	0	13	0		13	5	0	0		5	9	3	0		12	**-**
Articulated Trucks %	0%	6.3%	0%		5%	20%	0%	0%		6.3%	4.2%	13%	0%		5.1%	**-**

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & HEALEY RD
Date: Thu, Oct 03, 2019 Deployment Lead: Patrick Filopoulos

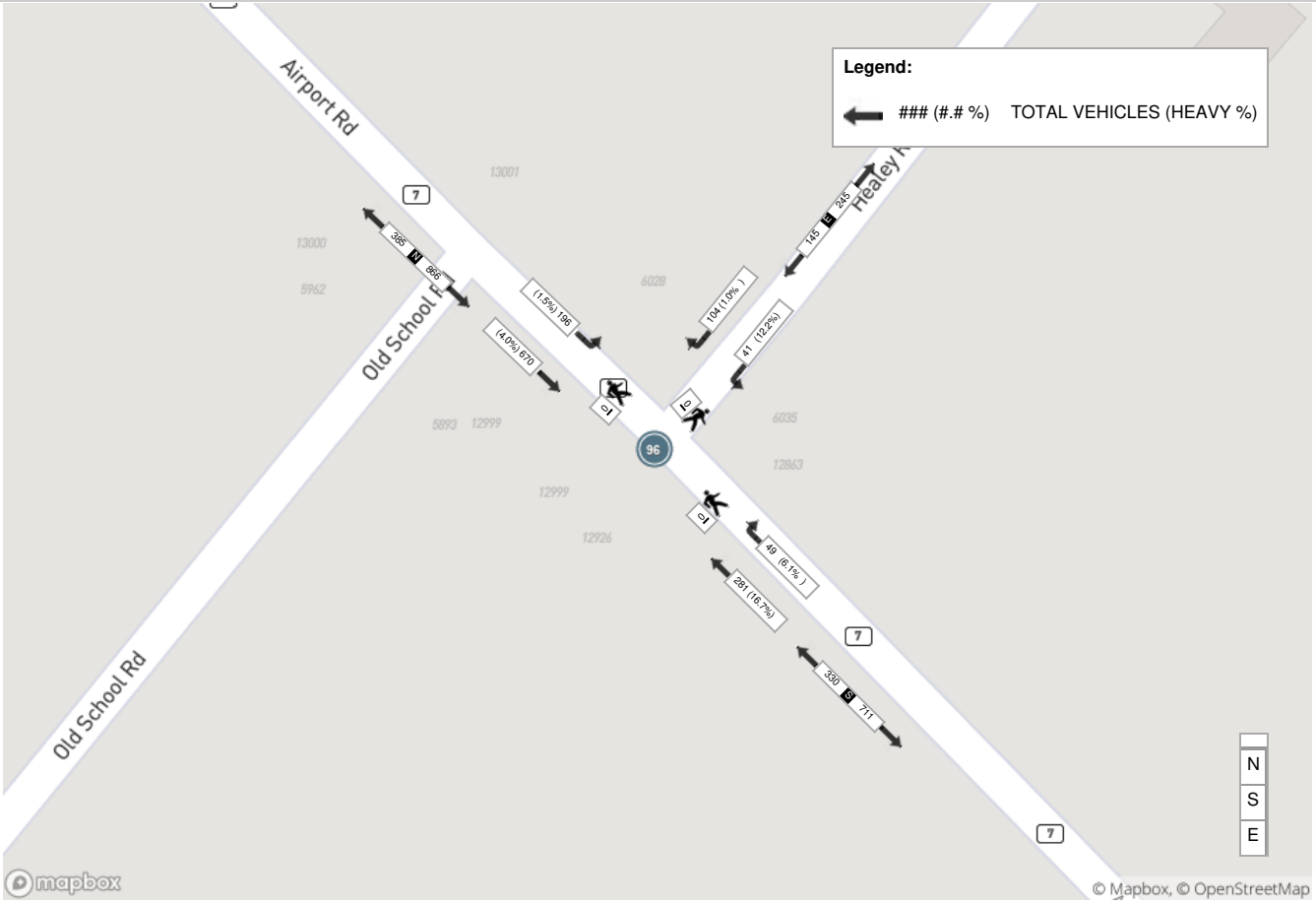
Peak Hour: 04:00 PM - 05:00 PM Weather: Light Rain (10.54 °C)

Start Time	N Approach AIRPORT RD					E Approach HEALEY RD					S Approach AIRPORT RD					Int. Total (15 min)
	Left	Thru	UTurn	Peds	Approach Total	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	
16:00:00	22	55	0	0	77	24	63	0	0	87	153	12	0	0	165	329
16:15:00	28	61	0	0	89	26	79	0	0	105	136	13	0	0	149	343
16:30:00	31	55	0	0	86	13	54	0	0	67	157	10	0	0	167	320
16:45:00	30	52	0	0	82	20	76	0	0	96	150	8	0	0	158	336
Grand Total	111	223	0	0	334	83	272	0	0	355	596	43	0	0	639	**1328**
Approach%	33.2%	66.8%	0%		-	23.4%	76.6%	0%		-	93.3%	6.7%	0%		-	**-**
Totals %	8.4%	16.8%	0%		25.2%	6.3%	20.5%	0%		26.7%	44.9%	3.2%	0%		48.1%	**-**
PHF	0.9	0.91	0		0.94	0.8	0.86	0		0.85	0.95	0.83	0		0.96	**-**
Heavy	0	51	0		51	3	6	0		9	43	9	0		52	**-**
Heavy %	0%	22.9%	0%		15.3%	3.6%	2.2%	0%		2.5%	7.2%	20.9%	0%		8.1%	**-**
Lights	111	172	0		283	80	266	0		346	553	34	0		587	**-**
Lights %	100%	77.1%	0%		84.7%	96.4%	97.8%	0%		97.5%	92.8%	79.1%	0%		91.9%	**-**
Single-Unit Trucks	0	14	0		14	0	5	0		5	21	2	0		23	**-**
Single-Unit Trucks %	0%	6.3%	0%		4.2%	0%	1.8%	0%		1.4%	3.5%	4.7%	0%		3.6%	**-**
Buses	0	19	0		19	3	1	0		4	1	1	0		2	**-**
Buses %	0%	8.5%	0%		5.7%	3.6%	0.4%	0%		1.1%	0.2%	2.3%	0%		0.3%	**-**
Articulated Trucks	0	18	0		18	0	0	0		0	21	6	0		27	**-**
Articulated Trucks %	0%	8.1%	0%		5.4%	0%	0%	0%		0%	3.5%	14%	0%		4.2%	**-**

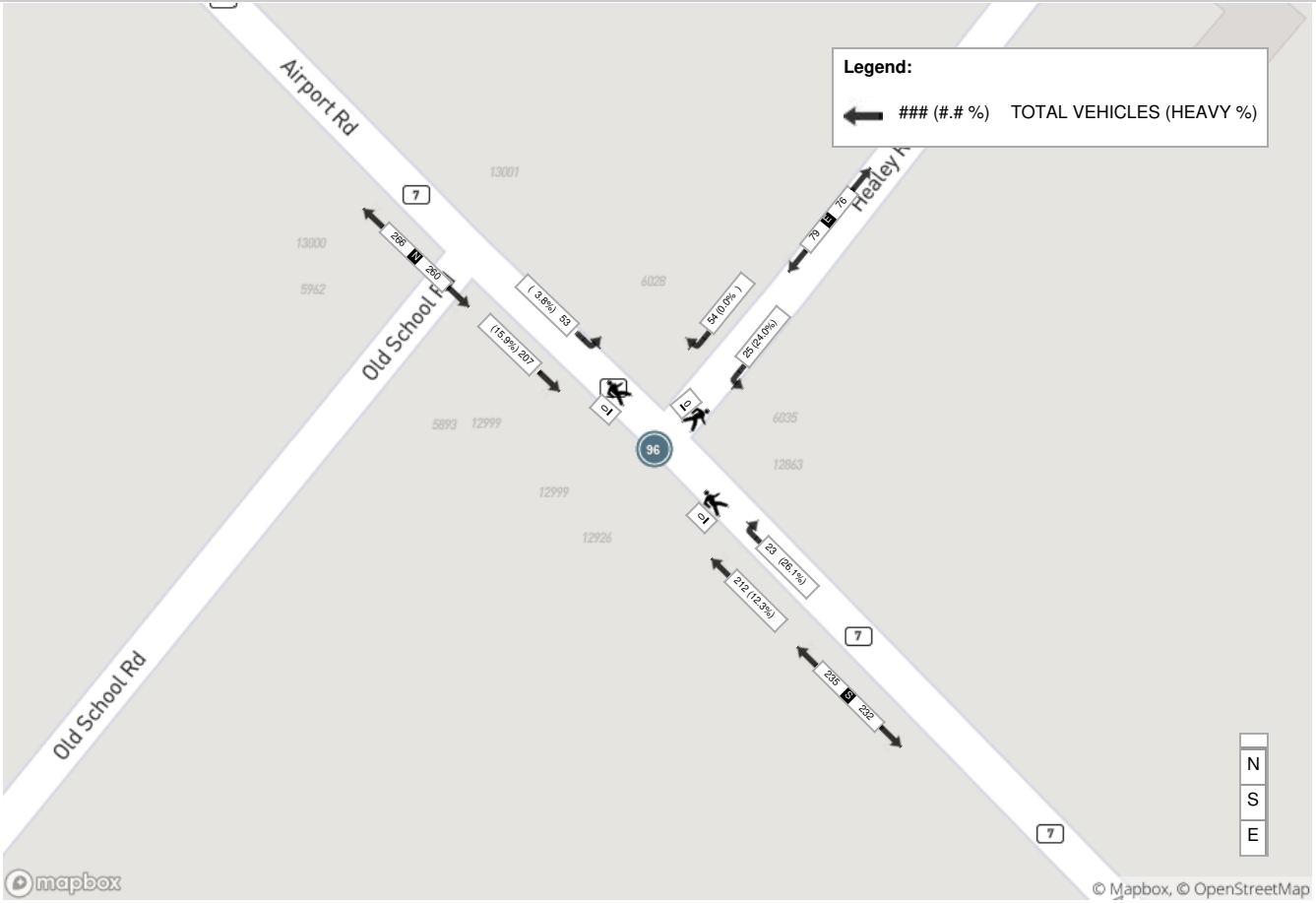
Spectrum

Turning Movement Count
Location Name: AIRPORT RD & HEALEY RD
Date: Thu, Oct 03, 2019 Deployment Lead: Patrick Filopoulos

Peak Hour: 07:00 AM - 08:00 AM Weather: Moderate Rain (9.08 °C)



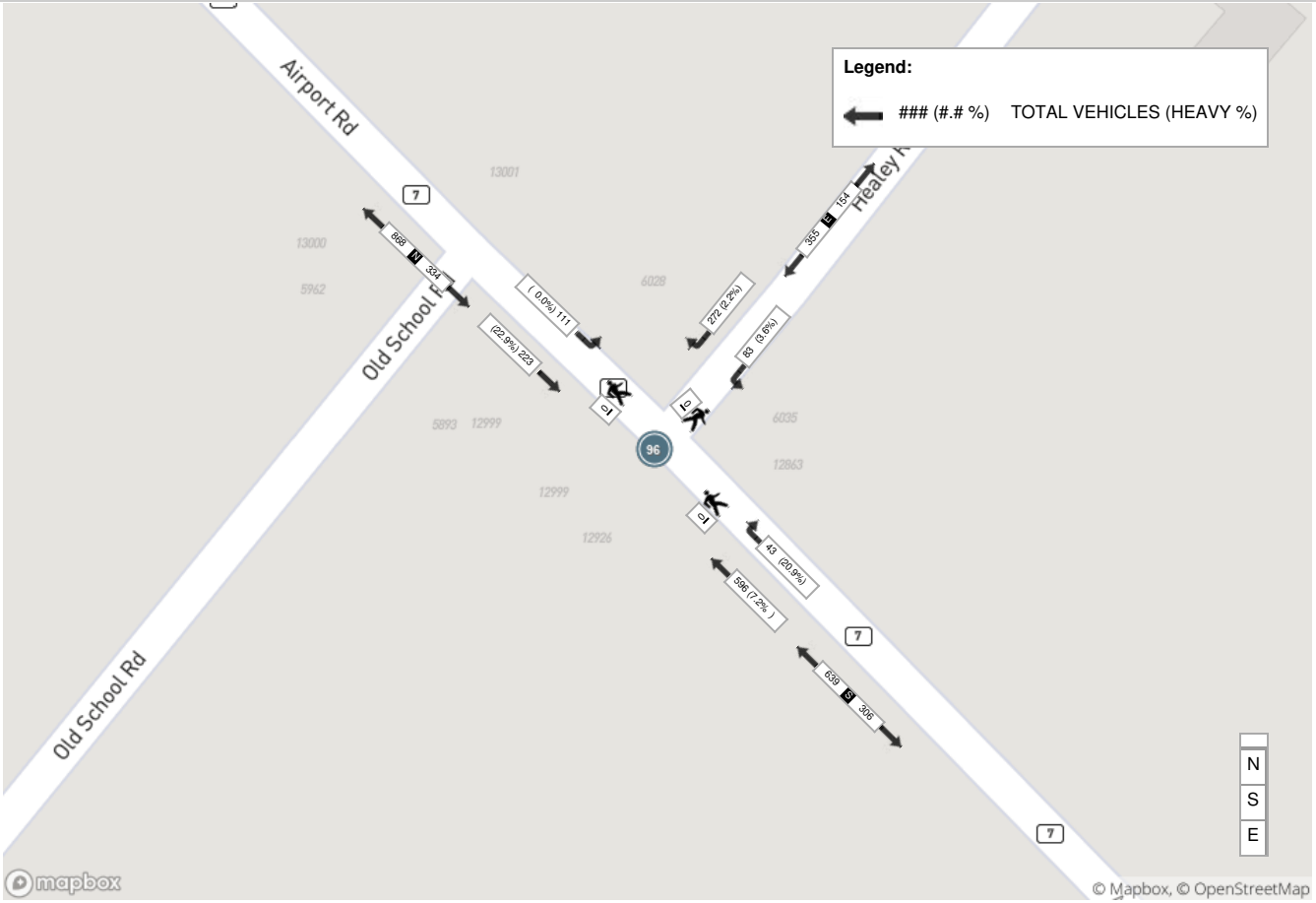
Peak Hour: 01:00 PM - 02:00 PM Weather: Light Rain (9.06 °C)



Spectrum

Turning Movement Count
Location Name: AIRPORT RD & HEALEY RD
Date: Thu, Oct 03, 2019 Deployment Lead: Patrick Filopoulos

Peak Hour: 04:00 PM - 05:00 PM Weather: Light Rain (10.54 °C)



Spectrum

Turning Movement Count
Location Name: AIRPORT RD & MAYFIELD RD
Date: Wed, Jun 22, 2016 Deployment Lead: Chris Koukaras

Turning Movement Count (1 . AIRPORT RD & MAYFIELD RD) CustID: 00717433 MioID: 327722

Start Time	N Approach AIRPORT RD						E Approach MAYFIELD RD						S Approach AIRPORT RD						W Approach MAYFIELD RD						Int. Total (15 min)	Int. Total (1 hr)
	Left N:E	Thru N:S	Right N:W	U-Turn N:N	Peds N:	Approach Total	Left E:S	Thru E:W	Right E:N	U-Turn E:E	Peds E:	Approach Total	Left S:W	Thru S:N	Right S:E	U-Turn S:S	Peds S:	Approach Total	Left W:N	Thru W:E	Right W:S	U-Turn W:W	Peds W:	Approach Total		
07:00:00	20	178	46	1	2	245	23	131	3	0	0	157	20	58	36	0	1	114	23	123	30	0	1	176	692	
07:15:00	29	172	21	2	2	224	26	134	8	0	0	168	24	51	38	0	1	113	22	145	42	0	0	209	714	
07:30:00	23	178	35	1	0	237	33	121	7	0	0	161	28	51	48	0	0	127	26	147	41	0	0	214	739	
07:45:00	25	177	22	1	0	225	36	101	6	0	0	143	26	68	61	0	0	155	29	143	46	0	2	218	741	2886
08:00:00	20	141	12	0	1	173	29	132	12	0	1	173	31	63	44	0	3	138	34	105	38	0	3	177	661	2855
08:15:00	19	142	28	1	0	190	34	95	4	0	0	133	31	55	55	0	1	141	34	126	44	1	0	205	669	2810
08:30:00	22	121	28	0	0	171	27	113	11	0	1	151	31	56	47	0	2	134	32	112	34	0	0	178	634	2705
08:45:00	28	109	12	1	1	150	33	121	12	0	2	166	39	57	39	0	0	135	32	124	36	0	0	192	643	2607
BREAK																										
11:00:00	25	62	15	2	0	104	18	79	7	0	0	104	27	36	31	0	0	94	26	78	22	0	0	126	428	
11:15:00	18	73	27	0	0	118	34	85	14	0	0	133	19	62	20	0	0	101	20	83	18	0	0	121	473	
11:30:00	20	55	27	0	0	102	23	101	4	0	0	128	21	46	44	0	1	111	20	85	27	0	0	132	473	
11:45:00	22	66	13	0	1	101	27	87	11	0	0	125	27	72	36	0	0	135	23	83	22	0	1	128	489	1863
12:00:00	13	65	24	2	0	104	27	92	4	0	2	123	23	52	31	0	0	106	22	89	19	0	0	130	463	1898
12:15:00	18	59	20	0	0	97	15	102	11	0	0	128	22	69	28	0	0	119	22	91	22	0	0	135	479	1904
12:30:00	20	56	23	0	0	99	24	99	9	0	0	132	33	46	33	0	0	112	15	78	23	0	0	116	459	1890
12:45:00	12	74	30	1	1	117	26	97	10	0	1	133	29	65	18	0	0	112	26	78	16	0	0	120	482	1883
13:00:00	23	58	18	0	4	99	25	89	14	0	0	128	17	55	29	0	0	101	25	89	16	0	4	130	458	1878
13:15:00	15	59	23	1	10	98	27	92	8	0	3	127	22	78	23	0	1	123	23	84	17	0	0	124	472	1871
13:30:00	19	64	28	0	0	111	32	66	13	0	0	111	22	53	48	0	0	123	24	100	29	0	0	153	498	1910
13:45:00	18	63	26	0	4	107	29	78	14	0	0	121	26	72	28	0	1	126	14	92	23	0	1	129	483	1911
BREAK																										
15:00:00	14	85	61	1	1	161	36	134	12	0	1	182	24	143	48	0	3	215	30	121	29	0	1	180	738	
15:15:00	15	64	32	0	0	111	38	123	4	0	0	165	35	110	50	0	1	195	30	136	26	0	0	192	663	
15:30:00	13	78	16	0	0	107	31	107	11	0	2	149	45	133	61	0	0	239	24	130	24	0	1	178	673	
15:45:00	10	80	29	0	2	119	41	146	13	0	0	200	31	159	52	0	1	242	30	145	28	0	1	203	764	2838
16:00:00	17	53	32	1	0	103	39	137	15	0	0	191	46	138	46	0	0	230	27	141	27	0	0	195	719	2819
16:15:00	13	101	32	2	0	148	27	167	10	0	0	204	38	184	48	0	2	270	31	146	28	0	1	205	827	2983
16:30:00	21	72	35	0	1	128	35	166	9	0	2	210	57	171	39	0	1	267	22	134	22	0	2	178	783	3093
16:45:00	18	75	26	1	0	120	41	145	9	0	0	195	46	144	49	0	1	239	37	153	37	0	0	227	781	3110
17:00:00	14	80	42	3	1	139	40	151	8	0	1	199	47	160	44	0	0	251	29	116	56	0	0	201	790	3181
17:15:00	14	88	32	1	1	135	29	161	5	0	0	195	40	168	45	0	1	253	23	127	43	0	0	193	776	3130
17:30:00	18	57	30	1	2	106	30	156	4	0	1	190	55	147	32	0	1	234	23	169	32	0	1	224	754	3101
17:45:00	16	54	31	0	1	101	26	158	5	0	4	189	45	133	44	0	0	222	24	121	28	0	2	173	685	3005
Grand Total	592	2859	876	23	35	4350	961	3766	287	0	21	5014	1027	2955	1295	0	22	5277	822	3694	945	1	21	5462	**20103**	-
Approach%	13.6%	65.7%	20.1%	0.5%		-	19.2%	75.1%	5.7%	0%		-	19.5%	56%	24.5%	0%		-	15%	67.6%	17.3%	0%		-	-	-
Totals %	2.9%	14.2%	4.4%	0.1%		21.6%	4.8%	18.7%	1.4%	0%		24.9%	5.1%	14.7%	6.4%	0%		26.2%	4.1%	18.4%	4.7%	0%		27.2%	-	-
Heavy	156	367	272	0		-	121	538	147	0		-	70	383	195	0		-	255	535	88	0		-	-	-
Heavy %	26.4%	12.8%	31.1%	0%		-	12.6%	14.3%	51.2%	0%		-	6.8%	13%	15.1%	0%		-	31%	14.5%	9.3%	0%		-	-	-
Bicycles	0	1	0	0		-	0	0	1	0		-	0	0	0	0		-	0	1	0	0		-	-	-
Bicycle %	0%	0%	0%	0%		-	0%	0%	0.3%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	-	-

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & MAYFIELD RD
Date: Wed, Jun 22, 2016 Deployment Lead: Chris Koukaras

Peak Hour: 07:00 AM - 08:00 AM Weather: Partly Cloudy (12.5 °C)

Start Time	N Approach AIRPORT RD						E Approach MAYFIELD RD						S Approach AIRPORT RD						W Approach MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
07:00:00	20	178	46	1	2	245	23	131	3	0	0	157	20	58	36	0	1	114	23	123	30	0	1	176	692
07:15:00	29	172	21	2	2	224	26	134	8	0	0	168	24	51	38	0	1	113	22	145	42	0	0	209	714
07:30:00	23	178	35	1	0	237	33	121	7	0	0	161	28	51	48	0	0	127	26	147	41	0	0	214	739
07:45:00	25	177	22	1	0	225	36	101	6	0	0	143	26	68	61	0	0	155	29	143	46	0	2	218	741
Grand Total	97	705	124	5	4	931	118	487	24	0	0	629	98	228	183	0	2	509	100	558	159	0	3	817	**2886**
Approach%	10.4%	75.7%	13.3%	0.5%		-	18.8%	77.4%	3.8%	0%		-	19.3%	44.8%	36%	0%		-	12.2%	68.3%	19.5%	0%		-	**-**
Totals %	3.4%	24.4%	4.3%	0.2%		32.3%	4.1%	16.9%	0.8%	0%		21.8%	3.4%	7.9%	6.3%	0%		17.6%	3.5%	19.3%	5.5%	0%		28.3%	**-**
PHF	0.84	0.99	0.67	0.63		0.95	0.82	0.91	0.75	0		0.94	0.88	0.84	0.75	0		0.82	0.86	0.95	0.86	0		0.94	**-**
Heavy	28	53	37	0		118	13	78	8	0		99	6	31	32	0		69	22	59	10	0		91	**-**
Heavy %	28.9%	7.5%	29.8%	0%		12.7%	11%	16%	33.3%	0%		15.7%	6.1%	13.6%	17.5%	0%		13.6%	22%	10.6%	6.3%	0%		11.1%	**-**
Lights	69	652	87	5		813	105	409	16	0		530	92	197	151	0		440	78	499	149	0		726	**-**
Lights %	71.1%	92.5%	70.2%	100%		87.3%	89%	84%	66.7%	0%		84.3%	93.9%	86.4%	82.5%	0%		86.4%	78%	89.4%	93.7%	0%		88.9%	**-**
Single-Unit Trucks	6	13	9	0		28	7	37	8	0		52	2	10	12	0		24	8	23	1	0		32	**-**
Single-Unit Trucks %	6.2%	1.8%	7.3%	0%		3%	5.9%	7.6%	33.3%	0%		8.3%	2%	4.4%	6.6%	0%		4.7%	8%	4.1%	0.6%	0%		3.9%	**-**
Buses	16	29	18	0		63	0	2	0	0		2	0	8	13	0		21	0	4	1	0		5	**-**
Buses %	16.5%	4.1%	14.5%	0%		6.8%	0%	0.4%	0%	0%		0.3%	0%	3.5%	7.1%	0%		4.1%	0%	0.7%	0.6%	0%		0.6%	**-**
Articulated Trucks	6	11	10	0		27	6	39	0	0		45	4	13	7	0		24	14	32	8	0		54	**-**
Articulated Trucks %	6.2%	1.6%	8.1%	0%		2.9%	5.1%	8%	0%	0%		7.2%	4.1%	5.7%	3.8%	0%		4.7%	14%	5.7%	5%	0%		6.6%	**-**
Pedestrians	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	3	-	**-**
Pedestrians%	-	-	-	-	44.4%		-	-	-	-	0%		-	-	-	-	11.1%		-	-	-	-	33.3%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	11.1%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & MAYFIELD RD
Date: Wed, Jun 22, 2016 Deployment Lead: Chris Koukaras

Peak Hour: 01:00 PM - 02:00 PM Weather: Partly Cloudy (18.5 °C)

Start Time	N Approach AIRPORT RD						E Approach MAYFIELD RD						S Approach AIRPORT RD						W Approach MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
13:00:00	23	58	18	0	4	99	25	89	14	0	0	128	17	55	29	0	0	101	25	89	16	0	4	130	458
13:15:00	15	59	23	1	10	98	27	92	8	0	3	127	22	78	23	0	1	123	23	84	17	0	0	124	472
13:30:00	19	64	28	0	0	111	32	66	13	0	0	111	22	53	48	0	0	123	24	100	29	0	0	153	498
13:45:00	18	63	26	0	4	107	29	78	14	0	0	121	26	72	28	0	1	126	14	92	23	0	1	129	483
Grand Total	75	244	95	1	18	415	113	325	49	0	3	487	87	258	128	0	2	473	86	365	85	0	5	536	**1911**
Approach%	18.1%	58.8%	22.9%	0.2%		-	23.2%	66.7%	10.1%	0%		-	18.4%	54.5%	27.1%	0%		-	16%	68.1%	15.9%	0%		-	**-**
Totals %	3.9%	12.8%	5%	0.1%		21.7%	5.9%	17%	2.6%	0%		25.5%	4.6%	13.5%	6.7%	0%		24.8%	4.5%	19.1%	4.4%	0%		28%	**-**
PHF	0.82	0.95	0.85	0.25		0.93	0.88	0.88	0.88	0		0.95	0.84	0.83	0.67	0		0.94	0.86	0.91	0.73	0		0.88	**-**
Heavy	23	50	41	0		114	20	62	25	0		107	10	42	25	0		77	28	74	12	0		114	**-**
Heavy %	30.7%	20.5%	43.2%	0%		27.5%	17.7%	19.1%	51%	0%		22%	11.5%	16.3%	19.5%	0%		16.3%	32.6%	20.3%	14.1%	0%		21.3%	**-**
Lights	52	194	54	1		301	93	263	24	0		380	77	216	103	0		396	58	291	73	0		422	**-**
Lights %	69.3%	79.5%	56.8%	100%		72.5%	82.3%	80.9%	49%	0%		78%	88.5%	83.7%	80.5%	0%		83.7%	67.4%	79.7%	85.9%	0%		78.7%	**-**
Single-Unit Trucks	17	19	15	0		51	13	26	17	0		56	5	17	11	0		33	12	34	9	0		55	**-**
Single-Unit Trucks %	22.7%	7.8%	15.8%	0%		12.3%	11.5%	8%	34.7%	0%		11.5%	5.7%	6.6%	8.6%	0%		7%	14%	9.3%	10.6%	0%		10.3%	**-**
Buses	1	10	8	0		19	0	0	1	0		1	0	4	4	0		8	5	0	0	0		5	**-**
Buses %	1.3%	4.1%	8.4%	0%		4.6%	0%	0%	2%	0%		0.2%	0%	1.6%	3.1%	0%		1.7%	5.8%	0%	0%	0%		0.9%	**-**
Articulated Trucks	5	21	18	0		44	7	36	7	0		50	5	21	10	0		36	11	40	3	0		54	**-**
Articulated Trucks %	6.7%	8.6%	18.9%	0%		10.6%	6.2%	11.1%	14.3%	0%		10.3%	5.7%	8.1%	7.8%	0%		7.6%	12.8%	11%	3.5%	0%		10.1%	**-**
Pedestrians	-	-	-	-	18	-	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	3	-	**-**
Pedestrians%	-	-	-	-	64.3%		-	-	-	-	10.7%		-	-	-	-	7.1%		-	-	-	-	10.7%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	7.1%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & MAYFIELD RD
Date: Wed, Jun 22, 2016 Deployment Lead: Chris Koukaras

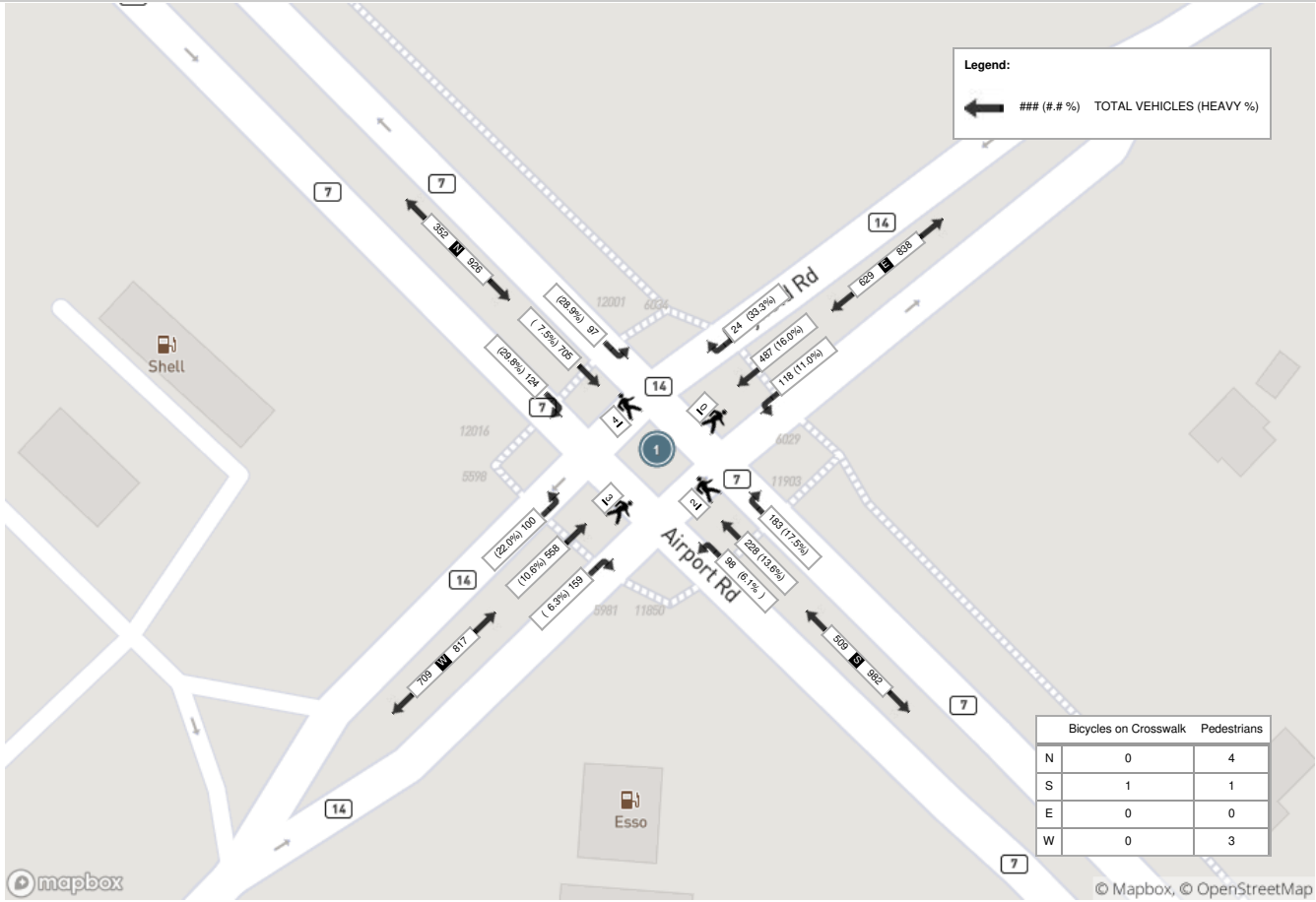
Peak Hour: 04:15 PM - 05:15 PM Weather: Partly Cloudy (21.6 °C)

Start Time	N Approach AIRPORT RD						E Approach MAYFIELD RD						S Approach AIRPORT RD						W Approach MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
16:15:00	13	101	32	2	0	148	27	167	10	0	0	204	38	184	48	0	2	270	31	146	28	0	1	205	827
16:30:00	21	72	35	0	1	128	35	166	9	0	2	210	57	171	39	0	1	267	22	134	22	0	2	178	783
16:45:00	18	75	26	1	0	120	41	145	9	0	0	195	46	144	49	0	1	239	37	153	37	0	0	227	781
17:00:00	14	80	42	3	1	139	40	151	8	0	1	199	47	160	44	0	0	251	29	116	56	0	0	201	790
Grand Total	66	328	135	6	2	535	143	629	36	0	3	808	188	659	180	0	4	1027	119	549	143	0	3	811	**3181**
Approach%	12.3%	61.3%	25.2%	1.1%		-	17.7%	77.8%	4.5%	0%		-	18.3%	64.2%	17.5%	0%		-	14.7%	67.7%	17.6%	0%		-	**-**
Totals %	2.1%	10.3%	4.2%	0.2%		16.8%	4.5%	19.8%	1.1%	0%		25.4%	5.9%	20.7%	5.7%	0%		32.3%	3.7%	17.3%	4.5%	0%		25.5%	**-**
PHF	0.79	0.81	0.8	0.5		0.9	0.87	0.94	0.9	0		0.96	0.82	0.9	0.92	0		0.95	0.8	0.9	0.64	0		0.89	**-**
Heavy	14	33	24	0		71	11	44	25	0		80	10	59	22	0		91	45	73	13	0		131	**-**
Heavy %	21.2%	10.1%	17.8%	0%		13.3%	7.7%	7%	69.4%	0%		9.9%	5.3%	9%	12.2%	0%		8.9%	37.8%	13.3%	9.1%	0%		16.2%	**-**
Lights	52	295	111	6		464	132	585	11	0		728	178	600	158	0		936	74	476	130	0		680	**-**
Lights %	78.8%	89.9%	82.2%	100%		86.7%	92.3%	93%	30.6%	0%		90.1%	94.7%	91%	87.8%	0%		91.1%	62.2%	86.7%	90.9%	0%		83.8%	**-**
Single-Unit Trucks	6	13	7	0		26	6	24	10	0		40	7	10	3	0		20	8	36	5	0		49	**-**
Single-Unit Trucks %	9.1%	4%	5.2%	0%		4.9%	4.2%	3.8%	27.8%	0%		5%	3.7%	1.5%	1.7%	0%		1.9%	6.7%	6.6%	3.5%	0%		6%	**-**
Buses	0	6	6	0		12	1	4	4	0		9	0	19	9	0		28	16	0	2	0		18	**-**
Buses %	0%	1.8%	4.4%	0%		2.2%	0.7%	0.6%	11.1%	0%		1.1%	0%	2.9%	5%	0%		2.7%	13.4%	0%	1.4%	0%		2.2%	**-**
Articulated Trucks	8	14	11	0		33	4	16	11	0		31	3	30	10	0		43	21	37	6	0		64	**-**
Articulated Trucks %	12.1%	4.3%	8.1%	0%		6.2%	2.8%	2.5%	30.6%	0%		3.8%	1.6%	4.6%	5.6%	0%		4.2%	17.6%	6.7%	4.2%	0%		7.9%	**-**
Pedestrians	-	-	-	-	2	-	-	-	-	-	3	-	-	-	-	-	4	-	-	-	-	-	3	-	**-**
Pedestrians%	-	-	-	-	16.7%		-	-	-	-	25%		-	-	-	-	33.3%		-	-	-	-	25%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & MAYFIELD RD
Date: Wed, Jun 22, 2016 Deployment Lead: Chris Koukaras

Peak Hour: 07:00 AM - 08:00 AM **Weather: Partly Cloudy (12.5 °C)**

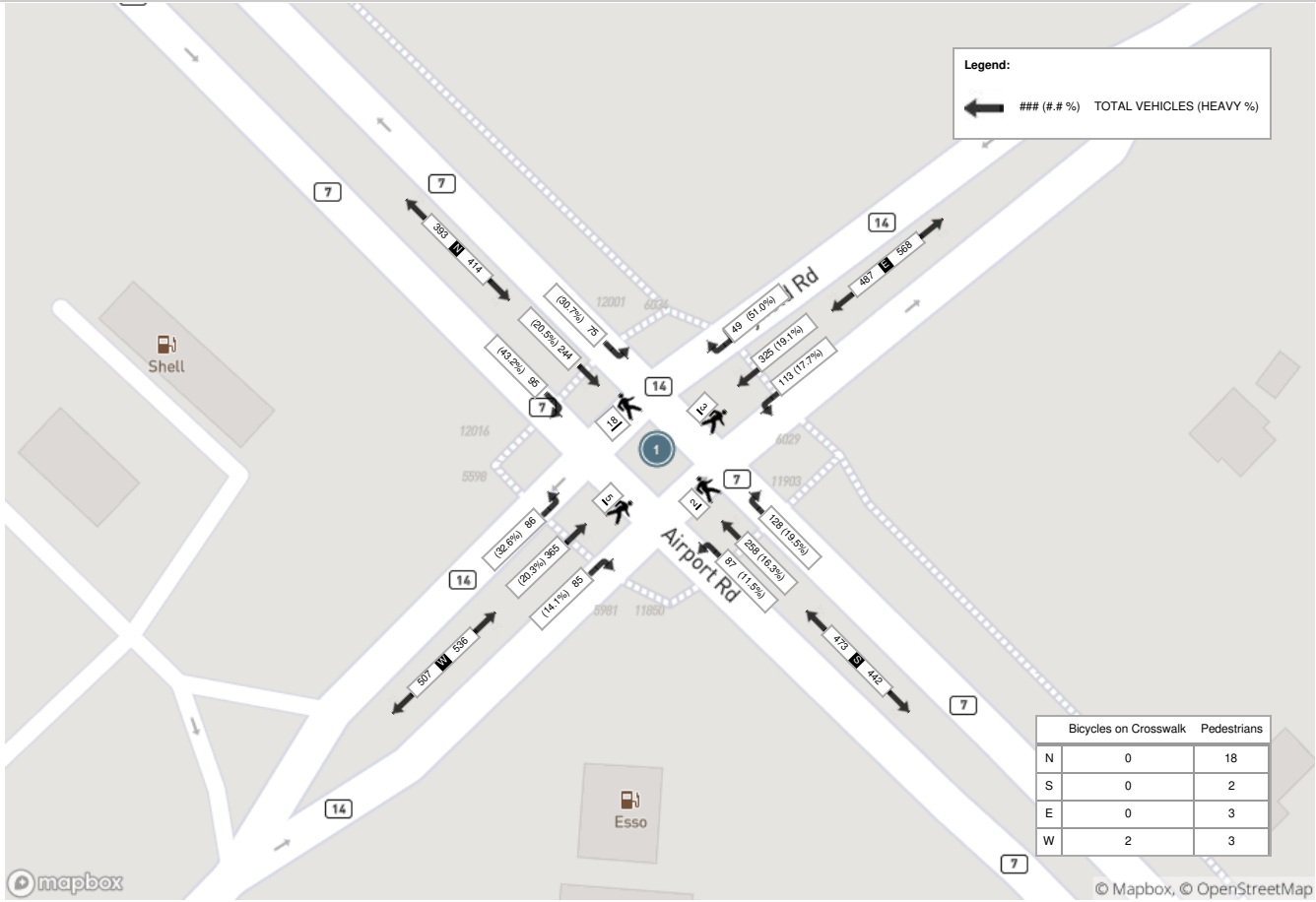


	Bicycles on Crosswalk	Pedestrians
N	0	4
S	1	1
E	0	0
W	0	3

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & MAYFIELD RD
Date: Wed, Jun 22, 2016 Deployment Lead: Chris Koukaras

Peak Hour: 01:00 PM - 02:00 PM Weather: Partly Cloudy (18.5 °C)

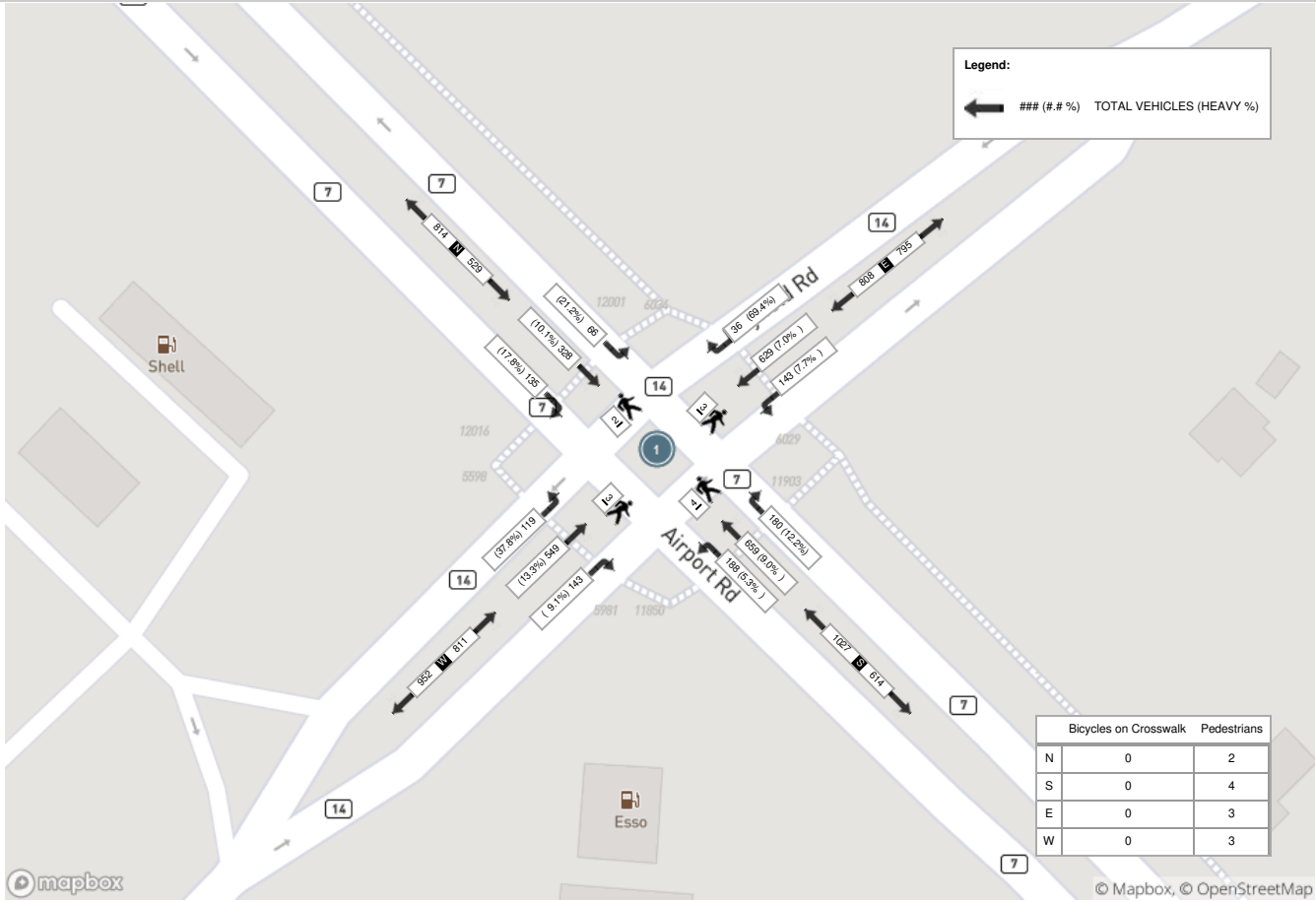


	Bicycles on Crosswalk	Pedestrians
N	0	18
S	0	2
E	0	3
W	2	3

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & MAYFIELD RD
Date: Wed, Jun 22, 2016 Deployment Lead: Chris Koukaras

Peak Hour: 04:15 PM - 05:15 PM **Weather: Partly Cloudy (21.6 °C)**



	Bicycles on Crosswalk	Pedestrians
N	0	2
S	0	4
E	0	3
W	0	3

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & OLD SCHOOL RD
Date: Thu, Oct 03, 2019 Deployment Lead: Patrick Filopoulos

Turning Movement Count (97 . AIRPORT RD & OLD SCHOOL RD) CustID: 00720510 MioID:

Start Time	N Approach AIRPORT RD					S Approach AIRPORT RD					W Approach OLD SCHOOL RD					Int. Total (15 min)	Int. Total (1 hr)
	Thru N:S	Right N:W	UTurn N:N	Peds N:	Approach Total	Left S:W	Thru S:N	UTurn S:S	Peds S:	Approach Total	Left W:N	Right W:S	UTurn W:W	Peds W:	Approach Total		
07:00:00	162	1	0	0	163	23	36	0	0	59	3	43	0	0	46	268	
07:15:00	161	4	0	0	165	21	40	0	0	61	3	43	0	0	46	272	
07:30:00	179	4	0	0	183	26	38	0	0	64	4	46	0	0	50	297	
07:45:00	142	2	0	0	144	38	60	0	0	98	6	73	0	0	79	321	1158
08:00:00	174	0	0	0	174	16	38	0	0	54	2	40	0	0	42	270	1160
08:15:00	143	3	0	0	146	10	38	0	0	48	4	50	0	0	54	248	1136
08:30:00	131	2	0	0	133	9	37	0	0	46	3	37	0	0	40	219	1058
08:45:00	108	3	0	0	111	14	44	0	0	58	5	52	0	0	57	226	963
BREAK																	
11:00:00	50	1	0	0	51	12	49	0	0	61	0	9	0	0	9	121	
11:15:00	68	1	0	0	69	9	46	0	0	55	5	10	0	0	15	139	
11:30:00	65	2	0	0	67	11	43	0	0	54	7	10	0	0	17	138	
11:45:00	50	2	0	0	52	8	38	0	0	46	2	11	0	0	13	111	509
12:00:00	50	3	0	0	53	16	47	0	0	63	8	12	0	0	20	136	524
12:15:00	44	0	0	0	44	12	40	0	0	52	2	14	0	0	16	112	497
12:30:00	40	0	0	0	40	9	37	0	0	46	3	10	0	0	13	99	458
12:45:00	42	2	0	0	44	14	54	0	0	68	2	11	0	0	13	125	472
13:00:00	52	0	0	0	52	12	55	0	0	67	4	12	0	0	16	135	471
13:15:00	52	1	0	0	53	14	53	0	0	67	4	15	0	0	19	139	498
13:30:00	52	1	0	0	53	12	59	0	0	71	1	15	0	0	16	140	539
13:45:00	52	3	0	0	55	13	68	0	0	81	2	14	0	0	16	152	566
BREAK																	
15:00:00	49	8	0	0	57	29	139	0	0	168	5	31	0	0	36	261	
15:15:00	48	1	0	0	49	36	107	0	0	143	3	29	0	0	32	224	
15:30:00	56	5	0	0	61	48	106	0	0	154	6	30	0	0	36	251	
15:45:00	48	2	0	0	50	63	104	0	0	167	8	33	0	0	41	258	994
16:00:00	57	3	0	0	60	64	155	0	0	219	1	27	0	0	28	307	1040
16:15:00	59	3	0	0	62	78	135	0	0	213	4	28	0	0	32	307	1123
16:30:00	56	4	0	0	60	58	169	0	0	227	8	33	0	0	41	328	1200
16:45:00	49	5	0	0	54	83	147	0	0	230	12	35	0	0	47	331	1273
17:00:00	63	3	0	0	66	57	161	0	0	218	7	18	0	0	25	309	1275
17:15:00	54	5	0	0	59	88	148	0	0	236	5	24	0	0	29	324	1292
17:30:00	54	0	0	0	54	70	150	0	0	220	5	18	0	0	23	297	1261
17:45:00	57	5	0	0	62	62	140	0	0	202	1	22	0	0	23	287	1217

Grand Total	2467	79	0	0	2546	1035	2581	0	0	3616	135	855	0	0	990	**7152**	-
Approach%	96.9%	3.1%	0%		-	28.6%	71.4%	0%		-	13.6%	86.4%	0%		-	**-**	-
Totals %	34.5%	1.1%	0%		35.6%	14.5%	36.1%	0%		50.6%	1.9%	12%	0%		13.8%	**-**	-
Heavy	291	4	0		-	14	255	0		-	7	14	0		-	**-**	-
Heavy %	11.8%	5.1%	0%		-	1.4%	9.9%	0%		-	5.2%	1.6%	0%		-	**-**	-
Bicycles	0	0	0		-	0	0	0		-	0	0	1		-	**-**	-
Bicycle %	0%	0%	0%		-	0%	0%	0%		-	0%	0%	0%		-	**-**	-

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & OLD SCHOOL RD
Date: Thu, Oct 03, 2019 Deployment Lead: Patrick Filopoulos

Peak Hour: 07:15 AM - 08:15 AM Weather: Moderate Rain (9.08 °C)

Start Time	N Approach AIRPORT RD					S Approach AIRPORT RD					W Approach OLD SCHOOL RD					Int. Total (15 min)
	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	UTurn	Peds	Approach Total	Left	Right	UTurn	Peds	Approach Total	
07:15:00	161	4	0	0	165	21	40	0	0	61	3	43	0	0	46	272
07:30:00	179	4	0	0	183	26	38	0	0	64	4	46	0	0	50	297
07:45:00	142	2	0	0	144	38	60	0	0	98	6	73	0	0	79	321
08:00:00	174	0	0	0	174	16	38	0	0	54	2	40	0	0	42	270
Grand Total	656	10	0	0	666	101	176	0	0	277	15	202	0	0	217	**1160**
Approach%	98.5%	1.5%	0%		-	36.5%	63.5%	0%		-	6.9%	93.1%	0%		-	**-**
Totals %	56.6%	0.9%	0%		57.4%	8.7%	15.2%	0%		23.9%	1.3%	17.4%	0%		18.7%	**-**
PHF	0.92	0.63	0		0.91	0.66	0.73	0		0.71	0.63	0.69	0		0.69	**-**
Heavy	31	0	0		31	3	26	0		29	1	1	0		2	**-**
Heavy %	4.7%	0%	0%		4.7%	3%	14.8%	0%		10.5%	6.7%	0.5%	0%		0.9%	**-**
Lights	625	10	0		635	98	150	0		248	14	201	0		215	**-**
Lights %	95.3%	100%	0%		95.3%	97%	85.2%	0%		89.5%	93.3%	99.5%	0%		99.1%	**-**
Single-Unit Trucks	12	0	0		12	0	8	0		8	0	0	0		0	**-**
Single-Unit Trucks %	1.8%	0%	0%		1.8%	0%	4.5%	0%		2.9%	0%	0%	0%		0%	**-**
Buses	1	0	0		1	3	5	0		8	1	1	0		2	**-**
Buses %	0.2%	0%	0%		0.2%	3%	2.8%	0%		2.9%	6.7%	0.5%	0%		0.9%	**-**
Articulated Trucks	18	0	0		18	0	13	0		13	0	0	0		0	**-**
Articulated Trucks %	2.7%	0%	0%		2.7%	0%	7.4%	0%		4.7%	0%	0%	0%		0%	**-**
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	%		-	-	-	%		-	-	-	%		**-**

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & OLD SCHOOL RD
Date: Thu, Oct 03, 2019 Deployment Lead: Patrick Filopoulos

Peak Hour: 01:00 PM - 02:00 PM Weather: Light Rain (9.06 °C)

Start Time	N Approach AIRPORT RD					S Approach AIRPORT RD					W Approach OLD SCHOOL RD					Int. Total (15 min)
	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	UTurn	Peds	Approach Total	Left	Right	UTurn	Peds	Approach Total	
13:00:00	52	0	0	0	52	12	55	0	0	67	4	12	0	0	16	135
13:15:00	52	1	0	0	53	14	53	0	0	67	4	15	0	0	19	139
13:30:00	52	1	0	0	53	12	59	0	0	71	1	15	0	0	16	140
13:45:00	52	3	0	0	55	13	68	0	0	81	2	14	0	0	16	152
Grand Total	208	5	0	0	213	51	235	0	0	286	11	56	0	0	67	**566**
Approach%	97.7%	2.3%	0%		-	17.8%	82.2%	0%		-	16.4%	83.6%	0%		-	**-**
Totals %	36.7%	0.9%	0%		37.6%	9%	41.5%	0%		50.5%	1.9%	9.9%	0%		11.8%	**-**
PHF	1	0.42	0		0.97	0.91	0.86	0		0.88	0.69	0.93	0		0.88	**-**
Heavy	33	1	0		34	0	32	0		32	2	2	0		4	**-**
Heavy %	15.9%	20%	0%		16%	0%	13.6%	0%		11.2%	18.2%	3.6%	0%		6%	**-**
Lights	175	4	0		179	51	203	0		254	9	54	0		63	**-**
Lights %	84.1%	80%	0%		84%	100%	86.4%	0%		88.8%	81.8%	96.4%	0%		94%	**-**
Single-Unit Trucks	18	1	0		19	0	16	0		16	2	2	0		4	**-**
Single-Unit Trucks %	8.7%	20%	0%		8.9%	0%	6.8%	0%		5.6%	18.2%	3.6%	0%		6%	**-**
Buses	3	0	0		3	0	8	0		8	0	0	0		0	**-**
Buses %	1.4%	0%	0%		1.4%	0%	3.4%	0%		2.8%	0%	0%	0%		0%	**-**
Articulated Trucks	12	0	0		12	0	8	0		8	0	0	0		0	**-**
Articulated Trucks %	5.8%	0%	0%		5.6%	0%	3.4%	0%		2.8%	0%	0%	0%		0%	**-**
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	%		-	-	-	%		-	-	-	%		**-**

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & OLD SCHOOL RD
Date: Thu, Oct 03, 2019 Deployment Lead: Patrick Filopoulos

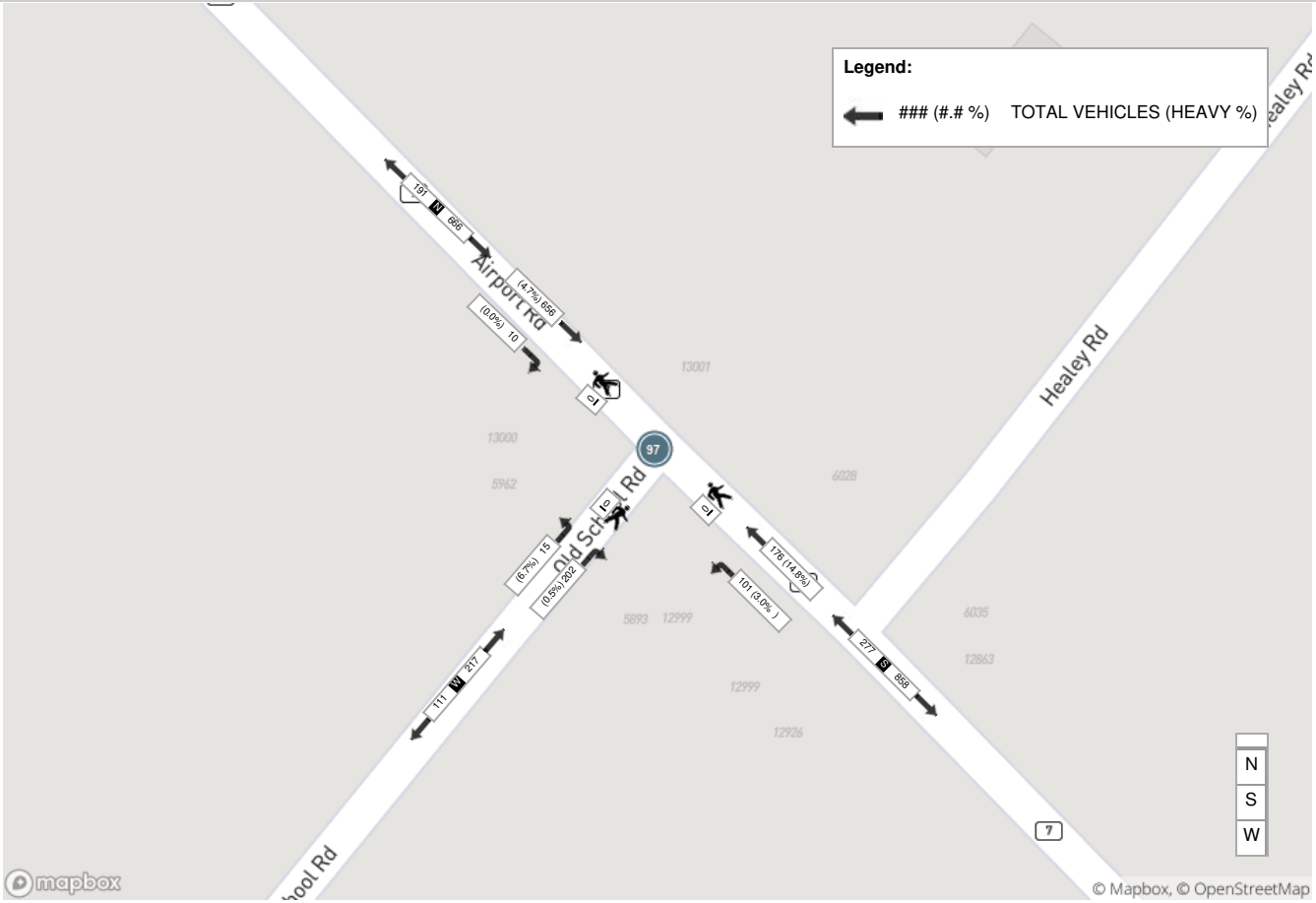
Peak Hour: 04:30 PM - 05:30 PM Weather: Light Rain (10.54 °C)

Start Time	N Approach AIRPORT RD					S Approach AIRPORT RD					W Approach OLD SCHOOL RD					Int. Total (15 min)
	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	UTurn	Peds	Approach Total	Left	Right	UTurn	Peds	Approach Total	
16:30:00	56	4	0	0	60	58	169	0	0	227	8	33	0	0	41	328
16:45:00	49	5	0	0	54	83	147	0	0	230	12	35	0	0	47	331
17:00:00	63	3	0	0	66	57	161	0	0	218	7	18	0	0	25	309
17:15:00	54	5	0	0	59	88	148	0	0	236	5	24	0	0	29	324
Grand Total	222	17	0	0	239	286	625	0	0	911	32	110	0	0	142	**1292**
Approach%	92.9%	7.1%	0%		-	31.4%	68.6%	0%		-	22.5%	77.5%	0%		-	**-**
Totals %	17.2%	1.3%	0%		18.5%	22.1%	48.4%	0%		70.5%	2.5%	8.5%	0%		11%	**-**
PHF	0.88	0.85	0		0.91	0.81	0.92	0		0.97	0.67	0.79	0		0.76	**-**
Heavy	41	0	0		41	1	39	0		40	2	2	0		4	**-**
Heavy %	18.5%	0%	0%		17.2%	0.3%	6.2%	0%		4.4%	6.3%	1.8%	0%		2.8%	**-**
Lights	181	17	0		198	285	586	0		871	30	108	0		138	**-**
Lights %	81.5%	100%	0%		82.8%	99.7%	93.8%	0%		95.6%	93.8%	98.2%	0%		97.2%	**-**
Single-Unit Trucks	13	0	0		13	1	18	0		19	1	0	0		1	**-**
Single-Unit Trucks %	5.9%	0%	0%		5.4%	0.3%	2.9%	0%		2.1%	3.1%	0%	0%		0.7%	**-**
Buses	9	0	0		9	0	1	0		1	1	2	0		3	**-**
Buses %	4.1%	0%	0%		3.8%	0%	0.2%	0%		0.1%	3.1%	1.8%	0%		2.1%	**-**
Articulated Trucks	19	0	0		19	0	20	0		20	0	0	0		0	**-**
Articulated Trucks %	8.6%	0%	0%		7.9%	0%	3.2%	0%		2.2%	0%	0%	0%		0%	**-**
Bicycles on Road	0	0	0	0	-	0	0	0	0	-	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	%		-	-	-	%		-	-	-	%		**-**

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & OLD SCHOOL RD
Date: Thu, Oct 03, 2019 Deployment Lead: Patrick Filopoulos

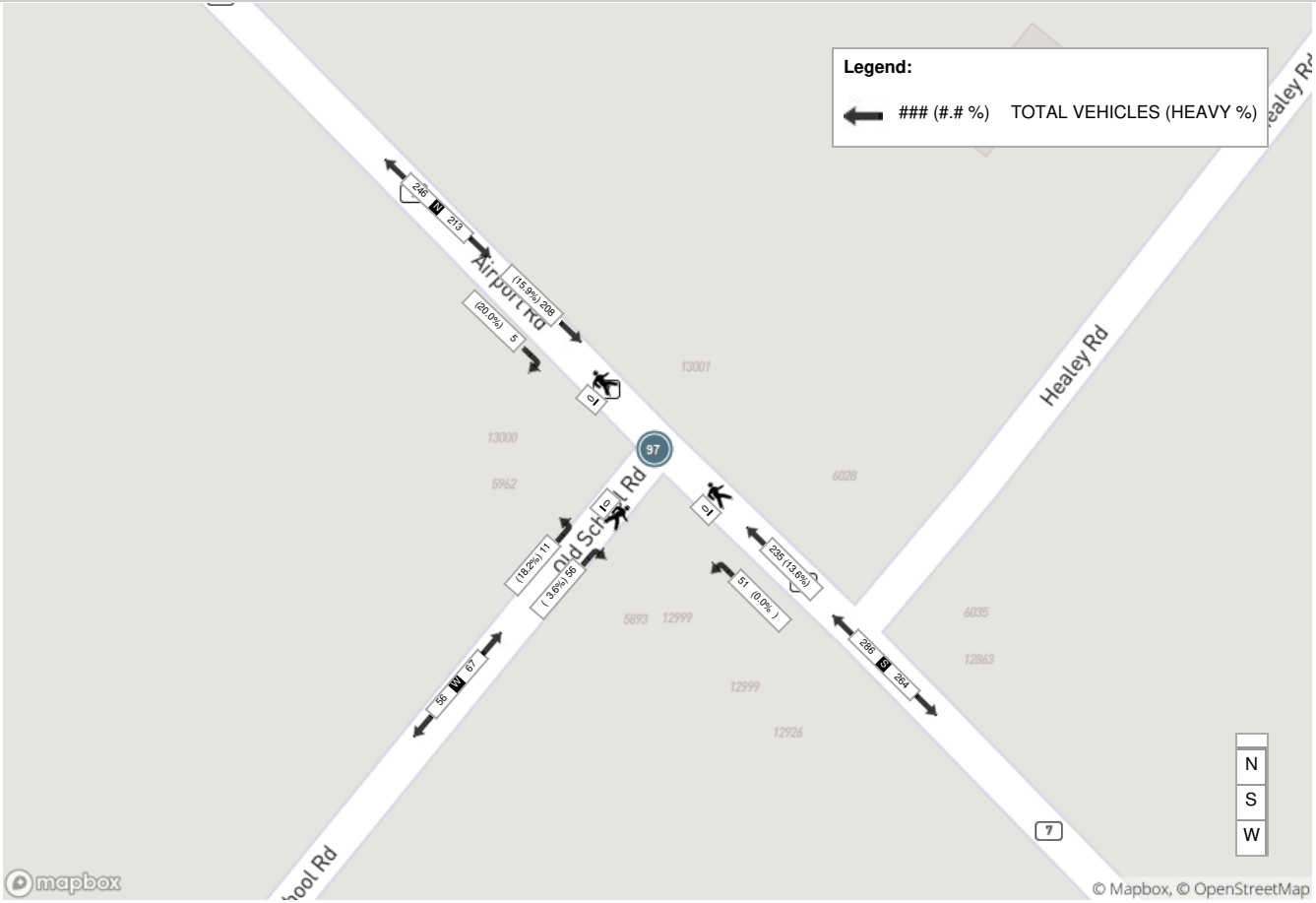
Peak Hour: 07:15 AM - 08:15 AM Weather: Moderate Rain (9.08 °C)



Spectrum

Turning Movement Count
Location Name: AIRPORT RD & OLD SCHOOL RD
Date: Thu, Oct 03, 2019 Deployment Lead: Patrick Filopoulos

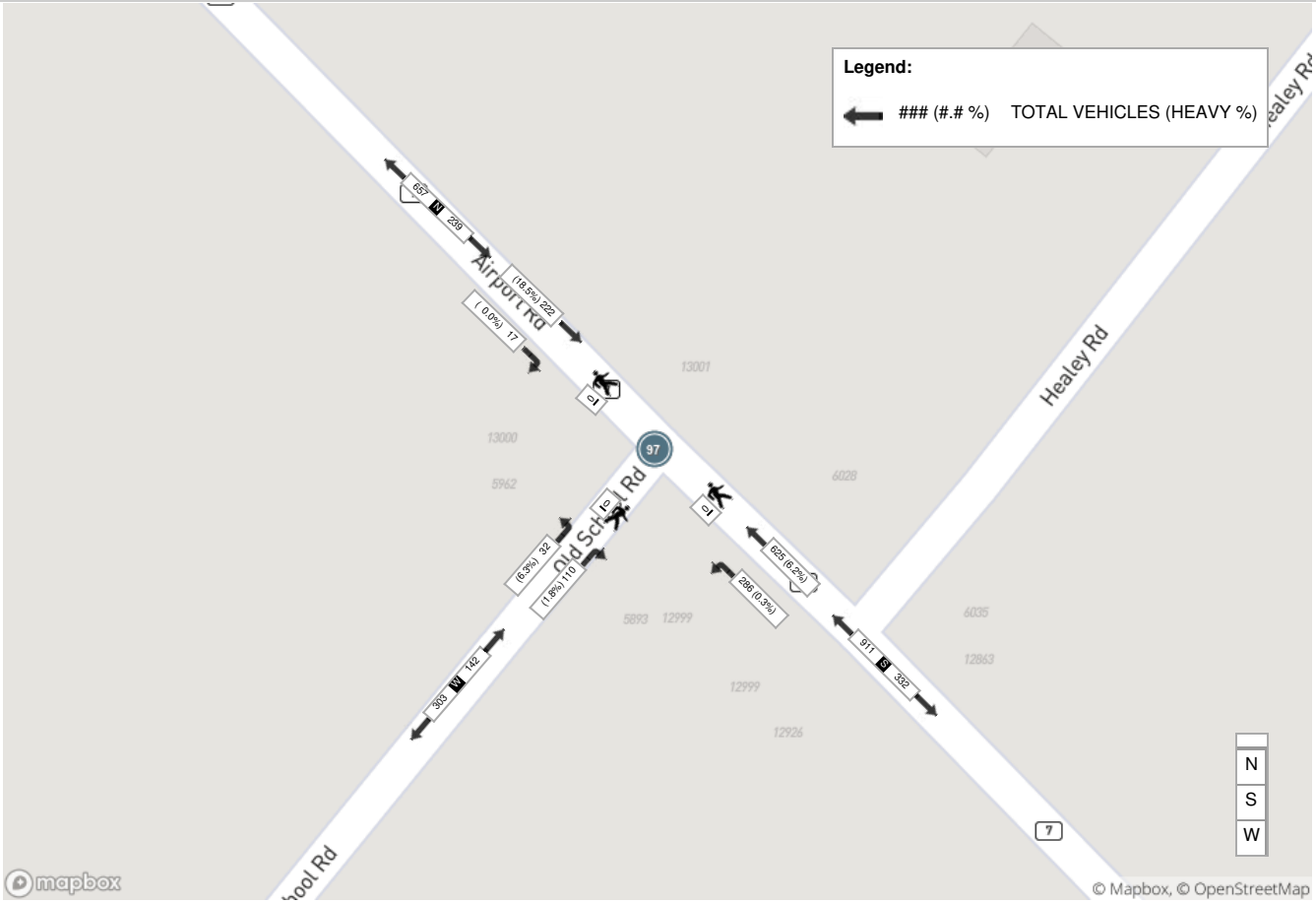
Peak Hour: 01:00 PM - 02:00 PM Weather: Light Rain (9.06 °C)



Spectrum

Turning Movement Count
Location Name: AIRPORT RD & OLD SCHOOL RD
Date: Thu, Oct 03, 2019 Deployment Lead: Patrick Filopoulos

Peak Hour: 04:30 PM - 05:30 PM Weather: Light Rain (10.54 °C)



Spectrum

Turning Movement Count
Location Name: AIRPORT RD & PERDUE CRT / DAVIS LN
Date: Wed, Sep 25, 2019 Deployment Lead: Patrick Filopoulos

Turning Movement Count (47 . AIRPORT RD & PERDUE CRT / DAVIS LN) CustID: 00717933 MioID:

Start Time	N Approach AIRPORT RD						E Approach PERDUE CT						S Approach AIRPORT RD						W Approach PERDUE CT						Int. Total (15 min)	Int. Total (1 hr)
	Left N:E	Thru N:S	Right N:W	UTurn N:N	Peds N:	Approach Total	Left E:S	Thru E:W	Right E:N	UTurn E:E	Peds E:	Approach Total	Left S:W	Thru S:N	Right S:E	UTurn S:S	Peds S:	Approach Total	Left W:N	Thru W:E	Right W:S	UTurn W:W	Peds W:	Approach Total		
06:00:00	0	111	0	0	0	111	9	0	2	0	2	11	12	32	8	0	0	52	0	0	7	0	0	7	181	
06:15:00	0	121	2	1	0	124	7	0	4	0	2	11	7	47	20	0	0	74	0	0	15	0	0	15	224	
06:30:00	2	163	0	0	0	165	15	0	5	0	1	20	7	66	20	0	0	93	2	0	10	0	0	12	290	
06:45:00	3	178	0	0	0	181	10	0	4	0	3	14	15	98	31	0	0	144	0	0	6	2	0	8	347	1042
BREAK																										
07:00:00	1	188	1	0	0	190	23	0	8	0	0	31	4	55	15	0	0	74	2	0	10	0	0	12	307	
07:15:00	0	184	1	0	0	185	21	0	1	0	0	22	9	58	12	0	0	79	2	0	4	0	1	6	292	
07:30:00	0	187	1	0	0	188	9	0	0	0	3	9	13	74	8	0	0	95	1	0	10	0	0	11	303	
07:45:00	1	170	3	0	0	174	9	0	3	0	2	12	15	63	9	0	0	87	3	0	6	0	0	9	282	1184
08:00:00	1	161	2	0	0	164	9	0	2	0	0	11	30	58	5	0	0	93	1	0	15	0	0	16	284	1161
08:15:00	6	139	2	0	0	147	3	0	0	0	0	3	20	65	15	0	0	100	0	0	10	0	0	10	260	1129
08:30:00	0	151	1	0	0	152	8	0	2	0	2	10	20	59	20	0	0	99	3	0	6	0	1	9	270	1096
08:45:00	3	138	4	0	0	145	11	0	2	0	0	13	13	59	21	0	0	93	0	0	7	0	1	7	258	1072
BREAK																										
11:00:00	1	81	0	0	0	82	5	0	3	0	0	8	12	43	2	0	0	57	0	0	11	0	0	11	158	
11:15:00	1	70	6	0	0	77	6	0	2	0	0	8	4	52	3	0	0	59	0	0	15	0	0	15	159	
11:30:00	0	64	1	0	0	65	3	0	1	0	2	4	9	52	2	0	0	63	1	0	10	0	0	11	143	
11:45:00	10	70	0	0	0	80	5	0	2	0	0	7	20	63	5	0	0	88	0	0	7	1	0	8	183	643
12:00:00	7	75	0	0	0	82	13	0	0	0	1	13	10	57	8	0	0	75	1	0	13	1	0	15	185	670
12:15:00	1	57	0	0	0	58	3	0	2	0	1	5	12	74	6	0	0	92	1	0	12	0	0	13	168	679
12:30:00	1	58	1	0	0	60	7	0	3	0	0	10	10	60	8	0	0	78	2	1	14	0	1	17	165	701
12:45:00	3	75	1	0	0	79	8	0	3	0	0	11	15	67	9	0	0	91	1	0	10	0	0	11	192	710
13:00:00	2	63	1	0	0	66	10	0	0	0	0	10	23	71	6	0	0	100	1	0	10	0	0	11	187	712
13:15:00	0	72	1	0	0	73	12	0	2	1	0	15	13	54	18	0	0	85	4	0	13	0	0	17	190	734
13:30:00	1	67	1	0	0	69	18	0	9	0	0	27	13	63	26	0	0	102	0	0	20	0	0	20	218	787
13:45:00	0	64	0	0	0	64	29	0	2	0	0	31	10	66	23	0	0	99	1	0	9	0	0	10	204	799
BREAK																										
14:00:00	0	53	0	0	0	53	32	0	3	0	1	35	16	72	19	0	0	107	0	0	10	0	0	10	205	
BREAK																										
15:00:00	1	121	1	0	0	123	9	0	0	0	5	9	5	116	7	0	0	128	0	0	7	0	0	7	267	
15:15:00	0	75	0	1	0	76	7	0	0	0	1	7	8	110	3	0	0	121	1	0	13	0	0	14	218	
15:30:00	2	85	2	0	0	89	9	0	0	0	4	9	12	135	6	0	0	153	1	0	7	0	1	8	259	
15:45:00	3	78	2	0	0	83	10	0	5	0	1	15	7	140	14	0	0	161	0	0	9	0	0	9	268	1012
16:00:00	5	76	1	1	0	83	16	0	1	0	0	17	17	157	26	0	0	200	2	0	14	0	0	16	316	1061
16:15:00	1	71	1	1	0	74	25	0	3	0	0	28	8	199	30	0	0	237	3	0	14	0	0	17	356	1199
16:30:00	7	96	2	1	0	106	30	0	2	0	2	32	12	194	14	0	0	220	0	0	18	0	0	18	376	1316
16:45:00	5	80	1	3	0	89	20	0	0	0	0	20	17	177	7	0	0	201	1	0	8	0	1	9	319	1367
17:00:00	0	91	5	7	0	103	9	0	2	0	1	11	10	182	13	0	0	205	7	0	22	0	1	29	348	1399
17:15:00	1	83	0	0	0	84	10	0	3	0	0	13	17	169	9	0	0	195	2	0	12	0	0	14	306	1349
17:30:00	0	71	3	1	0	75	13	0	1	0	0	14	11	122	8	0	0	141	2	0	17	0	0	19	249	1222
17:45:00	0	85	2	0	0	87	8	0	2	0	0	10	13	129	6	0	0	148	0	0	12	0	0	12	257	1160
Grand Total	69	3772	49	16	0	3906	451	0	84	1	34	536	469	3358	462	0	0	4289	45	1	413	4	7	463	**9194**	-
Approach%	1.8%	96.6%	1.3%	0.4%		-	84.1%	0%	15.7%	0.2%		-	10.9%	78.3%	10.8%	0%		-	9.7%	0.2%	89.2%	0.9%		-	-	-
Totals %	0.8%	41%	0.5%	0.2%		42.5%	4.9%	0%	0.9%	0%		5.8%	5.1%	36.5%	5%	0%		46.6%	0.5%	0%	4.5%	0%		5%	-	-

Heavy	53	535	21	0	-	224	0	54	1	-	259	479	206	0	-	28	1	202	4	-	-	-	
Heavy %	76.8%	14.2%	42.9%	0%	-	49.7%	0%	64.3%	100%	-	55.2%	14.3%	44.6%	0%	-	62.2%	100%	48.9%	100%	-	-	-	
Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & PERDUE CRT / DAVIS LN
Date: Wed, Sep 25, 2019 Deployment Lead: Patrick Filopoulos

Peak Hour: 06:00 AM - 07:00 AM Weather:

Start Time	N Approach AIRPORT RD						E Approach PERDUE CT						S Approach AIRPORT RD						W Approach PERDUE CT						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
06:00:00	0	111	0	0	0	111	9	0	2	0	2	11	12	32	8	0	0	52	0	0	7	0	0	7	181
06:15:00	0	121	2	1	0	124	7	0	4	0	2	11	7	47	20	0	0	74	0	0	15	0	0	15	224
06:30:00	2	163	0	0	0	165	15	0	5	0	1	20	7	66	20	0	0	93	2	0	10	0	0	12	290
06:45:00	3	178	0	0	0	181	10	0	4	0	3	14	15	98	31	0	0	144	0	0	6	2	0	8	347
Grand Total	5	573	2	1	0	581	41	0	15	0	8	56	41	243	79	0	0	363	2	0	38	2	0	42	**1042**
Approach%	0.9%	98.6%	0.3%	0.2%		-	73.2%	0%	26.8%	0%		-	11.3%	66.9%	21.8%	0%		-	4.8%	0%	90.5%	4.8%		-	**-**
Totals %	0.5%	55%	0.2%	0.1%		55.8%	3.9%	0%	1.4%	0%		5.4%	3.9%	23.3%	7.6%	0%		34.8%	0.2%	0%	3.6%	0.2%		4%	**-**
PHF	0.42	0.8	0.25	0.25		0.8	0.68	0	0.75	0		0.7	0.68	0.62	0.64	0		0.63	0.25	0	0.63	0.25		0.7	**-**
Heavy	1	62	0	0		63	36	0	14	0		50	13	24	5	0		42	2	0	32	2		36	**-**
Heavy %	20%	10.8%	0%	0%		10.8%	87.8%	0%	93.3%	0%		89.3%	31.7%	9.9%	6.3%	0%		11.6%	100%	0%	84.2%	100%		85.7%	**-**
Lights	4	511	2	1		518	5	0	1	0		6	28	219	74	0		321	0	0	6	0		6	**-**
Lights %	80%	89.2%	100%	100%		89.2%	12.2%	0%	6.7%	0%		10.7%	68.3%	90.1%	93.7%	0%		88.4%	0%	0%	15.8%	0%		14.3%	**-**
Single-Unit Trucks	0	29	0	0		29	1	0	0	0		1	11	9	1	0		21	0	0	24	2		26	**-**
Single-Unit Trucks %	0%	5.1%	0%	0%		5%	2.4%	0%	0%	0%		1.8%	26.8%	3.7%	1.3%	0%		5.8%	0%	0%	63.2%	100%		61.9%	**-**
Buses	1	0	0	0		1	27	0	14	0		41	0	2	2	0		4	0	0	0	0		0	**-**
Buses %	20%	0%	0%	0%		0.2%	65.9%	0%	93.3%	0%		73.2%	0%	0.8%	2.5%	0%		1.1%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	33	0	0		33	8	0	0	0		8	2	13	2	0		17	2	0	8	0		10	**-**
Articulated Trucks %	0%	5.8%	0%	0%		5.7%	19.5%	0%	0%	0%		14.3%	4.9%	5.3%	2.5%	0%		4.7%	100%	0%	21.1%	0%		23.8%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	8	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	100%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & PERDUE CRT / DAVIS LN
Date: Wed, Sep 25, 2019 Deployment Lead: Patrick Filopoulos

Peak Hour: 07:00 AM - 08:00 AM Weather:

Start Time	N Approach AIRPORT RD						E Approach PERDUE CT						S Approach AIRPORT RD						W Approach PERDUE CT						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
07:00:00	1	188	1	0	0	190	23	0	8	0	0	31	4	55	15	0	0	74	2	0	10	0	0	12	307
07:15:00	0	184	1	0	0	185	21	0	1	0	0	22	9	58	12	0	0	79	2	0	4	0	1	6	292
07:30:00	0	187	1	0	0	188	9	0	0	0	3	9	13	74	8	0	0	95	1	0	10	0	0	11	303
07:45:00	1	170	3	0	0	174	9	0	3	0	2	12	15	63	9	0	0	87	3	0	6	0	0	9	282
Grand Total	2	729	6	0	0	737	62	0	12	0	5	74	41	250	44	0	0	335	8	0	30	0	1	38	**1184**
Approach%	0.3%	98.9%	0.8%	0%		-	83.8%	0%	16.2%	0%		-	12.2%	74.6%	13.1%	0%		-	21.1%	0%	78.9%	0%		-	**-**
Totals %	0.2%	61.6%	0.5%	0%		62.2%	5.2%	0%	1%	0%		6.3%	3.5%	21.1%	3.7%	0%		28.3%	0.7%	0%	2.5%	0%		3.2%	**-**
PHF	0.5	0.97	0.5	0		0.97	0.67	0	0.38	0		0.6	0.68	0.84	0.73	0		0.88	0.67	0	0.75	0		0.79	**-**
Heavy	0	58	1	0		59	58	0	10	0		68	18	41	6	0		65	8	0	27	0		35	**-**
Heavy %	0%	8%	16.7%	0%		8%	93.5%	0%	83.3%	0%		91.9%	43.9%	16.4%	13.6%	0%		19.4%	100%	0%	90%	0%		92.1%	**-**
Lights	2	671	5	0		678	4	0	2	0		6	23	209	38	0		270	0	0	3	0		3	**-**
Lights %	100%	92%	83.3%	0%		92%	6.5%	0%	16.7%	0%		8.1%	56.1%	83.6%	86.4%	0%		80.6%	0%	0%	10%	0%		7.9%	**-**
Single-Unit Trucks	0	24	1	0		25	1	0	0	0		1	13	21	0	0		34	3	0	15	0		18	**-**
Single-Unit Trucks %	0%	3.3%	16.7%	0%		3.4%	1.6%	0%	0%	0%		1.4%	31.7%	8.4%	0%	0%		10.1%	37.5%	0%	50%	0%		47.4%	**-**
Buses	0	3	0	0		3	51	0	9	0		60	0	5	3	0		8	0	0	0	0		0	**-**
Buses %	0%	0.4%	0%	0%		0.4%	82.3%	0%	75%	0%		81.1%	0%	2%	6.8%	0%		2.4%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	31	0	0		31	6	0	1	0		7	5	15	3	0		23	5	0	12	0		17	**-**
Articulated Trucks %	0%	4.3%	0%	0%		4.2%	9.7%	0%	8.3%	0%		9.5%	12.2%	6%	6.8%	0%		6.9%	62.5%	0%	40%	0%		44.7%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	5	-	-	-	-	-	0	-	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	83.3%		-	-	-	-	0%		-	-	-	-	16.7%		**-**

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & PERDUE CRT / DAVIS LN
Date: Wed, Sep 25, 2019 Deployment Lead: Patrick Filopoulos

Peak Hour: 01:00 PM - 02:00 PM Weather: Broken Clouds (23.38 °C)

Start Time	N Approach AIRPORT RD						E Approach PERDUE CT						S Approach AIRPORT RD						W Approach PERDUE CT						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
13:00:00	2	63	1	0	0	66	10	0	0	0	0	10	23	71	6	0	0	100	1	0	10	0	0	11	187
13:15:00	0	72	1	0	0	73	12	0	2	1	0	15	13	54	18	0	0	85	4	0	13	0	0	17	190
13:30:00	1	67	1	0	0	69	18	0	9	0	0	27	13	63	26	0	0	102	0	0	20	0	0	20	218
13:45:00	0	64	0	0	0	64	29	0	2	0	0	31	10	66	23	0	0	99	1	0	9	0	0	10	204
Grand Total	3	266	3	0	0	272	69	0	13	1	0	83	59	254	73	0	0	386	6	0	52	0	0	58	**799**
Approach%	1.1%	97.8%	1.1%	0%		-	83.1%	0%	15.7%	1.2%		-	15.3%	65.8%	18.9%	0%		-	10.3%	0%	89.7%	0%		-	**-**
Totals %	0.4%	33.3%	0.4%	0%		34%	8.6%	0%	1.6%	0.1%		10.4%	7.4%	31.8%	9.1%	0%		48.3%	0.8%	0%	6.5%	0%		7.3%	**-**
PHF	0.38	0.92	0.75	0		0.93	0.59	0	0.36	0.25		0.67	0.64	0.89	0.7	0		0.95	0.38	0	0.65	0		0.73	**-**
Heavy	2	65	1	0		68	54	0	12	1		67	39	65	15	0		119	5	0	36	0		41	**-**
Heavy %	66.7%	24.4%	33.3%	0%		25%	78.3%	0%	92.3%	100%		80.7%	66.1%	25.6%	20.5%	0%		30.8%	83.3%	0%	69.2%	0%		70.7%	**-**
Lights	1	201	2	0		204	15	0	1	0		16	20	189	58	0		267	1	0	16	0		17	**-**
Lights %	33.3%	75.6%	66.7%	0%		75%	21.7%	0%	7.7%	0%		19.3%	33.9%	74.4%	79.5%	0%		69.2%	16.7%	0%	30.8%	0%		29.3%	**-**
Single-Unit Trucks	0	28	0	0		28	3	0	0	0		3	24	29	1	0		54	4	0	19	0		23	**-**
Single-Unit Trucks %	0%	10.5%	0%	0%		10.3%	4.3%	0%	0%	0%		3.6%	40.7%	11.4%	1.4%	0%		14%	66.7%	0%	36.5%	0%		39.7%	**-**
Buses	2	4	0	0		6	43	0	12	1		56	0	0	7	0		7	0	0	0	0		0	**-**
Buses %	66.7%	1.5%	0%	0%		2.2%	62.3%	0%	92.3%	100%		67.5%	0%	0%	9.6%	0%		1.8%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	33	1	0		34	8	0	0	0		8	15	36	7	0		58	1	0	17	0		18	**-**
Articulated Trucks %	0%	12.4%	33.3%	0%		12.5%	11.6%	0%	0%	0%		9.6%	25.4%	14.2%	9.6%	0%		15%	16.7%	0%	32.7%	0%		31%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & PERDUE CRT / DAVIS LN
Date: Wed, Sep 25, 2019 Deployment Lead: Patrick Filopoulos

Peak Hour: 06:00 AM - 07:00 AM Weather:

Start Time	N Approach AIRPORT RD						E Approach PERDUE CT						S Approach AIRPORT RD						W Approach PERDUE CT						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
06:00:00	0	111	0	0	0	111	9	0	2	0	2	11	12	32	8	0	0	52	0	0	7	0	0	7	181
06:15:00	0	121	2	1	0	124	7	0	4	0	2	11	7	47	20	0	0	74	0	0	15	0	0	15	224
06:30:00	2	163	0	0	0	165	15	0	5	0	1	20	7	66	20	0	0	93	2	0	10	0	0	12	290
06:45:00	3	178	0	0	0	181	10	0	4	0	3	14	15	98	31	0	0	144	0	0	6	2	0	8	347
Grand Total	5	573	2	1	0	581	41	0	15	0	8	56	41	243	79	0	0	363	2	0	38	2	0	42	**1042**
Approach%	0.9%	98.6%	0.3%	0.2%		-	73.2%	0%	26.8%	0%		-	11.3%	66.9%	21.8%	0%		-	4.8%	0%	90.5%	4.8%		-	**-**
Totals %	0.5%	55%	0.2%	0.1%		55.8%	3.9%	0%	1.4%	0%		5.4%	3.9%	23.3%	7.6%	0%		34.8%	0.2%	0%	3.6%	0.2%		4%	**-**
PHF	0.42	0.8	0.25	0.25		0.8	0.68	0	0.75	0		0.7	0.68	0.62	0.64	0		0.63	0.25	0	0.63	0.25		0.7	**-**
Heavy	1	62	0	0		63	36	0	14	0		50	13	24	5	0		42	2	0	32	2		36	**-**
Heavy %	20%	10.8%	0%	0%		10.8%	87.8%	0%	93.3%	0%		89.3%	31.7%	9.9%	6.3%	0%		11.6%	100%	0%	84.2%	100%		85.7%	**-**
Lights	4	511	2	1		518	5	0	1	0		6	28	219	74	0		321	0	0	6	0		6	**-**
Lights %	80%	89.2%	100%	100%		89.2%	12.2%	0%	6.7%	0%		10.7%	68.3%	90.1%	93.7%	0%		88.4%	0%	0%	15.8%	0%		14.3%	**-**
Single-Unit Trucks	0	29	0	0		29	1	0	0	0		1	11	9	1	0		21	0	0	24	2		26	**-**
Single-Unit Trucks %	0%	5.1%	0%	0%		5%	2.4%	0%	0%	0%		1.8%	26.8%	3.7%	1.3%	0%		5.8%	0%	0%	63.2%	100%		61.9%	**-**
Buses	1	0	0	0		1	27	0	14	0		41	0	2	2	0		4	0	0	0	0		0	**-**
Buses %	20%	0%	0%	0%		0.2%	65.9%	0%	93.3%	0%		73.2%	0%	0.8%	2.5%	0%		1.1%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	33	0	0		33	8	0	0	0		8	2	13	2	0		17	2	0	8	0		10	**-**
Articulated Trucks %	0%	5.8%	0%	0%		5.7%	19.5%	0%	0%	0%		14.3%	4.9%	5.3%	2.5%	0%		4.7%	100%	0%	21.1%	0%		23.8%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	8	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	100%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & PERDUE CRT / DAVIS LN
Date: Wed, Sep 25, 2019 Deployment Lead: Patrick Filopoulos

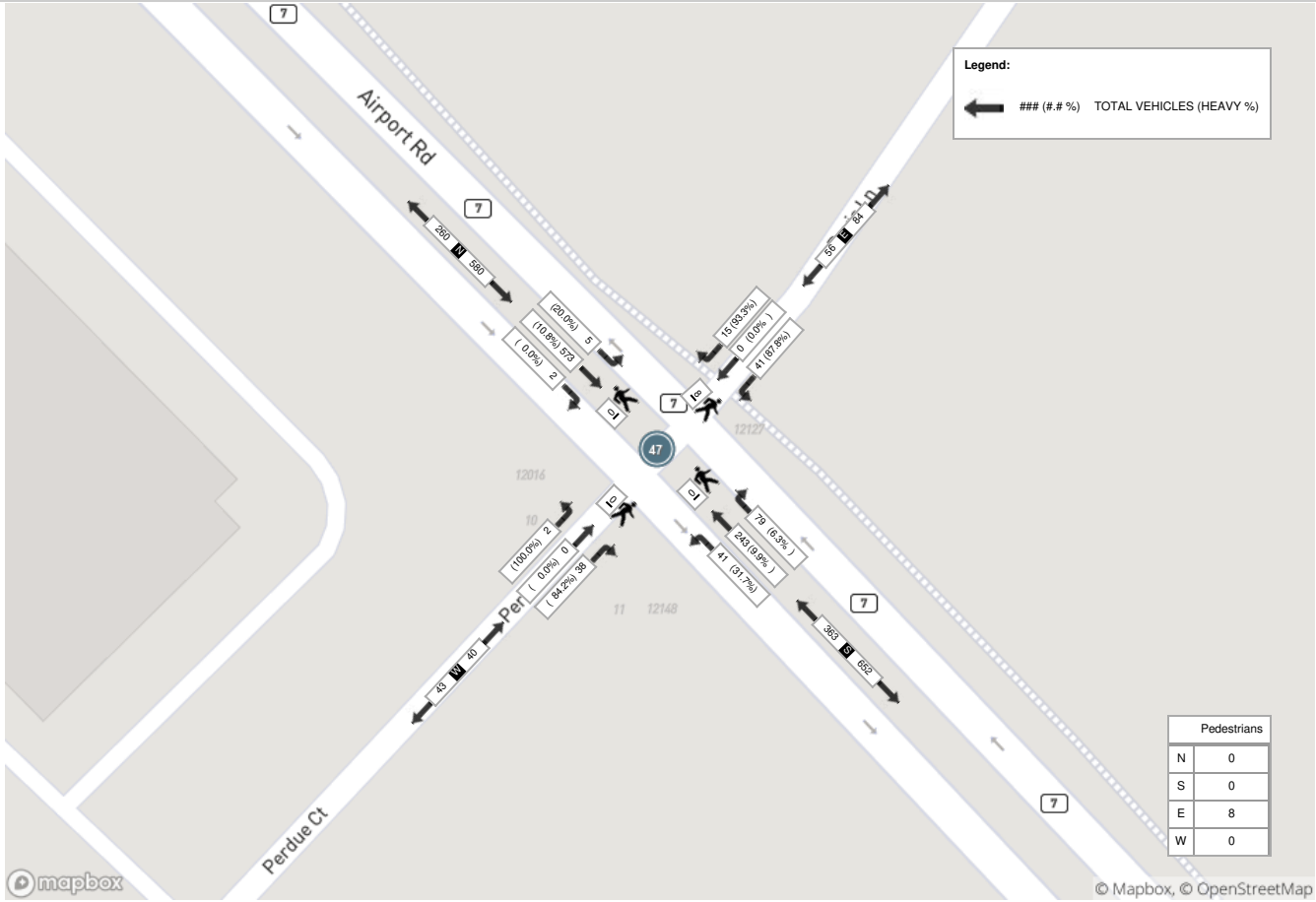
Peak Hour: 04:15 PM - 05:15 PM Weather: Broken Clouds (25.35 °C)

Start Time	N Approach AIRPORT RD						E Approach PERDUE CT						S Approach AIRPORT RD						W Approach PERDUE CT						Int. Total (15 min)
	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
16:15:00	1	71	1	1	0	74	25	0	3	0	0	28	8	199	30	0	0	237	3	0	14	0	0	17	356
16:30:00	7	96	2	1	0	106	30	0	2	0	2	32	12	194	14	0	0	220	0	0	18	0	0	18	376
16:45:00	5	80	1	3	0	89	20	0	0	0	0	20	17	177	7	0	0	201	1	0	8	0	1	9	319
17:00:00	0	91	5	7	0	103	9	0	2	0	1	11	10	182	13	0	0	205	7	0	22	0	1	29	348
Grand Total	13	338	9	12	0	372	84	0	7	0	3	91	47	752	64	0	0	863	11	0	62	0	2	73	**1399**
Approach%	3.5%	90.9%	2.4%	3.2%		-	92.3%	0%	7.7%	0%		-	5.4%	87.1%	7.4%	0%		-	15.1%	0%	84.9%	0%		-	**-**
Totals %	0.9%	24.2%	0.6%	0.9%		26.6%	6%	0%	0.5%	0%		6.5%	3.4%	53.8%	4.6%	0%		61.7%	0.8%	0%	4.4%	0%		5.2%	**-**
PHF	0.46	0.88	0.45	0.43		0.88	0.7	0	0.58	0		0.71	0.69	0.94	0.53	0		0.91	0.39	0	0.7	0		0.63	**-**
Heavy	11	54	6	0		71	6	0	0	0		6	41	69	54	0		164	2	0	8	0		10	**-**
Heavy %	84.6%	16%	66.7%	0%		19.1%	7.1%	0%	0%	0%		6.6%	87.2%	9.2%	84.4%	0%		19%	18.2%	0%	12.9%	0%		13.7%	**-**
Lights	2	284	3	12		301	78	0	7	0		85	6	683	10	0		699	9	0	54	0		63	**-**
Lights %	15.4%	84%	33.3%	100%		80.9%	92.9%	0%	100%	0%		93.4%	12.8%	90.8%	15.6%	0%		81%	81.8%	0%	87.1%	0%		86.3%	**-**
Single-Unit Trucks	0	27	1	0		28	1	0	0	0		1	11	26	2	0		39	0	0	3	0		3	**-**
Single-Unit Trucks %	0%	8%	11.1%	0%		7.5%	1.2%	0%	0%	0%		1.1%	23.4%	3.5%	3.1%	0%		4.5%	0%	0%	4.8%	0%		4.1%	**-**
Buses	11	2	0	0		13	1	0	0	0		1	0	0	44	0		44	0	0	0	0		0	**-**
Buses %	84.6%	0.6%	0%	0%		3.5%	1.2%	0%	0%	0%		1.1%	0%	0%	68.8%	0%		5.1%	0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	25	5	0		30	4	0	0	0		4	30	43	8	0		81	2	0	5	0		7	**-**
Articulated Trucks %	0%	7.4%	55.6%	0%		8.1%	4.8%	0%	0%	0%		4.4%	63.8%	5.7%	12.5%	0%		9.4%	18.2%	0%	8.1%	0%		9.6%	**-**
Pedestrians	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	2	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	60%		-	-	-	-	0%		-	-	-	-	40%		**-**

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & PERDUE CRT / DAVIS LN
Date: Wed, Sep 25, 2019 Deployment Lead: Patrick Filopoulos

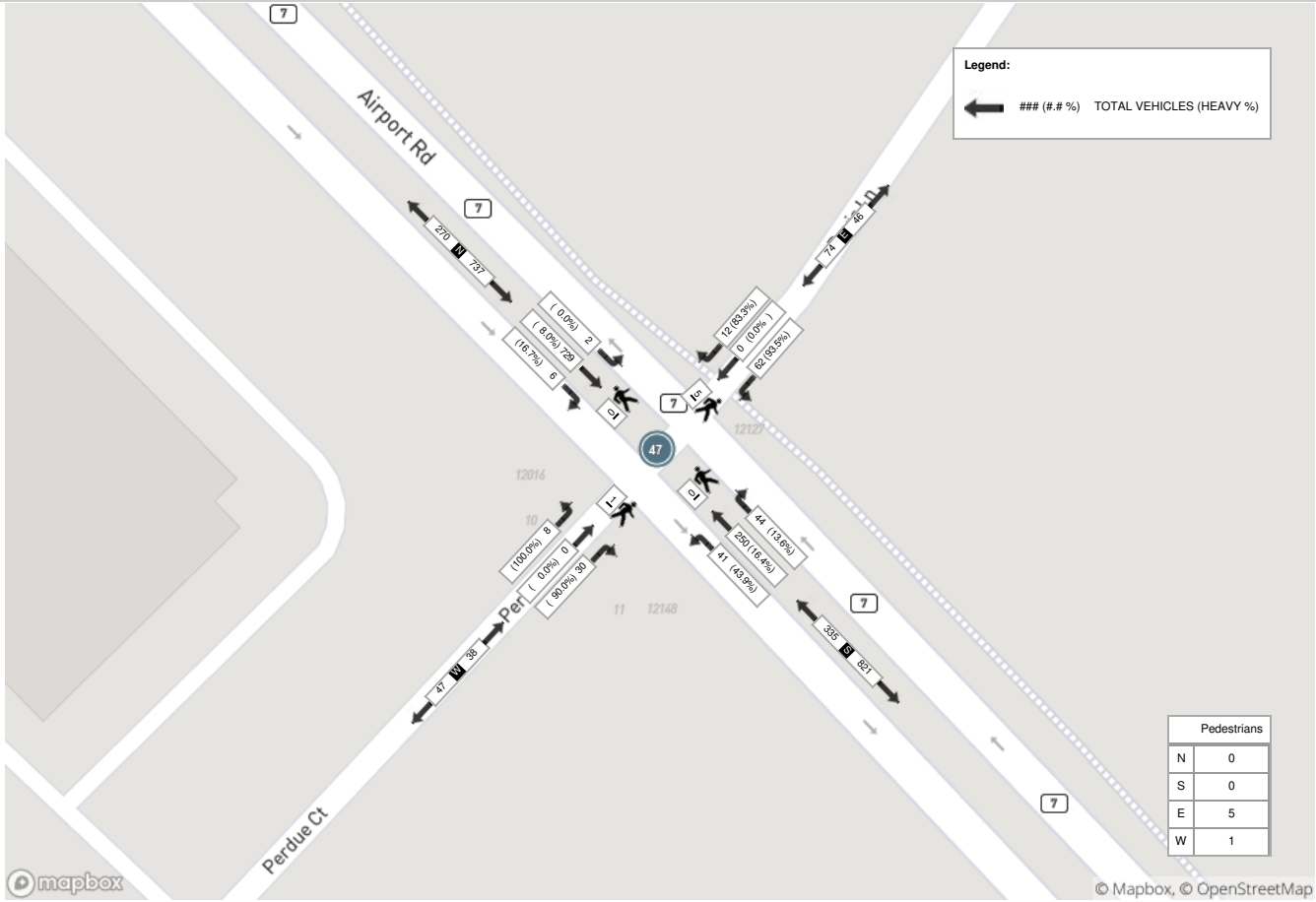
Peak Hour: 06:00 AM - 07:00 AM Weather:



Spectrum

Turning Movement Count
Location Name: AIRPORT RD & PERDUE CRT / DAVIS LN
Date: Wed, Sep 25, 2019 Deployment Lead: Patrick Filopoulos

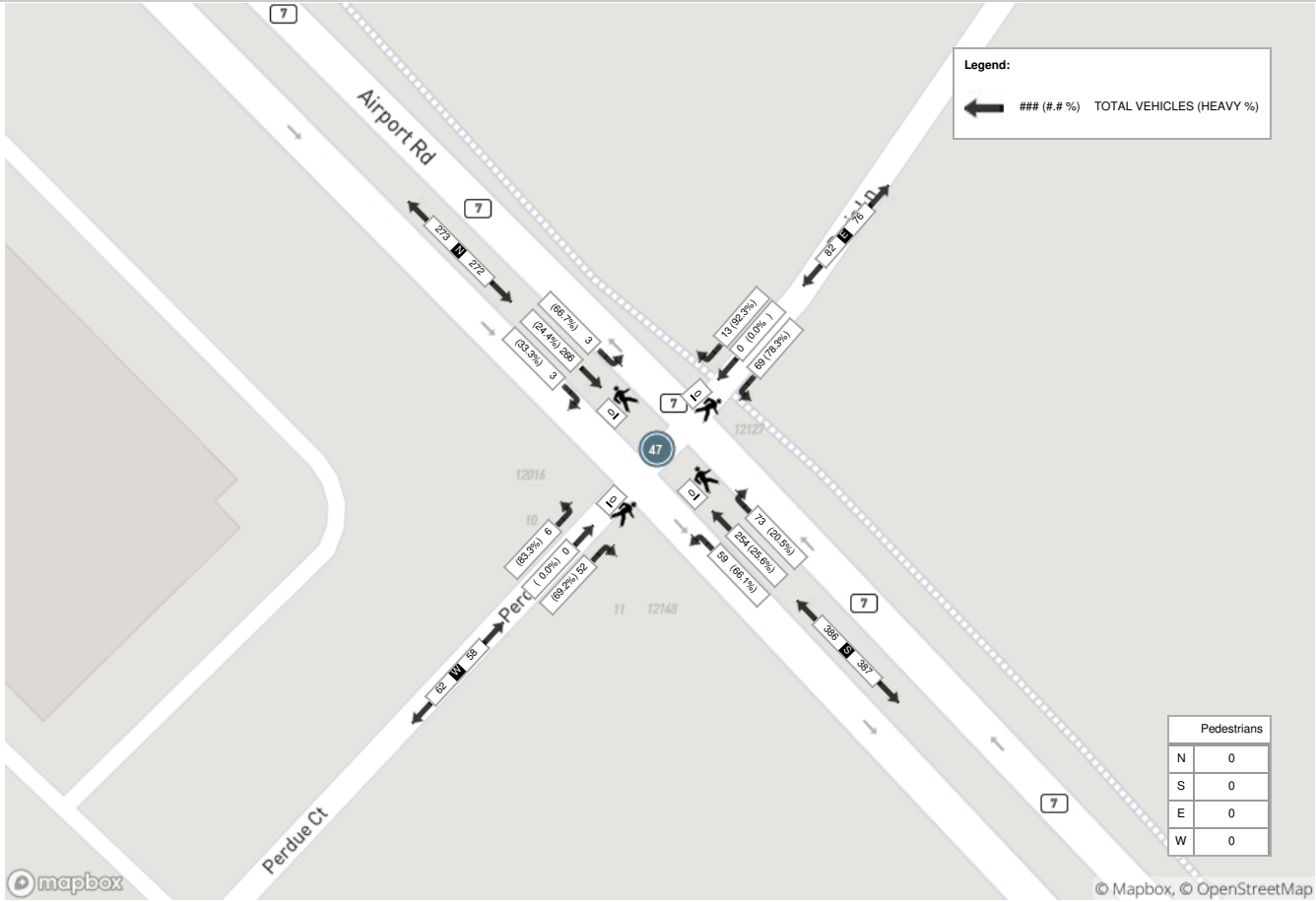
Peak Hour: 07:00 AM - 08:00 AM Weather:



Spectrum

Turning Movement Count
Location Name: AIRPORT RD & PERDUE CRT / DAVIS LN
Date: Wed, Sep 25, 2019 Deployment Lead: Patrick Filopoulos

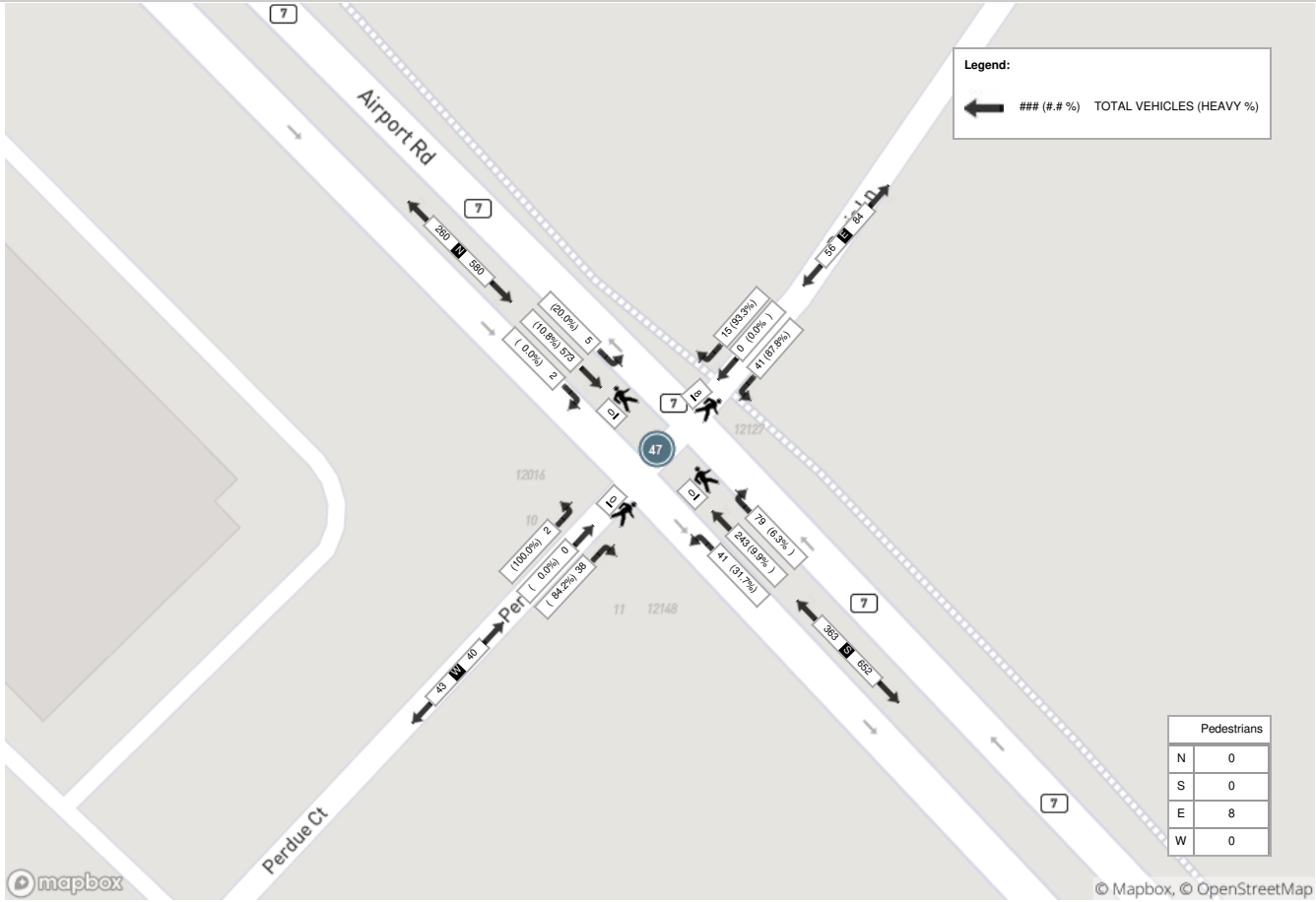
Peak Hour: 01:00 PM - 02:00 PM Weather: Broken Clouds (23.38 °C)



Spectrum

Turning Movement Count
Location Name: AIRPORT RD & PERDUE CRT / DAVIS LN
Date: Wed, Sep 25, 2019 Deployment Lead: Patrick Filopoulos

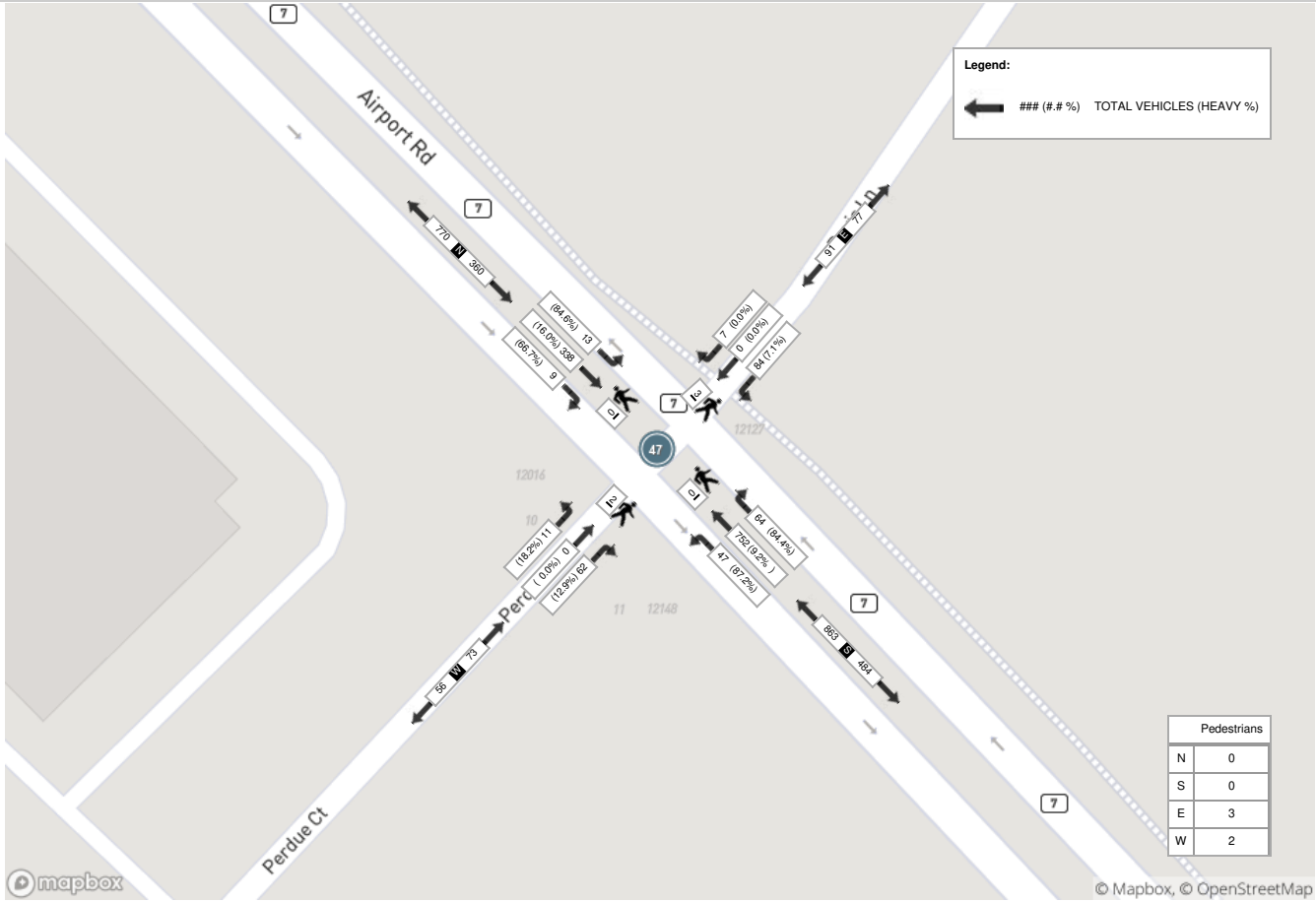
Peak Hour: 06:00 AM - 07:00 AM Weather:



Spectrum

Turning Movement Count
Location Name: AIRPORT RD & PERDUE CRT / DAVIS LN
Date: Wed, Sep 25, 2019 Deployment Lead: Patrick Filopoulos

Peak Hour: 04:15 PM - 05:15 PM Weather: Broken Clouds (25.35 °C)



Spectrum

Turning Movement Count
Location Name: AIRPORT RD & STREET A
Date: Wed, Sep 25, 2019 Deployment Lead: Patrick Filopoulos

Turning Movement Count (46 . AIRPORT RD & STREET A) CustID: 00718361 MioID:

Start Time	N Approach AIRPORT RD					E Approach STREET A					S Approach AIRPORT RD					Int. Total (15 min)	Int. Total (1 hr)
	Left N:E	Thru N:S	UTurn N:N	Peds N:	Approach Total	Left E:S	Right E:N	UTurn E:E	Peds E:	Approach Total	Thru S:N	Right S:E	UTurn S:S	Peds S:	Approach Total		
07:00:00	2	150	0	0	152	39	3	0	1	42	51	5	0	0	56	250	
07:15:00	0	177	0	0	177	6	2	0	0	8	50	4	0	0	54	239	
07:30:00	1	186	0	0	187	4	1	0	1	5	65	6	0	0	71	263	
07:45:00	1	184	0	0	185	2	2	0	1	4	62	11	0	0	73	262	1014
08:00:00	0	163	0	0	163	1	1	0	0	2	49	3	0	0	52	217	981
08:15:00	0	159	0	1	159	2	0	0	0	2	59	10	0	0	69	230	972
08:30:00	1	147	0	0	148	5	2	0	0	7	46	3	0	0	49	204	913
08:45:00	0	132	0	0	132	9	0	0	0	9	63	2	0	0	65	206	857
BREAK																	
11:00:00	0	72	0	0	72	9	0	0	0	9	46	4	0	0	50	131	
11:15:00	1	66	0	0	67	5	0	0	0	5	43	5	0	0	48	120	
11:30:00	2	61	0	0	63	9	1	0	1	10	50	4	0	0	54	127	
11:45:00	0	74	0	0	74	4	1	0	1	5	50	6	0	0	56	135	513
12:00:00	0	68	0	0	68	10	1	0	1	11	50	10	0	0	60	139	521
12:15:00	2	54	0	0	56	7	3	0	0	10	68	8	0	0	76	142	543
12:30:00	0	51	0	0	51	3	0	0	0	3	56	7	0	0	63	117	533
12:45:00	1	73	1	0	75	8	1	0	0	9	64	7	0	0	71	155	553
13:00:00	0	60	0	0	60	6	4	0	0	10	60	10	0	0	70	140	554
13:15:00	0	63	0	0	63	7	0	0	0	7	51	11	0	0	62	132	544
13:30:00	0	60	0	0	60	6	1	0	0	7	70	2	0	0	72	139	566
13:45:00	1	51	0	0	52	7	1	0	0	8	62	6	1	0	69	129	540
BREAK																	
15:00:00	2	62	0	0	64	60	10	0	0	70	112	6	0	0	118	252	
15:15:00	1	52	0	0	53	15	3	0	0	18	118	5	0	0	123	194	
15:30:00	0	61	0	0	61	18	3	0	0	21	122	7	0	0	129	211	
15:45:00	1	69	0	0	70	10	0	0	1	10	120	7	0	0	127	207	864
16:00:00	1	66	0	0	67	14	5	0	0	19	170	13	0	0	183	269	881
16:15:00	0	72	0	0	72	6	2	0	0	8	185	6	0	0	191	271	958
16:30:00	1	78	0	0	79	16	1	0	0	17	167	13	0	0	180	276	1023
16:45:00	3	67	1	0	71	10	3	0	0	13	183	6	0	0	189	273	1089
17:00:00	1	66	0	0	67	21	3	0	0	24	178	6	0	0	184	275	1095
17:15:00	2	77	0	0	79	4	1	0	0	5	155	9	0	0	164	248	1072
17:30:00	0	67	0	0	67	9	0	0	0	9	140	2	0	0	142	218	1014
17:45:00	0	74	0	0	74	9	2	0	0	11	125	5	0	0	130	215	956

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & STREET A
Date: Wed, Sep 25, 2019 Deployment Lead: Patrick Filopoulos

Grand Total	24	2862	2	1	2888	341	57	0	7	398	2890	209	1	0	3100	**6386**	-
Approach%	0.8%	99.1%	0.1%		-	85.7%	14.3%	0%		-	93.2%	6.7%	0%		-	**-**	-
Totals %	0.4%	44.8%	0%		45.2%	5.3%	0.9%	0%		6.2%	45.3%	3.3%	0%		48.5%	**-**	-
Heavy	11	386	0		-	139	15	0		-	373	133	0		-	**-**	-
Heavy %	45.8%	13.5%	0%		-	40.8%	26.3%	0%		-	12.9%	63.6%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & STREET A
Date: Wed, Sep 25, 2019 Deployment Lead: Patrick Filopoulos

Peak Hour: 07:00 AM - 08:00 AM Weather: Mist (13.18 °C)

Start Time	N Approach AIRPORT RD					E Approach STREET A					S Approach AIRPORT RD					Int. Total (15 min)
	Left	Thru	UTurn	Peds	Approach Total	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	
07:00:00	2	150	0	0	152	39	3	0	1	42	51	5	0	0	56	250
07:15:00	0	177	0	0	177	6	2	0	0	8	50	4	0	0	54	239
07:30:00	1	186	0	0	187	4	1	0	1	5	65	6	0	0	71	263
07:45:00	1	184	0	0	185	2	2	0	1	4	62	11	0	0	73	262
Grand Total	4	697	0	0	701	51	8	0	3	59	228	26	0	0	254	**1014**
Approach%	0.6%	99.4%	0%		-	86.4%	13.6%	0%		-	89.8%	10.2%	0%		-	**-**
Totals %	0.4%	68.7%	0%		69.1%	5%	0.8%	0%		5.8%	22.5%	2.6%	0%		25%	**-**
PHF	0.5	0.94	0		0.94	0.33	0.67	0		0.35	0.88	0.59	0		0.87	**-**
Heavy	0	49	0		49	8	0	0		8	44	10	0		54	**-**
Heavy %	0%	7%	0%		7%	15.7%	0%	0%		13.6%	19.3%	38.5%	0%		21.3%	**-**
Lights	4	648	0		652	43	8	0		51	184	16	0		200	**-**
Lights %	100%	93%	0%		93%	84.3%	100%	0%		86.4%	80.7%	61.5%	0%		78.7%	**-**
Single-Unit Trucks	0	27	0		27	1	0	0		1	12	5	0		17	**-**
Single-Unit Trucks %	0%	3.9%	0%		3.9%	2%	0%	0%		1.7%	5.3%	19.2%	0%		6.7%	**-**
Buses	0	2	0		2	0	0	0		0	14	0	0		14	**-**
Buses %	0%	0.3%	0%		0.3%	0%	0%	0%		0%	6.1%	0%	0%		5.5%	**-**
Articulated Trucks	0	20	0		20	7	0	0		7	18	5	0		23	**-**
Articulated Trucks %	0%	2.9%	0%		2.9%	13.7%	0%	0%		11.9%	7.9%	19.2%	0%		9.1%	**-**
Pedestrians	-	-	-	0	-	-	-	-	3	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	100%		-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & STREET A
Date: Wed, Sep 25, 2019 Deployment Lead: Patrick Filopoulos

Peak Hour: 12:45 PM - 01:45 PM Weather: Broken Clouds (23.38 °C)

Start Time	N Approach AIRPORT RD					E Approach STREET A					S Approach AIRPORT RD					Int. Total (15 min)
	Left	Thru	UTurn	Peds	Approach Total	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	
12:45:00	1	73	1	0	75	8	1	0	0	9	64	7	0	0	71	155
13:00:00	0	60	0	0	60	6	4	0	0	10	60	10	0	0	70	140
13:15:00	0	63	0	0	63	7	0	0	0	7	51	11	0	0	62	132
13:30:00	0	60	0	0	60	6	1	0	0	7	70	2	0	0	72	139
Grand Total	1	256	1	0	258	27	6	0	0	33	245	30	0	0	275	**566**
Approach%	0.4%	99.2%	0.4%		-	81.8%	18.2%	0%		-	89.1%	10.9%	0%		-	**-**
Totals %	0.2%	45.2%	0.2%		45.6%	4.8%	1.1%	0%		5.8%	43.3%	5.3%	0%		48.6%	**-**
PHF	0.25	0.88	0.25		0.86	0.84	0.38	0		0.83	0.88	0.68	0		0.95	**-**
Heavy	1	52	0		53	20	3	0		23	60	21	0		81	**-**
Heavy %	100%	20.3%	0%		20.5%	74.1%	50%	0%		69.7%	24.5%	70%	0%		29.5%	**-**
Lights	0	204	1		205	7	3	0		10	185	9	0		194	**-**
Lights %	0%	79.7%	100%		79.5%	25.9%	50%	0%		30.3%	75.5%	30%	0%		70.5%	**-**
Single-Unit Trucks	1	20	0		21	9	3	0		12	25	6	0		31	**-**
Single-Unit Trucks %	100%	7.8%	0%		8.1%	33.3%	50%	0%		36.4%	10.2%	20%	0%		11.3%	**-**
Buses	0	8	0		8	0	0	0		0	11	0	0		11	**-**
Buses %	0%	3.1%	0%		3.1%	0%	0%	0%		0%	4.5%	0%	0%		4%	**-**
Articulated Trucks	0	24	0		24	11	0	0		11	24	15	0		39	**-**
Articulated Trucks %	0%	9.4%	0%		9.3%	40.7%	0%	0%		33.3%	9.8%	50%	0%		14.2%	**-**
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: AIRPORT RD & STREET A
Date: Wed, Sep 25, 2019 Deployment Lead: Patrick Filopoulos

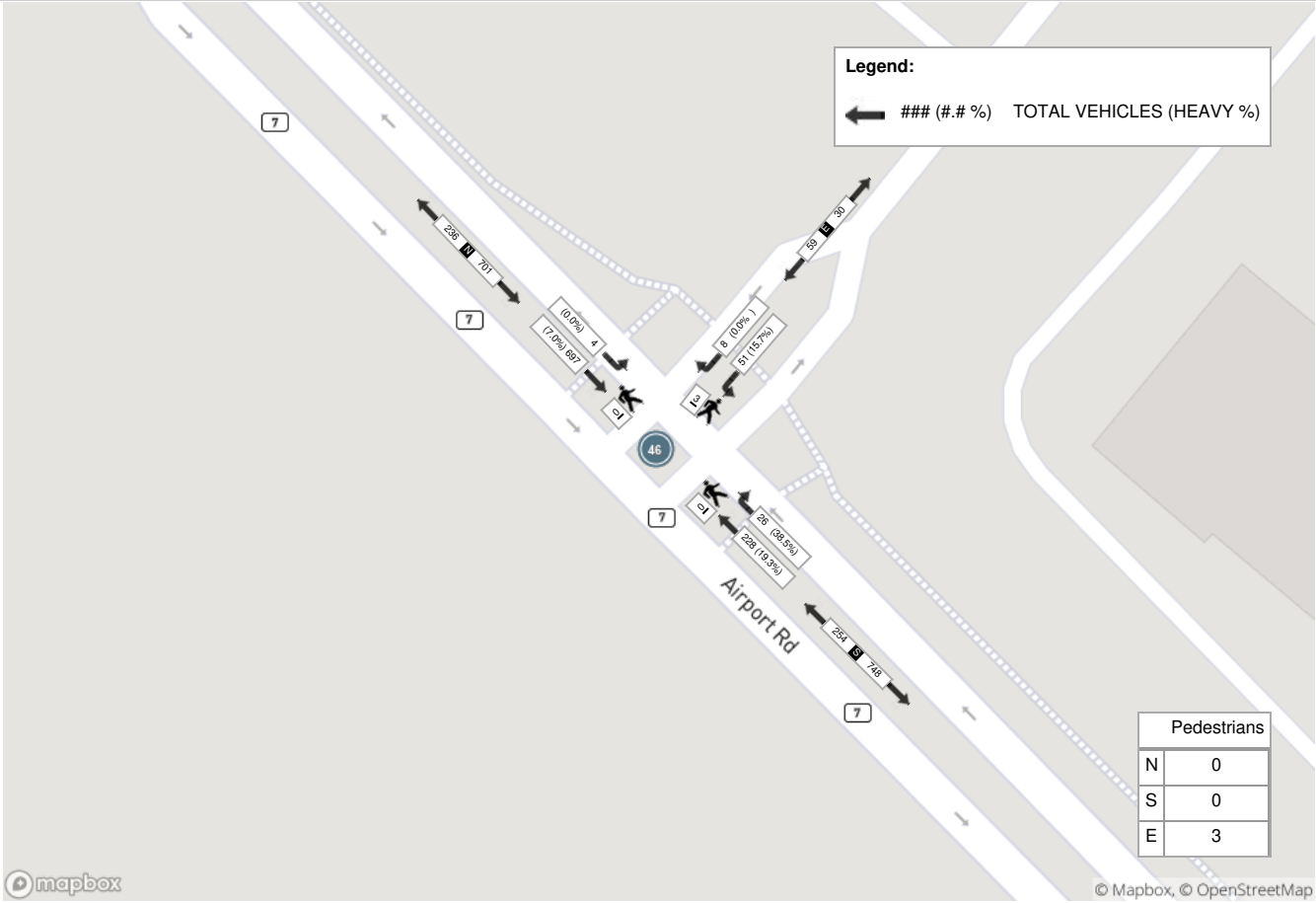
Peak Hour: 04:15 PM - 05:15 PM Weather: Broken Clouds (25.35 °C)

Start Time	N Approach AIRPORT RD					E Approach STREET A					S Approach AIRPORT RD					Int. Total (15 min)
	Left	Thru	UTurn	Peds	Approach Total	Left	Right	UTurn	Peds	Approach Total	Thru	Right	UTurn	Peds	Approach Total	
16:15:00	0	72	0	0	72	6	2	0	0	8	185	6	0	0	191	271
16:30:00	1	78	0	0	79	16	1	0	0	17	167	13	0	0	180	276
16:45:00	3	67	1	0	71	10	3	0	0	13	183	6	0	0	189	273
17:00:00	1	66	0	0	67	21	3	0	0	24	178	6	0	0	184	275
Grand Total	5	283	1	0	289	53	9	0	0	62	713	31	0	0	744	**1095**
Approach%	1.7%	97.9%	0.3%		-	85.5%	14.5%	0%		-	95.8%	4.2%	0%		-	**-**
Totals %	0.5%	25.8%	0.1%		26.4%	4.8%	0.8%	0%		5.7%	65.1%	2.8%	0%		67.9%	**-**
PHF	0.42	0.91	0.25		0.91	0.63	0.75	0		0.65	0.96	0.6	0		0.97	**-**
Heavy	3	55	0		58	22	2	0		24	53	19	0		72	**-**
Heavy %	60%	19.4%	0%		20.1%	41.5%	22.2%	0%		38.7%	7.4%	61.3%	0%		9.7%	**-**
Lights	2	228	1		231	31	7	0		38	660	12	0		672	**-**
Lights %	40%	80.6%	100%		79.9%	58.5%	77.8%	0%		61.3%	92.6%	38.7%	0%		90.3%	**-**
Single-Unit Trucks	1	18	0		19	10	2	0		12	20	1	0		21	**-**
Single-Unit Trucks %	20%	6.4%	0%		6.6%	18.9%	22.2%	0%		19.4%	2.8%	3.2%	0%		2.8%	**-**
Buses	0	22	0		22	0	0	0		0	0	0	0		0	**-**
Buses %	0%	7.8%	0%		7.6%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Articulated Trucks	2	15	0		17	12	0	0		12	33	18	0		51	**-**
Articulated Trucks %	40%	5.3%	0%		5.9%	22.6%	0%	0%		19.4%	4.6%	58.1%	0%		6.9%	**-**
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**

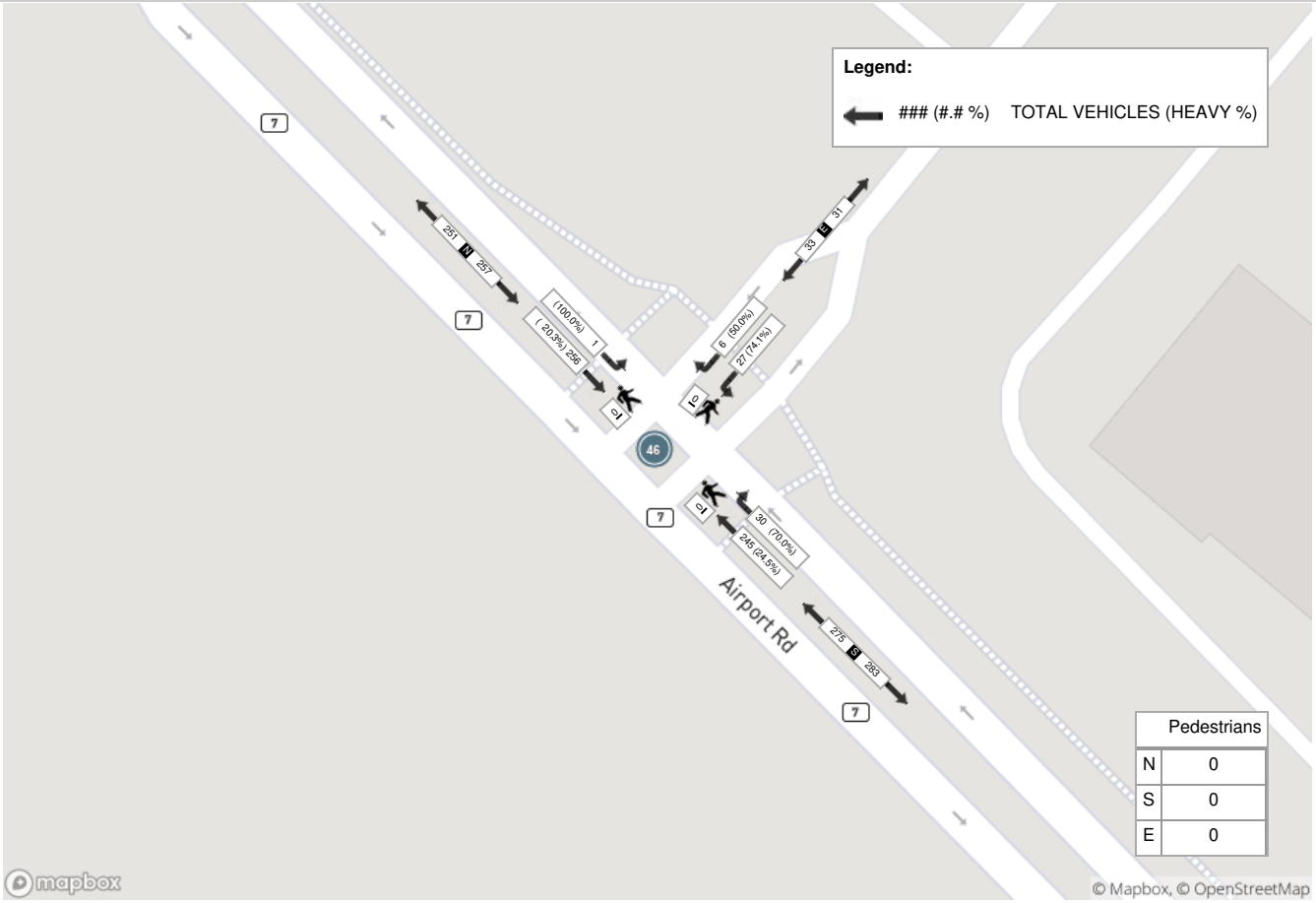
Spectrum

Turning Movement Count
Location Name: AIRPORT RD & STREET A
Date: Wed, Sep 25, 2019 Deployment Lead: Patrick Filopoulos

Peak Hour: 07:00 AM - 08:00 AM Weather: Mist (13.18 °C)



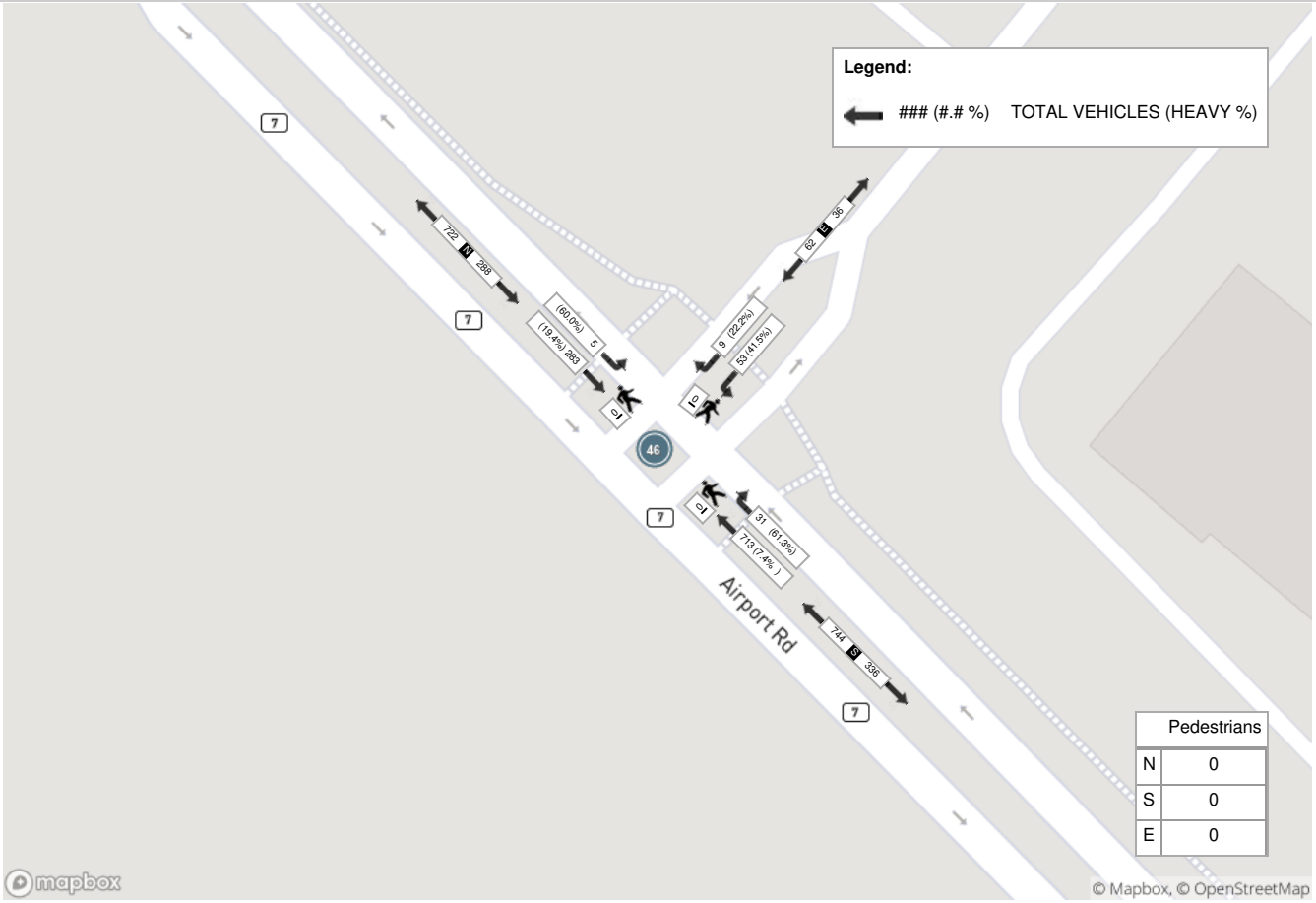
Peak Hour: 12:45 PM - 01:45 PM Weather: Broken Clouds (23.38 °C)



Spectrum

Turning Movement Count
Location Name: AIRPORT RD & STREET A
Date: Wed, Sep 25, 2019 Deployment Lead: Patrick Filopoulos

Peak Hour: 04:15 PM - 05:15 PM Weather: Broken Clouds (25.35 °C)



Spectrum

Turning Movement Count
Location Name: MAYFIELD RD & TORBRAM RD
Date: Thu, Nov 24, 2016 Deployment Lead: Chris Koukaras

Turning Movement Count (33 . MAYFIELD RD & TORBRAM RD) CustID: 01409611 MioID: 368469

Start Time	N Approach TORBRAM RD						E Approach MAYFIELD RD						S Approach TORBRAM RD						W Approach MAYFIELD RD						Int. Total (15 min)	Int. Total (1 hr)
	Left N:E	Thru N:S	Right N:W	U-Turn N:N	Peds N:	Approach Total	Left E:S	Thru E:W	Right E:N	U-Turn E:E	Peds E:	Approach Total	Left S:W	Thru S:N	Right S:E	U-Turn S:S	Peds S:	Approach Total	Left W:N	Thru W:E	Right W:S	U-Turn W:W	Peds W:	Approach Total		
07:00:00	0	21	2	0	0	23	9	141	1	0	0	151	4	7	3	0	0	14	0	171	8	0	0	179	367	
07:15:00	0	26	1	0	0	27	13	147	2	0	0	162	3	9	4	0	0	16	8	188	7	0	0	203	408	
07:30:00	2	45	10	0	0	57	14	153	1	0	0	168	5	4	3	0	0	12	3	193	9	0	0	205	442	
07:45:00	1	30	6	0	0	37	11	178	1	0	0	190	7	9	4	0	0	20	3	205	7	0	0	215	462	1679
08:00:00	1	35	3	0	0	39	10	147	1	0	0	158	12	2	6	0	0	20	2	211	25	0	0	238	455	1767
08:15:00	3	26	2	0	0	31	11	148	2	0	0	161	2	6	9	0	0	17	7	215	7	0	0	229	438	1797
08:30:00	3	20	4	0	0	27	9	135	3	0	0	147	3	6	10	0	0	19	3	180	13	0	0	196	389	1744
08:45:00	2	21	0	0	0	23	9	144	2	0	0	155	2	3	9	0	0	14	4	179	12	0	0	195	387	1669
BREAK																										
11:00:00	0	3	0	0	0	3	6	113	2	0	0	121	1	0	3	0	0	4	3	98	4	0	0	105	233	
11:15:00	2	6	0	0	0	8	9	99	2	0	0	110	2	5	7	0	0	14	4	115	7	0	0	126	258	
11:30:00	2	5	2	0	0	9	5	114	1	0	0	120	7	6	7	0	0	20	1	112	7	0	0	120	269	
11:45:00	1	7	2	0	0	10	6	119	7	0	0	132	3	8	8	0	0	19	4	106	4	0	0	114	275	1035
12:00:00	0	5	0	0	0	5	3	144	2	0	0	149	2	1	7	0	0	10	6	137	3	0	0	146	310	1112
12:15:00	0	3	2	0	0	5	8	102	1	0	0	111	2	7	3	0	0	12	5	106	7	0	0	118	246	1100
12:30:00	2	3	4	0	0	9	6	112	3	0	0	121	2	7	3	0	0	12	4	115	10	0	0	129	271	1102
12:45:00	0	8	1	0	0	9	5	130	1	0	0	136	2	4	3	0	0	9	5	116	2	0	0	123	277	1104
13:00:00	0	6	2	0	0	8	5	90	4	0	0	99	2	1	6	0	0	9	5	118	6	0	0	129	245	1039
13:15:00	0	2	5	0	0	7	7	104	3	0	0	114	6	5	4	0	0	15	2	132	8	0	0	142	278	1071
13:30:00	0	7	2	0	0	9	5	100	2	0	0	107	5	8	11	0	0	24	5	139	5	0	0	149	289	1089
13:45:00	2	5	2	0	0	9	3	132	3	0	0	138	4	7	8	0	0	19	7	146	4	0	0	157	323	1135
BREAK																										
15:00:00	1	5	1	0	0	7	13	178	4	0	0	195	9	21	7	0	0	37	5	152	9	0	0	166	405	
15:15:00	0	4	2	0	0	6	8	191	5	0	0	204	12	32	5	0	0	49	11	167	9	0	0	187	446	
15:30:00	0	4	1	0	0	5	6	197	2	0	0	205	5	27	16	0	0	48	17	184	10	0	0	211	469	
15:45:00	0	10	0	0	0	10	6	194	3	0	0	203	9	31	11	0	0	51	9	163	11	0	0	183	447	1767
16:00:00	0	7	2	0	0	9	13	194	6	0	0	213	9	37	12	0	0	58	8	180	13	0	0	201	481	1843
16:15:00	0	8	7	0	0	15	10	221	7	0	0	238	9	26	6	0	0	41	7	183	3	0	0	193	487	1884
16:30:00	1	4	3	0	0	8	5	221	5	0	0	231	7	30	9	0	0	46	7	193	6	0	0	206	491	1906
16:45:00	1	5	1	0	0	7	9	215	7	0	0	231	17	36	3	0	0	56	7	170	17	0	0	194	488	1947
17:00:00	0	4	0	0	0	4	9	213	4	0	0	226	13	28	6	0	0	47	8	190	10	0	0	208	485	1951
17:15:00	2	8	0	0	0	10	12	225	9	0	0	246	6	23	6	0	0	35	12	171	6	0	0	189	480	1944
17:30:00	0	7	1	0	0	8	6	200	5	0	0	211	7	22	7	0	0	36	10	183	7	0	0	200	455	1908
17:45:00	0	7	1	0	0	8	9	199	2	0	0	210	6	16	8	0	0	30	10	145	6	0	0	161	409	1829
Grand Total	26	357	69	0	0	452	260	5000	103	0	0	5363	185	434	214	0	0	833	192	5063	262	0	0	5517	**12165**	-
Approach%	5.8%	79%	15.3%	0%		-	4.8%	93.2%	1.9%	0%		-	22.2%	52.1%	25.7%	0%		-	3.5%	91.8%	4.7%	0%		-	-	-
Totals %	0.2%	2.9%	0.6%	0%		3.7%	2.1%	41.1%	0.8%	0%		44.1%	1.5%	3.6%	1.8%	0%		6.8%	1.6%	41.6%	2.2%	0%		45.4%	-	-
Heavy	1	7	2	0		-	6	689	8	0		-	5	8	12	0		-	6	732	7	0		-	-	-
Heavy %	3.8%	2%	2.9%	0%		-	2.3%	13.8%	7.8%	0%		-	2.7%	1.8%	5.6%	0%		-	3.1%	14.5%	2.7%	0%		-	-	-
Bicycles	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	0	1	0	0		-	-	-
Bicycle %	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	-	-

Spectrum

Turning Movement Count
Location Name: MAYFIELD RD & TORBRAM RD
Date: Thu, Nov 24, 2016 Deployment Lead: Chris Koukaras

Peak Hour: 07:30 AM - 08:30 AM Weather: Light Rain (-0.1 °C)

Start Time	N Approach TORBRAM RD						E Approach MAYFIELD RD						S Approach TORBRAM RD						W Approach MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
07:30:00	2	45	10	0	0	57	14	153	1	0	0	168	5	4	3	0	0	12	3	193	9	0	0	205	442
07:45:00	1	30	6	0	0	37	11	178	1	0	0	190	7	9	4	0	0	20	3	205	7	0	0	215	462
08:00:00	1	35	3	0	0	39	10	147	1	0	0	158	12	2	6	0	0	20	2	211	25	0	0	238	455
08:15:00	3	26	2	0	0	31	11	148	2	0	0	161	2	6	9	0	0	17	7	215	7	0	0	229	438
Grand Total	7	136	21	0	0	164	46	626	5	0	0	677	26	21	22	0	0	69	15	824	48	0	0	887	**1797**
Approach%	4.3%	82.9%	12.8%	0%		-	6.8%	92.5%	0.7%	0%		-	37.7%	30.4%	31.9%	0%		-	1.7%	92.9%	5.4%	0%		-	**-**
Totals %	0.4%	7.6%	1.2%	0%		9.1%	2.6%	34.8%	0.3%	0%		37.7%	1.4%	1.2%	1.2%	0%		3.8%	0.8%	45.9%	2.7%	0%		49.4%	**-**
PHF	0.58	0.76	0.53	0		0.72	0.82	0.88	0.63	0		0.89	0.54	0.58	0.61	0		0.86	0.54	0.96	0.48	0		0.93	**-**
Heavy	0	2	0	0		2	1	82	1	0		84	1	2	2	0		5	1	91	1	0		93	**-**
Heavy %	0%	1.5%	0%	0%		1.2%	2.2%	13.1%	20%	0%		12.4%	3.8%	9.5%	9.1%	0%		7.2%	6.7%	11%	2.1%	0%		10.5%	**-**
Lights	7	134	21	0		162	45	544	4	0		593	25	19	20	0		64	14	733	47	0		794	**-**
Lights %	100%	98.5%	100%	0%		98.8%	97.8%	86.9%	80%	0%		87.6%	96.2%	90.5%	90.9%	0%		92.8%	93.3%	89%	97.9%	0%		89.5%	**-**
Single-Unit Trucks	0	1	0	0		1	1	42	1	0		44	0	1	1	0		2	0	38	1	0		39	**-**
Single-Unit Trucks %	0%	0.7%	0%	0%		0.6%	2.2%	6.7%	20%	0%		6.5%	0%	4.8%	4.5%	0%		2.9%	0%	4.6%	2.1%	0%		4.4%	**-**
Buses	0	1	0	0		1	0	11	0	0		11	1	1	1	0		3	1	13	0	0		14	**-**
Buses %	0%	0.7%	0%	0%		0.6%	0%	1.8%	0%	0%		1.6%	3.8%	4.8%	4.5%	0%		4.3%	6.7%	1.6%	0%	0%		1.6%	**-**
Articulated Trucks	0	0	0	0		0	0	29	0	0		29	0	0	0	0		0	0	40	0	0		40	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	4.6%	0%	0%		4.3%	0%	0%	0%	0%		0%	0%	4.9%	0%	0%		4.5%	**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	%		-	-	-	-	%		-	-	-	-	%		-	-	-	-	%		**-**

Spectrum

Turning Movement Count
Location Name: MAYFIELD RD & TORBRAM RD
Date: Thu, Nov 24, 2016 Deployment Lead: Chris Koukaras

Peak Hour: 01:00 PM - 02:00 PM Weather: Light Drizzle (1 °C)

Start Time	N Approach TORBRAM RD						E Approach MAYFIELD RD						S Approach TORBRAM RD						W Approach MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
13:00:00	0	6	2	0	0	8	5	90	4	0	0	99	2	1	6	0	0	9	5	118	6	0	0	129	245
13:15:00	0	2	5	0	0	7	7	104	3	0	0	114	6	5	4	0	0	15	2	132	8	0	0	142	278
13:30:00	0	7	2	0	0	9	5	100	2	0	0	107	5	8	11	0	0	24	5	139	5	0	0	149	289
13:45:00	2	5	2	0	0	9	3	132	3	0	0	138	4	7	8	0	0	19	7	146	4	0	0	157	323
Grand Total	2	20	11	0	0	33	20	426	12	0	0	458	17	21	29	0	0	67	19	535	23	0	0	577	**1135**
Approach%	6.1%	60.6%	33.3%	0%		-	4.4%	93%	2.6%	0%		-	25.4%	31.3%	43.3%	0%		-	3.3%	92.7%	4%	0%		-	**-**
Totals %	0.2%	1.8%	1%	0%		2.9%	1.8%	37.5%	1.1%	0%		40.4%	1.5%	1.9%	2.6%	0%		5.9%	1.7%	47.1%	2%	0%		50.8%	**-**
PHF	0.25	0.71	0.55	0		0.92	0.71	0.81	0.75	0		0.83	0.71	0.66	0.66	0		0.7	0.68	0.92	0.72	0		0.92	**-**
Heavy	0	1	0	0		1	1	88	0	0		89	1	2	0	0		3	1	101	0	0		102	**-**
Heavy %	0%	5%	0%	0%		3%	5%	20.7%	0%	0%		19.4%	5.9%	9.5%	0%	0%		4.5%	5.3%	18.9%	0%	0%		17.7%	**-**
Lights	2	19	11	0		32	19	338	12	0		369	16	19	29	0		64	18	434	23	0		475	**-**
Lights %	100%	95%	100%	0%		97%	95%	79.3%	100%	0%		80.6%	94.1%	90.5%	100%	0%		95.5%	94.7%	81.1%	100%	0%		82.3%	**-**
Single-Unit Trucks	0	0	0	0		0	1	25	0	0		26	1	2	0	0		3	0	46	0	0		46	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	5%	5.9%	0%	0%		5.7%	5.9%	9.5%	0%	0%		4.5%	0%	8.6%	0%	0%		8%	**-**
Buses	0	1	0	0		1	0	19	0	0		19	0	0	0	0		0	0	2	0	0		2	**-**
Buses %	0%	5%	0%	0%		3%	0%	4.5%	0%	0%		4.1%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.3%	**-**
Articulated Trucks	0	0	0	0		0	0	44	0	0		44	0	0	0	0		0	1	53	0	0		54	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	10.3%	0%	0%		9.6%	0%	0%	0%	0%		0%	5.3%	9.9%	0%	0%		9.4%	**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	%		-	-	-	-	%		-	-	-	-	%		-	-	-	-	%		**-**

Spectrum

Turning Movement Count
Location Name: MAYFIELD RD & TORBRAM RD
Date: Thu, Nov 24, 2016 Deployment Lead: Chris Koukaras

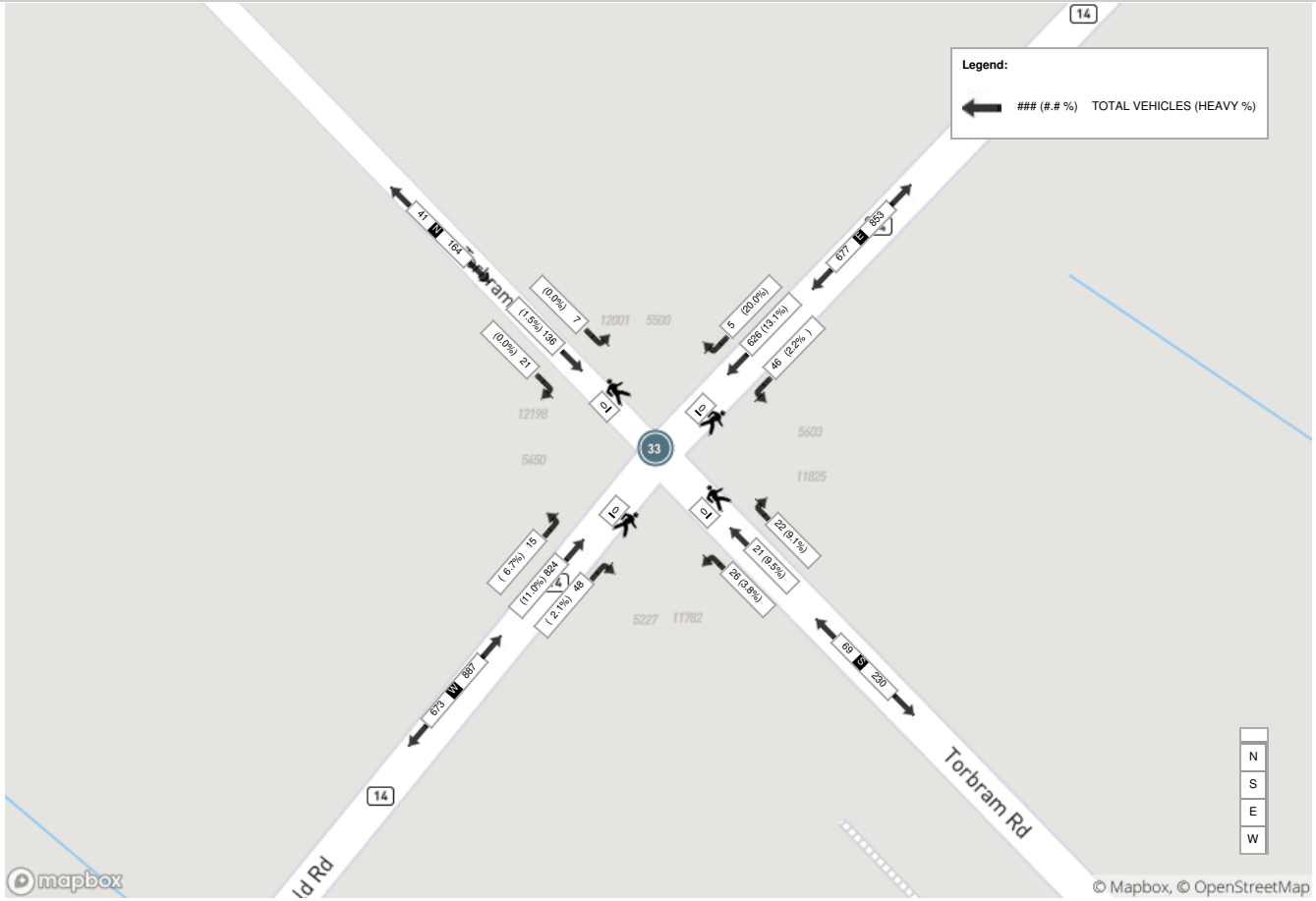
Peak Hour: 04:15 PM - 05:15 PM Weather: Light Drizzle (2.9 °C)

Start Time	N Approach TORBRAM RD						E Approach MAYFIELD RD						S Approach TORBRAM RD						W Approach MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
16:15:00	0	8	7	0	0	15	10	221	7	0	0	238	9	26	6	0	0	41	7	183	3	0	0	193	487
16:30:00	1	4	3	0	0	8	5	221	5	0	0	231	7	30	9	0	0	46	7	193	6	0	0	206	491
16:45:00	1	5	1	0	0	7	9	215	7	0	0	231	17	36	3	0	0	56	7	170	17	0	0	194	488
17:00:00	0	4	0	0	0	4	9	213	4	0	0	226	13	28	6	0	0	47	8	190	10	0	0	208	485
Grand Total	2	21	11	0	0	34	33	870	23	0	0	926	46	120	24	0	0	190	29	736	36	0	0	801	**1951**
Approach%	5.9%	61.8%	32.4%	0%		-	3.6%	94%	2.5%	0%		-	24.2%	63.2%	12.6%	0%		-	3.6%	91.9%	4.5%	0%		-	**-**
Totals %	0.1%	1.1%	0.6%	0%		1.7%	1.7%	44.6%	1.2%	0%		47.5%	2.4%	6.2%	1.2%	0%		9.7%	1.5%	37.7%	1.8%	0%		41.1%	**-**
PHF	0.5	0.66	0.39	0		0.57	0.83	0.98	0.82	0		0.97	0.68	0.83	0.67	0		0.85	0.91	0.95	0.53	0		0.96	**-**
Heavy	0	0	1	0		1	0	76	1	0		77	0	0	1	0		1	1	86	0	0		87	**-**
Heavy %	0%	0%	9.1%	0%		2.9%	0%	8.7%	4.3%	0%		8.3%	0%	0%	4.2%	0%		0.5%	3.4%	11.7%	0%	0%		10.9%	**-**
Lights	2	21	10	0		33	33	794	22	0		849	46	120	23	0		189	28	650	36	0		714	**-**
Lights %	100%	100%	90.9%	0%		97.1%	100%	91.3%	95.7%	0%		91.7%	100%	100%	95.8%	0%		99.5%	96.6%	88.3%	100%	0%		89.1%	**-**
Single-Unit Trucks	0	0	0	0		0	0	29	0	0		29	0	0	0	0		0	1	27	0	0		28	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	3.3%	0%	0%		3.1%	0%	0%	0%	0%		0%	3.4%	3.7%	0%	0%		3.5%	**-**
Buses	0	0	1	0		1	0	12	1	0		13	0	0	1	0		1	0	18	0	0		18	**-**
Buses %	0%	0%	9.1%	0%		2.9%	0%	1.4%	4.3%	0%		1.4%	0%	0%	4.2%	0%		0.5%	0%	2.4%	0%	0%		2.2%	**-**
Articulated Trucks	0	0	0	0		0	0	35	0	0		35	0	0	0	0		0	0	41	0	0		41	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	4%	0%	0%		3.8%	0%	0%	0%	0%		0%	0%	5.6%	0%	0%		5.1%	**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	%		-	-	-	-	%		-	-	-	-	%		-	-	-	-	%		**-**

Spectrum

Turning Movement Count
Location Name: MAYFIELD RD & TORBRAM RD
Date: Thu, Nov 24, 2016 Deployment Lead: Chris Koukaras

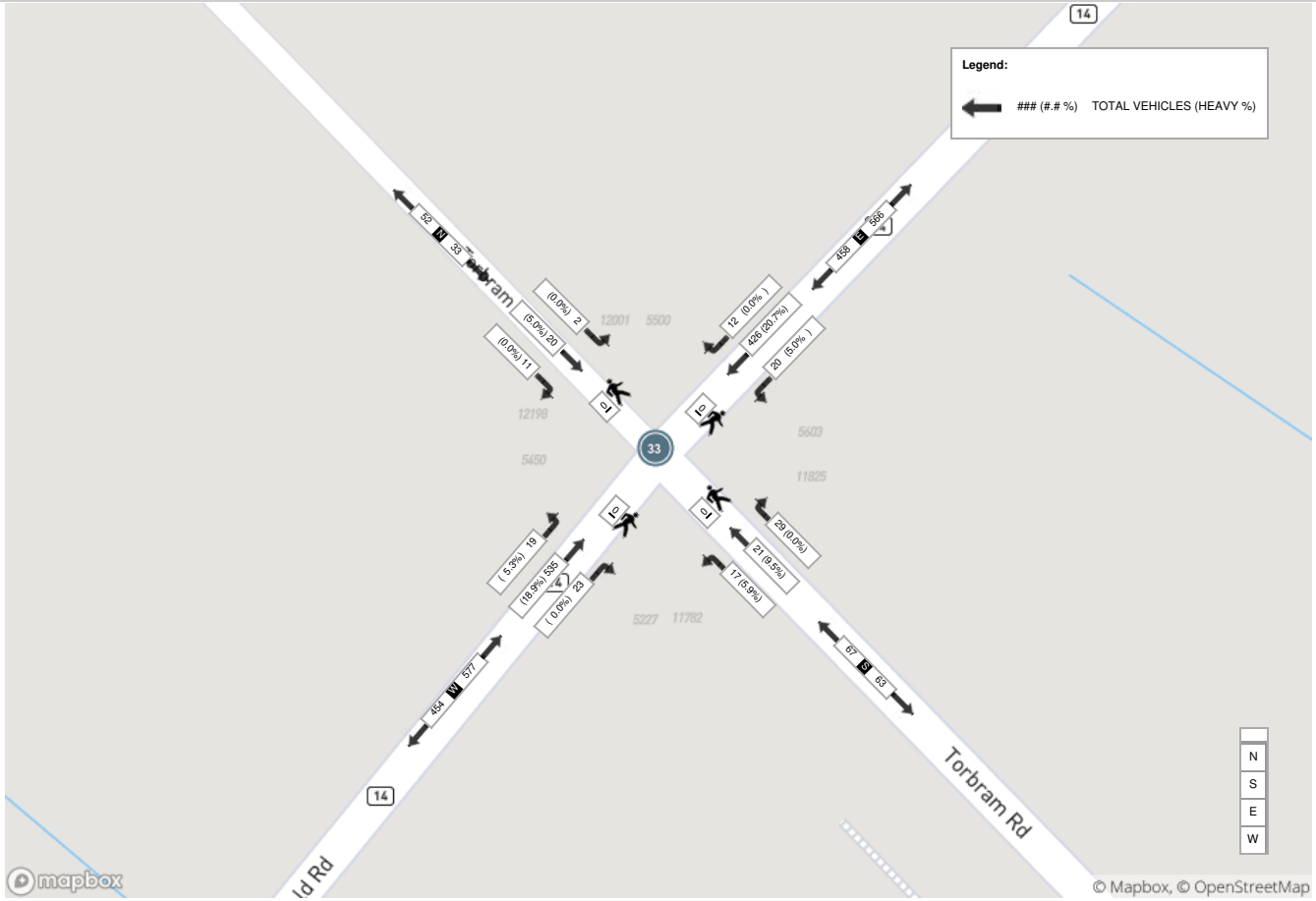
Peak Hour: 07:30 AM - 08:30 AM Weather: Light Rain (-0.1 °C)



Spectrum

Turning Movement Count
Location Name: MAYFIELD RD & TORBRAM RD
Date: Thu, Nov 24, 2016 Deployment Lead: Chris Koukaras

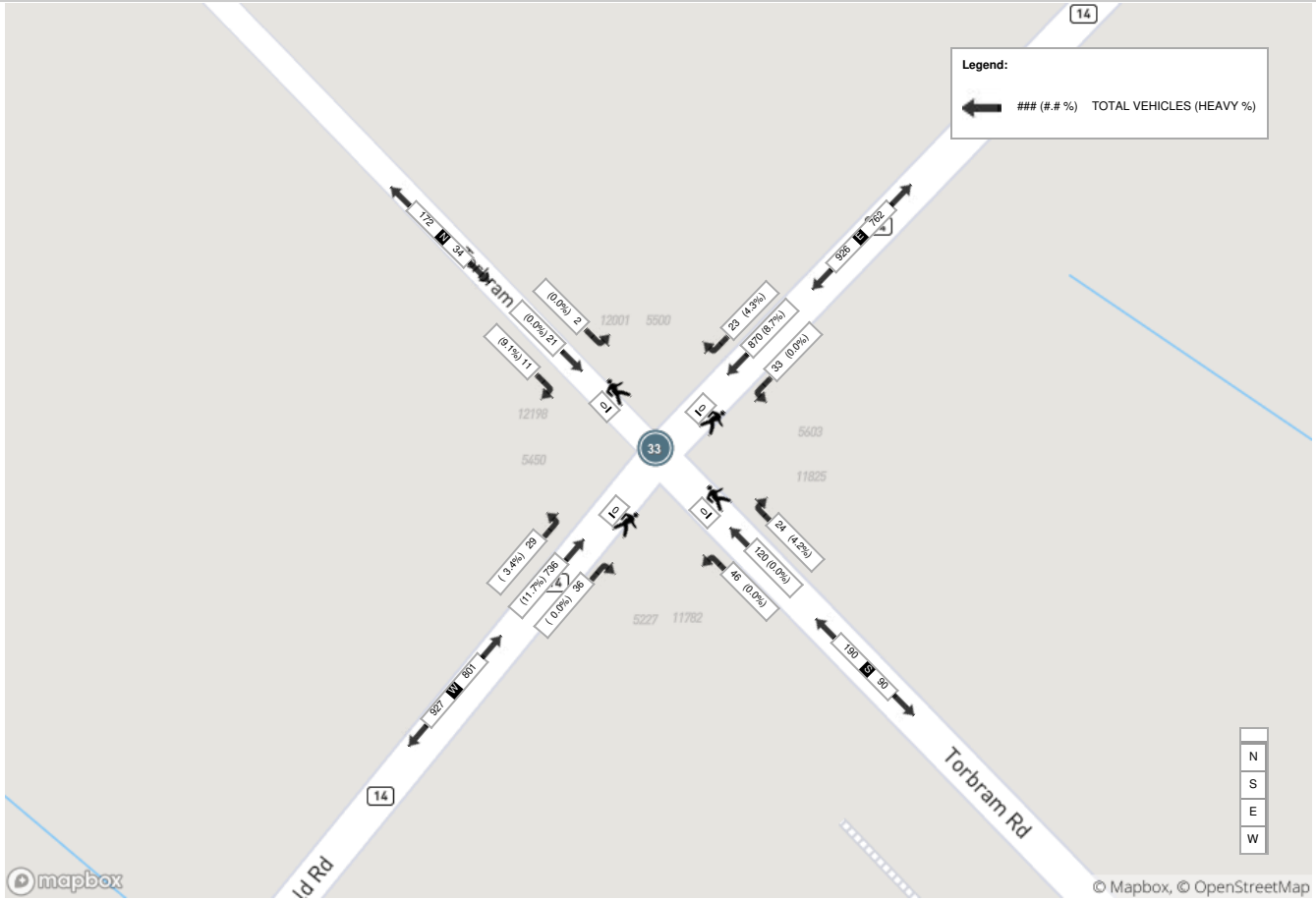
Peak Hour: 01:00 PM - 02:00 PM Weather: Light Drizzle (1 °C)



Spectrum

Turning Movement Count
Location Name: MAYFIELD RD & TORBRAM RD
Date: Thu, Nov 24, 2016 Deployment Lead: Chris Koukaras

Peak Hour: 04:15 PM - 05:15 PM Weather: Light Drizzle (2.9 °C)



Spectrum

Turning Movement Count
Location Name: MAYFIELD RD & TORBRAM RD
Date: Thu, Nov 24, 2016 Deployment Lead: Chris Koukaras

Turning Movement Count (33 . MAYFIELD RD & TORBRAM RD) CustID: 01409611 MioID: 368469

Start Time	N Approach TORBRAM RD						E Approach MAYFIELD RD						S Approach TORBRAM RD						W Approach MAYFIELD RD						Int. Total (15 min)	Int. Total (1 hr)
	Left N:E	Thru N:S	Right N:W	U-Turn N:N	Peds N:	Approach Total	Left E:S	Thru E:W	Right E:N	U-Turn E:E	Peds E:	Approach Total	Left S:W	Thru S:N	Right S:E	U-Turn S:S	Peds S:	Approach Total	Left W:N	Thru W:E	Right W:S	U-Turn W:W	Peds W:	Approach Total		
07:00:00	0	21	2	0	0	23	9	141	1	0	0	151	4	7	3	0	0	14	0	171	8	0	0	179	367	
07:15:00	0	26	1	0	0	27	13	147	2	0	0	162	3	9	4	0	0	16	8	188	7	0	0	203	408	
07:30:00	2	45	10	0	0	57	14	153	1	0	0	168	5	4	3	0	0	12	3	193	9	0	0	205	442	
07:45:00	1	30	6	0	0	37	11	178	1	0	0	190	7	9	4	0	0	20	3	205	7	0	0	215	462	1679
08:00:00	1	35	3	0	0	39	10	147	1	0	0	158	12	2	6	0	0	20	2	211	25	0	0	238	455	1767
08:15:00	3	26	2	0	0	31	11	148	2	0	0	161	2	6	9	0	0	17	7	215	7	0	0	229	438	1797
08:30:00	3	20	4	0	0	27	9	135	3	0	0	147	3	6	10	0	0	19	3	180	13	0	0	196	389	1744
08:45:00	2	21	0	0	0	23	9	144	2	0	0	155	2	3	9	0	0	14	4	179	12	0	0	195	387	1669
BREAK																										
11:00:00	0	3	0	0	0	3	6	113	2	0	0	121	1	0	3	0	0	4	3	98	4	0	0	105	233	
11:15:00	2	6	0	0	0	8	9	99	2	0	0	110	2	5	7	0	0	14	4	115	7	0	0	126	258	
11:30:00	2	5	2	0	0	9	5	114	1	0	0	120	7	6	7	0	0	20	1	112	7	0	0	120	269	
11:45:00	1	7	2	0	0	10	6	119	7	0	0	132	3	8	8	0	0	19	4	106	4	0	0	114	275	1035
12:00:00	0	5	0	0	0	5	3	144	2	0	0	149	2	1	7	0	0	10	6	137	3	0	0	146	310	1112
12:15:00	0	3	2	0	0	5	8	102	1	0	0	111	2	7	3	0	0	12	5	106	7	0	0	118	246	1100
12:30:00	2	3	4	0	0	9	6	112	3	0	0	121	2	7	3	0	0	12	4	115	10	0	0	129	271	1102
12:45:00	0	8	1	0	0	9	5	130	1	0	0	136	2	4	3	0	0	9	5	116	2	0	0	123	277	1104
13:00:00	0	6	2	0	0	8	5	90	4	0	0	99	2	1	6	0	0	9	5	118	6	0	0	129	245	1039
13:15:00	0	2	5	0	0	7	7	104	3	0	0	114	6	5	4	0	0	15	2	132	8	0	0	142	278	1071
13:30:00	0	7	2	0	0	9	5	100	2	0	0	107	5	8	11	0	0	24	5	139	5	0	0	149	289	1089
13:45:00	2	5	2	0	0	9	3	132	3	0	0	138	4	7	8	0	0	19	7	146	4	0	0	157	323	1135
BREAK																										
15:00:00	1	5	1	0	0	7	13	178	4	0	0	195	9	21	7	0	0	37	5	152	9	0	0	166	405	
15:15:00	0	4	2	0	0	6	8	191	5	0	0	204	12	32	5	0	0	49	11	167	9	0	0	187	446	
15:30:00	0	4	1	0	0	5	6	197	2	0	0	205	5	27	16	0	0	48	17	184	10	0	0	211	469	
15:45:00	0	10	0	0	0	10	6	194	3	0	0	203	9	31	11	0	0	51	9	163	11	0	0	183	447	1767
16:00:00	0	7	2	0	0	9	13	194	6	0	0	213	9	37	12	0	0	58	8	180	13	0	0	201	481	1843
16:15:00	0	8	7	0	0	15	10	221	7	0	0	238	9	26	6	0	0	41	7	183	3	0	0	193	487	1884
16:30:00	1	4	3	0	0	8	5	221	5	0	0	231	7	30	9	0	0	46	7	193	6	0	0	206	491	1906
16:45:00	1	5	1	0	0	7	9	215	7	0	0	231	17	36	3	0	0	56	7	170	17	0	0	194	488	1947
17:00:00	0	4	0	0	0	4	9	213	4	0	0	226	13	28	6	0	0	47	8	190	10	0	0	208	485	1951
17:15:00	2	8	0	0	0	10	12	225	9	0	0	246	6	23	6	0	0	35	12	171	6	0	0	189	480	1944
17:30:00	0	7	1	0	0	8	6	200	5	0	0	211	7	22	7	0	0	36	10	183	7	0	0	200	455	1908
17:45:00	0	7	1	0	0	8	9	199	2	0	0	210	6	16	8	0	0	30	10	145	6	0	0	161	409	1829
Grand Total	26	357	69	0	0	452	260	5000	103	0	0	5363	185	434	214	0	0	833	192	5063	262	0	0	5517	**12165**	-
Approach%	5.8%	79%	15.3%	0%		-	4.8%	93.2%	1.9%	0%		-	22.2%	52.1%	25.7%	0%		-	3.5%	91.8%	4.7%	0%		-	-	-
Totals %	0.2%	2.9%	0.6%	0%		3.7%	2.1%	41.1%	0.8%	0%		44.1%	1.5%	3.6%	1.8%	0%		6.8%	1.6%	41.6%	2.2%	0%		45.4%	-	-
Heavy	1	7	2	0		-	6	689	8	0		-	5	8	12	0		-	6	732	7	0		-	-	-
Heavy %	3.8%	2%	2.9%	0%		-	2.3%	13.8%	7.8%	0%		-	2.7%	1.8%	5.6%	0%		-	3.1%	14.5%	2.7%	0%		-	-	-
Bicycles	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	0	1	0	0		-	-	-
Bicycle %	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	-	-

Spectrum

Turning Movement Count
Location Name: MAYFIELD RD & TORBRAM RD
Date: Thu, Nov 24, 2016 Deployment Lead: Chris Koukaras

Peak Hour: 07:30 AM - 08:30 AM Weather: Light Rain (-0.1 °C)

Start Time	N Approach TORBRAM RD						E Approach MAYFIELD RD						S Approach TORBRAM RD						W Approach MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
07:30:00	2	45	10	0	0	57	14	153	1	0	0	168	5	4	3	0	0	12	3	193	9	0	0	205	442
07:45:00	1	30	6	0	0	37	11	178	1	0	0	190	7	9	4	0	0	20	3	205	7	0	0	215	462
08:00:00	1	35	3	0	0	39	10	147	1	0	0	158	12	2	6	0	0	20	2	211	25	0	0	238	455
08:15:00	3	26	2	0	0	31	11	148	2	0	0	161	2	6	9	0	0	17	7	215	7	0	0	229	438
Grand Total	7	136	21	0	0	164	46	626	5	0	0	677	26	21	22	0	0	69	15	824	48	0	0	887	**1797**
Approach%	4.3%	82.9%	12.8%	0%		-	6.8%	92.5%	0.7%	0%		-	37.7%	30.4%	31.9%	0%		-	1.7%	92.9%	5.4%	0%		-	**-**
Totals %	0.4%	7.6%	1.2%	0%		9.1%	2.6%	34.8%	0.3%	0%		37.7%	1.4%	1.2%	1.2%	0%		3.8%	0.8%	45.9%	2.7%	0%		49.4%	**-**
PHF	0.58	0.76	0.53	0		0.72	0.82	0.88	0.63	0		0.89	0.54	0.58	0.61	0		0.86	0.54	0.96	0.48	0		0.93	**-**
Heavy	0	2	0	0		2	1	82	1	0		84	1	2	2	0		5	1	91	1	0		93	**-**
Heavy %	0%	1.5%	0%	0%		1.2%	2.2%	13.1%	20%	0%		12.4%	3.8%	9.5%	9.1%	0%		7.2%	6.7%	11%	2.1%	0%		10.5%	**-**
Lights	7	134	21	0		162	45	544	4	0		593	25	19	20	0		64	14	733	47	0		794	**-**
Lights %	100%	98.5%	100%	0%		98.8%	97.8%	86.9%	80%	0%		87.6%	96.2%	90.5%	90.9%	0%		92.8%	93.3%	89%	97.9%	0%		89.5%	**-**
Single-Unit Trucks	0	1	0	0		1	1	42	1	0		44	0	1	1	0		2	0	38	1	0		39	**-**
Single-Unit Trucks %	0%	0.7%	0%	0%		0.6%	2.2%	6.7%	20%	0%		6.5%	0%	4.8%	4.5%	0%		2.9%	0%	4.6%	2.1%	0%		4.4%	**-**
Buses	0	1	0	0		1	0	11	0	0		11	1	1	1	0		3	1	13	0	0		14	**-**
Buses %	0%	0.7%	0%	0%		0.6%	0%	1.8%	0%	0%		1.6%	3.8%	4.8%	4.5%	0%		4.3%	6.7%	1.6%	0%	0%		1.6%	**-**
Articulated Trucks	0	0	0	0		0	0	29	0	0		29	0	0	0	0		0	0	40	0	0		40	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	4.6%	0%	0%		4.3%	0%	0%	0%	0%		0%	0%	4.9%	0%	0%		4.5%	**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	%		-	-	-	-	%		-	-	-	-	%		-	-	-	-	%		**-**

Spectrum

Turning Movement Count
Location Name: MAYFIELD RD & TORBRAM RD
Date: Thu, Nov 24, 2016 Deployment Lead: Chris Koukaras

Peak Hour: 01:00 PM - 02:00 PM Weather: Light Drizzle (1 °C)

Start Time	N Approach TORBRAM RD						E Approach MAYFIELD RD						S Approach TORBRAM RD						W Approach MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
13:00:00	0	6	2	0	0	8	5	90	4	0	0	99	2	1	6	0	0	9	5	118	6	0	0	129	245
13:15:00	0	2	5	0	0	7	7	104	3	0	0	114	6	5	4	0	0	15	2	132	8	0	0	142	278
13:30:00	0	7	2	0	0	9	5	100	2	0	0	107	5	8	11	0	0	24	5	139	5	0	0	149	289
13:45:00	2	5	2	0	0	9	3	132	3	0	0	138	4	7	8	0	0	19	7	146	4	0	0	157	323
Grand Total	2	20	11	0	0	33	20	426	12	0	0	458	17	21	29	0	0	67	19	535	23	0	0	577	**1135**
Approach%	6.1%	60.6%	33.3%	0%		-	4.4%	93%	2.6%	0%		-	25.4%	31.3%	43.3%	0%		-	3.3%	92.7%	4%	0%		-	**-**
Totals %	0.2%	1.8%	1%	0%		2.9%	1.8%	37.5%	1.1%	0%		40.4%	1.5%	1.9%	2.6%	0%		5.9%	1.7%	47.1%	2%	0%		50.8%	**-**
PHF	0.25	0.71	0.55	0		0.92	0.71	0.81	0.75	0		0.83	0.71	0.66	0.66	0		0.7	0.68	0.92	0.72	0		0.92	**-**
Heavy	0	1	0	0		1	1	88	0	0		89	1	2	0	0		3	1	101	0	0		102	**-**
Heavy %	0%	5%	0%	0%		3%	5%	20.7%	0%	0%		19.4%	5.9%	9.5%	0%	0%		4.5%	5.3%	18.9%	0%	0%		17.7%	**-**
Lights	2	19	11	0		32	19	338	12	0		369	16	19	29	0		64	18	434	23	0		475	**-**
Lights %	100%	95%	100%	0%		97%	95%	79.3%	100%	0%		80.6%	94.1%	90.5%	100%	0%		95.5%	94.7%	81.1%	100%	0%		82.3%	**-**
Single-Unit Trucks	0	0	0	0		0	1	25	0	0		26	1	2	0	0		3	0	46	0	0		46	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	5%	5.9%	0%	0%		5.7%	5.9%	9.5%	0%	0%		4.5%	0%	8.6%	0%	0%		8%	**-**
Buses	0	1	0	0		1	0	19	0	0		19	0	0	0	0		0	0	2	0	0		2	**-**
Buses %	0%	5%	0%	0%		3%	0%	4.5%	0%	0%		4.1%	0%	0%	0%	0%		0%	0%	0.4%	0%	0%		0.3%	**-**
Articulated Trucks	0	0	0	0		0	0	44	0	0		44	0	0	0	0		0	1	53	0	0		54	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	10.3%	0%	0%		9.6%	0%	0%	0%	0%		0%	5.3%	9.9%	0%	0%		9.4%	**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	%		-	-	-	-	%		-	-	-	-	%		-	-	-	-	%		**-**

Spectrum

Turning Movement Count
Location Name: MAYFIELD RD & TORBRAM RD
Date: Thu, Nov 24, 2016 Deployment Lead: Chris Koukaras

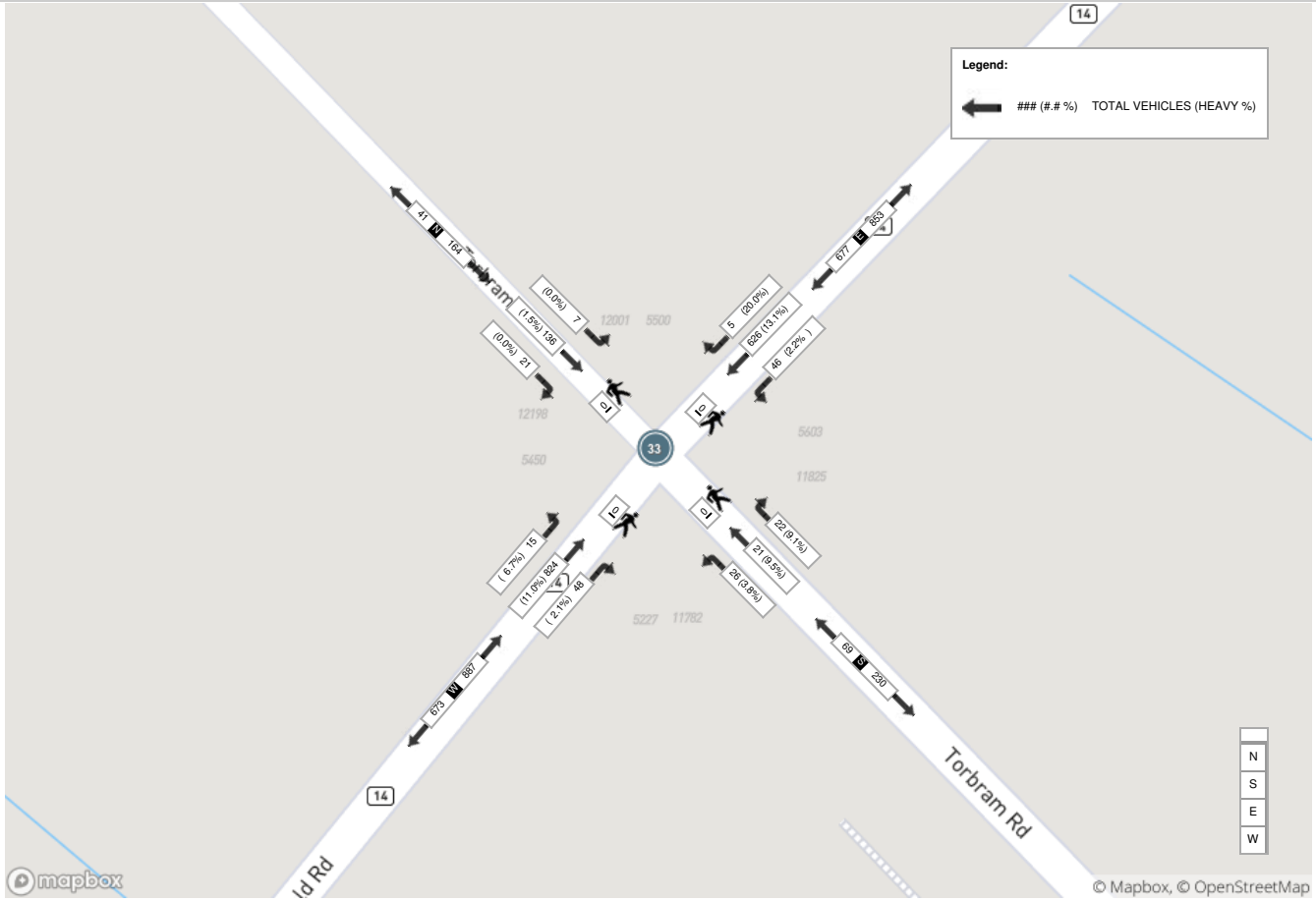
Peak Hour: 04:15 PM - 05:15 PM Weather: Light Drizzle (2.9 °C)

Start Time	N Approach TORBRAM RD						E Approach MAYFIELD RD						S Approach TORBRAM RD						W Approach MAYFIELD RD						Int. Total (15 min)
	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	Left	Thru	Right	U-Turn	Peds	Approach Total	
16:15:00	0	8	7	0	0	15	10	221	7	0	0	238	9	26	6	0	0	41	7	183	3	0	0	193	487
16:30:00	1	4	3	0	0	8	5	221	5	0	0	231	7	30	9	0	0	46	7	193	6	0	0	206	491
16:45:00	1	5	1	0	0	7	9	215	7	0	0	231	17	36	3	0	0	56	7	170	17	0	0	194	488
17:00:00	0	4	0	0	0	4	9	213	4	0	0	226	13	28	6	0	0	47	8	190	10	0	0	208	485
Grand Total	2	21	11	0	0	34	33	870	23	0	0	926	46	120	24	0	0	190	29	736	36	0	0	801	**1951**
Approach%	5.9%	61.8%	32.4%	0%		-	3.6%	94%	2.5%	0%		-	24.2%	63.2%	12.6%	0%		-	3.6%	91.9%	4.5%	0%		-	**-**
Totals %	0.1%	1.1%	0.6%	0%		1.7%	1.7%	44.6%	1.2%	0%		47.5%	2.4%	6.2%	1.2%	0%		9.7%	1.5%	37.7%	1.8%	0%		41.1%	**-**
PHF	0.5	0.66	0.39	0		0.57	0.83	0.98	0.82	0		0.97	0.68	0.83	0.67	0		0.85	0.91	0.95	0.53	0		0.96	**-**
Heavy	0	0	1	0		1	0	76	1	0		77	0	0	1	0		1	1	86	0	0		87	**-**
Heavy %	0%	0%	9.1%	0%		2.9%	0%	8.7%	4.3%	0%		8.3%	0%	0%	4.2%	0%		0.5%	3.4%	11.7%	0%	0%		10.9%	**-**
Lights	2	21	10	0		33	33	794	22	0		849	46	120	23	0		189	28	650	36	0		714	**-**
Lights %	100%	100%	90.9%	0%		97.1%	100%	91.3%	95.7%	0%		91.7%	100%	100%	95.8%	0%		99.5%	96.6%	88.3%	100%	0%		89.1%	**-**
Single-Unit Trucks	0	0	0	0		0	0	29	0	0		29	0	0	0	0		0	1	27	0	0		28	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	3.3%	0%	0%		3.1%	0%	0%	0%	0%		0%	3.4%	3.7%	0%	0%		3.5%	**-**
Buses	0	0	1	0		1	0	12	1	0		13	0	0	1	0		1	0	18	0	0		18	**-**
Buses %	0%	0%	9.1%	0%		2.9%	0%	1.4%	4.3%	0%		1.4%	0%	0%	4.2%	0%		0.5%	0%	2.4%	0%	0%		2.2%	**-**
Articulated Trucks	0	0	0	0		0	0	35	0	0		35	0	0	0	0		0	0	41	0	0		41	**-**
Articulated Trucks %	0%	0%	0%	0%		0%	0%	4%	0%	0%		3.8%	0%	0%	0%	0%		0%	0%	5.6%	0%	0%		5.1%	**-**
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	**-**
Bicycles on Road%	-	-	-	-	%		-	-	-	-	%		-	-	-	-	%		-	-	-	-	%		**-**

Spectrum

Turning Movement Count
Location Name: MAYFIELD RD & TORBRAM RD
Date: Thu, Nov 24, 2016 Deployment Lead: Chris Koukaras

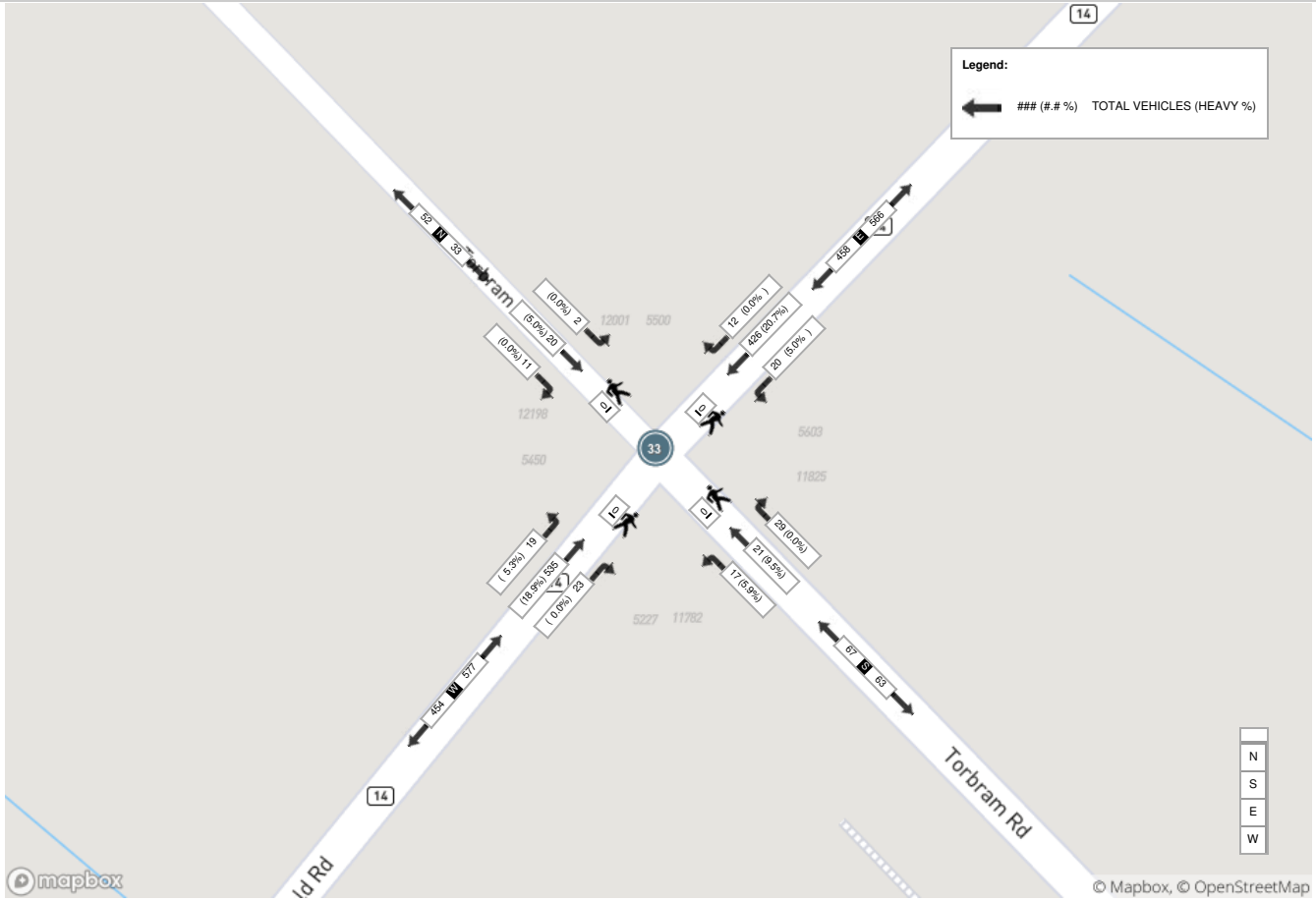
Peak Hour: 07:30 AM - 08:30 AM Weather: Light Rain (-0.1 °C)



Spectrum

Turning Movement Count
Location Name: MAYFIELD RD & TORBRAM RD
Date: Thu, Nov 24, 2016 Deployment Lead: Chris Koukaras

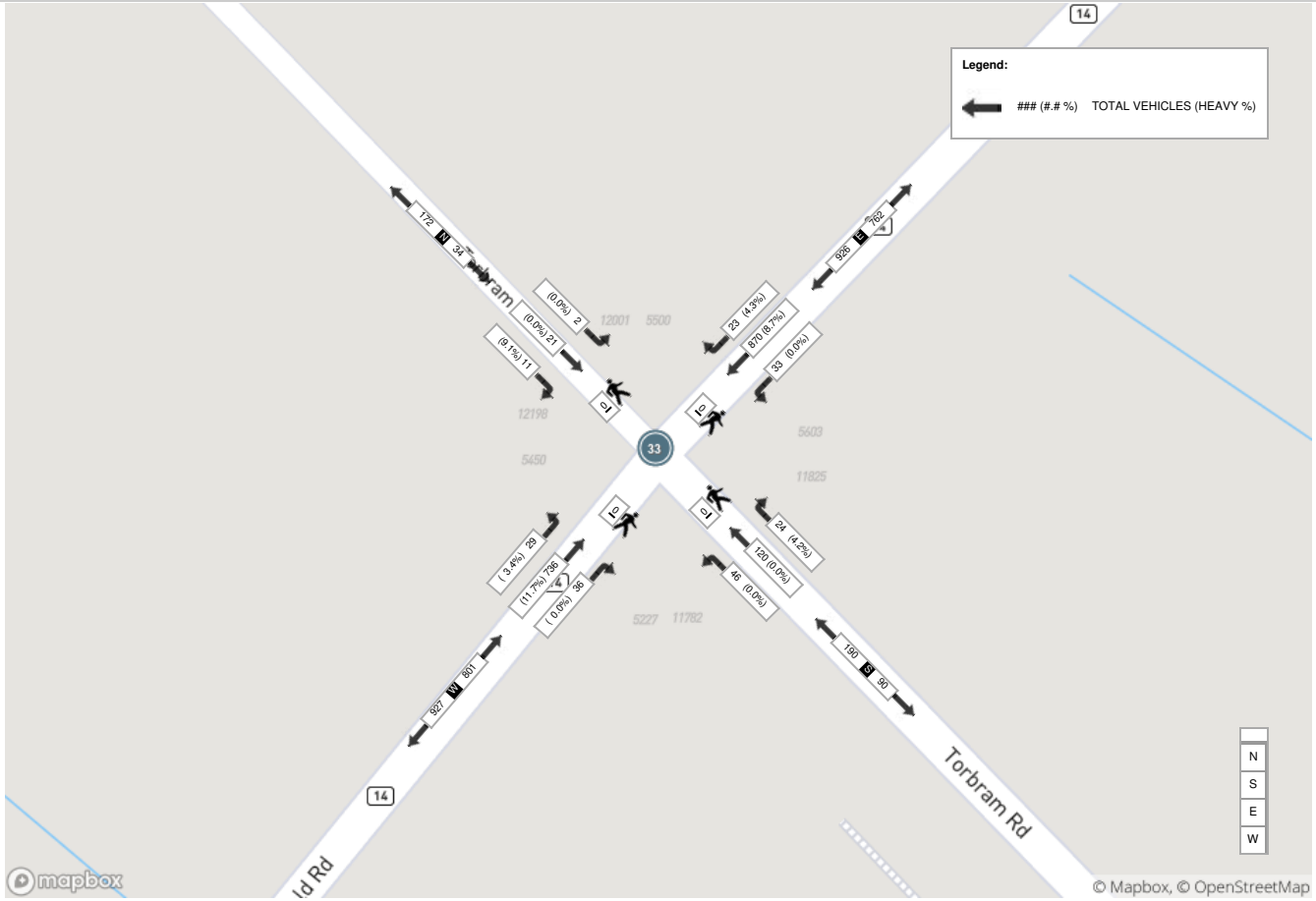
Peak Hour: 01:00 PM - 02:00 PM Weather: Light Drizzle (1 °C)



Spectrum

Turning Movement Count
Location Name: MAYFIELD RD & TORBRAM RD
Date: Thu, Nov 24, 2016 Deployment Lead: Chris Koukaras

Peak Hour: 04:15 PM - 05:15 PM Weather: Light Drizzle (2.9 °C)



Turning Movements Report - AM Period

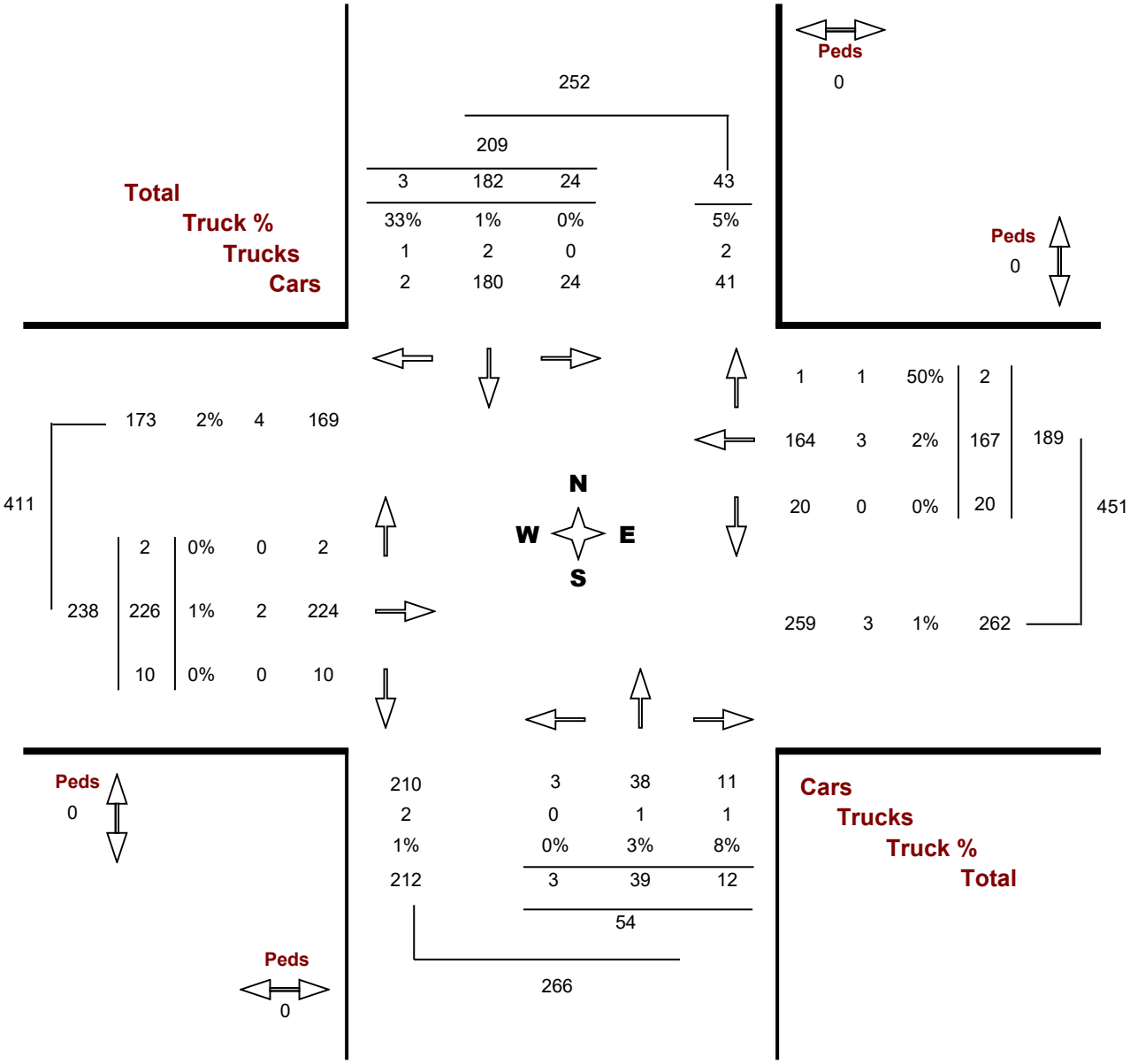
Location..... TORBRAM RD @ OLD SCHOOL RD

Municipality..... Caledon

GeoID..... 25493

Count Date..... Thursday, 07 September, 2017

Peak Hour..... 07:15 AM — 08:15 AM



Turning Movements Report - PM Period

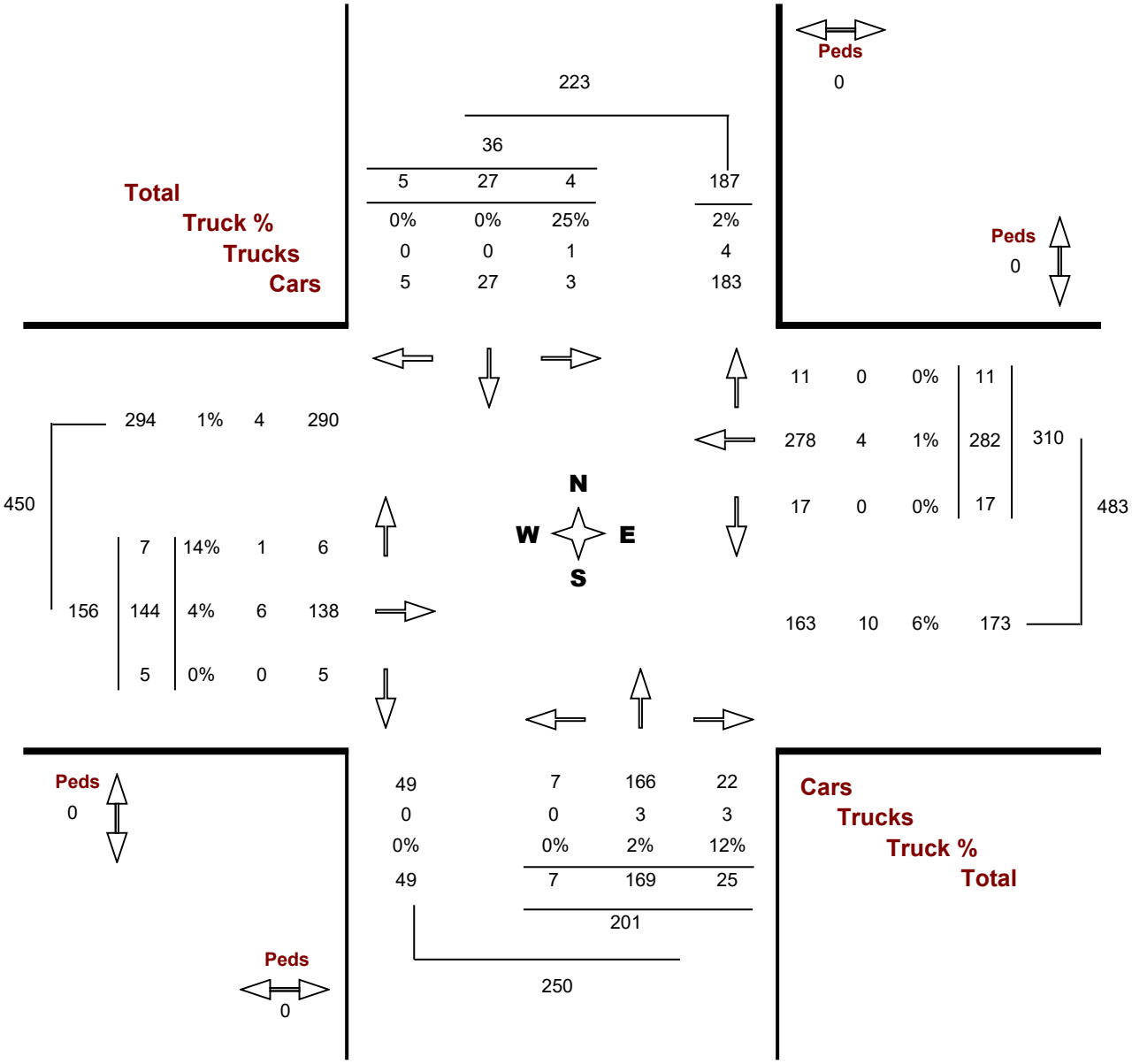
Location..... TORBRAM RD @ OLD SCHOOL RD

Municipality..... Caledon

GeoID..... 25493

Count Date..... Thursday, 07 September, 2017

Peak Hour..... 04:30 PM — 05:30 PM



SIGNAL TIMING PLANS

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	**June 23, 2021**		**Prepared Date**	**June 23, 2021**
Database Rev	**MaxView**		**Completed By**	**S.J**
Timing Card / Field rev	**-**		**Checked By**	**B.L**

Location — **Airport Road at Mayfield Road**

Phase #	Street Name - Direction	Vehicle Minimum (s)	Pedestrian Minimum (s)		Amber (s)	All Red (s)	TIME PERIOD (s) (Green+Amber+All Red)		
			WALK	FDWALK			AM SPLITS	OFF SPLITS	PM SPLITS
1	Airport Road - NBLT Prot. Perm.	5	-	-	3.0	-	12	12	12
2	Airport Road - SB	12	12	23	4.0	2.9	43	43	43
3	Mayfield Road - EBLT Prot. Perm.	5	-	-	3.0	-	15	15	25
4	Mayfield Road - WB	12	12	27	4.0	3.1	50	50	55
5	Airport Road - SBLT Prot. Perm.	5	-	-	3.0	-	12	12	12
6	Airport Road - NB	12	12	23	4.0	2.9	43	43	43
7	Not In Use	-	-	-	-	-	-	-	-
8	Mayfield Road - EB	12	12	27	4.0	3.1	65	65	80

System Control
Yes

Semi-Actuated Mode
Yes

TIME (M-F)	PEAK	CYCLE LENGTH (s)	OFFSET (s)
06:30 - 09:00	AM	120	30
09:00 - 15:00	OFF	120	94
15:00 - 19:30	PM	135	65

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	**August 26, 2010**		**Prepared Date**	**June 18, 2021**
Database Rev	**3**		**Completed By**	**S.J**
Timing Card / Field rev	**-**		**Checked By**	**M.Y**

Location	**Airport Road at Private Access**

Phase #	**Street Name - Direction**	**Vehicle Minimum (s)**	**Pedestrian Minimum (s)**		**Amber (s)**	**All Red (s)**	**TIME PERIOD (s) (Green+Amber+All Red)**		
			WALK	**FDWALK**			**AM SPLITS**	**OFF SPLITS**	**PM SPLITS**
1	Not In Use	-	-	-	-	-	-	-	-
2	Airport Road - SB	12	8	21	4.6	2.0	82	62	82
3	Not In Use	-	-	-	-	-	-	-	-
4	Private Access - WB	12	8	20	4.0	4.2	38	38	38
5	Not In Use	-	-	-	-	-	-	-	-
6	Airport Road - NB	12	8	21	4.6	2.0	82	62	82
7	Not In Use	-	-	-	-	-	-	-	-
8	Computer Phase - EB	12	8	20	4.0	4.2	38	38	38

System Control
No

Semi-Actuated Mode
Yes

TIME (M-F)	**PEAK**	**CYCLE LENGTH (s)**	**OFFSET (s)**
06:00 - 09:00	AM	120	113
09:00 - 15:00	OFF	100	77
15:00 - 19:00	PM	120	58

REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	**September 28, 2020**		**Prepared Date**	**June 18, 2021**
Database Rev	**11**		**Completed By**	**S.J**
Timing Card / Field rev	**-**		**Checked By**	**B.L**

Location: **Mayfield Road at Torbram Road**

Phase #	Street Name - Direction	Vehicle Minimum (s)	Pedestrian Minimum (s)		Amber (s)	All Red (s)	TIME PERIOD (s) (Green+Amber+All Red)		
			WALK	FDWALK			AM SPLITS	OFF SPLITS	PM SPLITS
1	Mayfield Road - WBLT Prot. Perm.	5	-	-	3.0	-	10	10	10
2	Mayfield Road - EB	16	8	35	4.6	2.7	60	40	75
3	Not In Use	-	-	-	-	-	-	-	-
4	Torbram Road - NB	12	8	28	4.2	2.9	50	50	50
5	Mayfield Road - EBLT Prot. Perm.	5	-	-	3.0	-	10	10	10
6	Mayfield Road - WB	16	8	35	4.6	2.7	60	40	75
7	Not In Use	-	-	-	-	-	-	-	-
8	Torbram Road - SB	12	8	28	4.2	2.9	50	50	50

System Control
No

Semi-Actuated Mode
No

TIME (M-F)	PEAK	CYCLE LENGTH (s)	OFFSET (s)
07:00 - 09:00	AM	120	35
09:00 - 15:00	OFF	100	0
15:00 - 18:00	PM	135	43

Appendix F

Level of Service Definitions

Level of Service Definitions

Signalized Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 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 ≤ 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 ≤ 35	GOOD. Fair progression and longer cycle lengths lead to a greater number of vehicles stopping than LOS "B".
D	> 35 and ≤ 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 ≤ 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

Level of Service Definitions

Two-Way Stop Controlled Intersections

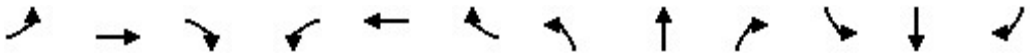
Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Large and frequent gaps in traffic on the main roadway. Queuing on the minor street is rare.
B	> 10 and ≤ 15	VERY GOOD. Many gaps exist in traffic on the main roadway. Queuing on the minor street is minimal.
C	> 15 and ≤ 25	GOOD. Fewer gaps exist in traffic on the main roadway. Delay on minor approach becomes more noticeable.
D	> 25 and ≤ 35	FAIR. Infrequent and shorter gaps in traffic on the main roadway. Queue lengths develop on the minor street.
E	> 35 and ≤ 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

Appendix G

Synchro and Sim Traffic Results

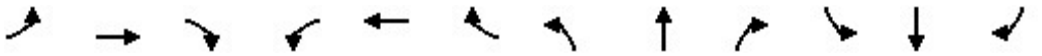
SYNCHRO REPORTS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	6	154	15	16	66	1	5	64	21	4	207	11
Future Volume (vph)	6	154	15	16	66	1	5	64	21	4	207	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	167	16	17	72	1	5	70	23	4	225	12

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	190	90	98	241
Volume Left (vph)	7	17	5	4
Volume Right (vph)	16	1	23	12
Hadj (s)	0.03	0.04	-0.06	-0.02
Departure Headway (s)	4.9	5.1	4.9	4.7
Degree Utilization, x	0.26	0.13	0.13	0.32
Capacity (veh/h)	685	650	681	716
Control Delay (s)	9.6	8.8	8.6	9.9
Approach Delay (s)	9.6	8.8	8.6	9.9
Approach LOS	A	A	A	A

Intersection Summary				
Delay	9.4			
Level of Service	A			
Intersection Capacity Utilization	30.4%	ICU Level of Service	A	
Analysis Period (min)	15			

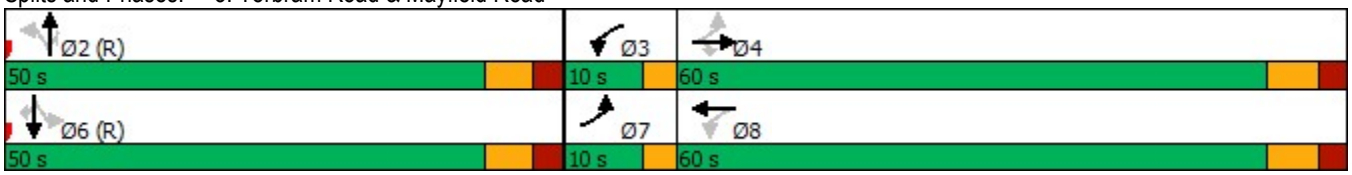


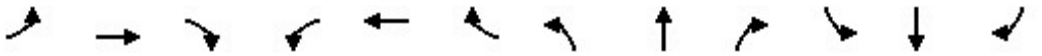
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	1009	189	46	633	9	81	49	38	12	199	30
Future Volume (vph)	36	1009	189	46	633	9	81	49	38	12	199	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.5	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5
Storage Length (m)	100.0		125.0	105.0		0.0	80.0		0.0	80.0		80.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	50.0			100.0			70.0			100.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.998				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	4734	1597	1785	4858	0	1785	1942	1587	1785	1942	1465
Flt Permitted	0.376			0.220			0.596			0.725		
Satd. Flow (perm)	686	4734	1597	413	4858	0	1120	1942	1587	1362	1942	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			189		2				66			66
Link Speed (k/h)		80			80			70			70	
Link Distance (m)		665.1			1370.8			471.0			3087.9	
Travel Time (s)		29.9			61.7			24.2			158.8	
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 (%)	3%	12%	0%	0%	9%	4%	0%	0%	4%	0%	0%	9%
Adj. Flow (vph)	36	1009	189	46	633	9	81	49	38	12	199	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	1009	189	46	642	0	81	49	38	12	199	30
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.97	1.01	1.01	0.97	0.97	1.01	0.97	0.97	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Minimum Split (s)	8.0	50.3	50.3	8.0	50.3		43.1	43.1	43.1	43.1	43.1	43.1
Total Split (s)	10.0	60.0	60.0	10.0	60.0		50.0	50.0	50.0	50.0	50.0	50.0
Total Split (%)	8.3%	50.0%	50.0%	8.3%	50.0%		41.7%	41.7%	41.7%	41.7%	41.7%	41.7%
Maximum Green (s)	7.0	52.7	52.7	7.0	52.7		42.9	42.9	42.9	42.9	42.9	42.9
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6		4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	0.0	2.7	2.7	0.0	2.7		2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.3	7.3	3.0	7.3		7.1	7.1	7.1	7.1	7.1	7.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		8.0	8.0		8.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		35.0	35.0		35.0		28.0	28.0	28.0	28.0	28.0	28.0
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	0
Act Effct Green (s)	64.0	52.7	52.7	64.0	52.7		42.9	42.9	42.9	42.9	42.9	42.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.53	0.44	0.44	0.53	0.44		0.36	0.36	0.36	0.36	0.36	0.36
v/c Ratio	0.08	0.49	0.23	0.15	0.30		0.20	0.07	0.06	0.02	0.29	0.05
Control Delay	12.5	25.0	3.6	27.2	40.1		28.5	25.9	2.1	25.3	29.0	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	25.0	3.6	27.2	40.1		28.5	25.9	2.1	25.3	29.0	0.5
LOS	B	C	A	C	D		C	C	A	C	C	A
Approach Delay		21.3			39.2			21.8			25.3	
Approach LOS		C			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 105			
Control Type: Pretimed			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 27.0		Intersection LOS: C	
Intersection Capacity Utilization 65.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Torbram Road & Mayfield Road



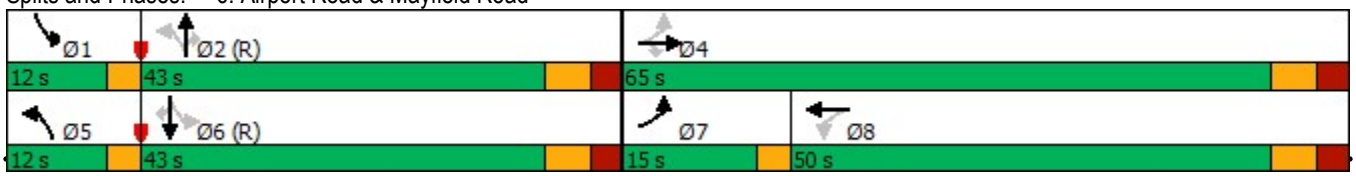


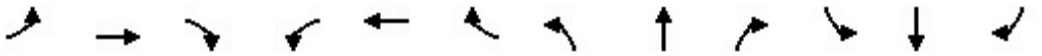
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	206	562	291	91	450	36	141	197	79	57	541	132
Future Volume (vph)	206	562	291	91	450	36	141	197	79	57	541	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		0.0	50.0		70.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			48.0			80.0			65.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00	1.00		1.00					0.98
Frt			0.850		0.989				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	3266	1515	1653	3267	0	1700	3386	1426	1475	3355	1353
Flt Permitted	0.387			0.441			0.321			0.628		
Satd. Flow (perm)	526	3266	1494	767	3267	0	574	3386	1426	975	3355	1333
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			291		8				92			132
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1370.8			111.9			458.9			458.4	
Travel Time (s)		82.2			6.7			27.5			27.5	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	206	562	291	91	450	36	141	197	79	57	541	132
Shared Lane Traffic (%)												
Lane Group Flow (vph)	206	562	291	91	486	0	141	197	79	57	541	132
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.97	0.97	1.01	0.97	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	10.0	10.0		25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	0.0	0.0		15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	0.0	0.0		15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6		10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	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	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	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	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		6
Detector Phase	7	4	4	8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	12.0	12.0		5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	46.1	46.1	46.1	46.1		8.0	41.9	41.9	9.0	41.9	41.9
Total Split (s)	15.0	65.0	65.0	50.0	50.0		12.0	43.0	43.0	12.0	43.0	43.0
Total Split (%)	12.5%	54.2%	54.2%	41.7%	41.7%		10.0%	35.8%	35.8%	10.0%	35.8%	35.8%
Maximum Green (s)	12.0	57.9	57.9	42.9	42.9		9.0	36.1	36.1	9.0	36.1	36.1
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	3.1	3.1		0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	7.1	7.1		3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead			Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max		None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		12.0	12.0	12.0	12.0			12.0	12.0		12.0	12.0
Flash Dont Walk (s)		27.0	27.0	27.0	27.0			23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0	0	0			0	0		0	0
Act Effct Green (s)	62.0	57.9	57.9	43.4	43.4		50.6	39.5	39.5	47.6	36.5	36.5
Actuated g/C Ratio	0.52	0.48	0.48	0.36	0.36		0.42	0.33	0.33	0.40	0.30	0.30
v/c Ratio	0.60	0.36	0.33	0.33	0.41		0.44	0.18	0.15	0.14	0.53	0.27
Control Delay	24.6	15.9	11.7	32.3	29.6		25.8	30.2	5.3	21.1	37.0	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.6	15.9	11.7	32.3	29.6		25.8	30.2	5.3	21.1	37.0	6.7
LOS	C	B	B	C	C		C	C	A	C	D	A
Approach Delay		16.4			30.1			24.0			30.3	
Approach LOS		B			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 24.0		Intersection LOS: C	
Intersection Capacity Utilization 100.4%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1	33	78	0	17	46	447	83	2	592	3
Future Volume (Veh/h)	5	1	33	78	0	17	46	447	83	2	592	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
Hourly flow rate (vph)	5	1	33	78	0	17	46	447	86	2	592	3
Pedestrians		1			5							
Lane Width (m)		3.6			3.6							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	930	1227	297	878	1144	228	596			538		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	930	1227	297	878	1144	228	596			538		
tC, single (s)	7.9	6.5	7.2	7.6	6.5	6.9	5.8			5.8		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.4	3.6	4.0	3.3	3.1			3.1		
p0 queue free %	97	99	95	62	100	98	92			100		
cM capacity (veh/h)	181	164	667	206	184	777	568			615		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	5	34	78	17	46	224	224	86	2	296	296	3
Volume Left	5	0	78	0	46	0	0	0	2	0	0	0
Volume Right	0	33	0	17	0	0	0	86	0	0	0	3
cSH	181	612	206	777	568	1700	1700	1700	615	1700	1700	1700
Volume to Capacity	0.03	0.06	0.38	0.02	0.08	0.13	0.13	0.05	0.00	0.17	0.17	0.00
Queue Length 95th (m)	0.7	1.4	13.3	0.5	2.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Control Delay (s)	25.4	11.2	32.7	9.7	11.9	0.0	0.0	0.0	10.9	0.0	0.0	0.0
Lane LOS	D	B	D	A	B				B			
Approach Delay (s)	13.0		28.6		0.9				0.0			
Approach LOS	B		D									

Intersection Summary					
Average Delay	2.9				
Intersection Capacity Utilization	40.7%	ICU Level of Service		A	
Analysis Period (min)	15				

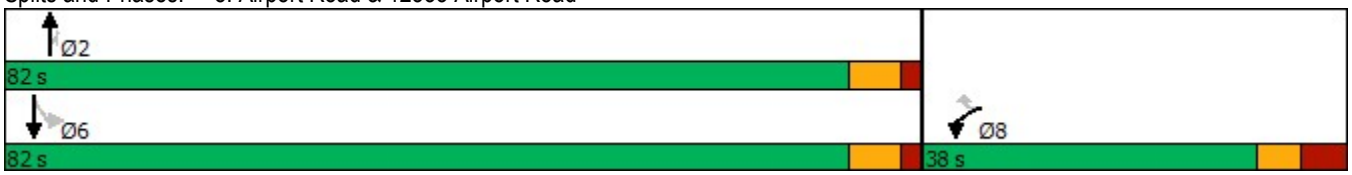


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	77	11	363	61	17	520
Future Volume (vph)	77	11	363	61	17	520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.0	4.0	3.8	3.5	3.5	3.8
Storage Length (m)	0.0	0.0		145.0	75.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				100.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1328	1383	3449	992	1116	3101
Flt Permitted	0.950				0.535	
Satd. Flow (perm)	1328	1383	3449	992	628	3101
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		11		61		
Link Speed (k/h)	50		80			80
Link Distance (m)	270.4		438.0			256.3
Travel Time (s)	19.5		19.7			11.5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	42%	22%	7%	61%	60%	19%
Adj. Flow (vph)	77	11	363	61	17	520
Shared Lane Traffic (%)						
Lane Group Flow (vph)	77	11	363	61	17	520
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	4.0		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	0.94	0.94	0.97	1.01	1.01	0.97
Turning Speed (k/h)	25	15		15	25	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	10.0	10.0	10.0	10.0	10.0	10.0
Trailing Detector (m)	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
Detector 1 Size(m)	10.0	10.0	0.6	10.0	10.0	0.6
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	Perm	NA

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	36.2	36.2	35.6	35.6	35.6	35.6
Total Split (s)	38.0	38.0	82.0	82.0	82.0	82.0
Total Split (%)	31.7%	31.7%	68.3%	68.3%	68.3%	68.3%
Maximum Green (s)	29.8	29.8	75.4	75.4	75.4	75.4
Yellow Time (s)	4.0	4.0	4.6	4.6	4.6	4.6
All-Red Time (s)	4.2	4.2	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)	8.2	8.2	6.6	6.6	6.6	6.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	20.0	20.0	21.0	21.0	21.0	21.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	13.2	13.2	86.1	86.1	86.1	86.1
Actuated g/C Ratio	0.12	0.12	0.80	0.80	0.80	0.80
v/c Ratio	0.48	0.06	0.13	0.08	0.03	0.21
Control Delay	54.7	20.7	3.8	1.4	4.4	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	20.7	3.8	1.4	4.4	4.2
LOS	D	C	A	A	A	A
Approach Delay	50.5		3.5			4.2
Approach LOS	D		A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 108.2			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 7.8		Intersection LOS: A	
Intersection Capacity Utilization 36.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Airport Road & 12333 Airport Road





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	65	84	181	124	155	545
Future Volume (Veh/h)	65	84	181	124	155	545
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	71	91	197	135	168	592
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1192	264			332	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1192	264			332	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	60	88			86	
cM capacity (veh/h)	177	774			1239	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	162	332	760
Volume Left	71	0	168
Volume Right	91	135	0
cSH	312	1700	1239
Volume to Capacity	0.52	0.20	0.14
Queue Length 95th (m)	22.5	0.0	3.8
Control Delay (s)	28.3	0.0	3.2
Lane LOS	D		A
Approach Delay (s)	28.3	0.0	3.2
Approach LOS	D		

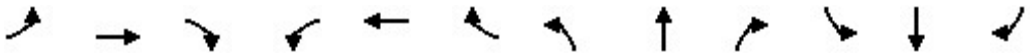
Intersection Summary			
Average Delay	5.6		
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	165	80	183	536	7
Future Volume (Veh/h)	11	165	80	183	536	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	11	165	80	183	536	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	879	536	543			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	879	536	543			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	96	70	92			
cM capacity (veh/h)	289	545	1036			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2
Volume Total	176	263	536	7
Volume Left	11	80	0	0
Volume Right	165	0	0	7
cSH	516	1036	1700	1700
Volume to Capacity	0.34	0.08	0.32	0.00
Queue Length 95th (m)	12.0	2.0	0.0	0.0
Control Delay (s)	15.5	3.2	0.0	0.0
Lane LOS	C	A		
Approach Delay (s)	15.5	3.2	0.0	
Approach LOS	C			

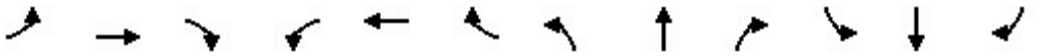
Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	11	72	5	13	251	7	17	185	26	6	56	7
Future Volume (vph)	11	72	5	13	251	7	17	185	26	6	56	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	78	5	14	273	8	18	201	28	7	61	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	95	295	247	76
Volume Left (vph)	12	14	18	7
Volume Right (vph)	5	8	28	8
Hadj (s)	0.08	0.01	0.00	-0.01
Departure Headway (s)	5.2	4.9	5.0	5.3
Degree Utilization, x	0.14	0.40	0.34	0.11
Capacity (veh/h)	622	693	662	613
Control Delay (s)	9.1	11.1	10.6	8.9
Approach Delay (s)	9.1	11.1	10.6	8.9
Approach LOS	A	B	B	A

Intersection Summary				
Delay	10.5			
Level of Service	B			
Intersection Capacity Utilization	38.1%	ICU Level of Service	A	
Analysis Period (min)	15			



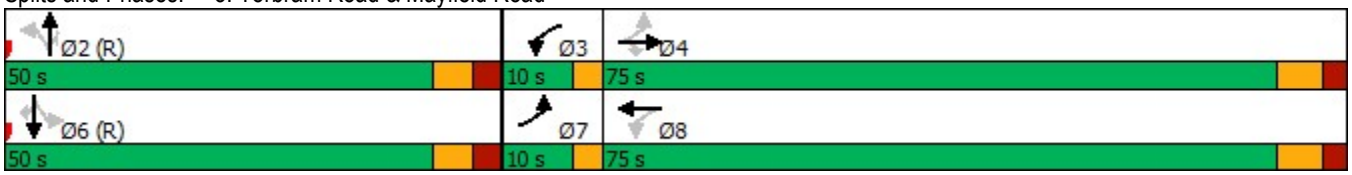
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	904	128	102	1036	12	140	114	53	3	50	27
Future Volume (vph)	41	904	128	102	1036	12	140	114	53	3	50	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.5	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5
Storage Length (m)	100.0		125.0	105.0		0.0	80.0		0.0	80.0		80.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	50.0			100.0			70.0			100.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.998				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	4734	1597	1785	4857	0	1785	1942	1587	1785	1942	1465
Flt Permitted	0.219			0.268			0.724			0.684		
Satd. Flow (perm)	399	4734	1597	504	4857	0	1360	1942	1587	1285	1942	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128		2				59			59
Link Speed (k/h)		80			80			70			70	
Link Distance (m)		665.1			1370.8			471.0			3087.9	
Travel Time (s)		29.9			61.7			24.2			158.8	
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 (%)	3%	12%	0%	0%	9%	4%	0%	0%	4%	0%	0%	9%
Adj. Flow (vph)	41	904	128	102	1036	12	140	114	53	3	50	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	904	128	102	1048	0	140	114	53	3	50	27
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.97	1.01	1.01	0.97	0.97	1.01	0.97	0.97	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Minimum Split (s)	8.0	50.3	50.3	8.0	50.3		43.1	43.1	43.1	43.1	43.1	43.1
Total Split (s)	10.0	75.0	75.0	10.0	75.0		50.0	50.0	50.0	50.0	50.0	50.0
Total Split (%)	7.4%	55.6%	55.6%	7.4%	55.6%		37.0%	37.0%	37.0%	37.0%	37.0%	37.0%
Maximum Green (s)	7.0	67.7	67.7	7.0	67.7		42.9	42.9	42.9	42.9	42.9	42.9
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6		4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	0.0	2.7	2.7	0.0	2.7		2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.3	7.3	3.0	7.3		7.1	7.1	7.1	7.1	7.1	7.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		8.0	8.0		8.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		35.0	35.0		35.0		28.0	28.0	28.0	28.0	28.0	28.0
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	0
Act Effct Green (s)	79.0	67.7	67.7	79.0	67.7		42.9	42.9	42.9	42.9	42.9	42.9

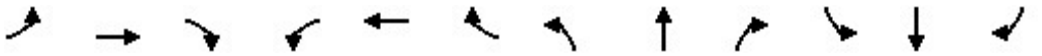
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.59	0.50	0.50	0.59	0.50		0.32	0.32	0.32	0.32	0.32	0.32
v/c Ratio	0.14	0.38	0.15	0.28	0.43		0.32	0.18	0.10	0.01	0.08	0.05
Control Delay	11.8	21.3	3.3	20.3	34.8		37.6	34.4	7.2	31.7	32.8	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.8	21.3	3.3	20.3	34.8		37.6	34.4	7.2	31.7	32.8	0.6
LOS	B	C	A	C	C		D	C	A	C	C	A
Approach Delay		18.8			33.5			31.2			21.9	
Approach LOS		B			C			C			C	

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: 105
Control Type: Pretimed
Maximum v/c Ratio: 0.43
Intersection Signal Delay: 26.8 Intersection LOS: C
Intersection Capacity Utilization 58.2% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: Torbram Road & Mayfield Road



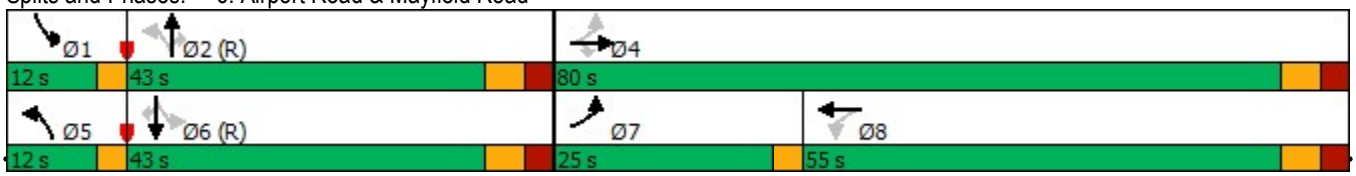


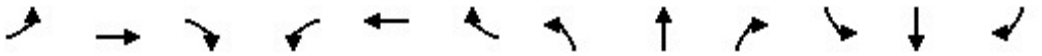
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	500	142	98	615	58	243	491	85	77	305	250
Future Volume (vph)	200	500	142	98	615	58	243	491	85	77	305	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		0.0	50.0		70.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			48.0			80.0			65.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00	1.00		1.00					0.98
Frt			0.850		0.987				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	3266	1515	1653	3238	0	1700	3386	1426	1475	3355	1353
Flt Permitted	0.288			0.469			0.508			0.361		
Satd. Flow (perm)	392	3266	1493	815	3238	0	907	3386	1426	561	3355	1333
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			142		8				85			250
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1370.8			120.0			458.9			458.4	
Travel Time (s)		82.2			7.2			27.5			27.5	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	200	500	142	98	615	58	243	491	85	77	305	250
Shared Lane Traffic (%)												
Lane Group Flow (vph)	200	500	142	98	673	0	243	491	85	77	305	250
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.97	0.97	1.01	0.97	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	10.0	10.0		25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	0.0	0.0		15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	0.0	0.0		15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6		10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	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	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	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	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		6
Detector Phase	7	4	4	8	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	12.0	12.0		5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	46.1	46.1	46.1	46.1		8.0	41.9	41.9	9.0	41.9	41.9
Total Split (s)	25.0	80.0	80.0	55.0	55.0		12.0	43.0	43.0	12.0	43.0	43.0
Total Split (%)	18.5%	59.3%	59.3%	40.7%	40.7%		8.9%	31.9%	31.9%	8.9%	31.9%	31.9%
Maximum Green (s)	22.0	72.9	72.9	47.9	47.9		9.0	36.1	36.1	9.0	36.1	36.1
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0		3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	3.1	3.1		0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	7.1	7.1		3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead			Lag	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max		None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		12.0	12.0	12.0	12.0			12.0	12.0		12.0	12.0
Flash Dont Walk (s)		27.0	27.0	27.0	27.0			23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0	0	0			0	0		0	0
Act Effct Green (s)	77.0	72.9	72.9	54.5	54.5		49.9	37.1	37.1	48.0	36.1	36.1
Actuated g/C Ratio	0.57	0.54	0.54	0.40	0.40		0.37	0.27	0.27	0.36	0.27	0.27
v/c Ratio	0.61	0.28	0.16	0.30	0.51		0.63	0.53	0.19	0.30	0.34	0.46
Control Delay	35.1	25.6	15.4	32.0	32.3		40.1	44.3	8.5	30.4	41.1	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.1	25.6	15.4	32.0	32.3		40.1	44.3	8.5	30.4	41.1	7.5
LOS	D	C	B	C	C		D	D	A	C	D	A
Approach Delay		26.1			32.3			39.3			26.5	
Approach LOS		C			C			D			C	

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: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 31.3		Intersection LOS: C	
Intersection Capacity Utilization 106.0%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	1	76	113	0	4	78	614	90	17	428	6
Future Volume (Veh/h)	8	1	76	113	0	4	78	614	90	17	428	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
Hourly flow rate (vph)	8	1	76	113	0	4	78	614	94	17	428	6
Pedestrians		1			5							
Lane Width (m)		3.6			3.6							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	930	1332	215	1100	1244	312	435			713		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	930	1332	215	1100	1244	312	435			713		
tC, single (s)	7.9	6.5	7.2	7.6	6.5	6.9	5.8			5.8		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.4	3.6	4.0	3.3	3.1			3.1		
p0 queue free %	95	99	90	11	100	99	89			97		
cM capacity (veh/h)	175	133	756	127	150	687	692			496		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	8	77	113	4	78	307	307	94	17	214	214	6
Volume Left	8	0	113	0	78	0	0	0	17	0	0	0
Volume Right	0	76	0	4	0	0	0	94	0	0	0	6
cSH	175	713	127	687	692	1700	1700	1700	496	1700	1700	1700
Volume to Capacity	0.05	0.11	0.89	0.01	0.11	0.18	0.18	0.06	0.03	0.13	0.13	0.00
Queue Length 95th (m)	1.1	2.9	45.6	0.1	3.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0
Control Delay (s)	26.5	10.7	118.2	10.3	10.9	0.0	0.0	0.0	12.5	0.0	0.0	0.0
Lane LOS	D	B	F	B	B				B			
Approach Delay (s)	12.2		114.5		1.1				0.5			
Approach LOS	B		F									

Intersection Summary				
Average Delay	10.8			
Intersection Capacity Utilization	43.2%	ICU Level of Service	A	
Analysis Period (min)	15			

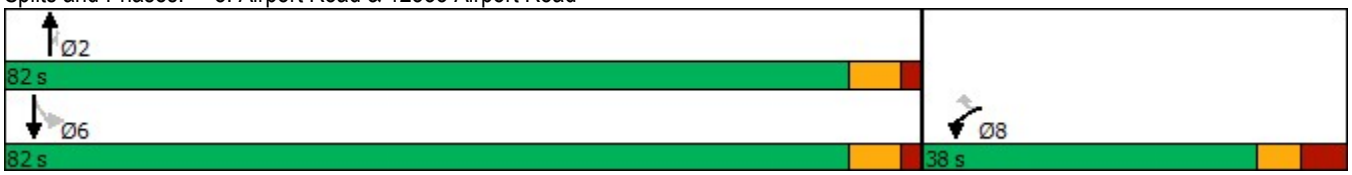


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	34	5	578	26	2	378
Future Volume (vph)	34	5	578	26	2	378
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (m)	4.0	4.0	3.8	3.5	3.5	3.8
Storage Length (m)	0.0	0.0		145.0	75.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				100.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1328	1383	3449	992	1116	3101
Flt Permitted	0.950				0.434	
Satd. Flow (perm)	1328	1383	3449	992	510	3101
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		5		26		
Link Speed (k/h)	50		80			80
Link Distance (m)	270.4		438.0			254.9
Travel Time (s)	19.5		19.7			11.5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	42%	22%	7%	61%	60%	19%
Adj. Flow (vph)	34	5	578	26	2	378
Shared Lane Traffic (%)						
Lane Group Flow (vph)	34	5	578	26	2	378
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	4.0		3.5			3.5
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	0.94	0.94	0.97	1.01	1.01	0.97
Turning Speed (k/h)	25	15		15	25	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	10.0	10.0	10.0	10.0	10.0	10.0
Trailing Detector (m)	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
Detector 1 Size(m)	10.0	10.0	0.6	10.0	10.0	0.6
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	Perm	NA

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	36.2	36.2	35.6	35.6	35.6	35.6
Total Split (s)	38.0	38.0	82.0	82.0	82.0	82.0
Total Split (%)	31.7%	31.7%	68.3%	68.3%	68.3%	68.3%
Maximum Green (s)	29.8	29.8	75.4	75.4	75.4	75.4
Yellow Time (s)	4.0	4.0	4.6	4.6	4.6	4.6
All-Red Time (s)	4.2	4.2	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)	8.2	8.2	6.6	6.6	6.6	6.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	20.0	20.0	21.0	21.0	21.0	21.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	12.1	12.1	92.8	92.8	92.8	92.8
Actuated g/C Ratio	0.11	0.11	0.86	0.86	0.86	0.86
v/c Ratio	0.23	0.03	0.19	0.03	0.00	0.14
Control Delay	50.6	28.0	2.8	1.3	3.5	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.6	28.0	2.8	1.3	3.5	2.7
LOS	D	C	A	A	A	A
Approach Delay	47.7		2.8			2.7
Approach LOS	D		A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 107.9			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.23			
Intersection Signal Delay: 4.5		Intersection LOS: A	
Intersection Capacity Utilization 38.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Airport Road & 12333 Airport Road





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	98	235	503	59	71	242
Future Volume (Veh/h)	98	235	503	59	71	242
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	107	255	547	64	77	263
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	996	579			611	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	996	579			611	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	57	50			92	
cM capacity (veh/h)	248	515			978	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	362	611	340
Volume Left	107	0	77
Volume Right	255	64	0
cSH	390	1700	978
Volume to Capacity	0.93	0.36	0.08
Queue Length 95th (m)	80.1	0.0	2.0
Control Delay (s)	62.1	0.0	2.7
Lane LOS	F		A
Approach Delay (s)	62.1	0.0	2.7
Approach LOS	F		

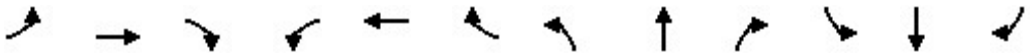
Intersection Summary			
Average Delay	17.8		
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	24	74	247	489	237	21
Future Volume (Veh/h)	24	74	247	489	237	21
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	24	74	247	489	237	21
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1220	237	258			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1220	237	258			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	85	91	81			
cM capacity (veh/h)	159	802	1318			

Direction, Lane #	EB 1	NB 1	SB 1	SB 2
Volume Total	98	736	237	21
Volume Left	24	247	0	0
Volume Right	74	0	0	21
cSH	402	1318	1700	1700
Volume to Capacity	0.24	0.19	0.14	0.01
Queue Length 95th (m)	7.5	5.5	0.0	0.0
Control Delay (s)	16.8	4.3	0.0	0.0
Lane LOS	C	A		
Approach Delay (s)	16.8	4.3	0.0	
Approach LOS	C			

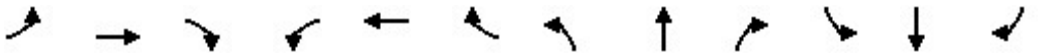
Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	6	167	15	16	72	1	5	72	21	4	244	11
Future Volume (vph)	6	167	15	16	72	1	5	72	21	4	244	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	182	16	17	78	1	5	78	23	4	265	12

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	205	96	106	281
Volume Left (vph)	7	17	5	4
Volume Right (vph)	16	1	23	12
Hadj (s)	0.03	0.04	-0.05	-0.02
Departure Headway (s)	5.0	5.2	5.0	4.8
Degree Utilization, x	0.29	0.14	0.15	0.38
Capacity (veh/h)	660	623	656	703
Control Delay (s)	10.1	9.1	8.9	10.7
Approach Delay (s)	10.1	9.1	8.9	10.7
Approach LOS	B	A	A	B

Intersection Summary				
Delay	10.0			
Level of Service	B			
Intersection Capacity Utilization	32.9%	ICU Level of Service	A	
Analysis Period (min)	15			

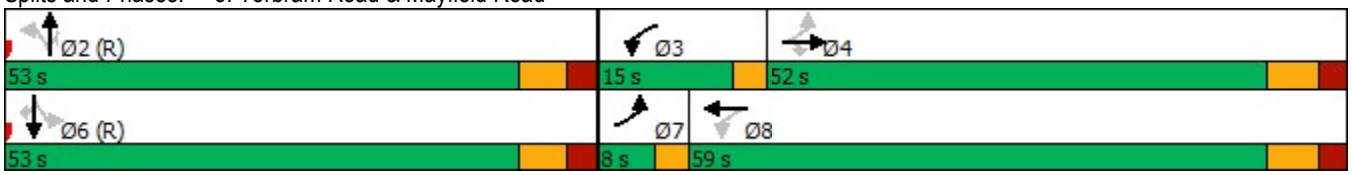


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	1509	259	181	1380	9	292	55	117	12	216	49
Future Volume (vph)	37	1509	259	181	1380	9	292	55	117	12	216	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.5	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5
Storage Length (m)	100.0		125.0	105.0		0.0	80.0		0.0	80.0		80.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	50.0			100.0			70.0			100.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	4734	1597	1785	4861	0	1785	1942	1587	1785	1942	1465
Flt Permitted	0.131			0.084			0.582			0.721		
Satd. Flow (perm)	239	4734	1597	158	4861	0	1094	1942	1587	1355	1942	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			259		1				117			94
Link Speed (k/h)		80			80			70			70	
Link Distance (m)		442.3			716.7			493.9			483.3	
Travel Time (s)		19.9			32.3			25.4			24.9	
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 (%)	3%	12%	0%	0%	9%	4%	0%	0%	4%	0%	0%	9%
Adj. Flow (vph)	37	1509	259	181	1380	9	292	55	117	12	216	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	1509	259	181	1389	0	292	55	117	12	216	49
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.97	1.01	1.01	0.97	0.97	1.01	0.97	0.97	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Minimum Split (s)	8.0	50.3	50.3	8.0	50.3		43.1	43.1	43.1	43.1	43.1	43.1
Total Split (s)	8.0	52.0	52.0	15.0	59.0		53.0	53.0	53.0	53.0	53.0	53.0
Total Split (%)	6.7%	43.3%	43.3%	12.5%	49.2%		44.2%	44.2%	44.2%	44.2%	44.2%	44.2%
Maximum Green (s)	5.0	44.7	44.7	12.0	51.7		45.9	45.9	45.9	45.9	45.9	45.9
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6		4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	0.0	2.7	2.7	0.0	2.7		2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.3	7.3	3.0	7.3		7.1	7.1	7.1	7.1	7.1	7.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		8.0	8.0		8.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		35.0	35.0		35.0		28.0	28.0	28.0	28.0	28.0	28.0
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	0
Act Effct Green (s)	54.0	44.7	44.7	64.0	51.7		45.9	45.9	45.9	45.9	45.9	45.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.45	0.37	0.37	0.53	0.43		0.38	0.38	0.38	0.38	0.38	0.38
v/c Ratio	0.22	0.86	0.34	0.74	0.66		0.70	0.07	0.17	0.02	0.29	0.08
Control Delay	17.0	40.6	4.4	64.3	14.1		41.8	24.0	4.9	23.4	27.1	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.0	40.6	4.4	64.3	14.1		41.8	24.0	4.9	23.4	27.1	0.6
LOS	B	D	A	E	B		D	C	A	C	C	A
Approach Delay		34.9			19.9			30.4			22.3	
Approach LOS		C			B			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 105			
Control Type: Pretimed			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 27.8		Intersection LOS: C	
Intersection Capacity Utilization 88.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Torbram Road & Mayfield Road



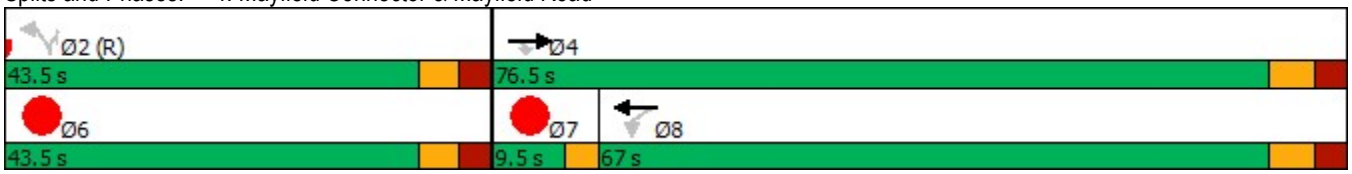


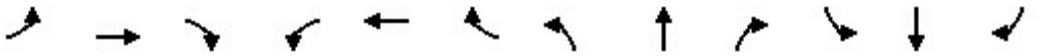
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø6	Ø7
Lane Configurations								
Traffic Volume (vph)	1559	110	14	1396	231	35		
Future Volume (vph)	1559	110	14	1396	231	35		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (m)	3.8	3.5	3.5	3.8	3.8	3.8		
Storage Length (m)		55.0	75.0		55.0	0.0		
Storage Lanes		1	1		1	1		
Taper Length (m)			7.5		7.5			
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00		
Frt		0.850				0.850		
Flt Protected			0.950		0.950			
Satd. Flow (prot)	4734	1566	1750	4864	1809	1619		
Flt Permitted			0.082		0.950			
Satd. Flow (perm)	4734	1566	151	4864	1809	1619		
Right Turn on Red		Yes				Yes		
Satd. Flow (RTOR)		108				28		
Link Speed (k/h)	80			80	50			
Link Distance (m)	716.7			643.7	353.1			
Travel Time (s)	32.3			29.0	25.4			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Heavy Vehicles (%)	12%	2%	2%	9%	2%	2%		
Adj. Flow (vph)	1559	110	14	1396	231	35		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	1559	110	14	1396	231	35		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(m)	3.5			3.5	3.8			
Link Offset(m)	0.0			0.0	0.0			
Crosswalk Width(m)	4.8			4.8	4.8			
Two way Left Turn Lane								
Headway Factor	0.97	1.01	1.01	0.97	0.97	0.97		
Turning Speed (k/h)		15	25		25	15		
Number of Detectors	2	1	1	2	1	1		
Detector Template	Thru	Right	Left	Thru	Left	Right		
Leading Detector (m)	10.0	10.0	25.0	10.0	25.0	10.0		
Trailing Detector (m)	0.0	0.0	15.0	0.0	15.0	0.0		
Detector 1 Position(m)	0.0	0.0	15.0	0.0	15.0	0.0		
Detector 1 Size(m)	0.6	10.0	10.0	0.6	10.0	10.0		
Detector 1 Type	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		
Detector 1 Queue (s)	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		
Detector 2 Position(m)	9.4			9.4				
Detector 2 Size(m)	0.6			0.6				
Detector 2 Type	Cl+Ex			Cl+Ex				
Detector 2 Channel								
Detector 2 Extend (s)	0.0			0.0				
Turn Type	NA	Perm	Perm	NA	Perm	Perm		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø6	Ø7
Protected Phases	4			8			6	7
Permitted Phases		4	8		2	2		
Detector Phase	4	4	8	8	2	2		
Switch Phase								
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	5.0	5.0
Minimum Split (s)	25.1	25.1	25.1	25.1	24.6	24.6	24.6	9.5
Total Split (s)	76.5	76.5	67.0	67.0	43.5	43.5	43.5	9.5
Total Split (%)	63.8%	63.8%	55.8%	55.8%	36.3%	36.3%	36%	8%
Maximum Green (s)	69.4	69.4	59.9	59.9	36.9	36.9	36.9	6.5
Yellow Time (s)	4.0	4.0	4.0	4.0	3.7	3.7	3.7	3.0
All-Red Time (s)	3.1	3.1	3.1	3.1	2.9	2.9	2.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	7.1	7.1	7.1	7.1	6.6	6.6		
Lead/Lag			Lag	Lag				Lead
Lead-Lag Optimize?			Yes	Yes				Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	C-Max	C-Max	Max	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	
Act Effct Green (s)	52.5	52.5	52.5	52.5	53.8	53.8		
Actuated g/C Ratio	0.44	0.44	0.44	0.44	0.45	0.45		
v/c Ratio	0.75	0.15	0.21	0.66	0.29	0.05		
Control Delay	59.5	24.7	43.1	47.7	23.8	10.1		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	59.5	24.7	43.1	47.7	23.8	10.1		
LOS	E	C	D	D	C	B		
Approach Delay	57.2			47.7	22.0			
Approach LOS	E			D	C			

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 50.4		Intersection LOS: D	
Intersection Capacity Utilization 54.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Mayfield Connector & Mayfield Road



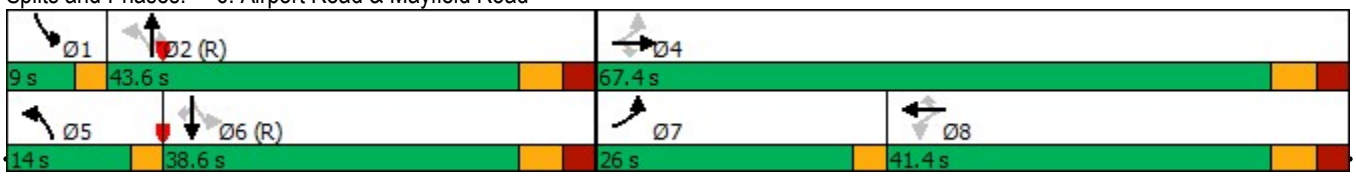


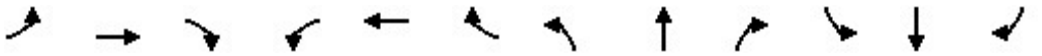
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	238	889	398	98	963	38	211	206	87	66	572	202
Future Volume (vph)	238	889	398	98	963	38	211	206	87	66	572	202
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		60.0	165.0		60.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			100.0			80.0			65.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	4939	1515	1653	3630	977	1700	3386	1426	1475	3355	1353
Flt Permitted	0.098			0.308			0.265			0.623		
Satd. Flow (perm)	133	4939	1493	536	3630	961	474	3386	1426	967	3355	1332
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			266			117			92			202
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		643.7			619.2			458.9			446.4	
Travel Time (s)		38.6			37.2			27.5			26.8	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	238	889	398	98	963	38	211	206	87	66	572	202
Shared Lane Traffic (%)												
Lane Group Flow (vph)	238	889	398	98	963	38	211	206	87	66	572	202
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.91	0.97	1.01	0.91	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	12.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	41.1	41.1	41.1	41.1	41.1	8.0	36.9	36.9	9.0	36.9	36.9
Total Split (s)	26.0	67.4	67.4	41.4	41.4	41.4	14.0	43.6	43.6	9.0	38.6	38.6
Total Split (%)	21.7%	56.2%	56.2%	34.5%	34.5%	34.5%	11.7%	36.3%	36.3%	7.5%	32.2%	32.2%
Maximum Green (s)	23.0	60.3	60.3	34.3	34.3	34.3	11.0	36.7	36.7	6.0	31.7	31.7
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	3.1	3.1	3.1	0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	7.1	7.1	7.1	3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0	27.0	27.0	27.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0	0		0	0
Act Effct Green (s)	64.4	60.3	60.3	37.7	37.7	37.7	49.6	38.5	38.5	41.7	32.0	32.0
Actuated g/C Ratio	0.54	0.50	0.50	0.31	0.31	0.31	0.41	0.32	0.32	0.35	0.27	0.27
v/c Ratio	0.92	0.36	0.45	0.58	0.85	0.10	0.69	0.19	0.17	0.18	0.64	0.40
Control Delay	90.9	31.0	19.9	52.7	47.4	0.5	37.2	30.8	6.4	23.5	42.9	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.9	31.0	19.9	52.7	47.4	0.5	37.2	30.8	6.4	23.5	42.9	7.3
LOS	F	C	B	D	D	A	D	C	A	C	D	A
Approach Delay		37.4			46.2			29.3			32.8	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 37.8		Intersection LOS: D	
Intersection Capacity Utilization 96.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1	33	78	0	17	46	490	83	2	700	3
Future Volume (Veh/h)	5	1	33	78	0	17	46	490	83	2	700	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
Hourly flow rate (vph)	5	1	33	78	0	17	46	490	86	2	700	3
Pedestrians		1			5							
Lane Width (m)		3.6			3.6							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1059	1378	351	974	1295	250	704			581		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1059	1378	351	974	1295	250	704			581		
tC, single (s)	7.9	6.5	7.2	7.6	6.5	6.9	5.8			5.8		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.4	3.6	4.0	3.3	3.1			3.1		
p0 queue free %	97	99	95	55	100	98	91			100		
cM capacity (veh/h)	143	131	614	172	147	753	497			584		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	5	34	78	17	46	245	245	86	2	350	350	3
Volume Left	5	0	78	0	46	0	0	0	2	0	0	0
Volume Right	0	33	0	17	0	0	0	86	0	0	0	3
cSH	143	554	172	753	497	1700	1700	1700	584	1700	1700	1700
Volume to Capacity	0.03	0.06	0.45	0.02	0.09	0.14	0.14	0.05	0.00	0.21	0.21	0.00
Queue Length 95th (m)	0.9	1.6	16.9	0.6	2.4	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Control Delay (s)	31.1	11.9	42.2	9.9	13.0	0.0	0.0	0.0	11.2	0.0	0.0	0.0
Lane LOS	D	B	E	A	B				B			
Approach Delay (s)	14.4		36.4		1.0				0.0			
Approach LOS	B		E									

Intersection Summary					
Average Delay	3.2				
Intersection Capacity Utilization	43.7%	ICU Level of Service		A	
Analysis Period (min)	15				



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations							
Traffic Volume (vph)	77	11	402	61	17	625	
Future Volume (vph)	77	11	402	61	17	625	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (m)	4.0	4.0	3.8	3.5	3.5	3.8	
Storage Length (m)	0.0	0.0		145.0	75.0		
Storage Lanes	1	1		1	1		
Taper Length (m)	7.5				100.0		
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95	
Frt		0.850		0.850			
Flt Protected	0.950				0.950		
Satd. Flow (prot)	1328	1383	3449	992	1116	3101	
Flt Permitted	0.950				0.515		
Satd. Flow (perm)	1328	1383	3449	992	605	3101	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		11		61			
Link Speed (k/h)	50		80			80	
Link Distance (m)	270.4		438.0			348.1	
Travel Time (s)	19.5		19.7			15.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	42%	22%	7%	61%	60%	19%	
Adj. Flow (vph)	77	11	402	61	17	625	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	77	11	402	61	17	625	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(m)	4.0		3.5			3.5	
Link Offset(m)	0.0		0.0			0.0	
Crosswalk Width(m)	4.8		4.8			4.8	
Two way Left Turn Lane							
Headway Factor	0.94	0.94	0.97	1.01	1.01	0.97	
Turning Speed (k/h)	25	15		15	25		
Number of Detectors	1	1	2	1	1	2	
Detector Template	Left	Right	Thru	Right	Left	Thru	
Leading Detector (m)	10.0	10.0	10.0	10.0	10.0	10.0	
Trailing Detector (m)	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	
Detector 1 Size(m)	10.0	10.0	0.6	10.0	10.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Detector 2 Position(m)			9.4			9.4	
Detector 2 Size(m)			0.6			0.6	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type	Perm	Perm	NA	Perm	Perm	NA	

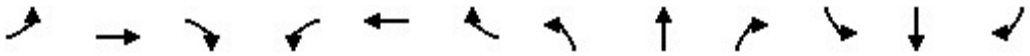


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Protected Phases			2			6	4
Permitted Phases	8	8		2	6		
Detector Phase	8	8	2	2	6	6	
Switch Phase							
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	36.2	36.2	35.6	35.6	35.6	35.6	36.2
Total Split (s)	50.0	50.0	70.0	70.0	70.0	70.0	50.0
Total Split (%)	41.7%	41.7%	58.3%	58.3%	58.3%	58.3%	42%
Maximum Green (s)	41.8	41.8	63.4	63.4	63.4	63.4	41.8
Yellow Time (s)	4.0	4.0	4.6	4.6	4.6	4.6	4.0
All-Red Time (s)	4.2	4.2	2.0	2.0	2.0	2.0	4.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.2	8.2	6.6	6.6	6.6	6.6	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	None
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	20.0	20.0	21.0	21.0	21.0	21.0	20.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0
Act Effct Green (s)	12.7	12.7	74.1	74.1	74.1	74.1	
Actuated g/C Ratio	0.13	0.13	0.77	0.77	0.77	0.77	
v/c Ratio	0.44	0.06	0.15	0.08	0.04	0.26	
Control Delay	46.7	18.4	4.2	1.5	4.7	4.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.7	18.4	4.2	1.5	4.7	4.7	
LOS	D	B	A	A	A	A	
Approach Delay	43.2		3.9			4.7	
Approach LOS	D		A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 95.7			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay: 7.2		Intersection LOS: A	
Intersection Capacity Utilization 39.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Airport Road & 12333 Airport Road

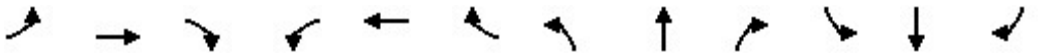




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	11	78	5	13	272	7	17	201	26	6	61	7
Future Volume (vph)	11	78	5	13	272	7	17	201	26	6	61	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	85	5	14	296	8	18	218	28	7	66	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	102	318	264	81
Volume Left (vph)	12	14	18	7
Volume Right (vph)	5	8	28	8
Hadj (s)	0.08	0.01	0.00	-0.01
Departure Headway (s)	5.4	5.0	5.1	5.4
Degree Utilization, x	0.15	0.44	0.38	0.12
Capacity (veh/h)	605	681	649	593
Control Delay (s)	9.4	11.9	11.2	9.2
Approach Delay (s)	9.4	11.9	11.2	9.2
Approach LOS	A	B	B	A

Intersection Summary				
Delay		11.1		
Level of Service		B		
Intersection Capacity Utilization		40.4%	ICU Level of Service	A
Analysis Period (min)		15		

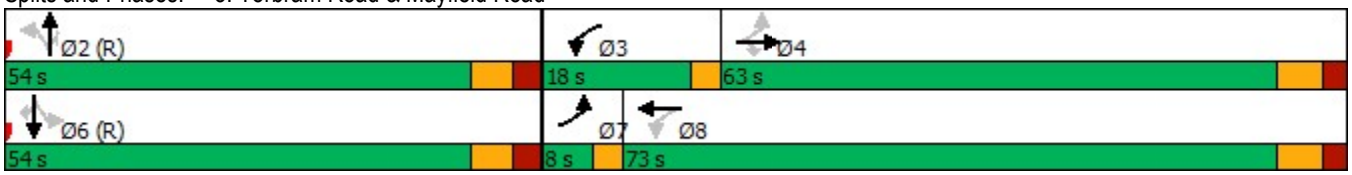


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	1599	243	157	1502	12	305	124	160	3	55	27
Future Volume (vph)	41	1599	243	157	1502	12	305	124	160	3	55	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.5	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5
Storage Length (m)	100.0		125.0	105.0		0.0	80.0		0.0	80.0		80.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	50.0			100.0			70.0			100.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	4734	1597	1785	4861	0	1785	1942	1587	1785	1942	1465
Flt Permitted	0.121			0.068			0.721			0.677		
Satd. Flow (perm)	221	4734	1597	128	4861	0	1355	1942	1587	1272	1942	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			243		1				160			83
Link Speed (k/h)		80			80			70			70	
Link Distance (m)		442.3			716.7			493.9			483.3	
Travel Time (s)		19.9			32.3			25.4			24.9	
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 (%)	3%	12%	0%	0%	9%	4%	0%	0%	4%	0%	0%	9%
Adj. Flow (vph)	41	1599	243	157	1502	12	305	124	160	3	55	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	1599	243	157	1514	0	305	124	160	3	55	27
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.97	1.01	1.01	0.97	0.97	1.01	0.97	0.97	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Minimum Split (s)	8.0	50.3	50.3	8.0	50.3		43.1	43.1	43.1	43.1	43.1	43.1
Total Split (s)	8.0	63.0	63.0	18.0	73.0		54.0	54.0	54.0	54.0	54.0	54.0
Total Split (%)	5.9%	46.7%	46.7%	13.3%	54.1%		40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Maximum Green (s)	5.0	55.7	55.7	15.0	65.7		46.9	46.9	46.9	46.9	46.9	46.9
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6		4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	0.0	2.7	2.7	0.0	2.7		2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.3	7.3	3.0	7.3		7.1	7.1	7.1	7.1	7.1	7.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		8.0	8.0		8.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		35.0	35.0		35.0		28.0	28.0	28.0	28.0	28.0	28.0
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	0
Act Effct Green (s)	65.0	55.7	55.7	78.0	65.7		46.9	46.9	46.9	46.9	46.9	46.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.48	0.41	0.41	0.58	0.49		0.35	0.35	0.35	0.35	0.35	0.35
v/c Ratio	0.25	0.82	0.30	0.61	0.64		0.65	0.18	0.24	0.01	0.08	0.05
Control Delay	17.0	39.5	3.9	66.0	7.6		44.8	31.7	5.3	29.0	30.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.0	39.5	3.9	66.0	7.6		44.8	31.7	5.3	29.0	30.1	0.1
LOS	B	D	A	E	A		D	C	A	C	C	A
Approach Delay		34.4			13.1			31.3			20.6	
Approach LOS		C			B			C			C	

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: 105			
Control Type: Pretimed			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 25.3		Intersection LOS: C	
Intersection Capacity Utilization 78.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Torbram Road & Mayfield Road



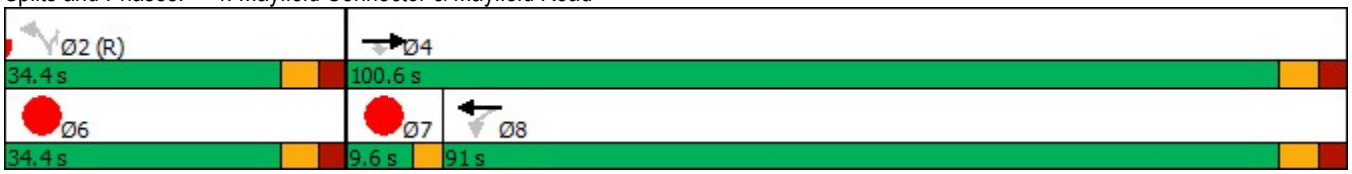


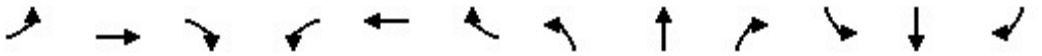
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø6	Ø7
Lane Configurations								
Traffic Volume (vph)	1667	98	41	1544	104	23		
Future Volume (vph)	1667	98	41	1544	104	23		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (m)	3.8	3.5	3.5	3.8	3.8	3.8		
Storage Length (m)		55.0	75.0		55.0	0.0		
Storage Lanes		1	1		1	1		
Taper Length (m)			7.5		7.5			
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00		
Frt		0.850				0.850		
Flt Protected			0.950		0.950			
Satd. Flow (prot)	4734	1566	1750	4864	1809	1619		
Flt Permitted			0.079		0.950			
Satd. Flow (perm)	4734	1566	146	4864	1809	1619		
Right Turn on Red		Yes				Yes		
Satd. Flow (RTOR)		98				23		
Link Speed (k/h)	80			80	50			
Link Distance (m)	716.7			643.7	353.1			
Travel Time (s)	32.3			29.0	25.4			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Heavy Vehicles (%)	12%	2%	2%	9%	2%	2%		
Adj. Flow (vph)	1667	98	41	1544	104	23		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	1667	98	41	1544	104	23		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(m)	3.5			3.5	3.8			
Link Offset(m)	0.0			0.0	0.0			
Crosswalk Width(m)	4.8			4.8	4.8			
Two way Left Turn Lane								
Headway Factor	0.97	1.01	1.01	0.97	0.97	0.97		
Turning Speed (k/h)		15	25		25	15		
Number of Detectors	2	1	1	2	1	1		
Detector Template	Thru	Right	Left	Thru	Left	Right		
Leading Detector (m)	10.0	10.0	25.0	10.0	25.0	10.0		
Trailing Detector (m)	0.0	0.0	15.0	0.0	15.0	0.0		
Detector 1 Position(m)	0.0	0.0	15.0	0.0	15.0	0.0		
Detector 1 Size(m)	0.6	10.0	10.0	0.6	10.0	10.0		
Detector 1 Type	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		
Detector 1 Queue (s)	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		
Detector 2 Position(m)	9.4			9.4				
Detector 2 Size(m)	0.6			0.6				
Detector 2 Type	Cl+Ex			Cl+Ex				
Detector 2 Channel								
Detector 2 Extend (s)	0.0			0.0				
Turn Type	NA	Perm	Perm	NA	Perm	Perm		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø6	Ø7
Protected Phases	4			8			6	7
Permitted Phases		4	8		2	2		
Detector Phase	4	4	8	8	2	2		
Switch Phase								
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	5.0	5.0
Minimum Split (s)	25.1	25.1	25.1	25.1	24.6	24.6	24.6	9.5
Total Split (s)	100.6	100.6	91.0	91.0	34.4	34.4	34.4	9.6
Total Split (%)	74.5%	74.5%	67.4%	67.4%	25.5%	25.5%	25%	7%
Maximum Green (s)	93.5	93.5	83.9	83.9	27.8	27.8	27.8	6.6
Yellow Time (s)	4.0	4.0	4.0	4.0	3.7	3.7	3.7	3.0
All-Red Time (s)	3.1	3.1	3.1	3.1	2.9	2.9	2.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	7.1	7.1	7.1	7.1	6.6	6.6		
Lead/Lag			Lag	Lag				Lead
Lead-Lag Optimize?			Yes	Yes				Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	C-Max	C-Max	Max	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	
Act Effct Green (s)	66.9	66.9	66.9	66.9	54.4	54.4		
Actuated g/C Ratio	0.50	0.50	0.50	0.50	0.40	0.40		
v/c Ratio	0.71	0.12	0.57	0.64	0.14	0.03		
Control Delay	58.2	21.8	67.2	48.9	28.9	11.3		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	58.2	21.8	67.2	48.9	28.9	11.3		
LOS	E	C	E	D	C	B		
Approach Delay	56.1			49.4	25.7			
Approach LOS	E			D	C			

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 0 (0%), Referenced to phase 2:NBL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 52.0		Intersection LOS: D	
Intersection Capacity Utilization 55.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 4: Mayfield Connector & Mayfield Road



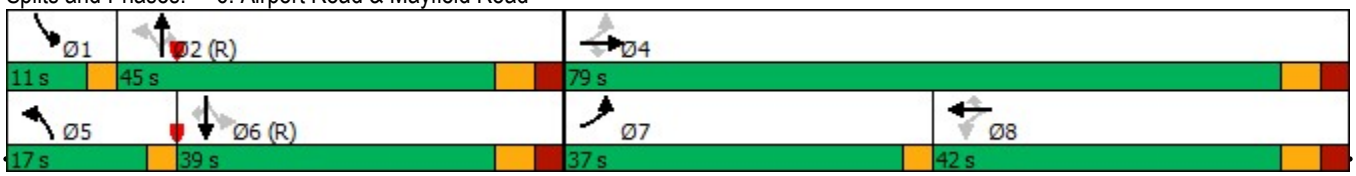


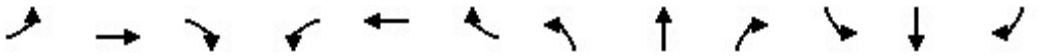
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	337	922	190	114	923	61	333	519	94	101	344	296
Future Volume (vph)	337	922	190	114	923	61	333	519	94	101	344	296
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		60.0	165.0		60.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			100.0			80.0			65.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	4939	1515	1653	3630	977	1700	3386	1426	1475	3355	1353
Flt Permitted	0.100			0.297			0.427			0.402		
Satd. Flow (perm)	136	4939	1493	516	3630	961	762	3386	1426	624	3355	1332
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			190			104			94			296
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		643.7			619.2			458.9			446.4	
Travel Time (s)		38.6			37.2			27.5			26.8	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	337	922	190	114	923	61	333	519	94	101	344	296
Shared Lane Traffic (%)												
Lane Group Flow (vph)	337	922	190	114	923	61	333	519	94	101	344	296
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.91	0.97	1.01	0.91	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	12.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	41.1	41.1	41.1	41.1	41.1	8.0	36.9	36.9	9.0	36.9	36.9
Total Split (s)	37.0	79.0	79.0	42.0	42.0	42.0	17.0	45.0	45.0	11.0	39.0	39.0
Total Split (%)	27.4%	58.5%	58.5%	31.1%	31.1%	31.1%	12.6%	33.3%	33.3%	8.1%	28.9%	28.9%
Maximum Green (s)	34.0	71.9	71.9	34.9	34.9	34.9	14.0	38.1	38.1	8.0	32.1	32.1
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	3.1	3.1	3.1	0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	7.1	7.1	7.1	3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0	27.0	27.0	27.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0	0		0	0
Act Effct Green (s)	76.0	71.9	71.9	37.0	37.0	37.0	53.0	38.4	38.4	43.7	32.1	32.1
Actuated g/C Ratio	0.56	0.53	0.53	0.27	0.27	0.27	0.39	0.28	0.28	0.32	0.24	0.24
v/c Ratio	0.97	0.35	0.22	0.81	0.93	0.18	0.84	0.54	0.20	0.40	0.43	0.55
Control Delay	113.5	11.7	2.6	85.9	63.7	2.3	52.9	43.4	7.9	33.0	45.7	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	113.5	11.7	2.6	85.9	63.7	2.3	52.9	43.4	7.9	33.0	45.7	8.6
LOS	F	B	A	F	E	A	D	D	A	C	D	A
Approach Delay		34.2			62.6			43.2			29.2	
Approach LOS		C			E			D			C	

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: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 42.7		Intersection LOS: D	
Intersection Capacity Utilization 108.8%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	1	76	113	0	4	78	791	90	17	470	6
Future Volume (Veh/h)	8	1	76	113	0	4	78	791	90	17	470	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
Hourly flow rate (vph)	8	1	76	113	0	4	78	791	94	17	470	6
Pedestrians		1			5							
Lane Width (m)		3.6			3.6							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1060	1551	236	1298	1463	400	477			890		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1060	1551	236	1298	1463	400	477			890		
tC, single (s)	7.9	6.5	7.2	7.6	6.5	6.9	5.8			5.8		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.4	3.6	4.0	3.3	3.1			3.1		
p0 queue free %	94	99	90	0	100	99	88			96		
cM capacity (veh/h)	138	96	732	89	109	602	658			399		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	8	77	113	4	78	396	396	94	17	235	235	6
Volume Left	8	0	113	0	78	0	0	0	17	0	0	0
Volume Right	0	76	0	4	0	0	0	94	0	0	0	6
cSH	138	675	89	602	658	1700	1700	1700	399	1700	1700	1700
Volume to Capacity	0.06	0.11	1.27	0.01	0.12	0.23	0.23	0.06	0.04	0.14	0.14	0.00
Queue Length 95th (m)	1.5	3.1	65.6	0.2	3.2	0.0	0.0	0.0	1.1	0.0	0.0	0.0
Control Delay (s)	32.8	11.0	271.9	11.0	11.2	0.0	0.0	0.0	14.4	0.0	0.0	0.0
Lane LOS	D	B	F	B	B				B			
Approach Delay (s)	13.1		263.0		0.9				0.5			
Approach LOS	B		F									

Intersection Summary				
Average Delay	19.9			
Intersection Capacity Utilization	48.1%	ICU Level of Service	A	
Analysis Period (min)	15			



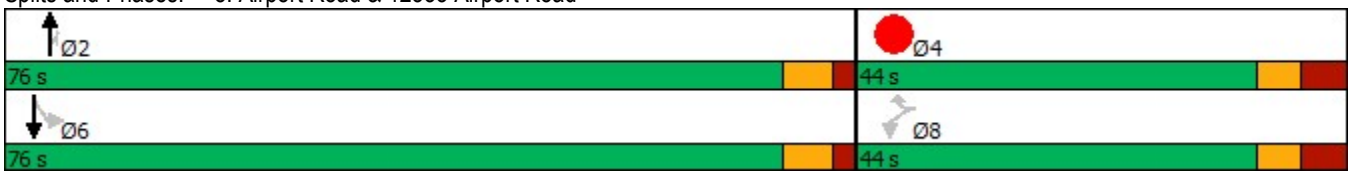
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations							
Traffic Volume (vph)	34	5	754	26	2	418	
Future Volume (vph)	34	5	754	26	2	418	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (m)	4.0	4.0	3.8	3.5	3.5	3.8	
Storage Length (m)	0.0	0.0		145.0	75.0		
Storage Lanes	1	1		1	1		
Taper Length (m)	7.5				100.0		
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95	
Frt		0.850		0.850			
Flt Protected	0.950				0.950		
Satd. Flow (prot)	1328	1383	3449	992	1116	3101	
Flt Permitted	0.950				0.366		
Satd. Flow (perm)	1328	1383	3449	992	430	3101	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		5		26			
Link Speed (k/h)	50		80			80	
Link Distance (m)	270.4		438.0			348.1	
Travel Time (s)	19.5		19.7			15.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	42%	22%	7%	61%	60%	19%	
Adj. Flow (vph)	34	5	754	26	2	418	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	34	5	754	26	2	418	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(m)	4.0		3.5			3.5	
Link Offset(m)	0.0		0.0			0.0	
Crosswalk Width(m)	4.8		4.8			4.8	
Two way Left Turn Lane							
Headway Factor	0.94	0.94	0.97	1.01	1.01	0.97	
Turning Speed (k/h)	25	15		15	25		
Number of Detectors	1	1	2	1	1	2	
Detector Template	Left	Right	Thru	Right	Left	Thru	
Leading Detector (m)	10.0	10.0	10.0	10.0	10.0	10.0	
Trailing Detector (m)	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	
Detector 1 Size(m)	10.0	10.0	0.6	10.0	10.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Detector 2 Position(m)			9.4			9.4	
Detector 2 Size(m)			0.6			0.6	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type	Perm	Perm	NA	Perm	Perm	NA	

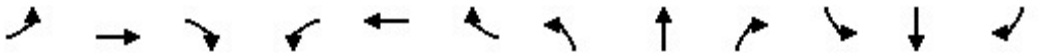


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Protected Phases			2			6	4
Permitted Phases	8	8		2	6		
Detector Phase	8	8	2	2	6	6	
Switch Phase							
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	36.2	36.2	35.6	35.6	35.6	35.6	36.2
Total Split (s)	44.0	44.0	76.0	76.0	76.0	76.0	44.0
Total Split (%)	36.7%	36.7%	63.3%	63.3%	63.3%	63.3%	37%
Maximum Green (s)	35.8	35.8	69.4	69.4	69.4	69.4	35.8
Yellow Time (s)	4.0	4.0	4.6	4.6	4.6	4.6	4.0
All-Red Time (s)	4.2	4.2	2.0	2.0	2.0	2.0	4.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.2	8.2	6.6	6.6	6.6	6.6	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	None
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	20.0	20.0	21.0	21.0	21.0	21.0	20.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0
Act Effct Green (s)	12.1	12.1	86.9	86.9	86.9	86.9	
Actuated g/C Ratio	0.12	0.12	0.85	0.85	0.85	0.85	
v/c Ratio	0.22	0.03	0.26	0.03	0.01	0.16	
Control Delay	47.1	26.4	3.2	1.4	3.5	2.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.1	26.4	3.2	1.4	3.5	2.9	
LOS	D	C	A	A	A	A	
Approach Delay	44.4		3.1			2.9	
Approach LOS	D		A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 101.9			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.26			
Intersection Signal Delay: 4.4		Intersection LOS: A	
Intersection Capacity Utilization 43.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Airport Road & 12333 Airport Road



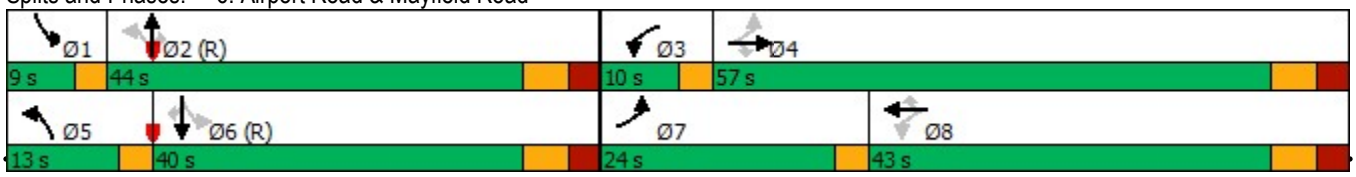


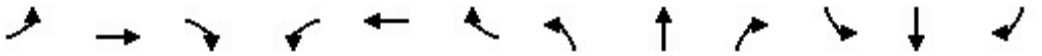
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	238	889	398	98	963	38	211	206	87	66	572	202
Future Volume (vph)	238	889	398	98	963	38	211	206	87	66	572	202
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		60.0	165.0		60.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			100.0			80.0			65.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	4939	1515	1653	3630	977	1700	3386	1426	1475	3355	1353
Flt Permitted	0.098			0.308			0.274			0.623		
Satd. Flow (perm)	133	4939	1493	536	3630	961	490	3386	1426	967	3355	1332
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			285			145			119			202
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		643.7			619.2			458.9			446.4	
Travel Time (s)		38.6			37.2			27.5			26.8	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	238	889	398	98	963	38	211	206	87	66	572	202
Shared Lane Traffic (%)												
Lane Group Flow (vph)	238	889	398	98	963	38	211	206	87	66	572	202
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.91	0.97	1.01	0.91	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	41.1	41.1	8.0	41.1	41.1	8.0	36.9	36.9	9.0	36.9	36.9
Total Split (s)	24.0	57.0	57.0	10.0	43.0	43.0	13.0	44.0	44.0	9.0	40.0	40.0
Total Split (%)	20.0%	47.5%	47.5%	8.3%	35.8%	35.8%	10.8%	36.7%	36.7%	7.5%	33.3%	33.3%
Maximum Green (s)	21.0	49.9	49.9	7.0	35.9	35.9	10.0	37.1	37.1	6.0	33.1	33.1
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	0.0	3.1	3.1	0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	3.0	7.1	7.1	3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0	27.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	64.0	50.2	50.2	48.5	37.7	37.7	50.0	38.9	38.9	42.9	33.2	33.2
Actuated g/C Ratio	0.53	0.42	0.42	0.40	0.31	0.31	0.42	0.32	0.32	0.36	0.28	0.28
v/c Ratio	0.93	0.43	0.50	0.35	0.84	0.09	0.69	0.19	0.16	0.18	0.62	0.39
Control Delay	94.9	35.6	20.1	19.1	47.0	0.5	37.5	30.5	2.9	23.1	41.3	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.9	35.6	20.1	19.1	47.0	0.5	37.5	30.5	2.9	23.1	41.3	7.0
LOS	F	D	C	B	D	A	D	C	A	C	D	A
Approach Delay		40.8			42.9			28.6			31.6	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 37.9		Intersection LOS: D	
Intersection Capacity Utilization 96.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road



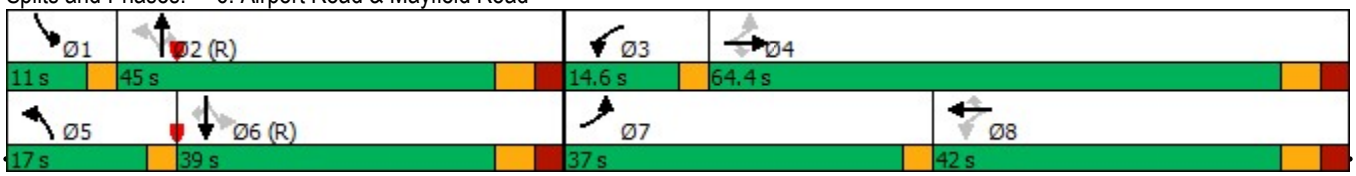


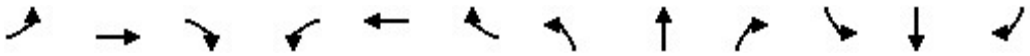
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	337	922	190	114	923	61	333	519	94	101	344	296
Future Volume (vph)	337	922	190	114	923	61	333	519	94	101	344	296
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		60.0	165.0		60.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			100.0			80.0			65.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	4939	1515	1653	3630	977	1700	3386	1426	1475	3355	1353
Flt Permitted	0.100			0.297			0.427			0.402		
Satd. Flow (perm)	136	4939	1493	516	3630	961	762	3386	1426	624	3355	1332
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			190			128			106			296
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		643.7			619.2			458.9			446.4	
Travel Time (s)		38.6			37.2			27.5			26.8	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	337	922	190	114	923	61	333	519	94	101	344	296
Shared Lane Traffic (%)												
Lane Group Flow (vph)	337	922	190	114	923	61	333	519	94	101	344	296
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.91	0.97	1.01	0.91	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	41.1	41.1	8.0	41.1	41.1	8.0	36.9	36.9	9.0	36.9	36.9
Total Split (s)	37.0	64.4	64.4	14.6	42.0	42.0	17.0	45.0	45.0	11.0	39.0	39.0
Total Split (%)	27.4%	47.7%	47.7%	10.8%	31.1%	31.1%	12.6%	33.3%	33.3%	8.1%	28.9%	28.9%
Maximum Green (s)	34.0	57.3	57.3	11.6	34.9	34.9	14.0	38.1	38.1	8.0	32.1	32.1
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	0.0	3.1	3.1	0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	3.0	7.1	7.1	3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0	27.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	76.0	60.0	60.0	50.0	37.0	37.0	53.0	38.4	38.4	43.7	32.1	32.1
Actuated g/C Ratio	0.56	0.44	0.44	0.37	0.27	0.27	0.39	0.28	0.28	0.32	0.24	0.24
v/c Ratio	0.97	0.42	0.25	0.43	0.93	0.17	0.84	0.54	0.20	0.40	0.43	0.55
Control Delay	113.5	14.6	2.7	22.6	63.7	1.0	52.9	43.4	6.0	33.0	45.7	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	113.5	14.6	2.7	22.6	63.7	1.0	52.9	43.4	6.0	33.0	45.7	8.6
LOS	F	B	A	C	E	A	D	D	A	C	D	A
Approach Delay		36.1			56.0			43.0			29.2	
Approach LOS		D			E			D			C	

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: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 41.6		Intersection LOS: D	
Intersection Capacity Utilization 108.8%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road

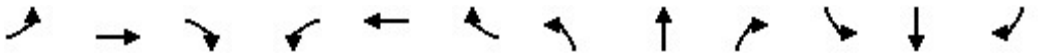




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	6	185	15	16	79	1	5	79	21	4	267	11
Future Volume (vph)	6	185	15	16	79	1	5	79	21	4	267	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	201	16	17	86	1	5	86	23	4	290	12

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	224	104	114	306
Volume Left (vph)	7	17	5	4
Volume Right (vph)	16	1	23	12
Hadj (s)	0.03	0.04	-0.05	-0.02
Departure Headway (s)	5.2	5.4	5.2	5.0
Degree Utilization, x	0.32	0.16	0.16	0.42
Capacity (veh/h)	643	601	632	688
Control Delay (s)	10.7	9.4	9.2	11.5
Approach Delay (s)	10.7	9.4	9.2	11.5
Approach LOS	B	A	A	B

Intersection Summary				
Delay	10.6			
Level of Service	B			
Intersection Capacity Utilization	34.8%	ICU Level of Service	A	
Analysis Period (min)	15			



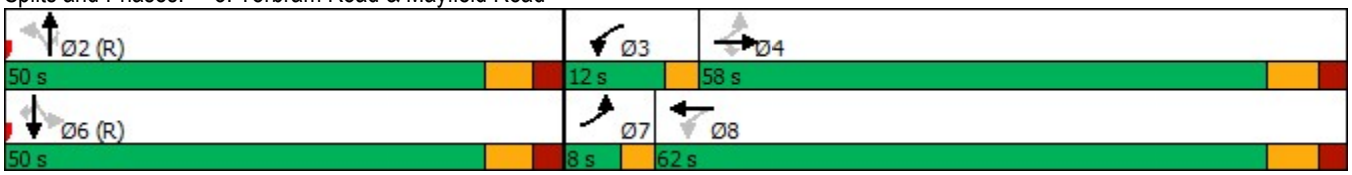
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	1848	259	181	1592	9	292	60	117	12	238	49
Future Volume (vph)	37	1848	259	181	1592	9	292	60	117	12	238	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.5	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5
Storage Length (m)	100.0		125.0	105.0		0.0	80.0		0.0	80.0		80.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	50.0			100.0			70.0			100.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	4734	1597	1785	4861	0	1785	1942	1587	1785	1942	1465
Flt Permitted	0.087			0.074			0.545			0.718		
Satd. Flow (perm)	159	4734	1597	139	4861	0	1024	1942	1587	1349	1942	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			259		1				117			94
Link Speed (k/h)		80			80			70			70	
Link Distance (m)		442.3			716.7			493.9			483.3	
Travel Time (s)		19.9			32.3			25.4			24.9	
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 (%)	3%	12%	0%	0%	9%	4%	0%	0%	4%	0%	0%	9%
Adj. Flow (vph)	37	1848	259	181	1592	9	292	60	117	12	238	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	1848	259	181	1601	0	292	60	117	12	238	49
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.97	1.01	1.01	0.97	0.97	1.01	0.97	0.97	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Minimum Split (s)	8.0	50.3	50.3	8.0	50.3		43.1	43.1	43.1	43.1	43.1	43.1
Total Split (s)	8.0	58.0	58.0	12.0	62.0		50.0	50.0	50.0	50.0	50.0	50.0
Total Split (%)	6.7%	48.3%	48.3%	10.0%	51.7%		41.7%	41.7%	41.7%	41.7%	41.7%	41.7%
Maximum Green (s)	5.0	50.7	50.7	9.0	54.7		42.9	42.9	42.9	42.9	42.9	42.9
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6		4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	0.0	2.7	2.7	0.0	2.7		2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.3	7.3	3.0	7.3		7.1	7.1	7.1	7.1	7.1	7.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		8.0	8.0		8.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		35.0	35.0		35.0		28.0	28.0	28.0	28.0	28.0	28.0
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	0
Act Effct Green (s)	60.0	50.7	50.7	67.0	54.7		42.9	42.9	42.9	42.9	42.9	42.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.50	0.42	0.42	0.56	0.46		0.36	0.36	0.36	0.36	0.36	0.36
v/c Ratio	0.26	0.92	0.31	0.90	0.72		0.80	0.09	0.18	0.02	0.34	0.08
Control Delay	16.6	41.9	3.6	79.4	24.5		52.5	26.1	5.4	25.3	30.0	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.6	41.9	3.6	79.4	24.5		52.5	26.1	5.4	25.3	30.0	0.7
LOS	B	D	A	E	C		D	C	A	C	C	A
Approach Delay		36.8			30.1			37.3			25.0	
Approach LOS		D			C			D			C	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 105
Control Type: Pretimed
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 33.6 Intersection LOS: C
Intersection Capacity Utilization 95.7% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 3: Torbram Road & Mayfield Road



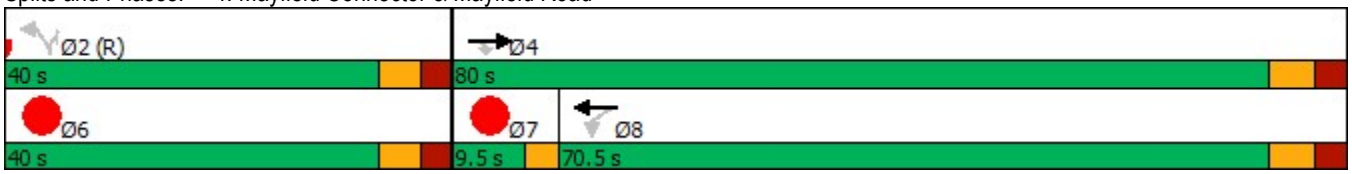


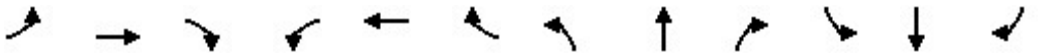
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø6	Ø7
Lane Configurations								
Traffic Volume (vph)	1914	110	14	1639	231	35		
Future Volume (vph)	1914	110	14	1639	231	35		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (m)	3.8	3.5	3.5	3.8	3.8	3.8		
Storage Length (m)		55.0	75.0		55.0	0.0		
Storage Lanes		1	1		1	1		
Taper Length (m)			7.5		7.5			
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00		
Frt		0.850				0.850		
Flt Protected			0.950		0.950			
Satd. Flow (prot)	4734	1566	1750	4864	1809	1619		
Flt Permitted			0.062		0.950			
Satd. Flow (perm)	4734	1566	114	4864	1809	1619		
Right Turn on Red		Yes				Yes		
Satd. Flow (RTOR)		94				15		
Link Speed (k/h)	80			80	50			
Link Distance (m)	716.7			643.7	353.1			
Travel Time (s)	32.3			29.0	25.4			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Heavy Vehicles (%)	12%	2%	2%	9%	2%	2%		
Adj. Flow (vph)	1914	110	14	1639	231	35		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	1914	110	14	1639	231	35		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(m)	3.5			3.5	3.8			
Link Offset(m)	0.0			0.0	0.0			
Crosswalk Width(m)	4.8			4.8	4.8			
Two way Left Turn Lane								
Headway Factor	0.97	1.01	1.01	0.97	0.97	0.97		
Turning Speed (k/h)		15	25		25	15		
Number of Detectors	2	1	1	2	1	1		
Detector Template	Thru	Right	Left	Thru	Left	Right		
Leading Detector (m)	10.0	10.0	25.0	10.0	25.0	10.0		
Trailing Detector (m)	0.0	0.0	15.0	0.0	15.0	0.0		
Detector 1 Position(m)	0.0	0.0	15.0	0.0	15.0	0.0		
Detector 1 Size(m)	0.6	10.0	10.0	0.6	10.0	10.0		
Detector 1 Type	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		
Detector 1 Queue (s)	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		
Detector 2 Position(m)	9.4			9.4				
Detector 2 Size(m)	0.6			0.6				
Detector 2 Type	Cl+Ex			Cl+Ex				
Detector 2 Channel								
Detector 2 Extend (s)	0.0			0.0				
Turn Type	NA	Perm	Perm	NA	Perm	Perm		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø6	Ø7
Protected Phases	4			8			6	7
Permitted Phases		4	8		2	2		
Detector Phase	4	4	8	8	2	2		
Switch Phase								
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	5.0	5.0
Minimum Split (s)	25.1	25.1	25.1	25.1	24.6	24.6	24.6	9.5
Total Split (s)	80.0	80.0	70.5	70.5	40.0	40.0	40.0	9.5
Total Split (%)	66.7%	66.7%	58.8%	58.8%	33.3%	33.3%	33%	8%
Maximum Green (s)	72.9	72.9	63.4	63.4	33.4	33.4	33.4	6.5
Yellow Time (s)	4.0	4.0	4.0	4.0	3.7	3.7	3.7	3.0
All-Red Time (s)	3.1	3.1	3.1	3.1	2.9	2.9	2.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	7.1	7.1	7.1	7.1	6.6	6.6		
Lead/Lag			Lag	Lag				Lead
Lead-Lag Optimize?			Yes	Yes				Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	C-Max	C-Max	Max	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	
Act Effct Green (s)	64.1	64.1	64.1	64.1	42.2	42.2		
Actuated g/C Ratio	0.53	0.53	0.53	0.53	0.35	0.35		
v/c Ratio	0.76	0.13	0.23	0.63	0.36	0.06		
Control Delay	44.0	15.6	28.6	29.9	32.7	20.0		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	44.0	15.6	28.6	29.9	32.7	20.0		
LOS	D	B	C	C	C	B		
Approach Delay	42.5			29.9	31.0			
Approach LOS	D			C	C			

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 36.4		Intersection LOS: D	
Intersection Capacity Utilization 61.2%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 4: Mayfield Connector & Mayfield Road



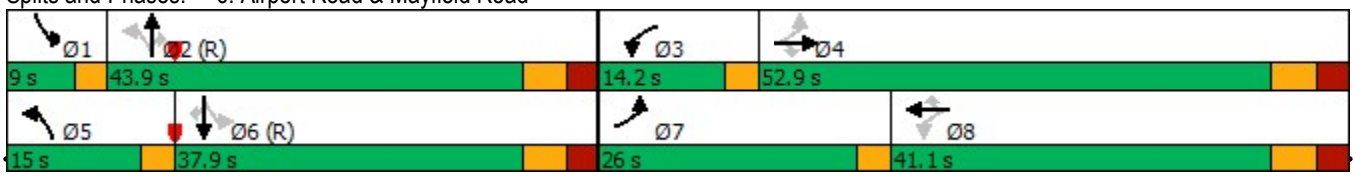


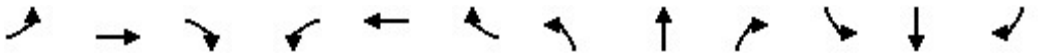
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	249	1077	414	103	1115	40	219	217	91	69	601	209
Future Volume (vph)	249	1077	414	103	1115	40	219	217	91	69	601	209
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		60.0	165.0		60.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			100.0			80.0			65.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	4939	1515	1653	5216	977	1700	3386	1426	1475	3355	1353
Flt Permitted	0.118			0.248			0.240			0.616		
Satd. Flow (perm)	161	4939	1493	431	5216	961	429	3386	1426	957	3355	1332
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			332			145			119			209
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		643.7			619.2			458.9			446.4	
Travel Time (s)		38.6			37.2			27.5			26.8	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	249	1077	414	103	1115	40	219	217	91	69	601	209
Shared Lane Traffic (%)												
Lane Group Flow (vph)	249	1077	414	103	1115	40	219	217	91	69	601	209
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.91	0.97	1.01	0.91	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	41.1	41.1	8.0	41.1	41.1	8.0	36.9	36.9	9.0	36.9	36.9
Total Split (s)	26.0	52.9	52.9	14.2	41.1	41.1	15.0	43.9	43.9	9.0	37.9	37.9
Total Split (%)	21.7%	44.1%	44.1%	11.8%	34.3%	34.3%	12.5%	36.6%	36.6%	7.5%	31.6%	31.6%
Maximum Green (s)	23.0	45.8	45.8	11.2	34.0	34.0	12.0	37.0	37.0	6.0	31.0	31.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	0.0	3.1	3.1	0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	3.0	7.1	7.1	3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0	27.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	64.1	48.7	48.7	49.1	36.6	36.6	49.9	38.8	38.8	41.1	31.4	31.4
Actuated g/C Ratio	0.53	0.41	0.41	0.41	0.30	0.30	0.42	0.32	0.32	0.34	0.26	0.26
v/c Ratio	0.90	0.54	0.52	0.39	0.70	0.10	0.73	0.20	0.17	0.20	0.69	0.42
Control Delay	78.0	36.4	16.4	20.0	40.3	0.5	39.4	30.6	3.2	23.7	44.7	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.0	36.4	16.4	20.0	40.3	0.5	39.4	30.6	3.2	23.7	44.7	7.4
LOS	E	D	B	C	D	A	D	C	A	C	D	A
Approach Delay		37.6			37.3			29.5			34.2	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 35.9		Intersection LOS: D	
Intersection Capacity Utilization 97.6%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1	33	78	0	17	46	513	83	2	731	3
Future Volume (Veh/h)	5	1	33	78	0	17	46	513	83	2	731	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
Hourly flow rate (vph)	5	1	33	78	0	17	46	513	86	2	731	3
Pedestrians		1			5							
Lane Width (m)		3.6			3.6							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1102	1432	366	1013	1349	262	735			604		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1102	1432	366	1013	1349	262	735			604		
tC, single (s)	7.9	6.5	7.2	7.6	6.5	6.9	5.8			5.8		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.4	3.6	4.0	3.3	3.1			3.1		
p0 queue free %	96	99	94	51	100	98	90			100		
cM capacity (veh/h)	132	121	599	160	136	740	479			567		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	5	34	78	17	46	256	256	86	2	366	366	3
Volume Left	5	0	78	0	46	0	0	0	2	0	0	0
Volume Right	0	33	0	17	0	0	0	86	0	0	0	3
cSH	132	537	160	740	479	1700	1700	1700	567	1700	1700	1700
Volume to Capacity	0.04	0.06	0.49	0.02	0.10	0.15	0.15	0.05	0.00	0.21	0.21	0.00
Queue Length 95th (m)	0.9	1.6	18.6	0.6	2.5	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Control Delay (s)	33.3	12.2	47.1	10.0	13.3	0.0	0.0	0.0	11.4	0.0	0.0	0.0
Lane LOS	D	B	E	A	B				B			
Approach Delay (s)	14.9		40.4		0.9				0.0			
Approach LOS	B		E									

Intersection Summary				
Average Delay	3.3			
Intersection Capacity Utilization	44.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations							
Traffic Volume (vph)	77	11	422	61	17	652	
Future Volume (vph)	77	11	422	61	17	652	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (m)	4.0	4.0	3.8	3.5	3.5	3.8	
Storage Length (m)	0.0	0.0		145.0	75.0		
Storage Lanes	1	1		1	1		
Taper Length (m)	7.5				100.0		
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95	
Frt		0.850		0.850			
Flt Protected	0.950				0.950		
Satd. Flow (prot)	1328	1383	3449	992	1116	3101	
Flt Permitted	0.950				0.506		
Satd. Flow (perm)	1328	1383	3449	992	594	3101	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		11		61			
Link Speed (k/h)	50		80			80	
Link Distance (m)	270.4		438.0			348.1	
Travel Time (s)	19.5		19.7			15.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	42%	22%	7%	61%	60%	19%	
Adj. Flow (vph)	77	11	422	61	17	652	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	77	11	422	61	17	652	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(m)	4.0		3.5			3.5	
Link Offset(m)	0.0		0.0			0.0	
Crosswalk Width(m)	4.8		4.8			4.8	
Two way Left Turn Lane							
Headway Factor	0.94	0.94	0.97	1.01	1.01	0.97	
Turning Speed (k/h)	25	15		15	25		
Number of Detectors	1	1	2	1	1	2	
Detector Template	Left	Right	Thru	Right	Left	Thru	
Leading Detector (m)	10.0	10.0	10.0	10.0	10.0	10.0	
Trailing Detector (m)	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	
Detector 1 Size(m)	10.0	10.0	0.6	10.0	10.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Detector 2 Position(m)			9.4			9.4	
Detector 2 Size(m)			0.6			0.6	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type	Perm	Perm	NA	Perm	Perm	NA	

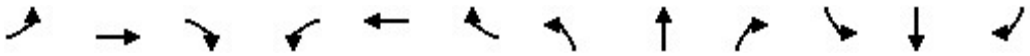


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Protected Phases			2			6	4
Permitted Phases	8	8		2	6		
Detector Phase	8	8	2	2	6	6	
Switch Phase							
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	36.2	36.2	35.6	35.6	35.6	35.6	36.2
Total Split (s)	49.0	49.0	71.0	71.0	71.0	71.0	49.0
Total Split (%)	40.8%	40.8%	59.2%	59.2%	59.2%	59.2%	41%
Maximum Green (s)	40.8	40.8	64.4	64.4	64.4	64.4	40.8
Yellow Time (s)	4.0	4.0	4.6	4.6	4.6	4.6	4.0
All-Red Time (s)	4.2	4.2	2.0	2.0	2.0	2.0	4.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.2	8.2	6.6	6.6	6.6	6.6	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	None
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	20.0	20.0	21.0	21.0	21.0	21.0	20.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0
Act Effct Green (s)	12.8	12.8	75.2	75.2	75.2	75.2	
Actuated g/C Ratio	0.13	0.13	0.78	0.78	0.78	0.78	
v/c Ratio	0.44	0.06	0.16	0.08	0.04	0.27	
Control Delay	47.4	18.5	4.2	1.5	4.6	4.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.4	18.5	4.2	1.5	4.6	4.8	
LOS	D	B	A	A	A	A	
Approach Delay	43.8		3.9			4.8	
Approach LOS	D		A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 96.8			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay: 7.2		Intersection LOS: A	
Intersection Capacity Utilization 40.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Airport Road & 12333 Airport Road

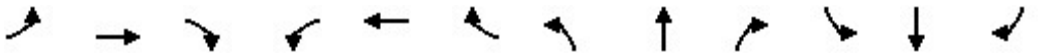




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	11	87	5	13	300	7	17	222	26	6	67	7
Future Volume (vph)	11	87	5	13	300	7	17	222	26	6	67	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	95	5	14	326	8	18	241	28	7	73	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	112	348	287	88
Volume Left (vph)	12	14	18	7
Volume Right (vph)	5	8	28	8
Hadj (s)	0.08	0.01	0.00	0.00
Departure Headway (s)	5.6	5.1	5.3	5.6
Degree Utilization, x	0.17	0.50	0.42	0.14
Capacity (veh/h)	581	662	629	564
Control Delay (s)	9.8	13.1	12.1	9.5
Approach Delay (s)	9.8	13.1	12.1	9.5
Approach LOS	A	B	B	A

Intersection Summary				
Delay		12.0		
Level of Service		B		
Intersection Capacity Utilization		43.3%	ICU Level of Service	A
Analysis Period (min)		15		

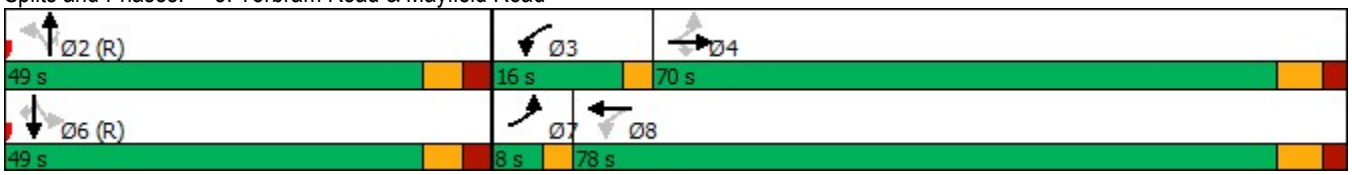


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	1903	243	157	1850	12	305	137	160	3	60	27
Future Volume (vph)	41	1903	243	157	1850	12	305	137	160	3	60	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.5	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5
Storage Length (m)	100.0		125.0	105.0		0.0	80.0		0.0	80.0		80.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	50.0			100.0			70.0			100.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	4734	1597	1785	4861	0	1785	1942	1587	1785	1942	1465
Flt Permitted	0.068			0.061			0.718			0.660		
Satd. Flow (perm)	124	4734	1597	115	4861	0	1349	1942	1587	1240	1942	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			243		1				153			83
Link Speed (k/h)		80			80			70			70	
Link Distance (m)		442.3			716.7			493.9			483.3	
Travel Time (s)		19.9			32.3			25.4			24.9	
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 (%)	3%	12%	0%	0%	9%	4%	0%	0%	4%	0%	0%	9%
Adj. Flow (vph)	41	1903	243	157	1850	12	305	137	160	3	60	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	1903	243	157	1862	0	305	137	160	3	60	27
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.97	1.01	1.01	0.97	0.97	1.01	0.97	0.97	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Minimum Split (s)	8.0	50.3	50.3	8.0	50.3		43.1	43.1	43.1	43.1	43.1	43.1
Total Split (s)	8.0	70.0	70.0	16.0	78.0		49.0	49.0	49.0	49.0	49.0	49.0
Total Split (%)	5.9%	51.9%	51.9%	11.9%	57.8%		36.3%	36.3%	36.3%	36.3%	36.3%	36.3%
Maximum Green (s)	5.0	62.7	62.7	13.0	70.7		41.9	41.9	41.9	41.9	41.9	41.9
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6		4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	0.0	2.7	2.7	0.0	2.7		2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.3	7.3	3.0	7.3		7.1	7.1	7.1	7.1	7.1	7.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		8.0	8.0		8.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		35.0	35.0		35.0		28.0	28.0	28.0	28.0	28.0	28.0
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	0
Act Effct Green (s)	72.0	62.7	62.7	83.0	70.7		41.9	41.9	41.9	41.9	41.9	41.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.53	0.46	0.46	0.61	0.52		0.31	0.31	0.31	0.31	0.31	0.31
v/c Ratio	0.33	0.87	0.28	0.68	0.73		0.73	0.23	0.27	0.01	0.10	0.05
Control Delay	18.2	37.6	3.3	65.8	13.9		53.2	35.8	7.0	32.3	33.8	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.2	37.6	3.3	65.8	13.9		53.2	35.8	7.0	32.3	33.8	0.2
LOS	B	D	A	E	B		D	D	A	C	C	A
Approach Delay		33.5			17.9			37.0			23.7	
Approach LOS		C			B			D			C	

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: 105			
Control Type: Pretimed			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 27.3		Intersection LOS: C	
Intersection Capacity Utilization 84.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Torbram Road & Mayfield Road



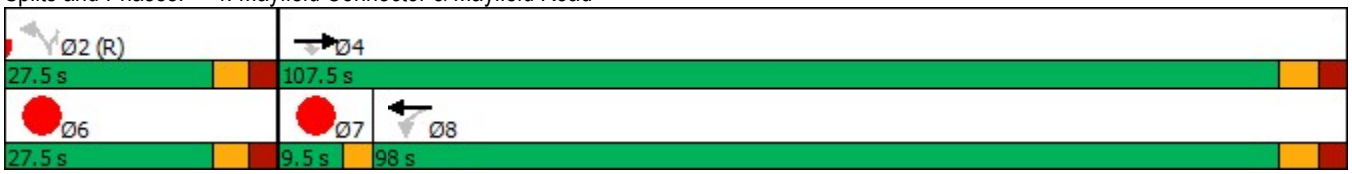


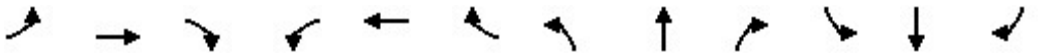
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø6	Ø7
Lane Configurations								
Traffic Volume (vph)	1990	98	41	1916	104	23		
Future Volume (vph)	1990	98	41	1916	104	23		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (m)	3.8	3.5	3.5	3.8	3.8	3.8		
Storage Length (m)		55.0	75.0		55.0	0.0		
Storage Lanes		1	1		1	1		
Taper Length (m)			7.5		7.5			
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00		
Frt		0.850				0.850		
Flt Protected			0.950		0.950			
Satd. Flow (prot)	4734	1566	1750	4864	1809	1619		
Flt Permitted			0.062		0.950			
Satd. Flow (perm)	4734	1566	114	4864	1809	1619		
Right Turn on Red		Yes				Yes		
Satd. Flow (RTOR)		98				23		
Link Speed (k/h)	80			80	50			
Link Distance (m)	716.7			643.7	353.1			
Travel Time (s)	32.3			29.0	25.4			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Heavy Vehicles (%)	12%	2%	2%	9%	2%	2%		
Adj. Flow (vph)	1990	98	41	1916	104	23		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	1990	98	41	1916	104	23		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(m)	3.5			3.5	3.8			
Link Offset(m)	0.0			0.0	0.0			
Crosswalk Width(m)	4.8			4.8	4.8			
Two way Left Turn Lane								
Headway Factor	0.97	1.01	1.01	0.97	0.97	0.97		
Turning Speed (k/h)		15	25		25	15		
Number of Detectors	2	1	1	2	1	1		
Detector Template	Thru	Right	Left	Thru	Left	Right		
Leading Detector (m)	10.0	10.0	25.0	10.0	25.0	10.0		
Trailing Detector (m)	0.0	0.0	15.0	0.0	15.0	0.0		
Detector 1 Position(m)	0.0	0.0	15.0	0.0	15.0	0.0		
Detector 1 Size(m)	0.6	10.0	10.0	0.6	10.0	10.0		
Detector 1 Type	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		
Detector 1 Queue (s)	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		
Detector 2 Position(m)	9.4			9.4				
Detector 2 Size(m)	0.6			0.6				
Detector 2 Type	Cl+Ex			Cl+Ex				
Detector 2 Channel								
Detector 2 Extend (s)	0.0			0.0				
Turn Type	NA	Perm	Perm	NA	Perm	Perm		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø6	Ø7
Protected Phases	4			8			6	7
Permitted Phases		4	8		2	2		
Detector Phase	4	4	8	8	2	2		
Switch Phase								
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	5.0	5.0
Minimum Split (s)	25.1	25.1	25.1	25.1	24.6	24.6	24.6	9.5
Total Split (s)	107.5	107.5	98.0	98.0	27.5	27.5	27.5	9.5
Total Split (%)	79.6%	79.6%	72.6%	72.6%	20.4%	20.4%	20%	7%
Maximum Green (s)	100.4	100.4	90.9	90.9	20.9	20.9	20.9	6.5
Yellow Time (s)	4.0	4.0	4.0	4.0	3.7	3.7	3.7	3.0
All-Red Time (s)	3.1	3.1	3.1	3.1	2.9	2.9	2.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	7.1	7.1	7.1	7.1	6.6	6.6		
Lead/Lag			Lag	Lag				Lead
Lead-Lag Optimize?			Yes	Yes				Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	C-Max	C-Max	Max	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	
Act Effct Green (s)	82.0	82.0	82.0	82.0	39.3	39.3		
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.29	0.29		
v/c Ratio	0.69	0.10	0.59	0.65	0.20	0.05		
Control Delay	40.3	11.0	64.7	39.3	40.3	15.2		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	40.3	11.0	64.7	39.3	40.3	15.2		
LOS	D	B	E	D	D	B		
Approach Delay	38.9			39.8	35.8			
Approach LOS	D			D	D			

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 0 (0%), Referenced to phase 2:NBL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 39.3		Intersection LOS: D	
Intersection Capacity Utilization 59.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 4: Mayfield Connector & Mayfield Road



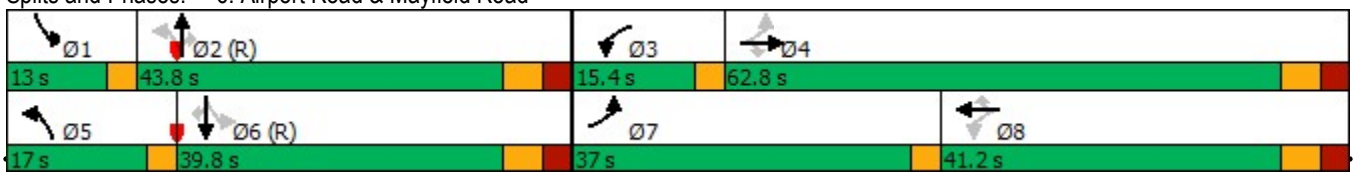


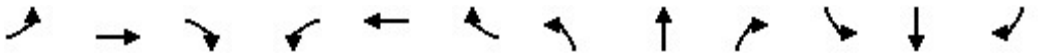
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	347	1090	198	120	1130	64	346	545	98	105	360	309
Future Volume (vph)	347	1090	198	120	1130	64	346	545	98	105	360	309
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		60.0	165.0		60.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			100.0			80.0			65.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	4939	1515	1653	5216	977	1700	3386	1426	1475	3355	1353
Flt Permitted	0.104			0.250			0.415			0.358		
Satd. Flow (perm)	142	4939	1493	435	5216	961	741	3386	1426	556	3355	1332
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			191			128			106			309
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		643.7			619.2			458.9			446.4	
Travel Time (s)		38.6			37.2			27.5			26.8	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	347	1090	198	120	1130	64	346	545	98	105	360	309
Shared Lane Traffic (%)												
Lane Group Flow (vph)	347	1090	198	120	1130	64	346	545	98	105	360	309
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.91	0.97	1.01	0.91	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	41.1	41.1	8.0	41.1	41.1	8.0	36.9	36.9	9.0	36.9	36.9
Total Split (s)	37.0	62.8	62.8	15.4	41.2	41.2	17.0	43.8	43.8	13.0	39.8	39.8
Total Split (%)	27.4%	46.5%	46.5%	11.4%	30.5%	30.5%	12.6%	32.4%	32.4%	9.6%	29.5%	29.5%
Maximum Green (s)	34.0	55.7	55.7	12.4	34.1	34.1	14.0	36.9	36.9	10.0	32.9	32.9
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	0.0	3.1	3.1	0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	3.0	7.1	7.1	3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0	27.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	75.2	58.8	58.8	48.8	35.4	35.4	53.8	37.8	37.8	45.9	32.9	32.9
Actuated g/C Ratio	0.56	0.44	0.44	0.36	0.26	0.26	0.40	0.28	0.28	0.34	0.24	0.24
v/c Ratio	0.97	0.51	0.26	0.50	0.83	0.18	0.88	0.58	0.21	0.42	0.44	0.55
Control Delay	97.1	13.1	4.6	25.6	53.3	1.2	57.2	44.8	6.8	32.2	45.3	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.1	13.1	4.6	25.6	53.3	1.2	57.2	44.8	6.8	32.2	45.3	8.5
LOS	F	B	A	C	D	A	E	D	A	C	D	A
Approach Delay		29.9			48.2			45.4			28.8	
Approach LOS		C			D			D			C	

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: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 38.1		Intersection LOS: D	
Intersection Capacity Utilization 110.1%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	1	76	113	0	4	78	824	90	17	493	6
Future Volume (Veh/h)	8	1	76	113	0	4	78	824	90	17	493	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
Hourly flow rate (vph)	8	1	76	113	0	4	78	824	94	17	493	6
Pedestrians		1			5							
Lane Width (m)		3.6			3.6							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1100	1607	248	1342	1519	417	500			923		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1100	1607	248	1342	1519	417	500			923		
tC, single (s)	7.9	6.5	7.2	7.6	6.5	6.9	5.8			5.8		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.4	3.6	4.0	3.3	3.1			3.1		
p0 queue free %	94	99	89	0	100	99	88			96		
cM capacity (veh/h)	128	89	720	82	100	588	639			383		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	8	77	113	4	78	412	412	94	17	246	246	6
Volume Left	8	0	113	0	78	0	0	0	17	0	0	0
Volume Right	0	76	0	4	0	0	0	94	0	0	0	6
cSH	128	659	82	588	639	1700	1700	1700	383	1700	1700	1700
Volume to Capacity	0.06	0.12	1.39	0.01	0.12	0.24	0.24	0.06	0.04	0.14	0.14	0.00
Queue Length 95th (m)	1.6	3.2	70.1	0.2	3.3	0.0	0.0	0.0	1.1	0.0	0.0	0.0
Control Delay (s)	35.0	11.2	323.3	11.2	11.4	0.0	0.0	0.0	14.8	0.0	0.0	0.0
Lane LOS	E	B	F	B	B				B			
Approach Delay (s)	13.4		312.6		0.9				0.5			
Approach LOS	B		F									

Intersection Summary				
Average Delay	22.7			
Intersection Capacity Utilization	49.0%	ICU Level of Service	A	
Analysis Period (min)	15			



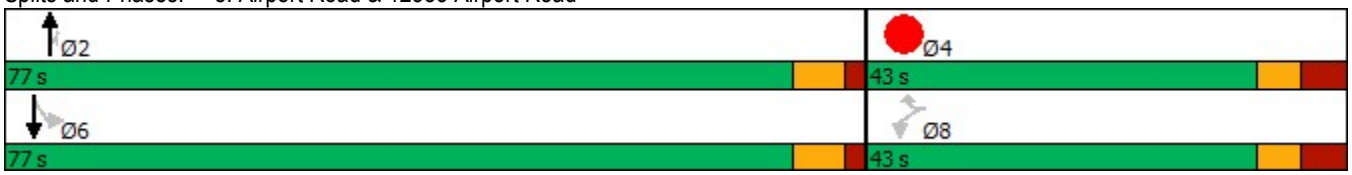
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations							
Traffic Volume (vph)	34	5	785	26	2	438	
Future Volume (vph)	34	5	785	26	2	438	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (m)	4.0	4.0	3.8	3.5	3.5	3.8	
Storage Length (m)	0.0	0.0		145.0	75.0		
Storage Lanes	1	1		1	1		
Taper Length (m)	7.5				100.0		
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95	
Frt		0.850		0.850			
Flt Protected	0.950				0.950		
Satd. Flow (prot)	1328	1383	3449	992	1116	3101	
Flt Permitted	0.950				0.355		
Satd. Flow (perm)	1328	1383	3449	992	417	3101	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		5		26			
Link Speed (k/h)	50		80			80	
Link Distance (m)	270.4		438.0			348.1	
Travel Time (s)	19.5		19.7			15.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	42%	22%	7%	61%	60%	19%	
Adj. Flow (vph)	34	5	785	26	2	438	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	34	5	785	26	2	438	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(m)	4.0		3.5			3.5	
Link Offset(m)	0.0		0.0			0.0	
Crosswalk Width(m)	4.8		4.8			4.8	
Two way Left Turn Lane							
Headway Factor	0.94	0.94	0.97	1.01	1.01	0.97	
Turning Speed (k/h)	25	15		15	25		
Number of Detectors	1	1	2	1	1	2	
Detector Template	Left	Right	Thru	Right	Left	Thru	
Leading Detector (m)	10.0	10.0	10.0	10.0	10.0	10.0	
Trailing Detector (m)	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	
Detector 1 Size(m)	10.0	10.0	0.6	10.0	10.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Detector 2 Position(m)			9.4			9.4	
Detector 2 Size(m)			0.6			0.6	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type	Perm	Perm	NA	Perm	Perm	NA	

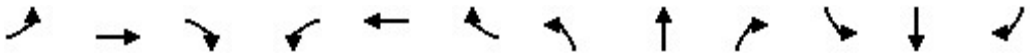


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Protected Phases			2			6	4
Permitted Phases	8	8		2	6		
Detector Phase	8	8	2	2	6	6	
Switch Phase							
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	36.2	36.2	35.6	35.6	35.6	35.6	36.2
Total Split (s)	43.0	43.0	77.0	77.0	77.0	77.0	43.0
Total Split (%)	35.8%	35.8%	64.2%	64.2%	64.2%	64.2%	36%
Maximum Green (s)	34.8	34.8	70.4	70.4	70.4	70.4	34.8
Yellow Time (s)	4.0	4.0	4.6	4.6	4.6	4.6	4.0
All-Red Time (s)	4.2	4.2	2.0	2.0	2.0	2.0	4.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.2	8.2	6.6	6.6	6.6	6.6	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	None
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	20.0	20.0	21.0	21.0	21.0	21.0	20.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0
Act Effct Green (s)	12.1	12.1	87.9	87.9	87.9	87.9	
Actuated g/C Ratio	0.12	0.12	0.85	0.85	0.85	0.85	
v/c Ratio	0.22	0.03	0.27	0.03	0.01	0.17	
Control Delay	47.7	26.8	3.2	1.4	3.5	2.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.7	26.8	3.2	1.4	3.5	2.9	
LOS	D	C	A	A	A	A	
Approach Delay	45.0		3.2			2.9	
Approach LOS	D		A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 102.9			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.27			
Intersection Signal Delay: 4.3		Intersection LOS: A	
Intersection Capacity Utilization 44.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Airport Road & 12333 Airport Road

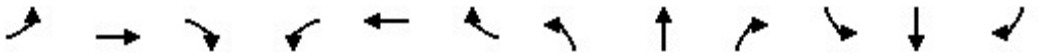




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	6	205	15	16	88	1	5	88	21	4	293	11
Future Volume (vph)	6	205	15	16	88	1	5	88	21	4	293	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	223	16	17	96	1	5	96	23	4	318	12

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	246	114	124	334
Volume Left (vph)	7	17	5	4
Volume Right (vph)	16	1	23	12
Hadj (s)	0.04	0.04	-0.04	-0.01
Departure Headway (s)	5.4	5.6	5.4	5.1
Degree Utilization, x	0.37	0.18	0.19	0.47
Capacity (veh/h)	623	575	606	667
Control Delay (s)	11.4	9.8	9.6	12.6
Approach Delay (s)	11.4	9.8	9.6	12.6
Approach LOS	B	A	A	B

Intersection Summary				
Delay	11.4			
Level of Service	B			
Intersection Capacity Utilization	36.9%	ICU Level of Service	A	
Analysis Period (min)	15			

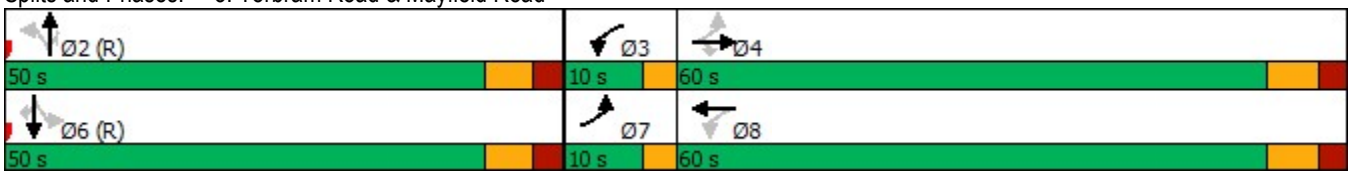


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	2011	259	181	1695	9	292	67	117	12	263	49
Future Volume (vph)	37	2011	259	181	1695	9	292	67	117	12	263	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.5	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5
Storage Length (m)	100.0		125.0	105.0		0.0	80.0		0.0	80.0		80.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	50.0			100.0			70.0			100.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	4734	1597	1785	4861	0	1785	1942	1587	1785	1942	1465
Flt Permitted	0.076			0.076			0.512			0.713		
Satd. Flow (perm)	139	4734	1597	143	4861	0	962	1942	1587	1340	1942	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			259		1				117			66
Link Speed (k/h)		80			80			70			70	
Link Distance (m)		442.3			716.7			493.9			483.3	
Travel Time (s)		19.9			32.3			25.4			24.9	
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 (%)	3%	12%	0%	0%	9%	4%	0%	0%	4%	0%	0%	9%
Adj. Flow (vph)	37	2011	259	181	1695	9	292	67	117	12	263	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	2011	259	181	1704	0	292	67	117	12	263	49
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.97	1.01	1.01	0.97	0.97	1.01	0.97	0.97	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Minimum Split (s)	8.0	50.3	50.3	8.0	50.3		43.1	43.1	43.1	43.1	43.1	43.1
Total Split (s)	10.0	60.0	60.0	10.0	60.0		50.0	50.0	50.0	50.0	50.0	50.0
Total Split (%)	8.3%	50.0%	50.0%	8.3%	50.0%		41.7%	41.7%	41.7%	41.7%	41.7%	41.7%
Maximum Green (s)	7.0	52.7	52.7	7.0	52.7		42.9	42.9	42.9	42.9	42.9	42.9
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6		4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	0.0	2.7	2.7	0.0	2.7		2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.3	7.3	3.0	7.3		7.1	7.1	7.1	7.1	7.1	7.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		8.0	8.0		8.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		35.0	35.0		35.0		28.0	28.0	28.0	28.0	28.0	28.0
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	0
Act Effct Green (s)	64.0	52.7	52.7	64.0	52.7		42.9	42.9	42.9	42.9	42.9	42.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.53	0.44	0.44	0.53	0.44		0.36	0.36	0.36	0.36	0.36	0.36
v/c Ratio	0.22	0.97	0.31	1.05	0.80		0.85	0.10	0.18	0.03	0.38	0.09
Control Delay	15.2	46.5	3.4	114.4	30.2		59.5	26.2	5.4	25.3	30.7	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.2	46.5	3.4	114.4	30.2		59.5	26.2	5.4	25.3	30.7	3.9
LOS	B	D	A	F	C		E	C	A	C	C	A
Approach Delay		41.2			38.3			41.5			26.4	
Approach LOS		D			D			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 105			
Control Type: Pretimed			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 39.2		Intersection LOS: D	
Intersection Capacity Utilization 100.2%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 3: Torbram Road & Mayfield Road



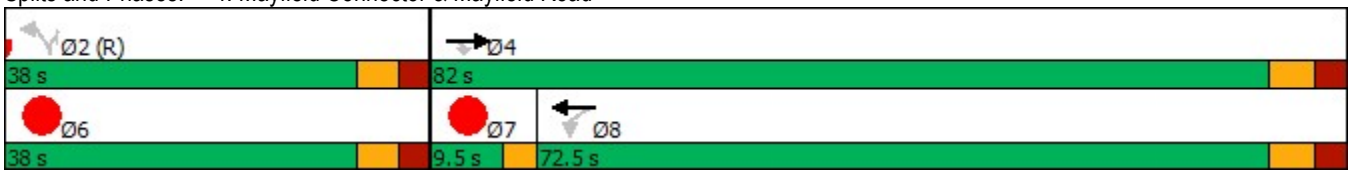


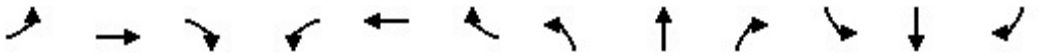
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø6	Ø7
Lane Configurations								
Traffic Volume (vph)	2086	110	14	1756	231	35		
Future Volume (vph)	2086	110	14	1756	231	35		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (m)	3.8	3.5	3.5	3.8	3.8	3.8		
Storage Length (m)		55.0	75.0		55.0	0.0		
Storage Lanes		1	1		1	1		
Taper Length (m)			7.5		7.5			
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00		
Frt		0.850				0.850		
Flt Protected			0.950		0.950			
Satd. Flow (prot)	4734	1566	1750	4864	1809	1619		
Flt Permitted			0.058		0.950			
Satd. Flow (perm)	4734	1566	107	4864	1809	1619		
Right Turn on Red		Yes				Yes		
Satd. Flow (RTOR)		91				11		
Link Speed (k/h)	80			80	50			
Link Distance (m)	716.7			643.7	353.1			
Travel Time (s)	32.3			29.0	25.4			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Heavy Vehicles (%)	12%	2%	2%	9%	2%	2%		
Adj. Flow (vph)	2086	110	14	1756	231	35		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	2086	110	14	1756	231	35		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(m)	3.5			3.5	3.8			
Link Offset(m)	0.0			0.0	0.0			
Crosswalk Width(m)	4.8			4.8	4.8			
Two way Left Turn Lane								
Headway Factor	0.97	1.01	1.01	0.97	0.97	0.97		
Turning Speed (k/h)		15	25		25	15		
Number of Detectors	2	1	1	2	1	1		
Detector Template	Thru	Right	Left	Thru	Left	Right		
Leading Detector (m)	10.0	10.0	25.0	10.0	25.0	10.0		
Trailing Detector (m)	0.0	0.0	15.0	0.0	15.0	0.0		
Detector 1 Position(m)	0.0	0.0	15.0	0.0	15.0	0.0		
Detector 1 Size(m)	0.6	10.0	10.0	0.6	10.0	10.0		
Detector 1 Type	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		
Detector 1 Queue (s)	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		
Detector 2 Position(m)	9.4			9.4				
Detector 2 Size(m)	0.6			0.6				
Detector 2 Type	Cl+Ex			Cl+Ex				
Detector 2 Channel								
Detector 2 Extend (s)	0.0			0.0				
Turn Type	NA	Perm	Perm	NA	Perm	Perm		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø6	Ø7
Protected Phases	4			8			6	7
Permitted Phases		4	8		2	2		
Detector Phase	4	4	8	8	2	2		
Switch Phase								
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	5.0	5.0
Minimum Split (s)	25.1	25.1	25.1	25.1	24.6	24.6	24.6	9.5
Total Split (s)	82.0	82.0	72.5	72.5	38.0	38.0	38.0	9.5
Total Split (%)	68.3%	68.3%	60.4%	60.4%	31.7%	31.7%	32%	8%
Maximum Green (s)	74.9	74.9	65.4	65.4	31.4	31.4	31.4	6.5
Yellow Time (s)	4.0	4.0	4.0	4.0	3.7	3.7	3.7	3.0
All-Red Time (s)	3.1	3.1	3.1	3.1	2.9	2.9	2.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	7.1	7.1	7.1	7.1	6.6	6.6		
Lead/Lag			Lag	Lag				Lead
Lead-Lag Optimize?			Yes	Yes				Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	C-Max	C-Max	Max	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	
Act Effct Green (s)	69.1	69.1	69.1	69.1	37.2	37.2		
Actuated g/C Ratio	0.58	0.58	0.58	0.58	0.31	0.31		
v/c Ratio	0.77	0.12	0.23	0.63	0.41	0.07		
Control Delay	36.5	12.5	25.6	25.9	37.0	24.8		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	36.5	12.5	25.6	25.9	37.0	24.8		
LOS	D	B	C	C	D	C		
Approach Delay	35.3			25.9	35.4			
Approach LOS	D			C	D			

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 31.4		Intersection LOS: C	
Intersection Capacity Utilization 64.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 4: Mayfield Connector & Mayfield Road



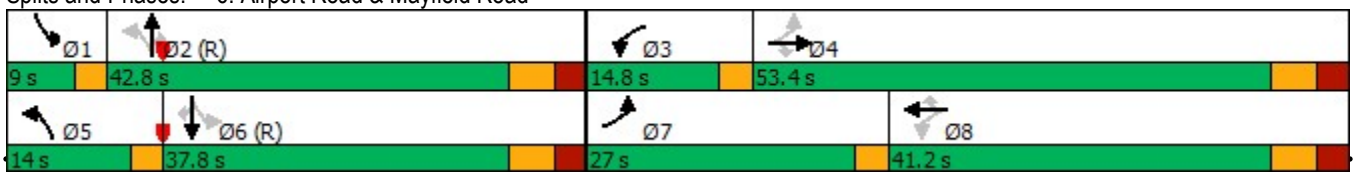


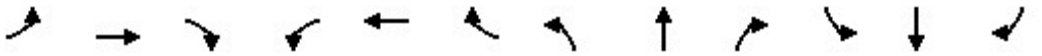
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	261	1168	431	109	1188	43	227	229	96	73	632	217
Future Volume (vph)	261	1168	431	109	1188	43	227	229	96	73	632	217
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		60.0	165.0		60.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			100.0			80.0			65.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	4939	1515	1653	5216	977	1700	3386	1426	1475	3355	1353
Flt Permitted	0.101			0.217			0.214			0.609		
Satd. Flow (perm)	137	4939	1493	377	5216	961	383	3386	1426	946	3355	1332
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			307			145			119			217
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		643.7			619.2			458.9			446.4	
Travel Time (s)		38.6			37.2			27.5			26.8	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	261	1168	431	109	1188	43	227	229	96	73	632	217
Shared Lane Traffic (%)												
Lane Group Flow (vph)	261	1168	431	109	1188	43	227	229	96	73	632	217
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.91	0.97	1.01	0.91	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	41.1	41.1	8.0	41.1	41.1	8.0	36.9	36.9	9.0	36.9	36.9
Total Split (s)	27.0	53.4	53.4	14.8	41.2	41.2	14.0	42.8	42.8	9.0	37.8	37.8
Total Split (%)	22.5%	44.5%	44.5%	12.3%	34.3%	34.3%	11.7%	35.7%	35.7%	7.5%	31.5%	31.5%
Maximum Green (s)	24.0	46.3	46.3	11.8	34.1	34.1	11.0	35.9	35.9	6.0	30.9	30.9
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	0.0	3.1	3.1	0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	3.0	7.1	7.1	3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0	27.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	65.2	49.6	49.6	49.3	36.8	36.8	48.8	37.7	37.7	40.6	30.9	30.9
Actuated g/C Ratio	0.54	0.41	0.41	0.41	0.31	0.31	0.41	0.31	0.31	0.34	0.26	0.26
v/c Ratio	0.94	0.57	0.54	0.44	0.74	0.11	0.82	0.22	0.18	0.21	0.73	0.43
Control Delay	82.1	32.9	15.3	21.2	41.4	0.6	50.5	31.6	4.0	24.6	46.6	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.1	32.9	15.3	21.2	41.4	0.6	50.5	31.6	4.0	24.6	46.6	7.5
LOS	F	C	B	C	D	A	D	C	A	C	D	A
Approach Delay		35.8			38.5			34.6			35.7	
Approach LOS		D			D			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 36.4		Intersection LOS: D	
Intersection Capacity Utilization 98.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1	33	78	0	17	46	538	83	2	765	3
Future Volume (Veh/h)	5	1	33	78	0	17	46	538	83	2	765	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
Hourly flow rate (vph)	5	1	33	78	0	17	46	538	86	2	765	3
Pedestrians		1			5							
Lane Width (m)		3.6			3.6							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1148	1491	384	1055	1408	274	769			629		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1148	1491	384	1055	1408	274	769			629		
tC, single (s)	7.9	6.5	7.2	7.6	6.5	6.9	5.8			5.8		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.4	3.6	4.0	3.3	3.1			3.1		
p0 queue free %	96	99	94	47	100	98	90			100		
cM capacity (veh/h)	121	111	584	148	125	727	459			550		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	5	34	78	17	46	269	269	86	2	382	382	3
Volume Left	5	0	78	0	46	0	0	0	2	0	0	0
Volume Right	0	33	0	17	0	0	0	86	0	0	0	3
cSH	121	519	148	727	459	1700	1700	1700	550	1700	1700	1700
Volume to Capacity	0.04	0.07	0.53	0.02	0.10	0.16	0.16	0.05	0.00	0.23	0.23	0.00
Queue Length 95th (m)	1.0	1.7	20.6	0.6	2.7	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Control Delay (s)	35.9	12.4	53.4	10.1	13.7	0.0	0.0	0.0	11.6	0.0	0.0	0.0
Lane LOS	E	B	F	B	B				B			
Approach Delay (s)	15.4		45.7		0.9				0.0			
Approach LOS	C		E									

Intersection Summary				
Average Delay	3.6			
Intersection Capacity Utilization	45.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations							
Traffic Volume (vph)	77	11	443	61	17	682	
Future Volume (vph)	77	11	443	61	17	682	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (m)	4.0	4.0	3.8	3.5	3.5	3.8	
Storage Length (m)	0.0	0.0		145.0	75.0		
Storage Lanes	1	1		1	1		
Taper Length (m)	7.5				100.0		
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95	
Frt		0.850		0.850			
Flt Protected	0.950				0.950		
Satd. Flow (prot)	1328	1383	3449	992	1116	3101	
Flt Permitted	0.950				0.495		
Satd. Flow (perm)	1328	1383	3449	992	581	3101	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		11		61			
Link Speed (k/h)	50		80			80	
Link Distance (m)	270.4		438.0			348.1	
Travel Time (s)	19.5		19.7			15.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	42%	22%	7%	61%	60%	19%	
Adj. Flow (vph)	77	11	443	61	17	682	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	77	11	443	61	17	682	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(m)	4.0		3.5			3.5	
Link Offset(m)	0.0		0.0			0.0	
Crosswalk Width(m)	4.8		4.8			4.8	
Two way Left Turn Lane							
Headway Factor	0.94	0.94	0.97	1.01	1.01	0.97	
Turning Speed (k/h)	25	15		15	25		
Number of Detectors	1	1	2	1	1	2	
Detector Template	Left	Right	Thru	Right	Left	Thru	
Leading Detector (m)	10.0	10.0	10.0	10.0	10.0	10.0	
Trailing Detector (m)	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	
Detector 1 Size(m)	10.0	10.0	0.6	10.0	10.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Detector 2 Position(m)			9.4			9.4	
Detector 2 Size(m)			0.6			0.6	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type	Perm	Perm	NA	Perm	Perm	NA	

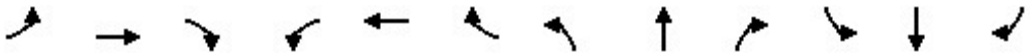


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Protected Phases			2			6	4
Permitted Phases	8	8		2	6		
Detector Phase	8	8	2	2	6	6	
Switch Phase							
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	36.2	36.2	35.6	35.6	35.6	35.6	36.2
Total Split (s)	48.0	48.0	72.0	72.0	72.0	72.0	48.0
Total Split (%)	40.0%	40.0%	60.0%	60.0%	60.0%	60.0%	40%
Maximum Green (s)	39.8	39.8	65.4	65.4	65.4	65.4	39.8
Yellow Time (s)	4.0	4.0	4.6	4.6	4.6	4.6	4.0
All-Red Time (s)	4.2	4.2	2.0	2.0	2.0	2.0	4.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.2	8.2	6.6	6.6	6.6	6.6	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	None
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	20.0	20.0	21.0	21.0	21.0	21.0	20.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0
Act Effct Green (s)	12.8	12.8	76.1	76.1	76.1	76.1	
Actuated g/C Ratio	0.13	0.13	0.78	0.78	0.78	0.78	
v/c Ratio	0.44	0.06	0.17	0.08	0.04	0.28	
Control Delay	48.0	18.8	4.2	1.5	4.6	4.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	48.0	18.8	4.2	1.5	4.6	4.8	
LOS	D	B	A	A	A	A	
Approach Delay	44.4		3.9			4.8	
Approach LOS	D		A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 97.8			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay: 7.1		Intersection LOS: A	
Intersection Capacity Utilization 41.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Airport Road & 12333 Airport Road

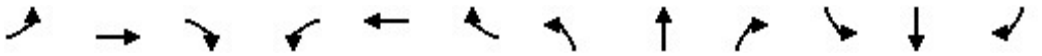




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	11	97	5	13	332	7	17	246	26	6	74	7
Future Volume (vph)	11	97	5	13	332	7	17	246	26	6	74	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	105	5	14	361	8	18	267	28	7	80	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	122	383	313	95
Volume Left (vph)	12	14	18	7
Volume Right (vph)	5	8	28	8
Hadj (s)	0.08	0.01	0.01	0.00
Departure Headway (s)	5.8	5.3	5.5	5.9
Degree Utilization, x	0.20	0.56	0.48	0.16
Capacity (veh/h)	552	644	609	534
Control Delay (s)	10.2	15.0	13.4	10.0
Approach Delay (s)	10.2	15.0	13.4	10.0
Approach LOS	B	B	B	A

Intersection Summary				
Delay	13.3			
Level of Service	B			
Intersection Capacity Utilization	46.7%	ICU Level of Service	A	
Analysis Period (min)	15			

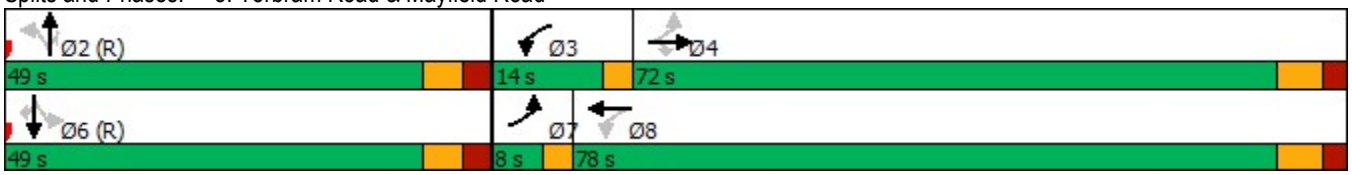


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	2050	243	157	2018	12	305	152	160	3	67	27
Future Volume (vph)	41	2050	243	157	2018	12	305	152	160	3	67	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.5	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5
Storage Length (m)	100.0		125.0	105.0		0.0	80.0		0.0	80.0		80.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	50.0			100.0			70.0			100.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	4734	1597	1785	4861	0	1785	1942	1587	1785	1942	1465
Flt Permitted	0.062			0.059			0.713			0.637		
Satd. Flow (perm)	113	4734	1597	111	4861	0	1340	1942	1587	1197	1942	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			243		1				122			83
Link Speed (k/h)		80			80			70			70	
Link Distance (m)		442.3			716.7			493.9			483.3	
Travel Time (s)		19.9			32.3			25.4			24.9	
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 (%)	3%	12%	0%	0%	9%	4%	0%	0%	4%	0%	0%	9%
Adj. Flow (vph)	41	2050	243	157	2018	12	305	152	160	3	67	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	2050	243	157	2030	0	305	152	160	3	67	27
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.97	1.01	1.01	0.97	0.97	1.01	0.97	0.97	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Minimum Split (s)	8.0	50.3	50.3	8.0	50.3		43.1	43.1	43.1	43.1	43.1	43.1
Total Split (s)	8.0	72.0	72.0	14.0	78.0		49.0	49.0	49.0	49.0	49.0	49.0
Total Split (%)	5.9%	53.3%	53.3%	10.4%	57.8%		36.3%	36.3%	36.3%	36.3%	36.3%	36.3%
Maximum Green (s)	5.0	64.7	64.7	11.0	70.7		41.9	41.9	41.9	41.9	41.9	41.9
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6		4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	0.0	2.7	2.7	0.0	2.7		2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.3	7.3	3.0	7.3		7.1	7.1	7.1	7.1	7.1	7.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		8.0	8.0		8.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		35.0	35.0		35.0		28.0	28.0	28.0	28.0	28.0	28.0
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	0
Act Effct Green (s)	74.0	64.7	64.7	83.0	70.7		41.9	41.9	41.9	41.9	41.9	41.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.55	0.48	0.48	0.61	0.52		0.31	0.31	0.31	0.31	0.31	0.31
v/c Ratio	0.34	0.90	0.27	0.77	0.80		0.73	0.25	0.28	0.01	0.11	0.05
Control Delay	18.6	39.1	3.1	71.2	20.4		53.6	36.3	11.3	32.3	34.0	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.6	39.1	3.1	71.2	20.4		53.6	36.3	11.3	32.3	34.0	0.2
LOS	B	D	A	E	C		D	D	B	C	C	A
Approach Delay		35.0			24.0			38.4			24.5	
Approach LOS		D			C			D			C	

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: 105			
Control Type: Pretimed			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 30.6		Intersection LOS: C	
Intersection Capacity Utilization 87.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Torbram Road & Mayfield Road



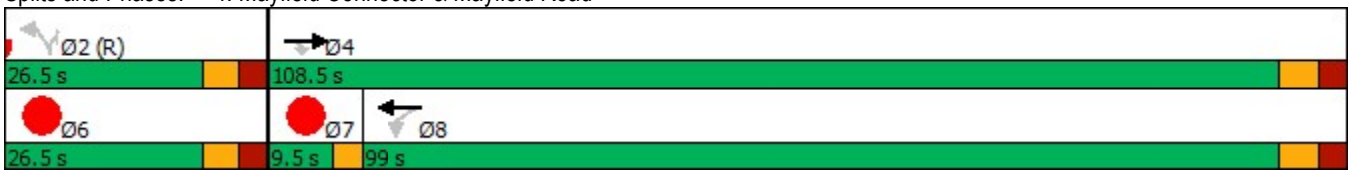


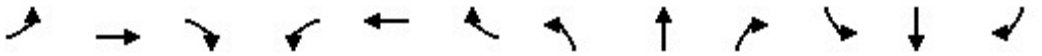
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø6	Ø7
Lane Configurations								
Traffic Volume (vph)	2146	98	41	2095	104	23		
Future Volume (vph)	2146	98	41	2095	104	23		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900		
Lane Width (m)	3.8	3.5	3.5	3.8	3.8	3.8		
Storage Length (m)		55.0	75.0		55.0	0.0		
Storage Lanes		1	1		1	1		
Taper Length (m)			7.5		7.5			
Lane Util. Factor	0.91	1.00	1.00	0.91	1.00	1.00		
Frt		0.850				0.850		
Flt Protected			0.950		0.950			
Satd. Flow (prot)	4734	1566	1750	4864	1809	1619		
Flt Permitted			0.053		0.950			
Satd. Flow (perm)	4734	1566	98	4864	1809	1619		
Right Turn on Red		Yes				Yes		
Satd. Flow (RTOR)		98				22		
Link Speed (k/h)	80			80	50			
Link Distance (m)	716.7			643.7	353.1			
Travel Time (s)	32.3			29.0	25.4			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Heavy Vehicles (%)	12%	2%	2%	9%	2%	2%		
Adj. Flow (vph)	2146	98	41	2095	104	23		
Shared Lane Traffic (%)								
Lane Group Flow (vph)	2146	98	41	2095	104	23		
Enter Blocked Intersection	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	Left	Right		
Median Width(m)	3.5			3.5	3.8			
Link Offset(m)	0.0			0.0	0.0			
Crosswalk Width(m)	4.8			4.8	4.8			
Two way Left Turn Lane								
Headway Factor	0.97	1.01	1.01	0.97	0.97	0.97		
Turning Speed (k/h)		15	25		25	15		
Number of Detectors	2	1	1	2	1	1		
Detector Template	Thru	Right	Left	Thru	Left	Right		
Leading Detector (m)	10.0	10.0	25.0	10.0	25.0	10.0		
Trailing Detector (m)	0.0	0.0	15.0	0.0	15.0	0.0		
Detector 1 Position(m)	0.0	0.0	15.0	0.0	15.0	0.0		
Detector 1 Size(m)	0.6	10.0	10.0	0.6	10.0	10.0		
Detector 1 Type	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		
Detector 1 Queue (s)	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		
Detector 2 Position(m)	9.4			9.4				
Detector 2 Size(m)	0.6			0.6				
Detector 2 Type	Cl+Ex			Cl+Ex				
Detector 2 Channel								
Detector 2 Extend (s)	0.0			0.0				
Turn Type	NA	Perm	Perm	NA	Perm	Perm		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø6	Ø7
Protected Phases	4			8			6	7
Permitted Phases		4	8		2	2		
Detector Phase	4	4	8	8	2	2		
Switch Phase								
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	5.0	5.0
Minimum Split (s)	25.1	25.1	25.1	25.1	24.6	24.6	24.6	9.5
Total Split (s)	108.5	108.5	99.0	99.0	26.5	26.5	26.5	9.5
Total Split (%)	80.4%	80.4%	73.3%	73.3%	19.6%	19.6%	20%	7%
Maximum Green (s)	101.4	101.4	91.9	91.9	19.9	19.9	19.9	6.5
Yellow Time (s)	4.0	4.0	4.0	4.0	3.7	3.7	3.7	3.0
All-Red Time (s)	3.1	3.1	3.1	3.1	2.9	2.9	2.9	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	7.1	7.1	7.1	7.1	6.6	6.6		
Lead/Lag			Lag	Lag				Lead
Lead-Lag Optimize?			Yes	Yes				Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Min	Min	Min	Min	C-Max	C-Max	Max	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	
Act Effct Green (s)	87.4	87.4	87.4	87.4	33.9	33.9		
Actuated g/C Ratio	0.65	0.65	0.65	0.65	0.25	0.25		
v/c Ratio	0.70	0.09	0.65	0.67	0.23	0.05		
Control Delay	32.2	8.5	65.6	34.1	44.1	16.7		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	32.2	8.5	65.6	34.1	44.1	16.7		
LOS	C	A	E	C	D	B		
Approach Delay	31.2			34.7	39.1			
Approach LOS	C			C	D			

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 0 (0%), Referenced to phase 2:NBL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 33.1		Intersection LOS: C	
Intersection Capacity Utilization 62.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 4: Mayfield Connector & Mayfield Road



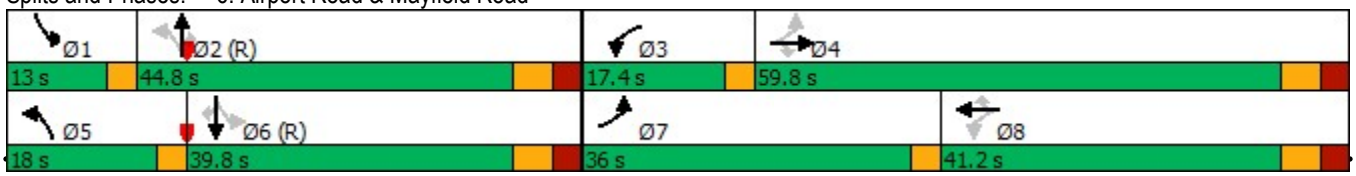


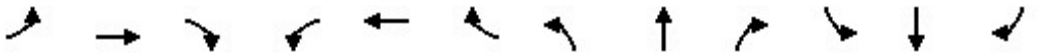
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	359	1171	206	126	1230	68	360	573	103	110	378	323
Future Volume (vph)	359	1171	206	126	1230	68	360	573	103	110	378	323
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		60.0	165.0		60.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			100.0			80.0			65.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	4939	1515	1653	5216	977	1700	3386	1426	1475	3355	1353
Flt Permitted	0.108			0.229			0.398			0.348		
Satd. Flow (perm)	147	4939	1493	398	5216	961	711	3386	1426	540	3355	1332
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			179			128			106			323
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		643.7			619.2			458.9			446.4	
Travel Time (s)		38.6			37.2			27.5			26.8	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	359	1171	206	126	1230	68	360	573	103	110	378	323
Shared Lane Traffic (%)												
Lane Group Flow (vph)	359	1171	206	126	1230	68	360	573	103	110	378	323
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.91	0.97	1.01	0.91	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	41.1	41.1	8.0	41.1	41.1	8.0	36.9	36.9	9.0	36.9	36.9
Total Split (s)	36.0	59.8	59.8	17.4	41.2	41.2	18.0	44.8	44.8	13.0	39.8	39.8
Total Split (%)	26.7%	44.3%	44.3%	12.9%	30.5%	30.5%	13.3%	33.2%	33.2%	9.6%	29.5%	29.5%
Maximum Green (s)	33.0	52.7	52.7	14.4	34.1	34.1	15.0	37.9	37.9	10.0	32.9	32.9
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	0.0	3.1	3.1	0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	3.0	7.1	7.1	3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0	27.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	74.2	57.5	57.5	47.8	34.1	34.1	54.8	38.7	38.7	46.0	32.9	32.9
Actuated g/C Ratio	0.55	0.43	0.43	0.35	0.25	0.25	0.41	0.29	0.29	0.34	0.24	0.24
v/c Ratio	1.00	0.56	0.28	0.55	0.93	0.20	0.90	0.59	0.21	0.45	0.46	0.57
Control Delay	97.5	17.7	6.6	27.9	62.7	1.3	60.2	44.6	7.3	32.4	45.7	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.5	17.7	6.6	27.9	62.7	1.3	60.2	44.6	7.3	32.4	45.7	8.5
LOS	F	B	A	C	E	A	E	D	A	C	D	A
Approach Delay		32.9			56.7			46.3			29.1	
Approach LOS		C			E			D			C	

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: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 41.8		Intersection LOS: D	
Intersection Capacity Utilization 111.5%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	1	76	113	0	4	78	859	90	17	517	6
Future Volume (Veh/h)	8	1	76	113	0	4	78	859	90	17	517	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
Hourly flow rate (vph)	8	1	76	113	0	4	78	859	94	17	517	6
Pedestrians		1			5							
Lane Width (m)		3.6			3.6							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1142	1666	260	1389	1578	434	524			958		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1142	1666	260	1389	1578	434	524			958		
tC, single (s)	7.9	6.5	7.2	7.6	6.5	6.9	5.8			5.8		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.4	3.6	4.0	3.3	3.1			3.1		
p0 queue free %	93	99	89	0	100	99	87			95		
cM capacity (veh/h)	118	81	706	75	92	573	621			367		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	8	77	113	4	78	430	430	94	17	258	258	6
Volume Left	8	0	113	0	78	0	0	0	17	0	0	0
Volume Right	0	76	0	4	0	0	0	94	0	0	0	6
cSH	118	642	75	573	621	1700	1700	1700	367	1700	1700	1700
Volume to Capacity	0.07	0.12	1.52	0.01	0.13	0.25	0.25	0.06	0.05	0.15	0.15	0.00
Queue Length 95th (m)	1.7	3.3	74.7	0.2	3.4	0.0	0.0	0.0	1.2	0.0	0.0	0.0
Control Delay (s)	37.6	11.4	384.5	11.3	11.6	0.0	0.0	0.0	15.3	0.0	0.0	0.0
Lane LOS	E	B	F	B	B				C			
Approach Delay (s)	13.8		371.7		0.9				0.5			
Approach LOS	B		F									

Intersection Summary				
Average Delay	25.9			
Intersection Capacity Utilization	50.0%	ICU Level of Service	A	
Analysis Period (min)	15			



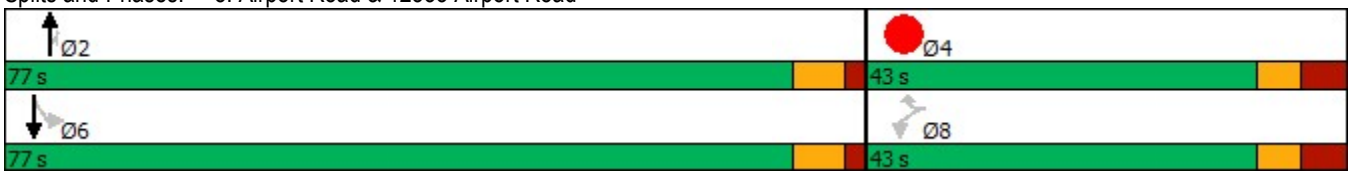
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations							
Traffic Volume (vph)	34	5	818	26	2	460	
Future Volume (vph)	34	5	818	26	2	460	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (m)	4.0	4.0	3.8	3.5	3.5	3.8	
Storage Length (m)	0.0	0.0		145.0	75.0		
Storage Lanes	1	1		1	1		
Taper Length (m)	7.5				100.0		
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95	
Frt		0.850		0.850			
Flt Protected	0.950				0.950		
Satd. Flow (prot)	1328	1383	3449	992	1116	3101	
Flt Permitted	0.950				0.343		
Satd. Flow (perm)	1328	1383	3449	992	403	3101	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		5		26			
Link Speed (k/h)	50		80			80	
Link Distance (m)	270.4		438.0			348.1	
Travel Time (s)	19.5		19.7			15.7	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	42%	22%	7%	61%	60%	19%	
Adj. Flow (vph)	34	5	818	26	2	460	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	34	5	818	26	2	460	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(m)	4.0		3.5			3.5	
Link Offset(m)	0.0		0.0			0.0	
Crosswalk Width(m)	4.8		4.8			4.8	
Two way Left Turn Lane							
Headway Factor	0.94	0.94	0.97	1.01	1.01	0.97	
Turning Speed (k/h)	25	15		15	25		
Number of Detectors	1	1	2	1	1	2	
Detector Template	Left	Right	Thru	Right	Left	Thru	
Leading Detector (m)	10.0	10.0	10.0	10.0	10.0	10.0	
Trailing Detector (m)	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	
Detector 1 Size(m)	10.0	10.0	0.6	10.0	10.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Detector 2 Position(m)			9.4			9.4	
Detector 2 Size(m)			0.6			0.6	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type	Perm	Perm	NA	Perm	Perm	NA	

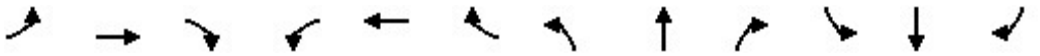


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Protected Phases			2			6	4
Permitted Phases	8	8		2	6		
Detector Phase	8	8	2	2	6	6	
Switch Phase							
Minimum Initial (s)	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	36.2	36.2	35.6	35.6	35.6	35.6	36.2
Total Split (s)	43.0	43.0	77.0	77.0	77.0	77.0	43.0
Total Split (%)	35.8%	35.8%	64.2%	64.2%	64.2%	64.2%	36%
Maximum Green (s)	34.8	34.8	70.4	70.4	70.4	70.4	34.8
Yellow Time (s)	4.0	4.0	4.6	4.6	4.6	4.6	4.0
All-Red Time (s)	4.2	4.2	2.0	2.0	2.0	2.0	4.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.2	8.2	6.6	6.6	6.6	6.6	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max	None
Walk Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)	20.0	20.0	21.0	21.0	21.0	21.0	20.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0
Act Effct Green (s)	12.1	12.1	87.9	87.9	87.9	87.9	
Actuated g/C Ratio	0.12	0.12	0.85	0.85	0.85	0.85	
v/c Ratio	0.22	0.03	0.28	0.03	0.01	0.17	
Control Delay	47.7	26.8	3.3	1.4	3.5	2.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	47.7	26.8	3.3	1.4	3.5	2.9	
LOS	D	C	A	A	A	A	
Approach Delay	45.0		3.2			2.9	
Approach LOS	D		A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 102.9			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.28			
Intersection Signal Delay: 4.3		Intersection LOS: A	
Intersection Capacity Utilization 44.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 8: Airport Road & 12333 Airport Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	6	172	19	45	74	1	6	75	29	4	263	11
Future Volume (vph)	6	172	19	45	74	1	6	75	29	4	263	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	187	21	49	80	1	7	82	32	4	286	12

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	215	130	121	302
Volume Left (vph)	7	49	7	4
Volume Right (vph)	21	1	32	12
Hadj (s)	0.01	0.08	-0.07	-0.02
Departure Headway (s)	5.2	5.4	5.2	5.0
Degree Utilization, x	0.31	0.20	0.18	0.42
Capacity (veh/h)	634	599	626	677
Control Delay (s)	10.6	9.8	9.4	11.6
Approach Delay (s)	10.6	9.8	9.4	11.6
Approach LOS	B	A	A	B

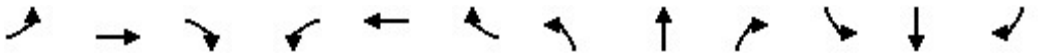
Intersection Summary				
Delay	10.7			
Level of Service	B			
Intersection Capacity Utilization	42.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	66	8	109	112	28	301
Future Volume (Veh/h)	66	8	109	112	28	301
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	72	9	118	122	30	327
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	566	179			240	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	566	179			240	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	85	99			98	
cM capacity (veh/h)	475	864			1327	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	72	9	240	357
Volume Left	72	0	0	30
Volume Right	0	9	122	0
cSH	475	864	1700	1327
Volume to Capacity	0.15	0.01	0.14	0.02
Queue Length 95th (m)	4.2	0.3	0.0	0.6
Control Delay (s)	13.9	9.2	0.0	0.9
Lane LOS	B	A		A
Approach Delay (s)	13.4		0.0	0.9
Approach LOS	B			

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

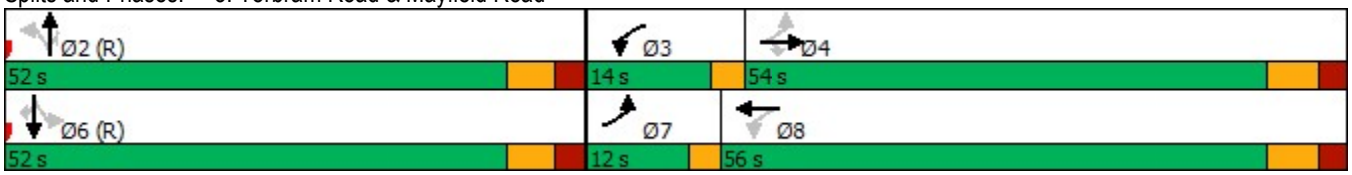


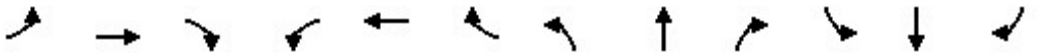
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	1658	259	188	1422	66	292	103	135	55	239	74
Future Volume (vph)	116	1658	259	188	1422	66	292	103	135	55	239	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.5	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5
Storage Length (m)	100.0		125.0	105.0		0.0	80.0		0.0	80.0		80.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	50.0			100.0			70.0			100.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.993				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	4734	1597	1785	4840	0	1785	1942	1587	1785	1942	1465
Flt Permitted	0.088			0.082			0.550			0.690		
Satd. Flow (perm)	161	4734	1597	154	4840	0	1033	1942	1587	1296	1942	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			259		7				135			74
Link Speed (k/h)		80			80			70			70	
Link Distance (m)		442.3			716.7			493.9			483.3	
Travel Time (s)		19.9			32.3			25.4			24.9	
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 (%)	3%	12%	0%	0%	9%	4%	0%	0%	4%	0%	0%	9%
Adj. Flow (vph)	116	1658	259	188	1422	66	292	103	135	55	239	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	1658	259	188	1488	0	292	103	135	55	239	74
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)		3.6			3.6			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.97	1.01	1.01	0.97	0.97	1.01	0.97	0.97	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Minimum Split (s)	8.0	50.3	50.3	8.0	50.3		43.1	43.1	43.1	43.1	43.1	43.1
Total Split (s)	12.0	54.0	54.0	14.0	56.0		52.0	52.0	52.0	52.0	52.0	52.0
Total Split (%)	10.0%	45.0%	45.0%	11.7%	46.7%		43.3%	43.3%	43.3%	43.3%	43.3%	43.3%
Maximum Green (s)	9.0	46.7	46.7	11.0	48.7		44.9	44.9	44.9	44.9	44.9	44.9
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6		4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	0.0	2.7	2.7	0.0	2.7		2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.3	7.3	3.0	7.3		7.1	7.1	7.1	7.1	7.1	7.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		8.0	8.0		8.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		35.0	35.0		35.0		28.0	28.0	28.0	28.0	28.0	28.0
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	0
Act Effct Green (s)	60.0	46.7	46.7	64.0	48.7		44.9	44.9	44.9	44.9	44.9	44.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.50	0.39	0.39	0.53	0.41		0.37	0.37	0.37	0.37	0.37	0.37
v/c Ratio	0.59	0.90	0.33	0.81	0.76		0.76	0.14	0.20	0.11	0.33	0.12
Control Delay	29.8	42.4	4.1	65.7	34.4		47.1	25.5	4.9	25.5	28.4	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.8	42.4	4.1	65.7	34.4		47.1	25.5	4.9	25.5	28.4	6.0
LOS	C	D	A	E	C		D	C	A	C	C	A
Approach Delay		36.8			37.9			32.2			23.5	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 105			
Control Type: Pretimed			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 35.6		Intersection LOS: D	
Intersection Capacity Utilization 92.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: Torbram Road & Mayfield Road



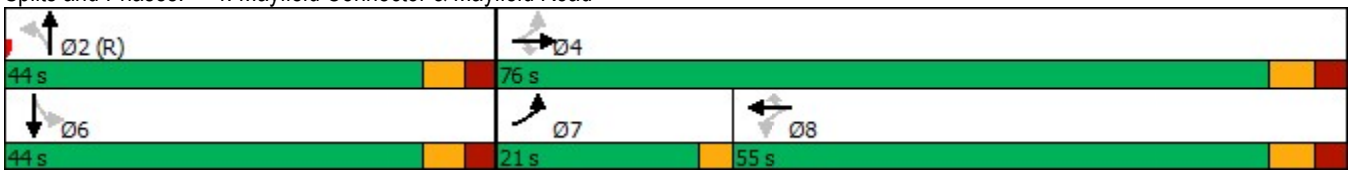


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	1602	110	14	1453	56	231	0	35	28	0	49
Future Volume (vph)	166	1602	110	14	1453	56	231	0	35	28	0	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.8	3.5	3.5	3.8	3.6	3.8	3.6	3.8	3.6	3.6	3.6
Storage Length (m)	75.0		55.0	75.0		55.0	55.0		0.0	55.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1517	4734	1566	1750	4864	1170	1809	1583	0	1357	1313	0
Flt Permitted	0.087			0.129			0.725			0.734		
Satd. Flow (perm)	139	4734	1566	238	4864	1170	1381	1583	0	1049	1313	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			104			60		65			303	
Link Speed (k/h)		80			80			50			50	
Link Distance (m)		716.7			643.7			353.1			866.6	
Travel Time (s)		32.3			29.0			25.4			62.4	
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 (%)	19%	12%	2%	2%	9%	38%	2%	0%	2%	33%	0%	23%
Adj. Flow (vph)	166	1602	110	14	1453	56	231	0	35	28	0	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	166	1602	110	14	1453	56	231	35	0	28	49	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)		3.6			3.6			3.8			3.8	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	0.97	1.01	1.01	0.97	1.00	0.97	1.00	0.97	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	2.0	25.0	10.0		10.0	10.0	
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0		0.0	0.0	
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0		0.0	0.0	
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	2.0	10.0	0.6		10.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	7	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		5.0	5.0	
Minimum Split (s)	9.5	25.1	25.1	25.1	25.1	25.1	24.6	24.6		24.6	24.6	
Total Split (s)	21.0	76.0	76.0	55.0	55.0	55.0	44.0	44.0		44.0	44.0	
Total Split (%)	17.5%	63.3%	63.3%	45.8%	45.8%	45.8%	36.7%	36.7%		36.7%	36.7%	
Maximum Green (s)	18.0	68.9	68.9	47.9	47.9	47.9	37.4	37.4		37.4	37.4	
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.7	3.7		3.7	3.7	
All-Red Time (s)	0.0	3.1	3.1	3.1	3.1	3.1	2.9	2.9		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.1	7.1	7.1	7.1	7.1	6.6	6.6		6.6	6.6	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	Min	Min	Min	C-Max	C-Max		Max	Max	
Walk Time (s)		7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	64.3	60.2	60.2	43.0	43.0	43.0	46.1	46.1		46.1	46.1	
Actuated g/C Ratio	0.54	0.50	0.50	0.36	0.36	0.36	0.38	0.38		0.38	0.38	
v/c Ratio	0.70	0.67	0.13	0.16	0.83	0.12	0.44	0.05		0.07	0.07	
Control Delay	51.6	45.9	16.7	34.8	46.5	11.6	32.9	2.1		28.0	0.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	51.6	45.9	16.7	34.8	46.5	11.6	32.9	2.1		28.0	0.2	
LOS	D	D	B	C	D	B	C	A		C	A	
Approach Delay		44.7			45.1			28.8			10.3	
Approach LOS		D			D			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 43.1		Intersection LOS: D	
Intersection Capacity Utilization 77.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4: Mayfield Connector & Mayfield Road

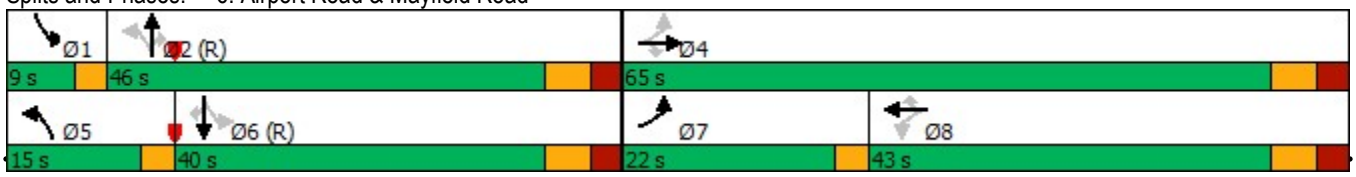


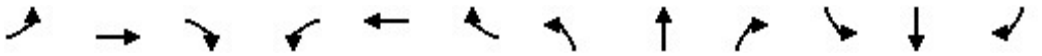
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	238	925	433	98	1010	55	277	311	87	82	633	202
Future Volume (vph)	238	925	433	98	1010	55	277	311	87	82	633	202
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		60.0	165.0		60.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			100.0			80.0			65.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	4939	1515	1653	3630	977	1700	3386	1426	1475	3355	1353
Flt Permitted	0.102			0.297			0.231			0.563		
Satd. Flow (perm)	139	4939	1493	516	3630	961	413	3386	1426	874	3355	1332
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			271			117			92			202
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		643.7			619.2			458.9			446.4	
Travel Time (s)		38.6			37.2			27.5			26.8	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	238	925	433	98	1010	55	277	311	87	82	633	202
Shared Lane Traffic (%)												
Lane Group Flow (vph)	238	925	433	98	1010	55	277	311	87	82	633	202
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.91	0.97	1.01	0.91	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	12.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	41.1	41.1	41.1	41.1	41.1	8.0	36.9	36.9	9.0	36.9	36.9
Total Split (s)	22.0	65.0	65.0	43.0	43.0	43.0	15.0	46.0	46.0	9.0	40.0	40.0
Total Split (%)	18.3%	54.2%	54.2%	35.8%	35.8%	35.8%	12.5%	38.3%	38.3%	7.5%	33.3%	33.3%
Maximum Green (s)	19.0	57.9	57.9	35.9	35.9	35.9	12.0	39.1	39.1	6.0	33.1	33.1
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	3.1	3.1	3.1	0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	7.1	7.1	7.1	3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0	27.0	27.0	27.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0	0		0	0
Act Effct Green (s)	62.0	57.9	57.9	36.4	36.4	36.4	52.0	40.9	40.9	42.9	33.1	33.1
Actuated g/C Ratio	0.52	0.48	0.48	0.30	0.30	0.30	0.43	0.34	0.34	0.36	0.28	0.28
v/c Ratio	0.96	0.39	0.50	0.63	0.92	0.15	0.90	0.27	0.16	0.24	0.68	0.39
Control Delay	95.7	31.4	20.2	56.3	54.2	0.8	58.2	30.1	6.0	23.2	43.3	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.7	31.4	20.2	56.3	54.2	0.8	58.2	30.1	6.0	23.2	43.3	7.0
LOS	F	C	C	E	D	A	E	C	A	C	D	A
Approach Delay		38.0			51.9			38.5			33.5	
Approach LOS		D			D			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 40.8		Intersection LOS: D	
Intersection Capacity Utilization 100.2%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road

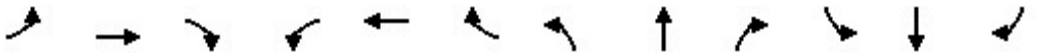




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1	33	78	0	17	46	611	83	2	777	3
Future Volume (Veh/h)	5	1	33	78	0	17	46	611	83	2	777	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
Hourly flow rate (vph)	5	1	33	78	0	17	46	611	86	2	777	3
Pedestrians		1			5							
Lane Width (m)		3.6			3.6							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1196	1576	390	1134	1493	310	781			702		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1196	1576	390	1134	1493	310	781			702		
tC, single (s)	7.9	6.5	7.2	7.6	6.5	6.9	5.8			5.8		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.4	3.6	4.0	3.3	3.1			3.1		
p0 queue free %	95	99	94	40	100	98	90			100		
cM capacity (veh/h)	111	99	578	129	111	688	452			503		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	5	34	78	17	46	306	306	86	2	388	388	3
Volume Left	5	0	78	0	46	0	0	0	2	0	0	0
Volume Right	0	33	0	17	0	0	0	86	0	0	0	3
cSH	111	506	129	688	452	1700	1700	1700	503	1700	1700	1700
Volume to Capacity	0.05	0.07	0.60	0.02	0.10	0.18	0.18	0.05	0.00	0.23	0.23	0.00
Queue Length 95th (m)	1.1	1.7	24.7	0.6	2.7	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Control Delay (s)	39.0	12.6	68.3	10.4	13.9	0.0	0.0	0.0	12.2	0.0	0.0	0.0
Lane LOS	E	B	F	B	B				B			
Approach Delay (s)	16.0		57.9		0.9				0.0			
Approach LOS	C		F									

Intersection Summary				
Average Delay	4.1			
Intersection Capacity Utilization	45.8%	ICU Level of Service		A
Analysis Period (min)	15			

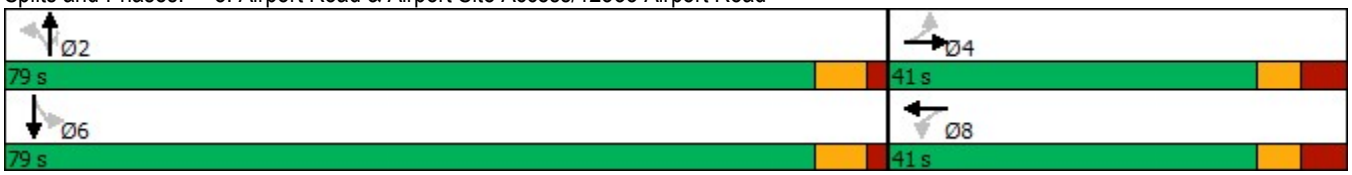


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	0	77	77	0	11	121	402	61	17	625	95
Future Volume (vph)	22	0	77	77	0	11	121	402	61	17	625	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	4.0	3.6	4.0	3.6	3.8	3.5	3.5	3.8	3.6
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		145.0	75.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			100.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.850			0.850				0.850		0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1463	1342	0	1328	1324	0	1280	3449	992	1116	3059	0
Flt Permitted	0.750			0.707			0.375			0.515		
Satd. Flow (perm)	1155	1342	0	988	1324	0	505	3449	992	605	3059	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		284			462				61		25	
Link Speed (k/h)		50			50			80			80	
Link Distance (m)		667.0			270.4			438.0			348.1	
Travel Time (s)		48.0			19.5			19.7			15.7	
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 (%)	22%	0%	23%	42%	0%	22%	41%	7%	61%	60%	19%	13%
Adj. Flow (vph)	22	0	77	77	0	11	121	402	61	17	625	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	77	0	77	11	0	121	402	61	17	720	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)		4.0			4.0			7.1			7.1	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane		Yes										
Headway Factor	1.01	0.97	0.97	0.94	1.00	0.94	1.00	0.97	1.01	1.01	0.97	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	10.0	10.0		10.0	10.0		25.0	10.0	10.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		15.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		15.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	10.0	0.6		10.0	0.6		10.0	0.6	10.0	10.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Minimum Split (s)	36.2	36.2		36.2	36.2		35.6	35.6	35.6	35.6	35.6	
Total Split (s)	41.0	41.0		41.0	41.0		79.0	79.0	79.0	79.0	79.0	
Total Split (%)	34.2%	34.2%		34.2%	34.2%		65.8%	65.8%	65.8%	65.8%	65.8%	
Maximum Green (s)	32.8	32.8		32.8	32.8		72.4	72.4	72.4	72.4	72.4	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.6	4.6	4.6	4.6	4.6	
All-Red Time (s)	4.2	4.2		4.2	4.2		2.0	2.0	2.0	2.0	2.0	
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)	8.2	8.2		8.2	8.2		6.6	6.6	6.6	6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		21.0	21.0	21.0	21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)	14.5	14.5		14.5	14.5		78.2	78.2	78.2	78.2	78.2	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.77	0.77	0.77	0.77	0.77	
v/c Ratio	0.13	0.18		0.55	0.02		0.31	0.15	0.08	0.04	0.31	
Control Delay	39.7	0.9		55.8	0.1		8.6	4.7	1.7	5.4	5.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	39.7	0.9		55.8	0.1		8.6	4.7	1.7	5.4	5.4	
LOS	D	A		E	A		A	A	A	A	A	
Approach Delay		9.5			48.8			5.2			5.4	
Approach LOS		A			D			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 101.7			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 8.1		Intersection LOS: A	
Intersection Capacity Utilization 59.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Airport Road & Airport Site Access/12333 Airport Road





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	12	3	252	36	12	355
Future Volume (Veh/h)	12	3	252	36	12	355
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	3	274	39	13	386
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	706	294			313	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	706	294			313	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			99	
cM capacity (veh/h)	401	751			1259	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	16	313	399
Volume Left	13	0	13
Volume Right	3	39	0
cSH	440	1700	1259
Volume to Capacity	0.04	0.18	0.01
Queue Length 95th (m)	0.9	0.0	0.3
Control Delay (s)	13.5	0.0	0.4
Lane LOS	B		A
Approach Delay (s)	13.5	0.0	0.4
Approach LOS	B		

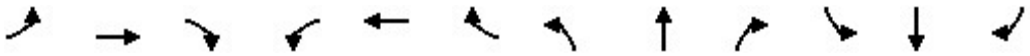
Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	38.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	12	3	218	36	12	355
Future Volume (Veh/h)	12	3	218	36	12	355
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	3	237	39	13	386
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	668	256			276	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	668	256			276	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			99	
cM capacity (veh/h)	422	787			1299	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	16	276	399
Volume Left	13	0	13
Volume Right	3	39	0
cSH	462	1700	1299
Volume to Capacity	0.03	0.16	0.01
Queue Length 95th (m)	0.9	0.0	0.2
Control Delay (s)	13.1	0.0	0.4
Lane LOS	B		A
Approach Delay (s)	13.1	0.0	0.4
Approach LOS	B		

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	38.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	6	2	44	15	63	9	66	58	23	24	0
Future Volume (vph)	0	6	2	44	15	63	9	66	58	23	24	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	7	2	48	16	68	10	72	63	25	26	0

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	9	48	84	10	135	25	26
Volume Left (vph)	0	0	48	0	10	0	25	0
Volume Right (vph)	0	2	0	68	0	63	0	0
Hadj (s)	0.00	-0.12	0.53	-0.53	0.53	-0.29	0.53	0.03
Departure Headway (s)	5.1	5.0	5.5	4.4	5.4	4.6	5.5	5.0
Degree Utilization, x	0.00	0.01	0.07	0.10	0.02	0.17	0.04	0.04
Capacity (veh/h)	685	688	625	774	641	755	627	691
Control Delay (s)	6.9	6.8	7.7	6.7	7.3	7.4	7.5	7.0
Approach Delay (s)	6.8		7.1		7.4		7.3	
Approach LOS	A		A		A		A	

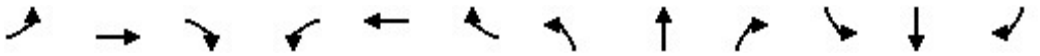
Intersection Summary				
Delay	7.2			
Level of Service	A			
Intersection Capacity Utilization	29.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	18	35	0	0	0
Future Volume (vph)	0	18	35	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	20	38	0	0	0

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	0	20	38	0	0
Volume Left (vph)	0	0	38	0	0
Volume Right (vph)	0	20	0	0	0
Hadj (s)	0.00	-0.67	0.53	0.00	0.00
Departure Headway (s)	4.6	3.9	5.1	4.5	4.4
Degree Utilization, x	0.00	0.02	0.05	0.00	0.00
Capacity (veh/h)	783	892	696	796	821
Control Delay (s)	6.4	5.8	7.2	6.3	7.4
Approach Delay (s)	5.8		7.2		0.0
Approach LOS	A		A		A

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	11	80	7	23	279	7	21	228	74	6	67	7
Future Volume (vph)	11	80	7	23	279	7	21	228	74	6	67	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	87	8	25	303	8	23	248	80	7	73	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	107	336	351	88
Volume Left (vph)	12	25	23	7
Volume Right (vph)	8	8	80	8
Hadj (s)	0.06	0.02	-0.05	0.00
Departure Headway (s)	5.8	5.3	5.2	5.7
Degree Utilization, x	0.17	0.50	0.51	0.14
Capacity (veh/h)	556	637	644	553
Control Delay (s)	9.9	13.5	13.6	9.7
Approach Delay (s)	9.9	13.5	13.6	9.7
Approach LOS	A	B	B	A

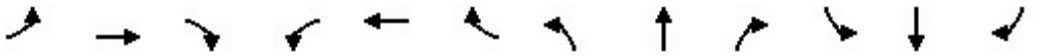
Intersection Summary				
Delay	12.7			
Level of Service	B			
Intersection Capacity Utilization	48.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	110	47	213	52	10	88
Future Volume (Veh/h)	110	47	213	52	10	88
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	120	51	232	57	11	96
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	378	260			289	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	378	260			289	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	93			99	
cM capacity (veh/h)	618	778			1273	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	120	51	289	107
Volume Left	120	0	0	11
Volume Right	0	51	57	0
cSH	618	778	1700	1273
Volume to Capacity	0.19	0.07	0.17	0.01
Queue Length 95th (m)	5.7	1.7	0.0	0.2
Control Delay (s)	12.2	10.0	0.0	0.9
Lane LOS	B	A		A
Approach Delay (s)	11.5		0.0	0.9
Approach LOS	B			

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	27.1%	ICU Level of Service	A
Analysis Period (min)	15		

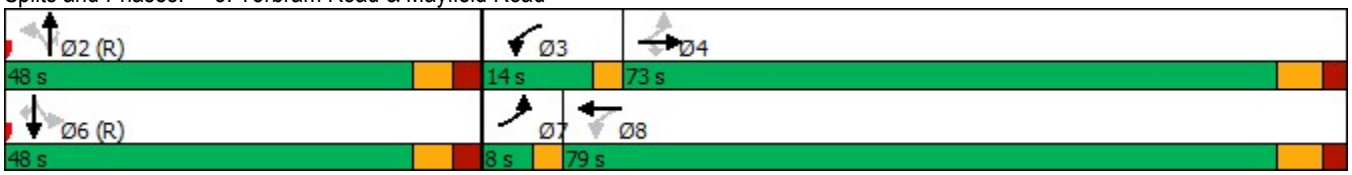


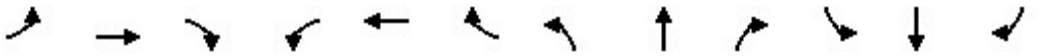
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	1649	243	167	1678	42	305	148	169	49	83	122
Future Volume (vph)	68	1649	243	167	1678	42	305	148	169	49	83	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.5	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5
Storage Length (m)	100.0		125.0	105.0		0.0	80.0		0.0	80.0		80.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	50.0			100.0			70.0			100.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.996				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	4734	1597	1785	4850	0	1785	1942	1587	1785	1942	1465
Flt Permitted	0.088			0.077			0.703			0.641		
Satd. Flow (perm)	161	4734	1597	145	4850	0	1321	1942	1587	1204	1942	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			243		4				128			87
Link Speed (k/h)		80			80			70			70	
Link Distance (m)		442.3			716.7			493.9			483.3	
Travel Time (s)		19.9			32.3			25.4			24.9	
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 (%)	3%	12%	0%	0%	9%	4%	0%	0%	4%	0%	0%	9%
Adj. Flow (vph)	68	1649	243	167	1678	42	305	148	169	49	83	122
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	1649	243	167	1720	0	305	148	169	49	83	122
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)		3.6			3.6			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.97	1.01	1.01	0.97	0.97	1.01	0.97	0.97	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Minimum Split (s)	8.0	50.3	50.3	8.0	50.3		43.1	43.1	43.1	43.1	43.1	43.1
Total Split (s)	8.0	73.0	73.0	14.0	79.0		48.0	48.0	48.0	48.0	48.0	48.0
Total Split (%)	5.9%	54.1%	54.1%	10.4%	58.5%		35.6%	35.6%	35.6%	35.6%	35.6%	35.6%
Maximum Green (s)	5.0	65.7	65.7	11.0	71.7		40.9	40.9	40.9	40.9	40.9	40.9
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6		4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	0.0	2.7	2.7	0.0	2.7		2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.3	7.3	3.0	7.3		7.1	7.1	7.1	7.1	7.1	7.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		8.0	8.0		8.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		35.0	35.0		35.0		28.0	28.0	28.0	28.0	28.0	28.0
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	0
Act Effct Green (s)	75.0	65.7	65.7	84.0	71.7		40.9	40.9	40.9	40.9	40.9	40.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.56	0.49	0.49	0.62	0.53		0.30	0.30	0.30	0.30	0.30	0.30
v/c Ratio	0.46	0.72	0.27	0.75	0.67		0.76	0.25	0.30	0.13	0.14	0.24
Control Delay	21.1	29.5	3.0	67.1	9.3		56.5	37.0	11.7	35.6	35.1	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	29.5	3.0	67.1	9.3		56.5	37.0	11.7	35.6	35.1	13.3
LOS	C	C	A	E	A		E	D	B	D	D	B
Approach Delay		25.9			14.5			39.7			24.7	
Approach LOS		C			B			D			C	

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: 105			
Control Type: Pretimed			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 23.1		Intersection LOS: C	
Intersection Capacity Utilization 89.3%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Torbram Road & Mayfield Road



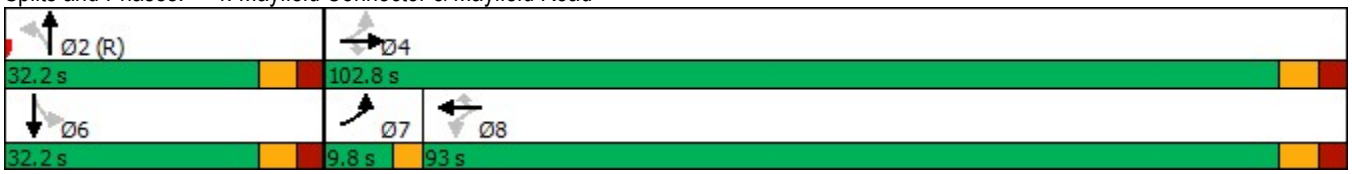


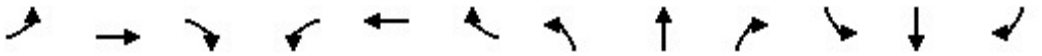
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	1713	98	41	1574	27	104	0	23	42	0	186
Future Volume (vph)	59	1713	98	41	1574	27	104	0	23	42	0	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.8	3.5	3.5	3.8	3.6	3.8	3.6	3.8	3.6	3.6	3.6
Storage Length (m)	75.0		55.0	75.0		55.0	55.0		0.0	55.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1517	4734	1566	1750	4864	1170	1809	1583	0	1357	1313	0
Flt Permitted	0.077			0.087			0.604			0.742		
Satd. Flow (perm)	123	4734	1566	160	4864	1170	1150	1583	0	1060	1313	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			98			53		57			116	
Link Speed (k/h)		80			80			50			50	
Link Distance (m)		716.7			643.7			353.1			866.6	
Travel Time (s)		32.3			29.0			25.4			62.4	
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 (%)	19%	12%	2%	2%	9%	38%	2%	0%	2%	33%	0%	23%
Adj. Flow (vph)	59	1713	98	41	1574	27	104	0	23	42	0	186
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	1713	98	41	1574	27	104	23	0	42	186	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)		3.6			3.6			3.8			3.8	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	0.97	1.01	1.01	0.97	1.00	0.97	1.00	0.97	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	2.0	25.0	10.0		10.0	10.0	
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0		0.0	0.0	
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0		0.0	0.0	
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	2.0	10.0	0.6		10.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	7	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		5.0	5.0	
Minimum Split (s)	9.5	25.1	25.1	25.1	25.1	25.1	24.6	24.6		24.6	24.6	
Total Split (s)	9.8	102.8	102.8	93.0	93.0	93.0	32.2	32.2		32.2	32.2	
Total Split (%)	7.3%	76.1%	76.1%	68.9%	68.9%	68.9%	23.9%	23.9%		23.9%	23.9%	
Maximum Green (s)	6.8	95.7	95.7	85.9	85.9	85.9	25.6	25.6		25.6	25.6	
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.7	3.7		3.7	3.7	
All-Red Time (s)	0.0	3.1	3.1	3.1	3.1	3.1	2.9	2.9		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.1	7.1	7.1	7.1	7.1	6.6	6.6		6.6	6.6	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	Min	Min	Min	C-Max	C-Max		Max	Max	
Walk Time (s)		7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	72.8	68.7	68.7	60.8	60.8	60.8	52.6	52.6		52.6	52.6	
Actuated g/C Ratio	0.54	0.51	0.51	0.45	0.45	0.45	0.39	0.39		0.39	0.39	
v/c Ratio	0.45	0.71	0.12	0.57	0.72	0.05	0.23	0.04		0.10	0.32	
Control Delay	41.8	51.4	16.3	68.2	53.6	9.4	32.1	0.1		30.8	14.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	41.8	51.4	16.3	68.2	53.6	9.4	32.1	0.1		30.8	14.2	
LOS	D	D	B	E	D	A	C	A		C	B	
Approach Delay		49.2			53.3			26.3			17.3	
Approach LOS		D			D			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 48.3		Intersection LOS: D	
Intersection Capacity Utilization 87.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4: Mayfield Connector & Mayfield Road



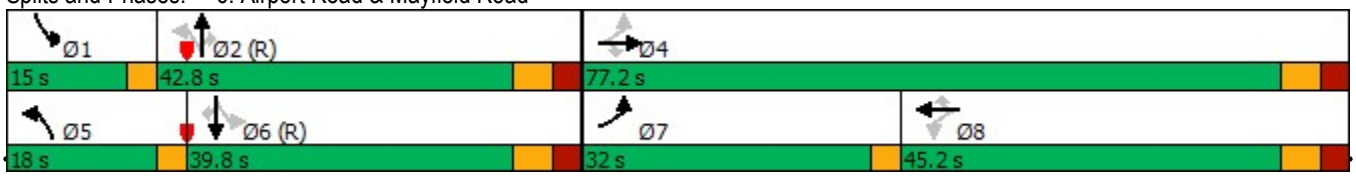


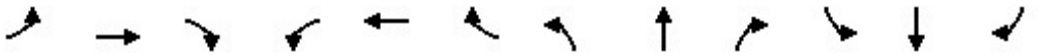
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	337	970	230	114	946	70	367	574	94	120	408	296
Future Volume (vph)	337	970	230	114	946	70	367	574	94	120	408	296
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		60.0	165.0		60.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			100.0			80.0			65.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	4939	1515	1653	3630	977	1700	3386	1426	1475	3355	1353
Flt Permitted	0.097			0.283			0.371			0.326		
Satd. Flow (perm)	132	4939	1493	492	3630	961	663	3386	1426	506	3355	1332
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			230			80			94			296
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		643.7			619.2			458.9			446.4	
Travel Time (s)		38.6			37.2			27.5			26.8	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	337	970	230	114	946	70	367	574	94	120	408	296
Shared Lane Traffic (%)												
Lane Group Flow (vph)	337	970	230	114	946	70	367	574	94	120	408	296
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.91	0.97	1.01	0.91	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	12.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	41.1	41.1	41.1	41.1	41.1	8.0	36.9	36.9	9.0	36.9	36.9
Total Split (s)	32.0	77.2	77.2	45.2	45.2	45.2	18.0	42.8	42.8	15.0	39.8	39.8
Total Split (%)	23.7%	57.2%	57.2%	33.5%	33.5%	33.5%	13.3%	31.7%	31.7%	11.1%	29.5%	29.5%
Maximum Green (s)	29.0	70.1	70.1	38.1	38.1	38.1	15.0	35.9	35.9	12.0	32.9	32.9
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	3.1	3.1	3.1	0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	7.1	7.1	7.1	3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0	27.0	27.0	27.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0	0		0	0
Act Effct Green (s)	74.2	70.1	70.1	38.1	38.1	38.1	54.8	37.4	37.4	47.3	32.9	32.9
Actuated g/C Ratio	0.55	0.52	0.52	0.28	0.28	0.28	0.41	0.28	0.28	0.35	0.24	0.24
v/c Ratio	1.05	0.38	0.26	0.83	0.92	0.21	0.96	0.61	0.20	0.47	0.50	0.54
Control Delay	129.6	10.2	2.8	87.8	62.1	7.5	70.3	46.2	8.2	32.9	46.5	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	129.6	10.2	2.8	87.8	62.1	7.5	70.3	46.2	8.2	32.9	46.5	8.4
LOS	F	B	A	F	E	A	E	D	A	C	D	A
Approach Delay		35.3			61.3			51.3			30.8	
Approach LOS		D			E			D			C	

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: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 44.6		Intersection LOS: D	
Intersection Capacity Utilization 110.7%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road

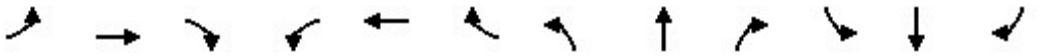




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	1	76	113	0	4	78	854	90	17	552	6
Future Volume (Veh/h)	8	1	76	113	0	4	78	854	90	17	552	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
Hourly flow rate (vph)	8	1	76	113	0	4	78	854	94	17	552	6
Pedestrians		1			5							
Lane Width (m)		3.6			3.6							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1174	1696	277	1402	1608	432	559			953		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1174	1696	277	1402	1608	432	559			953		
tC, single (s)	7.9	6.5	7.2	7.6	6.5	6.9	5.8			5.8		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.4	3.6	4.0	3.3	3.1			3.1		
p0 queue free %	93	99	89	0	100	99	87			95		
cM capacity (veh/h)	111	77	688	72	87	575	595			369		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	8	77	113	4	78	427	427	94	17	276	276	6
Volume Left	8	0	113	0	78	0	0	0	17	0	0	0
Volume Right	0	76	0	4	0	0	0	94	0	0	0	6
cSH	111	624	72	575	595	1700	1700	1700	369	1700	1700	1700
Volume to Capacity	0.07	0.12	1.56	0.01	0.13	0.25	0.25	0.06	0.05	0.16	0.16	0.00
Queue Length 95th (m)	1.8	3.4	76.2	0.2	3.6	0.0	0.0	0.0	1.2	0.0	0.0	0.0
Control Delay (s)	39.9	11.6	406.6	11.3	12.0	0.0	0.0	0.0	15.2	0.0	0.0	0.0
Lane LOS	E	B	F	B	B				C			
Approach Delay (s)	14.2		393.1		0.9				0.5			
Approach LOS	B		F									

Intersection Summary				
Average Delay	26.8			
Intersection Capacity Utilization	49.9%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	0	82	34	0	5	63	754	26	2	418	30
Future Volume (vph)	146	0	82	34	0	5	63	754	26	2	418	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	4.0	3.6	4.0	3.6	3.8	3.5	3.5	3.8	3.6
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		145.0	75.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			100.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.850			0.850				0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1463	1342	0	1328	1324	0	1280	3449	992	1116	3080	0
Flt Permitted	0.754			0.704			0.493			0.351		
Satd. Flow (perm)	1161	1342	0	984	1324	0	664	3449	992	412	3080	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		380			157				47		9	
Link Speed (k/h)		50			50			80			80	
Link Distance (m)		667.0			270.4			438.0			348.1	
Travel Time (s)		48.0			19.5			19.7			15.7	
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 (%)	22%	0%	23%	42%	0%	22%	41%	7%	61%	60%	19%	13%
Adj. Flow (vph)	146	0	82	34	0	5	63	754	26	2	418	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	146	82	0	34	5	0	63	754	26	2	448	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)		4.0			4.0			7.1			7.1	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane		Yes										
Headway Factor	1.01	0.97	0.97	0.94	1.00	0.94	1.00	0.97	1.01	1.01	0.97	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	10.0	10.0		10.0	10.0		25.0	10.0	10.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		15.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		15.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	10.0	0.6		10.0	0.6		10.0	0.6	10.0	10.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Minimum Split (s)	36.2	36.2		36.2	36.2		35.6	35.6	35.6	35.6	35.6	
Total Split (s)	52.0	52.0		52.0	52.0		68.0	68.0	68.0	68.0	68.0	
Total Split (%)	43.3%	43.3%		43.3%	43.3%		56.7%	56.7%	56.7%	56.7%	56.7%	
Maximum Green (s)	43.8	43.8		43.8	43.8		61.4	61.4	61.4	61.4	61.4	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.6	4.6	4.6	4.6	4.6	
All-Red Time (s)	4.2	4.2		4.2	4.2		2.0	2.0	2.0	2.0	2.0	
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)	8.2	8.2		8.2	8.2		6.6	6.6	6.6	6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		21.0	21.0	21.0	21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)	17.5	17.5		17.5	17.5		64.3	64.3	64.3	64.3	64.3	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.67	0.67	0.67	0.67	0.67	
v/c Ratio	0.70	0.15		0.19	0.01		0.14	0.33	0.04	0.01	0.22	
Control Delay	53.7	0.6		34.1	0.0		8.3	8.0	1.1	7.5	7.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	53.7	0.6		34.1	0.0		8.3	8.0	1.1	7.5	7.1	
LOS	D	A		C	A		A	A	A	A	A	
Approach Delay		34.6			29.7			7.8			7.1	
Approach LOS		C			C			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 96.6			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 12.1		Intersection LOS: B	
Intersection Capacity Utilization 63.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Airport Road & Airport Site Access/12333 Airport Road





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	16	248	15	4	220
Future Volume (Veh/h)	30	16	248	15	4	220
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	17	270	16	4	239
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	525	278			286	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	525	278			286	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	98			100	
cM capacity (veh/h)	515	766			1288	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	50	286	243
Volume Left	33	0	4
Volume Right	17	16	0
cSH	579	1700	1288
Volume to Capacity	0.09	0.17	0.00
Queue Length 95th (m)	2.3	0.0	0.1
Control Delay (s)	11.8	0.0	0.2
Lane LOS	B		A
Approach Delay (s)	11.8	0.0	0.2
Approach LOS	B		

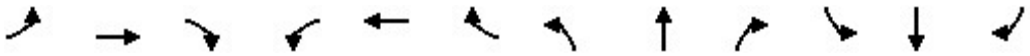
Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	24.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	16	249	15	4	194
Future Volume (Veh/h)	30	16	249	15	4	194
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	17	271	16	4	211
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	498	279			287	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	498	279			287	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	98			100	
cM capacity (veh/h)	534	765			1287	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	50	287	215
Volume Left	33	0	4
Volume Right	17	16	0
cSH	595	1700	1287
Volume to Capacity	0.08	0.17	0.00
Queue Length 95th (m)	2.2	0.0	0.1
Control Delay (s)	11.6	0.0	0.2
Lane LOS	B		A
Approach Delay (s)	11.6	0.0	0.2
Approach LOS	B		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	24.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	14	10	77	7	26	3	25	54	60	69	0
Future Volume (vph)	0	14	10	77	7	26	3	25	54	60	69	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	15	11	84	8	28	3	27	59	65	75	0

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	26	84	36	3	86	65	75
Volume Left (vph)	0	0	84	0	3	0	65	0
Volume Right (vph)	0	11	0	28	0	59	0	0
Hadj (s)	0.00	-0.26	0.53	-0.51	0.53	-0.45	0.53	0.03
Departure Headway (s)	5.2	4.9	5.6	4.6	5.6	4.6	5.5	5.0
Degree Utilization, x	0.00	0.04	0.13	0.05	0.00	0.11	0.10	0.10
Capacity (veh/h)	670	692	612	748	622	754	629	694
Control Delay (s)	7.0	6.9	8.3	6.6	7.4	6.9	7.9	7.4
Approach Delay (s)	6.9		7.8		7.0		7.6	
Approach LOS	A		A		A		A	

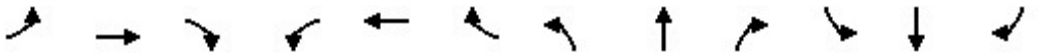
Intersection Summary				
Delay	7.5			
Level of Service	A			
Intersection Capacity Utilization	27.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	39	15	0	0	0
Future Volume (vph)	0	39	15	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	42	16	0	0	0

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	0	42	16	0	0
Volume Left (vph)	0	0	16	0	0
Volume Right (vph)	0	42	0	0	0
Hadj (s)	0.00	-0.67	0.53	0.00	0.00
Departure Headway (s)	4.5	3.9	5.1	4.6	4.4
Degree Utilization, x	0.00	0.05	0.02	0.00	0.00
Capacity (veh/h)	796	921	687	785	814
Control Delay (s)	6.3	5.9	7.0	6.4	7.4
Approach Delay (s)	5.9		7.0		0.0
Approach LOS	A		A		A

Intersection Summary			
Delay	6.2		
Level of Service	A		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

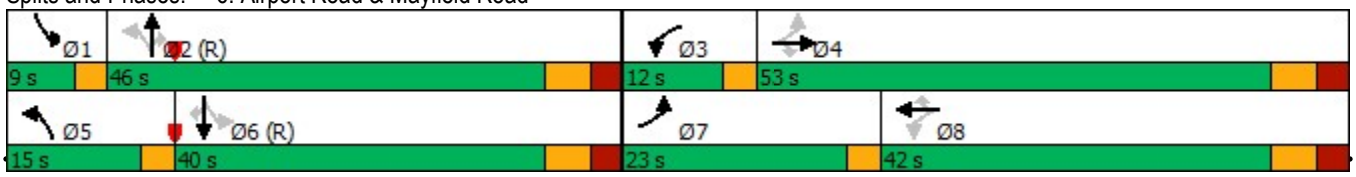


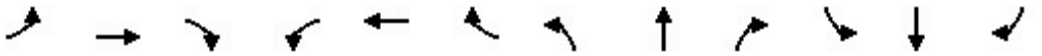
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	238	925	433	98	1010	55	277	311	87	82	633	202
Future Volume (vph)	238	925	433	98	1010	55	277	311	87	82	633	202
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		60.0	165.0		60.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			100.0			80.0			65.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	4939	1515	1653	3630	977	1700	3386	1426	1475	3355	1353
Flt Permitted	0.103			0.297			0.231			0.563		
Satd. Flow (perm)	140	4939	1493	516	3630	961	413	3386	1426	874	3355	1332
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			318			145			119			202
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		643.7			619.2			458.9			446.4	
Travel Time (s)		38.6			37.2			27.5			26.8	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	238	925	433	98	1010	55	277	311	87	82	633	202
Shared Lane Traffic (%)												
Lane Group Flow (vph)	238	925	433	98	1010	55	277	311	87	82	633	202
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.91	0.97	1.01	0.91	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	41.1	41.1	8.0	41.1	41.1	8.0	39.9	39.9	9.0	36.9	36.9
Total Split (s)	23.0	53.0	53.0	12.0	42.0	42.0	15.0	46.0	46.0	9.0	40.0	40.0
Total Split (%)	19.2%	44.2%	44.2%	10.0%	35.0%	35.0%	12.5%	38.3%	38.3%	7.5%	33.3%	33.3%
Maximum Green (s)	20.0	45.9	45.9	9.0	34.9	34.9	12.0	39.1	39.1	6.0	33.1	33.1
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	0.0	3.1	3.1	0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	3.0	7.1	7.1	3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0	27.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	62.0	47.1	47.1	47.8	36.0	36.0	52.0	40.9	40.9	42.9	33.1	33.1
Actuated g/C Ratio	0.52	0.39	0.39	0.40	0.30	0.30	0.43	0.34	0.34	0.36	0.28	0.28
v/c Ratio	0.94	0.48	0.56	0.35	0.93	0.14	0.90	0.27	0.15	0.24	0.68	0.39
Control Delay	91.7	38.7	20.6	19.7	56.2	0.8	58.2	30.1	2.7	23.2	43.3	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.7	38.7	20.6	19.7	56.2	0.8	58.2	30.1	2.7	23.2	43.3	7.0
LOS	F	D	C	B	E	A	E	C	A	C	D	A
Approach Delay		41.7			50.5			38.1			33.5	
Approach LOS		D			D			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
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: 0.94			
Intersection Signal Delay: 41.8		Intersection LOS: D	
Intersection Capacity Utilization 100.2%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road



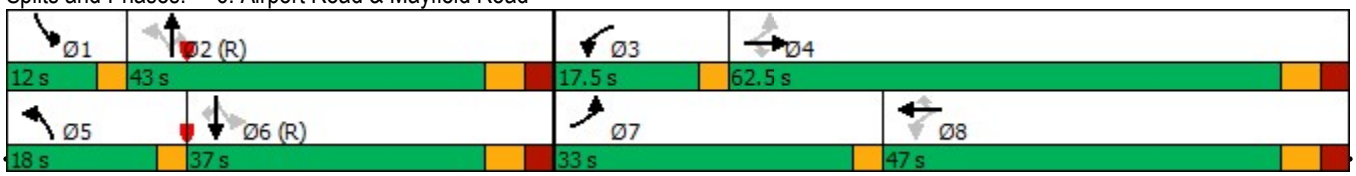


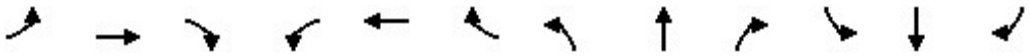
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	337	970	230	114	946	70	367	574	94	120	408	296
Future Volume (vph)	337	970	230	114	946	70	367	574	94	120	408	296
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		60.0	165.0		60.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			100.0			80.0			65.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	4939	1515	1653	3630	977	1700	3386	1426	1475	3355	1353
Flt Permitted	0.093			0.283			0.353			0.339		
Satd. Flow (perm)	127	4939	1493	492	3630	961	630	3386	1426	526	3355	1332
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			230			128			106			296
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		643.7			619.2			458.9			446.4	
Travel Time (s)		38.6			37.2			27.5			26.8	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	337	970	230	114	946	70	367	574	94	120	408	296
Shared Lane Traffic (%)												
Lane Group Flow (vph)	337	970	230	114	946	70	367	574	94	120	408	296
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.91	0.97	1.01	0.91	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	41.1	41.1	8.0	41.1	41.1	8.0	36.9	36.9	9.0	36.9	36.9
Total Split (s)	33.0	62.5	62.5	17.5	47.0	47.0	18.0	43.0	43.0	12.0	37.0	37.0
Total Split (%)	24.4%	46.3%	46.3%	13.0%	34.8%	34.8%	13.3%	31.9%	31.9%	8.9%	27.4%	27.4%
Maximum Green (s)	30.0	55.4	55.4	14.5	39.9	39.9	15.0	36.1	36.1	9.0	30.1	30.1
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	0.0	3.1	3.1	0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	3.0	7.1	7.1	3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0	27.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	77.0	61.0	61.0	52.9	39.9	39.9	52.0	36.4	36.4	42.7	30.1	30.1
Actuated g/C Ratio	0.57	0.45	0.45	0.39	0.30	0.30	0.39	0.27	0.27	0.32	0.22	0.22
v/c Ratio	1.02	0.43	0.29	0.42	0.88	0.19	1.02	0.63	0.20	0.53	0.55	0.56
Control Delay	121.1	12.6	3.1	21.2	56.1	1.1	87.8	47.1	6.3	38.4	49.6	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.1	12.6	3.1	21.2	56.1	1.1	87.8	47.1	6.3	38.4	49.6	9.2
LOS	F	B	A	C	E	A	F	D	A	D	D	A
Approach Delay		35.0			49.2			57.8			33.5	
Approach LOS		C			D			E			C	

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: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 43.5		Intersection LOS: D	
Intersection Capacity Utilization 110.7%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	6	190	19	45	81	1	6	82	29	4	286	11
Future Volume (vph)	6	190	19	45	81	1	6	82	29	4	286	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	207	21	49	88	1	7	89	32	4	311	12

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	235	138	128	327
Volume Left (vph)	7	49	7	4
Volume Right (vph)	21	1	32	12
Hadj (s)	0.02	0.08	-0.06	-0.01
Departure Headway (s)	5.4	5.6	5.4	5.1
Degree Utilization, x	0.35	0.22	0.19	0.47
Capacity (veh/h)	617	578	593	659
Control Delay (s)	11.3	10.1	9.7	12.6
Approach Delay (s)	11.3	10.1	9.7	12.6
Approach LOS	B	B	A	B

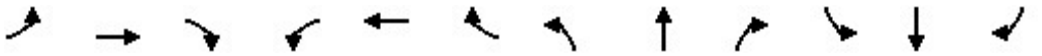
Intersection Summary				
Delay	11.4			
Level of Service	B			
Intersection Capacity Utilization	45.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	66	8	120	112	28	328
Future Volume (Veh/h)	66	8	120	112	28	328
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	72	9	130	122	30	357
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	608	191			252	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	608	191			252	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	99			98	
cM capacity (veh/h)	448	851			1313	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	72	9	252	387
Volume Left	72	0	0	30
Volume Right	0	9	122	0
cSH	448	851	1700	1313
Volume to Capacity	0.16	0.01	0.15	0.02
Queue Length 95th (m)	4.5	0.3	0.0	0.6
Control Delay (s)	14.6	9.3	0.0	0.8
Lane LOS	B	A		A
Approach Delay (s)	14.0		0.0	0.8
Approach LOS	B			

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	45.6%	ICU Level of Service	A
Analysis Period (min)	15		

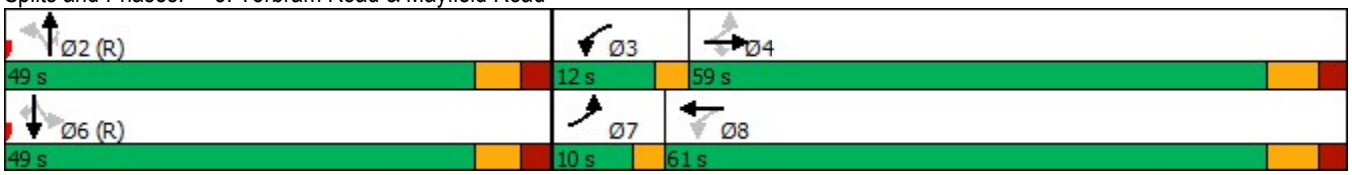


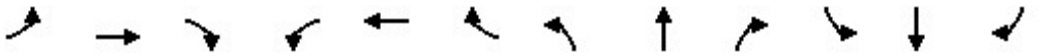
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	1997	259	188	1634	66	292	108	135	55	261	74
Future Volume (vph)	116	1997	259	188	1634	66	292	108	135	55	261	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.5	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5
Storage Length (m)	100.0		125.0	105.0		0.0	80.0		0.0	80.0		80.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	50.0			100.0			70.0			100.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.994				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	4734	1597	1785	4844	0	1785	1942	1587	1785	1942	1465
Flt Permitted	0.077			0.074			0.510			0.687		
Satd. Flow (perm)	140	4734	1597	139	4844	0	958	1942	1587	1291	1942	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			259		6				132			74
Link Speed (k/h)		80			80			70			70	
Link Distance (m)		442.3			716.7			493.9			483.3	
Travel Time (s)		19.9			32.3			25.4			24.9	
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 (%)	3%	12%	0%	0%	9%	4%	0%	0%	4%	0%	0%	9%
Adj. Flow (vph)	116	1997	259	188	1634	66	292	108	135	55	261	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	1997	259	188	1700	0	292	108	135	55	261	74
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)		3.6			3.6			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.97	1.01	1.01	0.97	0.97	1.01	0.97	0.97	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Minimum Split (s)	8.0	50.3	50.3	8.0	50.3		43.1	43.1	43.1	43.1	43.1	43.1
Total Split (s)	10.0	59.0	59.0	12.0	61.0		49.0	49.0	49.0	49.0	49.0	49.0
Total Split (%)	8.3%	49.2%	49.2%	10.0%	50.8%		40.8%	40.8%	40.8%	40.8%	40.8%	40.8%
Maximum Green (s)	7.0	51.7	51.7	9.0	53.7		41.9	41.9	41.9	41.9	41.9	41.9
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6		4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	0.0	2.7	2.7	0.0	2.7		2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.3	7.3	3.0	7.3		7.1	7.1	7.1	7.1	7.1	7.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		8.0	8.0		8.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		35.0	35.0		35.0		28.0	28.0	28.0	28.0	28.0	28.0
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	0
Act Effct Green (s)	63.0	51.7	51.7	67.0	53.7		41.9	41.9	41.9	41.9	41.9	41.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.52	0.43	0.43	0.56	0.45		0.35	0.35	0.35	0.35	0.35	0.35
v/c Ratio	0.70	0.98	0.31	0.94	0.78		0.87	0.16	0.21	0.12	0.38	0.13
Control Delay	41.1	49.5	3.5	80.4	30.4		63.7	27.8	5.6	27.6	31.5	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.1	49.5	3.5	80.4	30.4		63.7	27.8	5.6	27.6	31.5	6.5
LOS	D	D	A	F	C		E	C	A	C	C	A
Approach Delay		44.1			35.4			41.8			26.2	
Approach LOS		D			D			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 105			
Control Type: Pretimed			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 39.3		Intersection LOS: D	
Intersection Capacity Utilization 100.2%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 3: Torbram Road & Mayfield Road



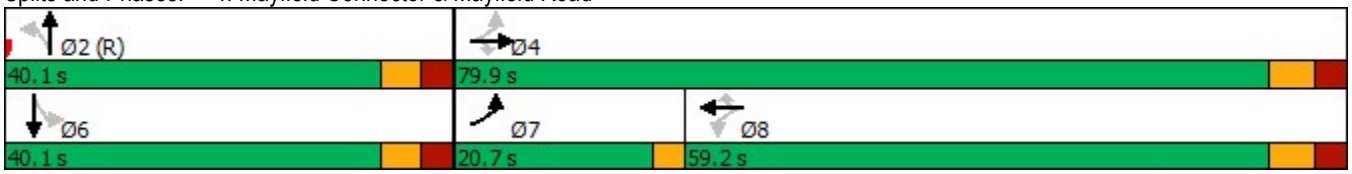


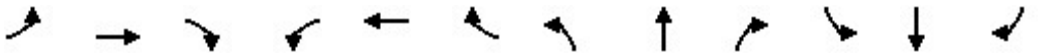
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	1957	110	14	1696	56	231	0	35	28	0	49
Future Volume (vph)	166	1957	110	14	1696	56	231	0	35	28	0	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.8	3.5	3.5	3.8	3.6	3.8	3.6	3.8	3.6	3.6	3.6
Storage Length (m)	75.0		55.0	75.0		55.0	55.0		0.0	55.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1517	4734	1566	1750	4864	1170	1809	1583	0	1357	1313	0
Flt Permitted	0.077			0.081			0.725			0.734		
Satd. Flow (perm)	123	4734	1566	149	4864	1170	1381	1583	0	1049	1313	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			92			60		65			280	
Link Speed (k/h)		80			80			50			50	
Link Distance (m)		716.7			643.7			353.1			866.6	
Travel Time (s)		32.3			29.0			25.4			62.4	
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 (%)	19%	12%	2%	2%	9%	38%	2%	0%	2%	33%	0%	23%
Adj. Flow (vph)	166	1957	110	14	1696	56	231	0	35	28	0	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	166	1957	110	14	1696	56	231	35	0	28	49	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)		3.6			3.6			3.8			3.8	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	0.97	1.01	1.01	0.97	1.00	0.97	1.00	0.97	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	2.0	25.0	10.0		10.0	10.0	
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0		0.0	0.0	
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0		0.0	0.0	
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	2.0	10.0	0.6		10.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	7	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		5.0	5.0	
Minimum Split (s)	9.5	25.1	25.1	25.1	25.1	25.1	24.6	24.6		24.6	24.6	
Total Split (s)	20.7	79.9	79.9	59.2	59.2	59.2	40.1	40.1		40.1	40.1	
Total Split (%)	17.3%	66.6%	66.6%	49.3%	49.3%	49.3%	33.4%	33.4%		33.4%	33.4%	
Maximum Green (s)	17.7	72.8	72.8	52.1	52.1	52.1	33.5	33.5		33.5	33.5	
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.7	3.7		3.7	3.7	
All-Red Time (s)	0.0	3.1	3.1	3.1	3.1	3.1	2.9	2.9		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.1	7.1	7.1	7.1	7.1	6.6	6.6		6.6	6.6	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	Min	Min	Min	C-Max	C-Max		Max	Max	
Walk Time (s)		7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	70.0	65.9	65.9	49.2	49.2	49.2	40.4	40.4		40.4	40.4	
Actuated g/C Ratio	0.58	0.55	0.55	0.41	0.41	0.41	0.34	0.34		0.34	0.34	
v/c Ratio	0.72	0.75	0.12	0.23	0.85	0.11	0.50	0.06		0.08	0.08	
Control Delay	46.7	39.2	13.0	28.2	36.4	5.2	38.5	2.3		31.7	0.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	46.7	39.2	13.0	28.2	36.4	5.2	38.5	2.3		31.7	0.2	
LOS	D	D	B	C	D	A	D	A		C	A	
Approach Delay		38.4			35.3			33.7			11.7	
Approach LOS		D			D			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 36.4		Intersection LOS: D	
Intersection Capacity Utilization 84.6%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4: Mayfield Connector & Mayfield Road



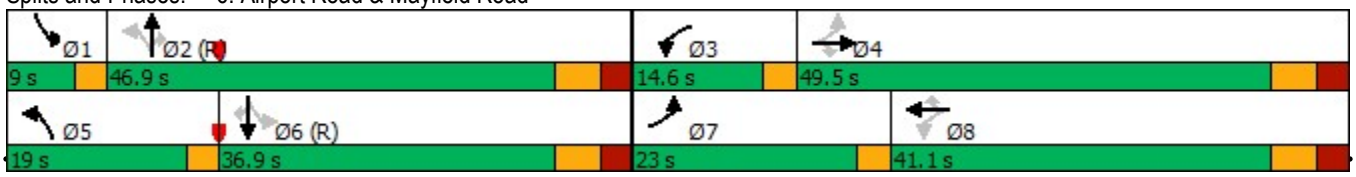


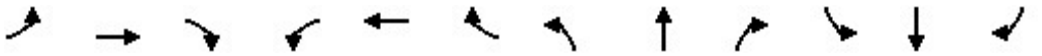
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	249	1113	449	103	1162	57	285	322	91	85	662	209
Future Volume (vph)	249	1113	449	103	1162	57	285	322	91	85	662	209
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		60.0	165.0		60.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			100.0			80.0			65.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	4939	1515	1653	5216	977	1700	3386	1426	1475	3355	1353
Flt Permitted	0.106			0.217			0.189			0.557		
Satd. Flow (perm)	144	4939	1493	377	5216	961	338	3386	1426	865	3355	1332
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			382			145			119			209
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		643.7			619.2			458.9			446.4	
Travel Time (s)		38.6			37.2			27.5			26.8	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	249	1113	449	103	1162	57	285	322	91	85	662	209
Shared Lane Traffic (%)												
Lane Group Flow (vph)	249	1113	449	103	1162	57	285	322	91	85	662	209
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.91	0.97	1.01	0.91	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	41.1	41.1	8.0	41.1	41.1	8.0	36.9	36.9	9.0	36.9	36.9
Total Split (s)	23.0	49.5	49.5	14.6	41.1	41.1	19.0	46.9	46.9	9.0	36.9	36.9
Total Split (%)	19.2%	41.3%	41.3%	12.2%	34.3%	34.3%	15.8%	39.1%	39.1%	7.5%	30.8%	30.8%
Maximum Green (s)	20.0	42.4	42.4	11.6	34.0	34.0	16.0	40.0	40.0	6.0	30.0	30.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	0.0	3.1	3.1	0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	3.0	7.1	7.1	3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0	27.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	61.1	45.5	45.5	47.2	34.6	34.6	52.9	41.8	41.8	40.2	30.4	30.4
Actuated g/C Ratio	0.51	0.38	0.38	0.39	0.29	0.29	0.44	0.35	0.35	0.34	0.25	0.25
v/c Ratio	0.96	0.59	0.56	0.43	0.77	0.15	0.88	0.27	0.16	0.27	0.78	0.42
Control Delay	90.2	42.8	18.4	22.4	43.5	0.8	51.2	29.5	2.9	23.8	49.2	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.2	42.8	18.4	22.4	43.5	0.8	51.2	29.5	2.9	23.8	49.2	7.7
LOS	F	D	B	C	D	A	D	C	A	C	D	A
Approach Delay		43.3			40.0			34.9			37.9	
Approach LOS		D			D			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 40.1		Intersection LOS: D	
Intersection Capacity Utilization 101.3%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road

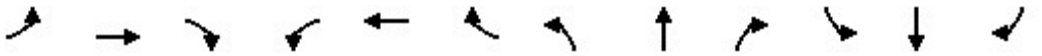




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1	33	78	0	17	46	634	83	2	808	3
Future Volume (Veh/h)	5	1	33	78	0	17	46	634	83	2	808	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
Hourly flow rate (vph)	5	1	33	78	0	17	46	634	86	2	808	3
Pedestrians		1			5							
Lane Width (m)		3.6			3.6							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1239	1630	405	1172	1547	322	812			725		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1239	1630	405	1172	1547	322	812			725		
tC, single (s)	7.9	6.5	7.2	7.6	6.5	6.9	5.8			5.8		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.4	3.6	4.0	3.3	3.1			3.1		
p0 queue free %	95	99	94	35	100	97	89			100		
cM capacity (veh/h)	103	91	565	120	102	677	435			489		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	5	34	78	17	46	317	317	86	2	404	404	3
Volume Left	5	0	78	0	46	0	0	0	2	0	0	0
Volume Right	0	33	0	17	0	0	0	86	0	0	0	3
cSH	103	490	120	677	435	1700	1700	1700	489	1700	1700	1700
Volume to Capacity	0.05	0.07	0.65	0.03	0.11	0.19	0.19	0.05	0.00	0.24	0.24	0.00
Queue Length 95th (m)	1.2	1.8	27.0	0.6	2.8	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Control Delay (s)	41.9	12.9	78.3	10.5	14.3	0.0	0.0	0.0	12.4	0.0	0.0	0.0
Lane LOS	E	B	F	B	B				B			
Approach Delay (s)	16.6		66.2		0.9				0.0			
Approach LOS	C		F									

Intersection Summary				
Average Delay	4.4			
Intersection Capacity Utilization	46.7%	ICU Level of Service		A
Analysis Period (min)	15			

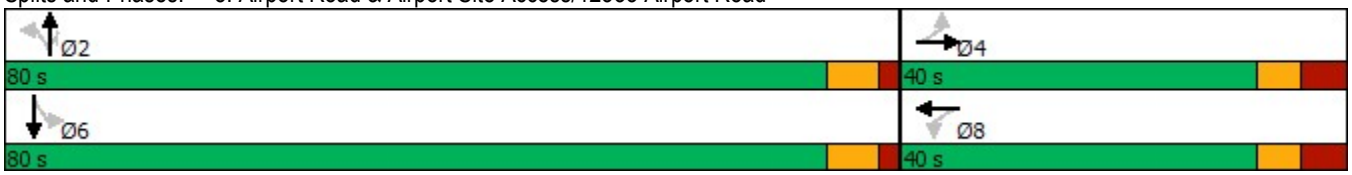


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	0	77	77	0	11	121	422	61	17	652	95
Future Volume (vph)	22	0	77	77	0	11	121	422	61	17	652	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	4.0	3.6	4.0	3.6	3.8	3.5	3.5	3.8	3.6
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		145.0	75.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			100.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.850			0.850				0.850		0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1463	1342	0	1328	1324	0	1280	3449	992	1116	3062	0
Flt Permitted	0.750			0.707			0.364			0.506		
Satd. Flow (perm)	1155	1342	0	988	1324	0	490	3449	992	594	3062	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		273			449				61		25	
Link Speed (k/h)		50			50			80			80	
Link Distance (m)		667.0			270.4			438.0			348.1	
Travel Time (s)		48.0			19.5			19.7			15.7	
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 (%)	22%	0%	23%	42%	0%	22%	41%	7%	61%	60%	19%	13%
Adj. Flow (vph)	22	0	77	77	0	11	121	422	61	17	652	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	77	0	77	11	0	121	422	61	17	747	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)		4.0			4.0			7.1			7.1	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane		Yes										
Headway Factor	1.01	0.97	0.97	0.94	1.00	0.94	1.00	0.97	1.01	1.01	0.97	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	10.0	10.0		10.0	10.0		25.0	10.0	10.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		15.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		15.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	10.0	0.6		10.0	0.6		10.0	0.6	10.0	10.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Minimum Split (s)	36.2	36.2		36.2	36.2		35.6	35.6	35.6	35.6	35.6	
Total Split (s)	40.0	40.0		40.0	40.0		80.0	80.0	80.0	80.0	80.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%		66.7%	66.7%	66.7%	66.7%	66.7%	
Maximum Green (s)	31.8	31.8		31.8	31.8		73.4	73.4	73.4	73.4	73.4	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.6	4.6	4.6	4.6	4.6	
All-Red Time (s)	4.2	4.2		4.2	4.2		2.0	2.0	2.0	2.0	2.0	
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)	8.2	8.2		8.2	8.2		6.6	6.6	6.6	6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		21.0	21.0	21.0	21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)	14.6	14.6		14.6	14.6		79.2	79.2	79.2	79.2	79.2	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.77	0.77	0.77	0.77	0.77	
v/c Ratio	0.13	0.18		0.55	0.02		0.32	0.16	0.08	0.04	0.32	
Control Delay	40.1	0.9		56.7	0.1		8.8	4.7	1.7	5.4	5.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	40.1	0.9		56.7	0.1		8.8	4.7	1.7	5.4	5.4	
LOS	D	A		E	A		A	A	A	A	A	
Approach Delay		9.6			49.6			5.3			5.4	
Approach LOS		A			D			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 102.8			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 8.1		Intersection LOS: A	
Intersection Capacity Utilization 59.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Airport Road & Airport Site Access/12333 Airport Road





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	12	3	263	36	12	382
Future Volume (Veh/h)	12	3	263	36	12	382
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	3	286	39	13	415
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	746	306			325	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	746	306			325	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			99	
cM capacity (veh/h)	380	739			1246	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	16	325	428
Volume Left	13	0	13
Volume Right	3	39	0
cSH	418	1700	1246
Volume to Capacity	0.04	0.19	0.01
Queue Length 95th (m)	1.0	0.0	0.3
Control Delay (s)	14.0	0.0	0.3
Lane LOS	B		A
Approach Delay (s)	14.0	0.0	0.3
Approach LOS	B		

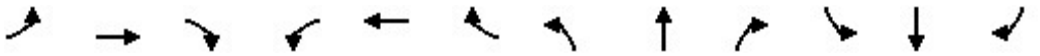
Intersection Summary			
Average Delay		0.5	
Intersection Capacity Utilization		39.8%	ICU Level of Service A
Analysis Period (min)		15	



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	12	3	229	36	12	382
Future Volume (Veh/h)	12	3	229	36	12	382
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	3	249	39	13	415
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	710	268			288	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	710	268			288	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			99	
cM capacity (veh/h)	399	775			1286	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	16	288	428
Volume Left	13	0	13
Volume Right	3	39	0
cSH	439	1700	1286
Volume to Capacity	0.04	0.17	0.01
Queue Length 95th (m)	0.9	0.0	0.2
Control Delay (s)	13.5	0.0	0.3
Lane LOS	B		A
Approach Delay (s)	13.5	0.0	0.3
Approach LOS	B		

Intersection Summary			
Average Delay		0.5	
Intersection Capacity Utilization		39.8%	ICU Level of Service
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	6	2	44	15	63	9	66	58	23	24	0
Future Volume (vph)	0	6	2	44	15	63	9	66	58	23	24	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	7	2	48	16	68	10	72	63	25	26	0

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	9	48	84	10	135	25	26
Volume Left (vph)	0	0	48	0	10	0	25	0
Volume Right (vph)	0	2	0	68	0	63	0	0
Hadj (s)	0.00	-0.12	0.53	-0.53	0.53	-0.29	0.53	0.03
Departure Headway (s)	5.1	5.0	5.5	4.4	5.4	4.6	5.5	5.0
Degree Utilization, x	0.00	0.01	0.07	0.10	0.02	0.17	0.04	0.04
Capacity (veh/h)	685	688	625	774	641	755	627	691
Control Delay (s)	6.9	6.8	7.7	6.7	7.3	7.4	7.5	7.0
Approach Delay (s)	6.8		7.1		7.4		7.3	
Approach LOS	A		A		A		A	

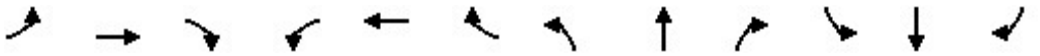
Intersection Summary				
Delay	7.2			
Level of Service	A			
Intersection Capacity Utilization	29.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	18	35	0	0	0
Future Volume (vph)	0	18	35	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	20	38	0	0	0

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	0	20	38	0	0
Volume Left (vph)	0	0	38	0	0
Volume Right (vph)	0	20	0	0	0
Hadj (s)	0.00	-0.67	0.53	0.00	0.00
Departure Headway (s)	4.6	3.9	5.1	4.5	4.4
Degree Utilization, x	0.00	0.02	0.05	0.00	0.00
Capacity (veh/h)	783	892	696	796	821
Control Delay (s)	6.4	5.8	7.2	6.3	7.4
Approach Delay (s)	5.8		7.2		0.0
Approach LOS	A		A		A

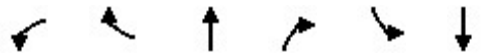
Intersection Summary				
Delay	6.7			
Level of Service	A			
Intersection Capacity Utilization	6.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	11	89	7	23	307	7	21	249	74	6	73	7
Future Volume (vph)	11	89	7	23	307	7	21	249	74	6	73	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	97	8	25	334	8	23	271	80	7	79	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	117	367	374	94
Volume Left (vph)	12	25	23	7
Volume Right (vph)	8	8	80	8
Hadj (s)	0.06	0.02	-0.05	0.00
Departure Headway (s)	6.0	5.5	5.4	6.0
Degree Utilization, x	0.19	0.56	0.56	0.16
Capacity (veh/h)	532	622	625	514
Control Delay (s)	10.4	15.2	15.2	10.1
Approach Delay (s)	10.4	15.2	15.2	10.1
Approach LOS	B	C	C	B

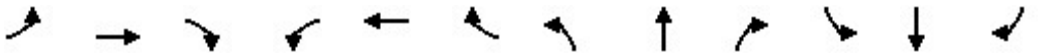
Intersection Summary				
Delay	14.1			
Level of Service	B			
Intersection Capacity Utilization	51.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	110	47	232	52	10	96
Future Volume (Veh/h)	110	47	232	52	10	96
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	120	51	252	57	11	104
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	406	280			309	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	406	280			309	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	80	93			99	
cM capacity (veh/h)	595	758			1252	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	120	51	309	115
Volume Left	120	0	0	11
Volume Right	0	51	57	0
cSH	595	758	1700	1252
Volume to Capacity	0.20	0.07	0.18	0.01
Queue Length 95th (m)	6.0	1.7	0.0	0.2
Control Delay (s)	12.6	10.1	0.0	0.8
Lane LOS	B	B		A
Approach Delay (s)	11.8		0.0	0.8
Approach LOS	B			

Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	28.1%	ICU Level of Service	A
Analysis Period (min)	15		

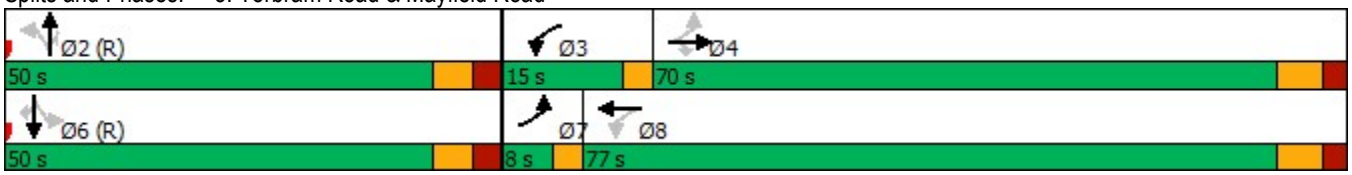


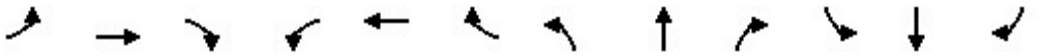
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	1953	243	167	2026	42	305	161	169	49	88	122
Future Volume (vph)	68	1953	243	167	2026	42	305	161	169	49	88	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.5	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5
Storage Length (m)	100.0		125.0	105.0		0.0	80.0		0.0	80.0		80.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	50.0			100.0			70.0			100.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.997				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	4734	1597	1785	4854	0	1785	1942	1587	1785	1942	1465
Flt Permitted	0.064			0.061			0.700			0.625		
Satd. Flow (perm)	117	4734	1597	115	4854	0	1315	1942	1587	1174	1942	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			243		3				140			83
Link Speed (k/h)		80			80			70			70	
Link Distance (m)		442.3			716.7			493.9			483.3	
Travel Time (s)		19.9			32.3			25.4			24.9	
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 (%)	3%	12%	0%	0%	9%	4%	0%	0%	4%	0%	0%	9%
Adj. Flow (vph)	68	1953	243	167	2026	42	305	161	169	49	88	122
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	1953	243	167	2068	0	305	161	169	49	88	122
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)		3.6			3.6			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.97	1.01	1.01	0.97	0.97	1.01	0.97	0.97	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Minimum Split (s)	8.0	50.3	50.3	8.0	50.3		43.1	43.1	43.1	43.1	43.1	43.1
Total Split (s)	8.0	70.0	70.0	15.0	77.0		50.0	50.0	50.0	50.0	50.0	50.0
Total Split (%)	5.9%	51.9%	51.9%	11.1%	57.0%		37.0%	37.0%	37.0%	37.0%	37.0%	37.0%
Maximum Green (s)	5.0	62.7	62.7	12.0	69.7		42.9	42.9	42.9	42.9	42.9	42.9
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6		4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	0.0	2.7	2.7	0.0	2.7		2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.3	7.3	3.0	7.3		7.1	7.1	7.1	7.1	7.1	7.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		8.0	8.0		8.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		35.0	35.0		35.0		28.0	28.0	28.0	28.0	28.0	28.0
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	0
Act Effct Green (s)	72.0	62.7	62.7	82.0	69.7		42.9	42.9	42.9	42.9	42.9	42.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.53	0.46	0.46	0.61	0.52		0.32	0.32	0.32	0.32	0.32	0.32
v/c Ratio	0.56	0.89	0.28	0.77	0.82		0.73	0.26	0.28	0.13	0.14	0.23
Control Delay	33.0	39.2	3.3	67.2	23.2		52.8	35.7	9.4	34.1	33.8	13.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	39.2	3.3	67.2	23.2		52.8	35.7	9.4	34.1	33.8	13.6
LOS	C	D	A	E	C		D	D	A	C	C	B
Approach Delay		35.1			26.5			36.9			24.3	
Approach LOS		D			C			D			C	

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: 105			
Control Type: Pretimed			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 31.2		Intersection LOS: C	
Intersection Capacity Utilization 95.1%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: Torbram Road & Mayfield Road



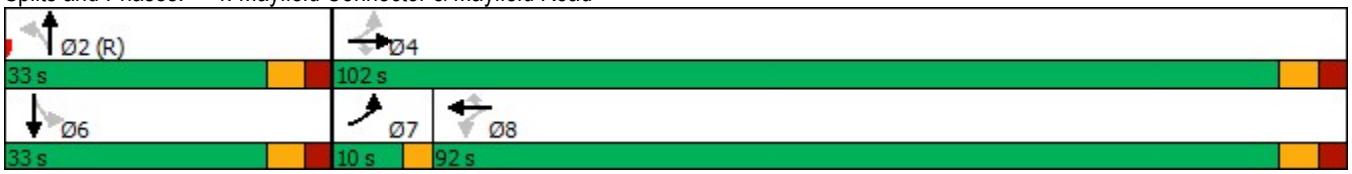


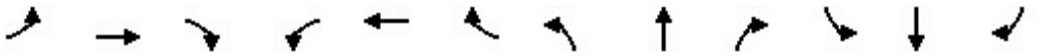
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	2036	98	41	1946	27	104	0	23	42	0	186
Future Volume (vph)	59	2036	98	41	1946	27	104	0	23	42	0	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.8	3.5	3.5	3.8	3.6	3.8	3.6	3.8	3.6	3.6	3.6
Storage Length (m)	75.0		55.0	75.0		55.0	55.0		0.0	55.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1517	4734	1566	1750	4864	1170	1809	1583	0	1357	1313	0
Flt Permitted	0.054			0.065			0.565			0.742		
Satd. Flow (perm)	86	4734	1566	120	4864	1170	1076	1583	0	1060	1313	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			93			53		57			98	
Link Speed (k/h)		80			80			50			50	
Link Distance (m)		716.7			643.7			353.1			866.6	
Travel Time (s)		32.3			29.0			25.4			62.4	
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 (%)	19%	12%	2%	2%	9%	38%	2%	0%	2%	33%	0%	23%
Adj. Flow (vph)	59	2036	98	41	1946	27	104	0	23	42	0	186
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	2036	98	41	1946	27	104	23	0	42	186	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)		3.6			3.6			3.8			3.8	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	0.97	1.01	1.01	0.97	1.00	0.97	1.00	0.97	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	2.0	25.0	10.0		10.0	10.0	
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0		0.0	0.0	
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0		0.0	0.0	
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	2.0	10.0	0.6		10.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	7	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		5.0	5.0	
Minimum Split (s)	9.5	25.1	25.1	25.1	25.1	25.1	24.6	24.6		24.6	24.6	
Total Split (s)	10.0	102.0	102.0	92.0	92.0	92.0	33.0	33.0		33.0	33.0	
Total Split (%)	7.4%	75.6%	75.6%	68.1%	68.1%	68.1%	24.4%	24.4%		24.4%	24.4%	
Maximum Green (s)	7.0	94.9	94.9	84.9	84.9	84.9	26.4	26.4		26.4	26.4	
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.7	3.7		3.7	3.7	
All-Red Time (s)	0.0	3.1	3.1	3.1	3.1	3.1	2.9	2.9		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.1	7.1	7.1	7.1	7.1	6.6	6.6		6.6	6.6	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	Min	Min	Min	C-Max	C-Max		Max	Max	
Walk Time (s)		7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	86.4	82.3	82.3	74.4	74.4	74.4	39.0	39.0		39.0	39.0	
Actuated g/C Ratio	0.64	0.61	0.61	0.55	0.55	0.55	0.29	0.29		0.29	0.29	
v/c Ratio	0.48	0.71	0.10	0.62	0.73	0.04	0.34	0.05		0.14	0.42	
Control Delay	34.2	35.0	9.6	63.0	38.3	2.6	45.2	0.2		42.0	23.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	34.2	35.0	9.6	63.0	38.3	2.6	45.2	0.2		42.0	23.5	
LOS	C	D	A	E	D	A	D	A		D	C	
Approach Delay		33.8			38.4			37.0			26.9	
Approach LOS		C			D			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 35.6		Intersection LOS: D	
Intersection Capacity Utilization 87.5%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4: Mayfield Connector & Mayfield Road



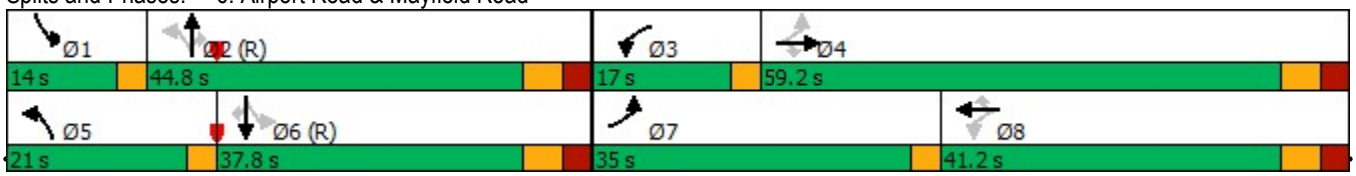


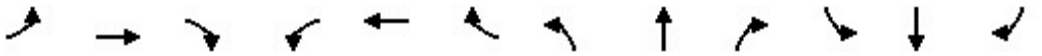
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	347	1138	238	120	1153	73	380	600	98	124	424	309
Future Volume (vph)	347	1138	238	120	1153	73	380	600	98	124	424	309
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		60.0	165.0		60.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			100.0			80.0			65.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	4939	1515	1653	5216	977	1700	3386	1426	1475	3355	1353
Flt Permitted	0.108			0.238			0.343			0.349		
Satd. Flow (perm)	147	4939	1493	414	5216	961	613	3386	1426	542	3355	1332
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			211			128			106			309
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		643.7			619.2			458.9			446.4	
Travel Time (s)		38.6			37.2			27.5			26.8	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	347	1138	238	120	1153	73	380	600	98	124	424	309
Shared Lane Traffic (%)												
Lane Group Flow (vph)	347	1138	238	120	1153	73	380	600	98	124	424	309
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.91	0.97	1.01	0.91	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	41.1	41.1	8.0	41.1	41.1	8.0	36.9	36.9	9.0	36.9	36.9
Total Split (s)	35.0	59.2	59.2	17.0	41.2	41.2	21.0	44.8	44.8	14.0	37.8	37.8
Total Split (%)	25.9%	43.9%	43.9%	12.6%	30.5%	30.5%	15.6%	33.2%	33.2%	10.4%	28.0%	28.0%
Maximum Green (s)	32.0	52.1	52.1	14.0	34.1	34.1	18.0	37.9	37.9	11.0	30.9	30.9
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	0.0	3.1	3.1	0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	3.0	7.1	7.1	3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0	27.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	73.2	56.6	56.6	47.7	34.1	34.1	55.8	38.9	38.9	44.8	30.9	30.9
Actuated g/C Ratio	0.54	0.42	0.42	0.35	0.25	0.25	0.41	0.29	0.29	0.33	0.23	0.23
v/c Ratio	0.99	0.55	0.32	0.52	0.88	0.22	0.95	0.62	0.20	0.50	0.55	0.57
Control Delay	104.0	22.2	7.0	26.9	57.0	1.7	68.2	45.1	6.6	33.7	49.1	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	104.0	22.2	7.0	26.9	57.0	1.7	68.2	45.1	6.6	33.7	49.1	9.0
LOS	F	C	A	C	E	A	E	D	A	C	D	A
Approach Delay		36.6			51.3			49.7			32.4	
Approach LOS		D			D			D			C	

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: 125			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 42.7		Intersection LOS: D	
Intersection Capacity Utilization 111.9%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road

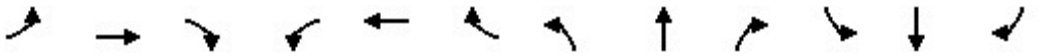




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	1	76	113	0	4	78	887	90	17	575	6
Future Volume (Veh/h)	8	1	76	113	0	4	78	887	90	17	575	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
Hourly flow rate (vph)	8	1	76	113	0	4	78	887	94	17	575	6
Pedestrians		1			5							
Lane Width (m)		3.6			3.6							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1214	1752	288	1446	1664	448	582			986		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1214	1752	288	1446	1664	448	582			986		
tC, single (s)	7.9	6.5	7.2	7.6	6.5	6.9	5.8			5.8		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.4	3.6	4.0	3.3	3.1			3.1		
p0 queue free %	92	99	89	0	100	99	87			95		
cM capacity (veh/h)	103	71	676	66	80	561	578			354		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	8	77	113	4	78	444	444	94	17	288	288	6
Volume Left	8	0	113	0	78	0	0	0	17	0	0	0
Volume Right	0	76	0	4	0	0	0	94	0	0	0	6
cSH	103	608	66	561	578	1700	1700	1700	354	1700	1700	1700
Volume to Capacity	0.08	0.13	1.70	0.01	0.13	0.26	0.26	0.06	0.05	0.17	0.17	0.00
Queue Length 95th (m)	2.0	3.5	80.3	0.2	3.7	0.0	0.0	0.0	1.2	0.0	0.0	0.0
Control Delay (s)	42.8	11.8	474.0	11.5	12.2	0.0	0.0	0.0	15.7	0.0	0.0	0.0
Lane LOS	E	B	F	B	B				C			
Approach Delay (s)	14.7		458.2		0.9				0.4			
Approach LOS	B		F									

Intersection Summary				
Average Delay	30.2			
Intersection Capacity Utilization	50.8%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	0	82	34	0	5	63	785	26	2	438	30
Future Volume (vph)	146	0	82	34	0	5	63	785	26	2	438	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	4.0	3.6	4.0	3.6	3.8	3.5	3.5	3.8	3.6
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		145.0	75.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			100.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.850			0.850				0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1463	1342	0	1328	1324	0	1280	3449	992	1116	3080	0
Flt Permitted	0.754			0.704			0.483			0.338		
Satd. Flow (perm)	1161	1342	0	984	1324	0	651	3449	992	397	3080	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		360			145				47		9	
Link Speed (k/h)		50			50			80			80	
Link Distance (m)		667.0			270.4			438.0			348.1	
Travel Time (s)		48.0			19.5			19.7			15.7	
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 (%)	22%	0%	23%	42%	0%	22%	41%	7%	61%	60%	19%	13%
Adj. Flow (vph)	146	0	82	34	0	5	63	785	26	2	438	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	146	82	0	34	5	0	63	785	26	2	468	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)		4.0			4.0			7.1			7.1	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane		Yes										
Headway Factor	1.01	0.97	0.97	0.94	1.00	0.94	1.00	0.97	1.01	1.01	0.97	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	10.0	10.0		10.0	10.0		25.0	10.0	10.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		15.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		15.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	10.0	0.6		10.0	0.6		10.0	0.6	10.0	10.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Minimum Split (s)	36.2	36.2		36.2	36.2		35.6	35.6	35.6	35.6	35.6	
Total Split (s)	52.0	52.0		52.0	52.0		68.0	68.0	68.0	68.0	68.0	
Total Split (%)	43.3%	43.3%		43.3%	43.3%		56.7%	56.7%	56.7%	56.7%	56.7%	
Maximum Green (s)	43.8	43.8		43.8	43.8		61.4	61.4	61.4	61.4	61.4	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.6	4.6	4.6	4.6	4.6	
All-Red Time (s)	4.2	4.2		4.2	4.2		2.0	2.0	2.0	2.0	2.0	
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)	8.2	8.2		8.2	8.2		6.6	6.6	6.6	6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		21.0	21.0	21.0	21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)	17.5	17.5		17.5	17.5		64.3	64.3	64.3	64.3	64.3	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.67	0.67	0.67	0.67	0.67	
v/c Ratio	0.70	0.15		0.19	0.01		0.15	0.34	0.04	0.01	0.23	
Control Delay	53.7	0.6		34.1	0.0		8.3	8.1	1.1	7.5	7.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	53.7	0.6		34.1	0.0		8.3	8.1	1.1	7.5	7.2	
LOS	D	A		C	A		A	A	A	A	A	
Approach Delay		34.6			29.7			7.9			7.2	
Approach LOS		C			C			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 96.6			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 12.0		Intersection LOS: B	
Intersection Capacity Utilization 64.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 8: Airport Road & Airport Site Access/12333 Airport Road





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	16	267	15	4	228
Future Volume (Veh/h)	30	16	267	15	4	228
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	17	290	16	4	248
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	554	298			306	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	554	298			306	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	98			100	
cM capacity (veh/h)	495	746			1266	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	50	306	252
Volume Left	33	0	4
Volume Right	17	16	0
cSH	559	1700	1266
Volume to Capacity	0.09	0.18	0.00
Queue Length 95th (m)	2.3	0.0	0.1
Control Delay (s)	12.1	0.0	0.2
Lane LOS	B		A
Approach Delay (s)	12.1	0.0	0.2
Approach LOS	B		

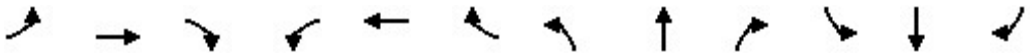
Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	25.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	16	268	15	4	202
Future Volume (Veh/h)	30	16	268	15	4	202
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	17	291	16	4	220
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	527	299			307	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	527	299			307	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	98			100	
cM capacity (veh/h)	513	745			1265	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	50	307	224
Volume Left	33	0	4
Volume Right	17	16	0
cSH	574	1700	1265
Volume to Capacity	0.09	0.18	0.00
Queue Length 95th (m)	2.3	0.0	0.1
Control Delay (s)	11.9	0.0	0.2
Lane LOS	B		A
Approach Delay (s)	11.9	0.0	0.2
Approach LOS	B		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	25.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	14	10	77	7	26	3	25	54	60	69	0
Future Volume (vph)	0	14	10	77	7	26	3	25	54	60	69	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	15	11	84	8	28	3	27	59	65	75	0

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	26	84	36	3	86	65	75
Volume Left (vph)	0	0	84	0	3	0	65	0
Volume Right (vph)	0	11	0	28	0	59	0	0
Hadj (s)	0.00	-0.26	0.53	-0.51	0.53	-0.45	0.53	0.03
Departure Headway (s)	5.2	4.9	5.6	4.6	5.6	4.6	5.5	5.0
Degree Utilization, x	0.00	0.04	0.13	0.05	0.00	0.11	0.10	0.10
Capacity (veh/h)	670	692	612	748	622	754	629	694
Control Delay (s)	7.0	6.9	8.3	6.6	7.4	6.9	7.9	7.4
Approach Delay (s)	6.9		7.8		7.0		7.6	
Approach LOS	A		A		A		A	

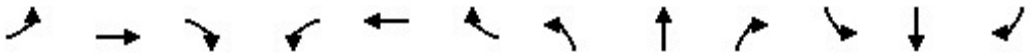
Intersection Summary				
Delay	7.5			
Level of Service	A			
Intersection Capacity Utilization	27.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	39	15	0	0	0
Future Volume (vph)	0	39	15	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	42	16	0	0	0

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	0	42	16	0	0
Volume Left (vph)	0	0	16	0	0
Volume Right (vph)	0	42	0	0	0
Hadj (s)	0.00	-0.67	0.53	0.00	0.00
Departure Headway (s)	4.5	3.9	5.1	4.6	4.4
Degree Utilization, x	0.00	0.05	0.02	0.00	0.00
Capacity (veh/h)	796	921	687	785	814
Control Delay (s)	6.3	5.9	7.0	6.4	7.4
Approach Delay (s)	5.9		7.0		0.0
Approach LOS	A		A		A

Intersection Summary				
Delay	6.2			
Level of Service	A			
Intersection Capacity Utilization	6.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	6	210	19	45	90	1	6	91	29	4	312	11
Future Volume (vph)	6	210	19	45	90	1	6	91	29	4	312	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	228	21	49	98	1	7	99	32	4	339	12

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	256	148	138	355
Volume Left (vph)	7	49	7	4
Volume Right (vph)	21	1	32	12
Hadj (s)	0.02	0.07	-0.06	-0.01
Departure Headway (s)	5.6	5.8	5.6	5.3
Degree Utilization, x	0.40	0.24	0.22	0.52
Capacity (veh/h)	597	552	566	641
Control Delay (s)	12.2	10.6	10.2	14.0
Approach Delay (s)	12.2	10.6	10.2	14.0
Approach LOS	B	B	B	B

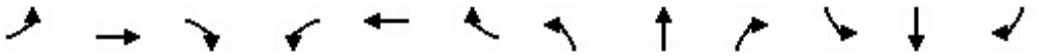
Intersection Summary				
Delay	12.3			
Level of Service	B			
Intersection Capacity Utilization	48.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	66	8	132	112	28	358
Future Volume (Veh/h)	66	8	132	112	28	358
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	72	9	143	122	30	389
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	653	204			265	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	653	204			265	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	83	99			98	
cM capacity (veh/h)	422	837			1299	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	72	9	265	419
Volume Left	72	0	0	30
Volume Right	0	9	122	0
cSH	422	837	1700	1299
Volume to Capacity	0.17	0.01	0.16	0.02
Queue Length 95th (m)	4.9	0.3	0.0	0.6
Control Delay (s)	15.3	9.3	0.0	0.8
Lane LOS	C	A		A
Approach Delay (s)	14.6		0.0	0.8
Approach LOS	B			

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

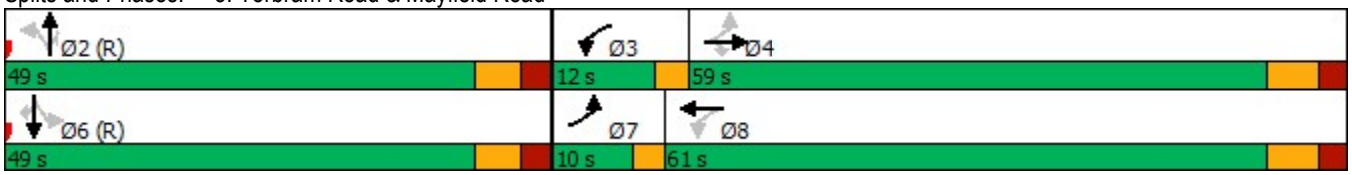


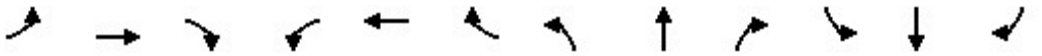
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	2160	259	188	1737	66	292	115	135	55	286	74
Future Volume (vph)	116	2160	259	188	1737	66	292	115	135	55	286	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.5	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5
Storage Length (m)	100.0		125.0	105.0		0.0	80.0		0.0	80.0		80.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	50.0			100.0			70.0			100.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.995				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	4734	1597	1785	4848	0	1785	1942	1587	1785	1942	1465
Flt Permitted	0.077			0.074			0.478			0.683		
Satd. Flow (perm)	140	4734	1597	139	4848	0	898	1942	1587	1283	1942	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			259		6				131			74
Link Speed (k/h)		80			80			70			70	
Link Distance (m)		442.3			716.7			493.9			483.3	
Travel Time (s)		19.9			32.3			25.4			24.9	
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 (%)	3%	12%	0%	0%	9%	4%	0%	0%	4%	0%	0%	9%
Adj. Flow (vph)	116	2160	259	188	1737	66	292	115	135	55	286	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	2160	259	188	1803	0	292	115	135	55	286	74
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)		3.6			3.6			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.97	1.01	1.01	0.97	0.97	1.01	0.97	0.97	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Minimum Split (s)	8.0	50.3	50.3	8.0	50.3		43.1	43.1	43.1	43.1	43.1	43.1
Total Split (s)	10.0	59.0	59.0	12.0	61.0		49.0	49.0	49.0	49.0	49.0	49.0
Total Split (%)	8.3%	49.2%	49.2%	10.0%	50.8%		40.8%	40.8%	40.8%	40.8%	40.8%	40.8%
Maximum Green (s)	7.0	51.7	51.7	9.0	53.7		41.9	41.9	41.9	41.9	41.9	41.9
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6		4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	0.0	2.7	2.7	0.0	2.7		2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.3	7.3	3.0	7.3		7.1	7.1	7.1	7.1	7.1	7.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		8.0	8.0		8.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		35.0	35.0		35.0		28.0	28.0	28.0	28.0	28.0	28.0
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	0
Act Effct Green (s)	63.0	51.7	51.7	67.0	53.7		41.9	41.9	41.9	41.9	41.9	41.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.52	0.43	0.43	0.56	0.45		0.35	0.35	0.35	0.35	0.35	0.35
v/c Ratio	0.70	1.06	0.31	0.94	0.83		0.93	0.17	0.21	0.12	0.42	0.13
Control Delay	41.1	71.5	3.5	78.6	30.7		75.3	27.9	5.8	27.6	32.2	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.1	71.5	3.5	78.6	30.7		75.3	27.9	5.8	27.6	32.2	6.5
LOS	D	E	A	E	C		E	C	A	C	C	A
Approach Delay		63.1			35.3			47.9			27.0	
Approach LOS		E			D			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 115			
Control Type: Pretimed			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay: 48.8		Intersection LOS: D	
Intersection Capacity Utilization 104.6%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 3: Torbram Road & Mayfield Road



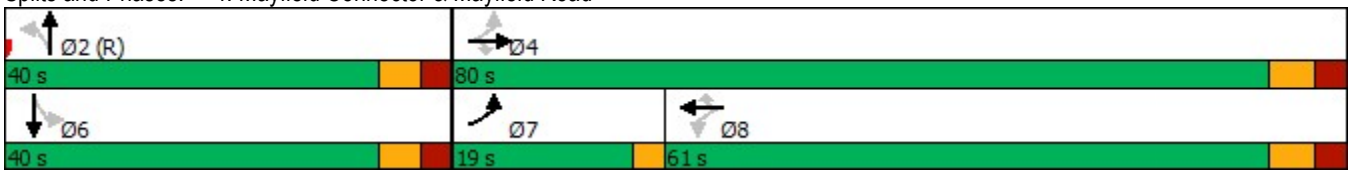


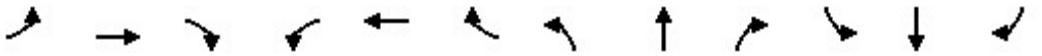
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	2129	110	14	1813	56	231	0	35	28	0	49
Future Volume (vph)	166	2129	110	14	1813	56	231	0	35	28	0	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.8	3.5	3.5	3.8	3.6	3.8	3.6	3.8	3.6	3.6	3.6
Storage Length (m)	75.0		55.0	75.0		55.0	55.0		0.0	55.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1517	4734	1566	1750	4864	1170	1809	1583	0	1357	1313	0
Flt Permitted	0.073			0.077			0.725			0.734		
Satd. Flow (perm)	117	4734	1566	142	4864	1170	1381	1583	0	1049	1313	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			85			60		65			253	
Link Speed (k/h)		80			80			50			50	
Link Distance (m)		716.7			643.7			353.1			866.6	
Travel Time (s)		32.3			29.0			25.4			62.4	
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 (%)	19%	12%	2%	2%	9%	38%	2%	0%	2%	33%	0%	23%
Adj. Flow (vph)	166	2129	110	14	1813	56	231	0	35	28	0	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	166	2129	110	14	1813	56	231	35	0	28	49	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)		3.6			3.6			3.8			3.8	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	0.97	1.01	1.01	0.97	1.00	0.97	1.00	0.97	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	2.0	25.0	10.0		10.0	10.0	
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0		0.0	0.0	
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0		0.0	0.0	
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	2.0	10.0	0.6		10.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	7	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		5.0	5.0	
Minimum Split (s)	9.5	25.1	25.1	25.1	25.1	25.1	24.6	24.6		24.6	24.6	
Total Split (s)	19.0	80.0	80.0	61.0	61.0	61.0	40.0	40.0		40.0	40.0	
Total Split (%)	15.8%	66.7%	66.7%	50.8%	50.8%	50.8%	33.3%	33.3%		33.3%	33.3%	
Maximum Green (s)	16.0	72.9	72.9	53.9	53.9	53.9	33.4	33.4		33.4	33.4	
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.7	3.7		3.7	3.7	
All-Red Time (s)	0.0	3.1	3.1	3.1	3.1	3.1	2.9	2.9		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.1	7.1	7.1	7.1	7.1	6.6	6.6		6.6	6.6	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	Min	Min	Min	C-Max	C-Max		Max	Max	
Walk Time (s)		7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	71.7	67.6	67.6	51.7	51.7	51.7	38.7	38.7		38.7	38.7	
Actuated g/C Ratio	0.60	0.56	0.56	0.43	0.43	0.43	0.32	0.32		0.32	0.32	
v/c Ratio	0.75	0.80	0.12	0.23	0.87	0.10	0.52	0.06		0.08	0.08	
Control Delay	45.2	38.3	13.0	29.4	37.7	6.7	39.9	2.3		32.3	0.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	45.2	38.3	13.0	29.4	37.7	6.7	39.9	2.3		32.3	0.3	
LOS	D	D	B	C	D	A	D	A		C	A	
Approach Delay		37.6			36.7			35.0			11.9	
Approach LOS		D			D			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 36.6		Intersection LOS: D	
Intersection Capacity Utilization 87.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4: Mayfield Connector & Mayfield Road



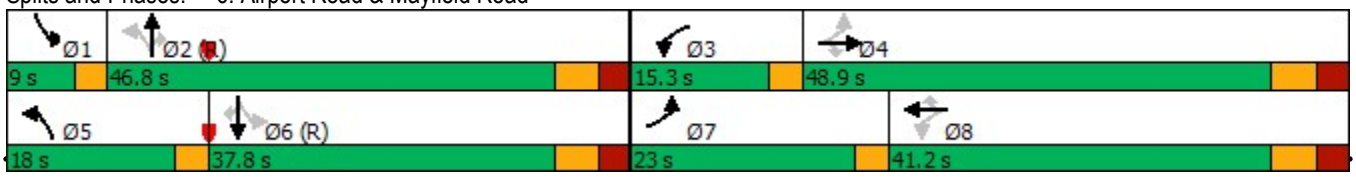


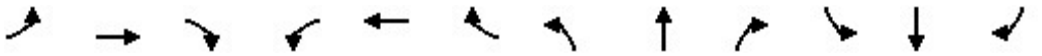
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	261	1204	466	109	1235	60	293	334	96	89	693	217
Future Volume (vph)	261	1204	466	109	1235	60	293	334	96	89	693	217
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		60.0	165.0		60.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			100.0			80.0			65.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	4939	1515	1653	5216	977	1700	3386	1426	1475	3355	1353
Flt Permitted	0.108			0.183			0.174			0.550		
Satd. Flow (perm)	147	4939	1493	318	5216	961	311	3386	1426	854	3355	1332
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			356			145			119			217
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		643.7			619.2			458.9			446.4	
Travel Time (s)		38.6			37.2			27.5			26.8	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	261	1204	466	109	1235	60	293	334	96	89	693	217
Shared Lane Traffic (%)												
Lane Group Flow (vph)	261	1204	466	109	1235	60	293	334	96	89	693	217
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.91	0.97	1.01	0.91	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	41.1	41.1	8.0	41.1	41.1	8.0	36.9	36.9	9.0	36.9	36.9
Total Split (s)	23.0	48.9	48.9	15.3	41.2	41.2	18.0	46.8	46.8	9.0	37.8	37.8
Total Split (%)	19.2%	40.8%	40.8%	12.8%	34.3%	34.3%	15.0%	39.0%	39.0%	7.5%	31.5%	31.5%
Maximum Green (s)	20.0	41.8	41.8	12.3	34.1	34.1	15.0	39.9	39.9	6.0	30.9	30.9
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	0.0	3.1	3.1	0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	3.0	7.1	7.1	3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0	27.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	61.2	45.3	45.3	47.0	34.1	34.1	52.8	40.0	40.0	40.7	30.9	30.9
Actuated g/C Ratio	0.51	0.38	0.38	0.39	0.28	0.28	0.44	0.33	0.33	0.34	0.26	0.26
v/c Ratio	0.98	0.65	0.59	0.49	0.83	0.16	0.95	0.30	0.17	0.28	0.80	0.43
Control Delay	92.1	43.4	20.9	24.6	46.2	0.9	64.8	30.5	3.6	23.9	49.9	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.1	43.4	20.9	24.6	46.2	0.9	64.8	30.5	3.6	23.9	49.9	7.5
LOS	F	D	C	C	D	A	E	C	A	C	D	A
Approach Delay		44.5			42.6			40.8			38.4	
Approach LOS		D			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 42.3		Intersection LOS: D	
Intersection Capacity Utilization 102.4%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road

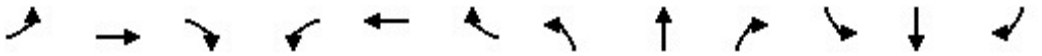




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1	33	78	0	17	46	659	83	2	842	3
Future Volume (Veh/h)	5	1	33	78	0	17	46	659	83	2	842	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
Hourly flow rate (vph)	5	1	33	78	0	17	46	659	86	2	842	3
Pedestrians		1			5							
Lane Width (m)		3.6			3.6							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1286	1689	422	1214	1606	334	846			750		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1286	1689	422	1214	1606	334	846			750		
tC, single (s)	7.9	6.5	7.2	7.6	6.5	6.9	5.8			5.8		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.4	3.6	4.0	3.3	3.1			3.1		
p0 queue free %	95	99	94	30	100	97	89			100		
cM capacity (veh/h)	94	83	550	111	94	664	417			474		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	5	34	52	43	46	330	330	86	2	421	421	3
Volume Left	5	0	52	26	46	0	0	0	2	0	0	0
Volume Right	0	33	0	17	0	0	0	86	0	0	0	3
cSH	94	472	111	166	417	1700	1700	1700	474	1700	1700	1700
Volume to Capacity	0.05	0.07	0.47	0.26	0.11	0.19	0.19	0.05	0.00	0.25	0.25	0.00
Queue Length 95th (m)	1.3	1.9	16.5	7.9	3.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Control Delay (s)	45.4	13.2	63.1	34.2	14.7	0.0	0.0	0.0	12.6	0.0	0.0	0.0
Lane LOS	E	B	F	D	B				B			
Approach Delay (s)	17.3		50.0		0.9				0.0			
Approach LOS	C		F									

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	46.0%	ICU Level of Service	A	
Analysis Period (min)	15			

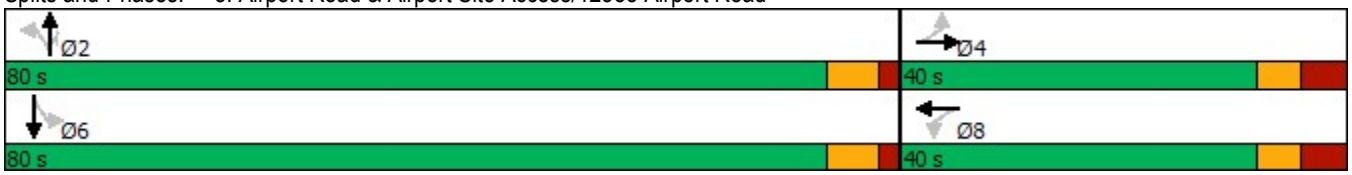


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	0	77	77	0	11	121	443	61	17	682	95
Future Volume (vph)	22	0	77	77	0	11	121	443	61	17	682	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	4.0	3.6	4.0	3.6	3.8	3.5	3.5	3.8	3.6
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		145.0	75.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			100.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.850			0.850				0.850		0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1463	1342	0	1328	1324	0	1280	3449	992	1116	3064	0
Flt Permitted	0.750			0.707			0.351			0.495		
Satd. Flow (perm)	1155	1342	0	988	1324	0	473	3449	992	581	3064	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		255			429				61		23	
Link Speed (k/h)		50			50			80			80	
Link Distance (m)		667.0			270.4			438.0			348.1	
Travel Time (s)		48.0			19.5			19.7			15.7	
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 (%)	22%	0%	23%	42%	0%	22%	41%	7%	61%	60%	19%	13%
Adj. Flow (vph)	22	0	77	77	0	11	121	443	61	17	682	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	77	0	77	11	0	121	443	61	17	777	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)		4.0			4.0			7.1			7.1	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane		Yes										
Headway Factor	1.01	0.97	0.97	0.94	1.00	0.94	1.00	0.97	1.01	1.01	0.97	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	10.0	10.0		10.0	10.0		25.0	10.0	10.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		15.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		15.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	10.0	0.6		10.0	0.6		10.0	0.6	10.0	10.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Minimum Split (s)	36.2	36.2		36.2	36.2		35.6	35.6	35.6	35.6	35.6	
Total Split (s)	40.0	40.0		40.0	40.0		80.0	80.0	80.0	80.0	80.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%		66.7%	66.7%	66.7%	66.7%	66.7%	
Maximum Green (s)	31.8	31.8		31.8	31.8		73.4	73.4	73.4	73.4	73.4	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.6	4.6	4.6	4.6	4.6	
All-Red Time (s)	4.2	4.2		4.2	4.2		2.0	2.0	2.0	2.0	2.0	
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)	8.2	8.2		8.2	8.2		6.6	6.6	6.6	6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		21.0	21.0	21.0	21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)	14.6	14.6		14.6	14.6		79.2	79.2	79.2	79.2	79.2	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.77	0.77	0.77	0.77	0.77	
v/c Ratio	0.13	0.19		0.55	0.02		0.33	0.17	0.08	0.04	0.33	
Control Delay	40.1	1.0		56.7	0.1		9.2	4.8	1.7	5.4	5.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	40.1	1.0		56.7	0.1		9.2	4.8	1.7	5.4	5.5	
LOS	D	A		E	A		A	A	A	A	A	
Approach Delay		9.7			49.6			5.3			5.5	
Approach LOS		A			D			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 102.8			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 8.1		Intersection LOS: A	
Intersection Capacity Utilization 60.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Airport Road & Airport Site Access/12333 Airport Road





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	12	3	275	36	12	412
Future Volume (Veh/h)	12	3	275	36	12	412
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	3	299	39	13	448
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	792	318			338	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	792	318			338	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	100			99	
cM capacity (veh/h)	357	727			1232	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	16	338	461
Volume Left	13	0	13
Volume Right	3	39	0
cSH	394	1700	1232
Volume to Capacity	0.04	0.20	0.01
Queue Length 95th (m)	1.0	0.0	0.3
Control Delay (s)	14.5	0.0	0.3
Lane LOS	B		A
Approach Delay (s)	14.5	0.0	0.3
Approach LOS	B		

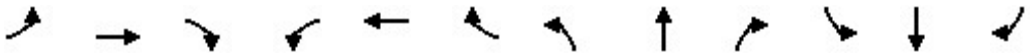
Intersection Summary			
Average Delay		0.5	
Intersection Capacity Utilization		41.4%	ICU Level of Service
Analysis Period (min)		15	



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	12	3	241	36	12	412
Future Volume (Veh/h)	12	3	241	36	12	412
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	3	262	39	13	448
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	756	282			301	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	756	282			301	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			99	
cM capacity (veh/h)	375	762			1272	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	16	301	461
Volume Left	13	0	13
Volume Right	3	39	0
cSH	415	1700	1272
Volume to Capacity	0.04	0.18	0.01
Queue Length 95th (m)	1.0	0.0	0.2
Control Delay (s)	14.0	0.0	0.3
Lane LOS	B		A
Approach Delay (s)	14.0	0.0	0.3
Approach LOS	B		

Intersection Summary			
Average Delay		0.5	
Intersection Capacity Utilization		41.4%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	6	2	44	15	63	9	66	58	23	24	0
Future Volume (vph)	0	6	2	44	15	63	9	66	58	23	24	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	7	2	48	16	68	10	72	63	25	26	0

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	9	48	84	10	135	25	26
Volume Left (vph)	0	0	48	0	10	0	25	0
Volume Right (vph)	0	2	0	68	0	63	0	0
Hadj (s)	0.00	-0.12	0.53	-0.53	0.53	-0.29	0.53	0.03
Departure Headway (s)	5.1	5.0	5.5	4.4	5.4	4.6	5.5	5.0
Degree Utilization, x	0.00	0.01	0.07	0.10	0.02	0.17	0.04	0.04
Capacity (veh/h)	685	688	625	774	641	755	627	691
Control Delay (s)	6.9	6.8	7.7	6.7	7.3	7.4	7.5	7.0
Approach Delay (s)	6.8		7.1		7.4		7.3	
Approach LOS	A		A		A		A	

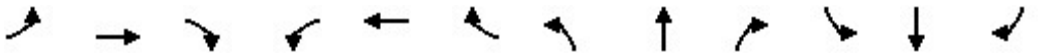
Intersection Summary				
Delay	7.2			
Level of Service	A			
Intersection Capacity Utilization	29.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	18	35	0	0	0
Future Volume (vph)	0	18	35	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	20	38	0	0	0

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	0	20	38	0	0
Volume Left (vph)	0	0	38	0	0
Volume Right (vph)	0	20	0	0	0
Hadj (s)	0.00	-0.67	0.53	0.00	0.00
Departure Headway (s)	4.6	3.9	5.1	4.5	4.4
Degree Utilization, x	0.00	0.02	0.05	0.00	0.00
Capacity (veh/h)	783	892	696	796	821
Control Delay (s)	6.4	5.8	7.2	6.3	7.4
Approach Delay (s)	5.8		7.2		0.0
Approach LOS	A		A		A

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	11	99	7	23	339	7	21	273	74	6	80	7
Future Volume (vph)	11	99	7	23	339	7	21	273	74	6	80	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	108	8	25	368	8	23	297	80	7	87	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	128	401	400	102
Volume Left (vph)	12	25	23	7
Volume Right (vph)	8	8	80	8
Hadj (s)	0.06	0.02	-0.04	0.00
Departure Headway (s)	6.2	5.7	5.6	6.3
Degree Utilization, x	0.22	0.63	0.63	0.18
Capacity (veh/h)	503	604	605	486
Control Delay (s)	11.0	17.8	17.6	10.6
Approach Delay (s)	11.0	17.8	17.6	10.6
Approach LOS	B	C	C	B

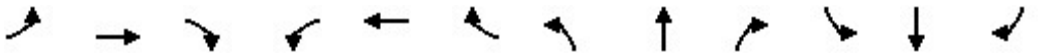
Intersection Summary				
Delay	16.2			
Level of Service	C			
Intersection Capacity Utilization	55.3%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	110	47	253	52	10	106
Future Volume (Veh/h)	110	47	253	52	10	106
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	120	51	275	57	11	115
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	440	304			332	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	440	304			332	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	79	93			99	
cM capacity (veh/h)	569	736			1227	

Direction, Lane #	WB 1	WB 2	NB 1	SB 1
Volume Total	120	51	332	126
Volume Left	120	0	0	11
Volume Right	0	51	57	0
cSH	569	736	1700	1227
Volume to Capacity	0.21	0.07	0.20	0.01
Queue Length 95th (m)	6.3	1.8	0.0	0.2
Control Delay (s)	13.0	10.3	0.0	0.8
Lane LOS	B	B		A
Approach Delay (s)	12.2		0.0	0.8
Approach LOS	B			

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	29.2%	ICU Level of Service	A
Analysis Period (min)	15		

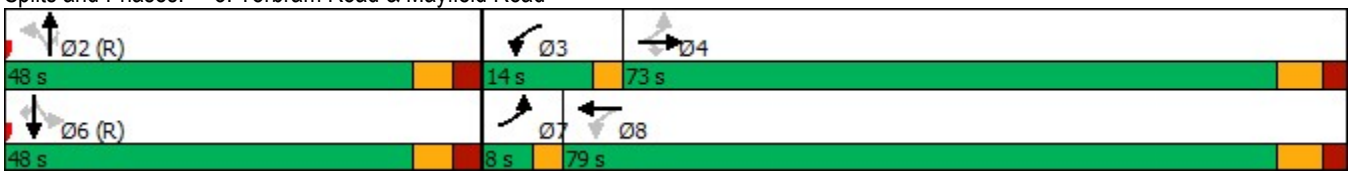


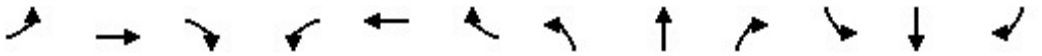
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	2100	243	167	2194	42	305	176	169	49	95	122
Future Volume (vph)	68	2100	243	167	2194	42	305	176	169	49	95	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.5	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5
Storage Length (m)	100.0		125.0	105.0		0.0	80.0		0.0	80.0		80.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	50.0			100.0			70.0			100.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.997				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	4734	1597	1785	4854	0	1785	1942	1587	1785	1942	1465
Flt Permitted	0.061			0.058			0.695			0.597		
Satd. Flow (perm)	111	4734	1597	109	4854	0	1306	1942	1587	1122	1942	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			243		3				121			83
Link Speed (k/h)		80			80			70			70	
Link Distance (m)		442.3			716.7			493.9			483.3	
Travel Time (s)		19.9			32.3			25.4			24.9	
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 (%)	3%	12%	0%	0%	9%	4%	0%	0%	4%	0%	0%	9%
Adj. Flow (vph)	68	2100	243	167	2194	42	305	176	169	49	95	122
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	2100	243	167	2236	0	305	176	169	49	95	122
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)		3.6			3.6			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.97	1.01	1.01	0.97	0.97	1.01	0.97	0.97	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Minimum Split (s)	8.0	50.3	50.3	8.0	50.3		43.1	43.1	43.1	43.1	43.1	43.1
Total Split (s)	8.0	73.0	73.0	14.0	79.0		48.0	48.0	48.0	48.0	48.0	48.0
Total Split (%)	5.9%	54.1%	54.1%	10.4%	58.5%		35.6%	35.6%	35.6%	35.6%	35.6%	35.6%
Maximum Green (s)	5.0	65.7	65.7	11.0	71.7		40.9	40.9	40.9	40.9	40.9	40.9
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6		4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	0.0	2.7	2.7	0.0	2.7		2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.3	7.3	3.0	7.3		7.1	7.1	7.1	7.1	7.1	7.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Walk Time (s)		8.0	8.0		8.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		35.0	35.0		35.0		28.0	28.0	28.0	28.0	28.0	28.0
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	0
Act Effct Green (s)	75.0	65.7	65.7	84.0	71.7		40.9	40.9	40.9	40.9	40.9	40.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.56	0.49	0.49	0.62	0.53		0.30	0.30	0.30	0.30	0.30	0.30
v/c Ratio	0.56	0.91	0.27	0.82	0.87		0.77	0.30	0.30	0.14	0.16	0.24
Control Delay	33.1	39.2	3.0	59.5	32.1		57.4	37.8	12.9	35.9	35.5	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	39.2	3.0	59.5	32.1		57.4	37.8	12.9	35.9	35.5	14.2
LOS	C	D	A	E	C		E	D	B	D	D	B
Approach Delay		35.4			34.0			40.5			25.8	
Approach LOS		D			C			D			C	

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: 105			
Control Type: Pretimed			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 34.9		Intersection LOS: C	
Intersection Capacity Utilization 98.0%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: Torbram Road & Mayfield Road



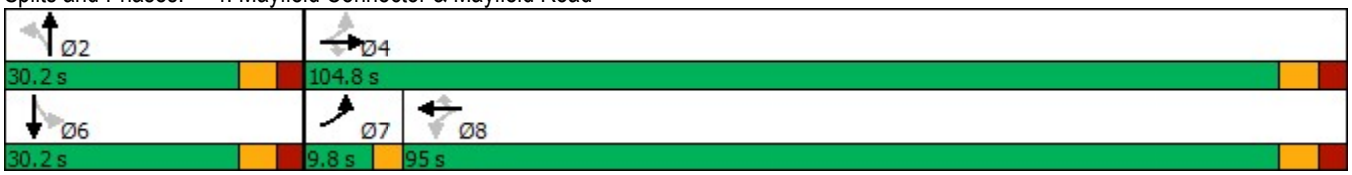


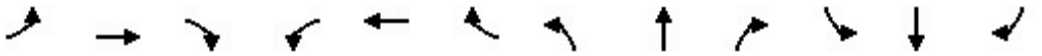
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	2192	98	41	2125	27	104	0	23	42	0	186
Future Volume (vph)	59	2192	98	41	2125	27	104	0	23	42	0	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.8	3.5	3.5	3.8	3.6	3.8	3.6	3.8	3.6	3.6	3.6
Storage Length (m)	75.0		55.0	75.0		55.0	55.0		0.0	55.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1517	4734	1566	1750	4864	1170	1809	1583	0	1357	1313	0
Flt Permitted	0.066			0.070			0.575			0.742		
Satd. Flow (perm)	105	4734	1566	129	4864	1170	1095	1583	0	1060	1313	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			93			53		57			90	
Link Speed (k/h)		80			80			50			50	
Link Distance (m)		716.7			643.7			353.1			866.6	
Travel Time (s)		32.3			29.0			25.4			62.4	
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 (%)	19%	12%	2%	2%	9%	38%	2%	0%	2%	33%	0%	23%
Adj. Flow (vph)	59	2192	98	41	2125	27	104	0	23	42	0	186
Shared Lane Traffic (%)												
Lane Group Flow (vph)	59	2192	98	41	2125	27	104	23	0	42	186	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)		3.6			3.6			3.8			3.8	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	0.97	1.01	1.01	0.97	1.00	0.97	1.00	0.97	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	2.0	25.0	10.0		10.0	10.0	
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0		0.0	0.0	
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0		0.0	0.0	
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	2.0	10.0	0.6		10.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	7	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		5.0	5.0	
Minimum Split (s)	9.5	25.1	25.1	25.1	25.1	25.1	24.6	24.6		24.6	24.6	
Total Split (s)	9.8	104.8	104.8	95.0	95.0	95.0	30.2	30.2		30.2	30.2	
Total Split (%)	7.3%	77.6%	77.6%	70.4%	70.4%	70.4%	22.4%	22.4%		22.4%	22.4%	
Maximum Green (s)	6.8	97.7	97.7	87.9	87.9	87.9	23.6	23.6		23.6	23.6	
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.7	3.7		3.7	3.7	
All-Red Time (s)	0.0	3.1	3.1	3.1	3.1	3.1	2.9	2.9		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.1	7.1	7.1	7.1	7.1	6.6	6.6		6.6	6.6	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	Min	Min	Min	None	None		Max	Max	
Walk Time (s)		7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	68.9	64.7	64.7	57.4	57.4	57.4	24.5	24.5		24.5	24.5	
Actuated g/C Ratio	0.67	0.63	0.63	0.56	0.56	0.56	0.24	0.24		0.24	0.24	
v/c Ratio	0.38	0.74	0.10	0.58	0.79	0.04	0.40	0.06		0.17	0.49	
Control Delay	12.9	14.3	1.6	49.3	20.1	0.6	45.7	0.3		41.5	26.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	12.9	14.3	1.6	49.3	20.1	0.6	45.7	0.3		41.5	26.7	
LOS	B	B	A	D	C	A	D	A		D	C	
Approach Delay		13.8			20.4			37.5			29.4	
Approach LOS		B			C			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 103.4			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 18.1		Intersection LOS: B	
Intersection Capacity Utilization 87.5%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4: Mayfield Connector & Mayfield Road



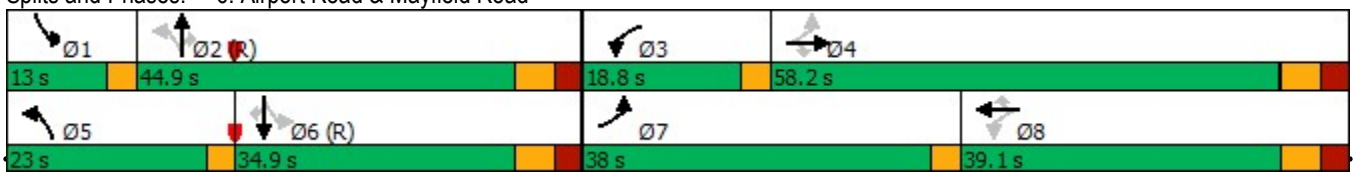


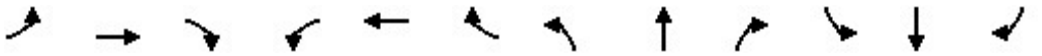
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	359	1219	246	126	1253	77	394	628	103	129	442	323
Future Volume (vph)	359	1219	246	126	1253	77	394	628	103	129	442	323
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		60.0	165.0		60.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			100.0			80.0			65.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	4939	1515	1653	5216	977	1700	3386	1426	1475	3355	1353
Flt Permitted	0.110			0.218			0.304			0.350		
Satd. Flow (perm)	150	4939	1493	379	5216	960	543	3386	1426	543	3355	1331
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			201			128			106			323
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		643.7			619.2			458.9			446.4	
Travel Time (s)		38.6			37.2			27.5			26.8	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	359	1219	246	126	1253	77	394	628	103	129	442	323
Shared Lane Traffic (%)												
Lane Group Flow (vph)	359	1219	246	126	1253	77	394	628	103	129	442	323
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.91	0.97	1.01	0.91	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	39.1	39.1	8.0	39.1	39.1	8.0	34.9	34.9	9.0	34.9	34.9
Total Split (s)	38.0	58.2	58.2	18.8	39.1	39.1	23.0	44.9	44.9	13.0	34.9	34.9
Total Split (%)	28.1%	43.1%	43.1%	13.9%	29.0%	29.0%	17.0%	33.3%	33.3%	9.6%	25.9%	25.9%
Maximum Green (s)	35.0	51.1	51.1	15.8	32.0	32.0	20.0	38.0	38.0	10.0	28.0	28.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	0.0	3.1	3.1	0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	3.0	7.1	7.1	3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		27.0	27.0		27.0	27.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	74.1	57.4	57.4	47.0	33.2	33.2	54.9	38.5	38.5	41.4	28.0	28.0
Actuated g/C Ratio	0.55	0.43	0.43	0.35	0.25	0.25	0.41	0.29	0.29	0.31	0.21	0.21
v/c Ratio	0.98	0.58	0.33	0.57	0.98	0.23	1.01	0.65	0.21	0.56	0.64	0.61
Control Delay	79.2	31.3	7.1	29.7	70.4	2.3	80.6	46.3	7.3	37.7	53.6	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.2	31.3	7.1	29.7	70.4	2.3	80.6	46.3	7.3	37.7	53.6	10.0
LOS	E	C	A	C	E	A	F	D	A	D	D	A
Approach Delay		37.5			63.3			54.7			35.6	
Approach LOS		D			E			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 125.1 (93%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay: 47.9		Intersection LOS: D	
Intersection Capacity Utilization 110.1%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	1	76	113	0	4	78	922	90	17	599	6
Future Volume (Veh/h)	8	1	76	113	0	4	78	922	90	17	599	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
Hourly flow rate (vph)	8	1	76	113	0	4	78	922	94	17	599	6
Pedestrians		1			5							
Lane Width (m)		3.6			3.6							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1255	1811	300	1493	1723	466	606			1021		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1255	1811	300	1493	1723	466	606			1021		
tC, single (s)	7.9	6.5	7.2	7.6	6.5	6.9	5.8			5.8		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.4	3.6	4.0	3.3	3.1			3.1		
p0 queue free %	92	98	89	0	100	99	86			95		
cM capacity (veh/h)	95	65	663	61	73	546	561			339		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	8	77	113	4	78	461	461	94	17	300	300	6
Volume Left	8	0	113	0	78	0	0	0	17	0	0	0
Volume Right	0	76	0	4	0	0	0	94	0	0	0	6
cSH	95	592	61	546	561	1700	1700	1700	339	1700	1700	1700
Volume to Capacity	0.08	0.13	1.86	0.01	0.14	0.27	0.27	0.06	0.05	0.18	0.18	0.00
Queue Length 95th (m)	2.1	3.6	84.4	0.2	3.8	0.0	0.0	0.0	1.3	0.0	0.0	0.0
Control Delay (s)	46.2	12.0	553.2	11.6	12.4	0.0	0.0	0.0	16.2	0.0	0.0	0.0
Lane LOS	E	B	F	B	B				C			
Approach Delay (s)	15.2		534.7		0.9				0.4			
Approach LOS	C		F									

Intersection Summary				
Average Delay	33.9			
Intersection Capacity Utilization	51.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	0	82	34	0	5	63	818	26	2	460	30
Future Volume (vph)	146	0	82	34	0	5	63	818	26	2	460	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	4.0	3.6	4.0	3.6	3.8	3.5	3.5	3.8	3.6
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		145.0	75.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			100.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.850			0.850				0.850		0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1463	1342	0	1328	1324	0	1280	3449	992	1116	3083	0
Flt Permitted	0.754			0.704			0.473			0.324		
Satd. Flow (perm)	1161	1342	0	984	1324	0	637	3449	992	380	3083	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		347			137				47		8	
Link Speed (k/h)		50			50			80			80	
Link Distance (m)		667.0			270.4			438.0			348.1	
Travel Time (s)		48.0			19.5			19.7			15.7	
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 (%)	22%	0%	23%	42%	0%	22%	41%	7%	61%	60%	19%	13%
Adj. Flow (vph)	146	0	82	34	0	5	63	818	26	2	460	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	146	82	0	34	5	0	63	818	26	2	490	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)		4.0			4.0			7.1			7.1	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane		Yes										
Headway Factor	1.01	0.97	0.97	0.94	1.00	0.94	1.00	0.97	1.01	1.01	0.97	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	10.0	10.0		10.0	10.0		25.0	10.0	10.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		15.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		15.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	10.0	0.6		10.0	0.6		10.0	0.6	10.0	10.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Minimum Split (s)	36.2	36.2		36.2	36.2		35.6	35.6	35.6	35.6	35.6	
Total Split (s)	51.0	51.0		51.0	51.0		69.0	69.0	69.0	69.0	69.0	
Total Split (%)	42.5%	42.5%		42.5%	42.5%		57.5%	57.5%	57.5%	57.5%	57.5%	
Maximum Green (s)	42.8	42.8		42.8	42.8		62.4	62.4	62.4	62.4	62.4	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.6	4.6	4.6	4.6	4.6	
All-Red Time (s)	4.2	4.2		4.2	4.2		2.0	2.0	2.0	2.0	2.0	
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)	8.2	8.2		8.2	8.2		6.6	6.6	6.6	6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		21.0	21.0	21.0	21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)	17.6	17.6		17.6	17.6		65.3	65.3	65.3	65.3	65.3	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.67	0.67	0.67	0.67	0.67	
v/c Ratio	0.70	0.16		0.19	0.01		0.15	0.36	0.04	0.01	0.24	
Control Delay	54.5	0.6		34.6	0.0		8.3	8.2	1.1	7.5	7.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	54.5	0.6		34.6	0.0		8.3	8.2	1.1	7.5	7.2	
LOS	D	A		C	A		A	A	A	A	A	
Approach Delay		35.2			30.1			8.0			7.2	
Approach LOS		D			C			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 97.7			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 12.0		Intersection LOS: B	
Intersection Capacity Utilization 65.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 8: Airport Road & Airport Site Access/12333 Airport Road





Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	16	288	15	4	237
Future Volume (Veh/h)	30	16	288	15	4	237
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	17	313	16	4	258
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	587	321			329	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	587	321			329	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	98			100	
cM capacity (veh/h)	474	724			1242	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	50	329	262
Volume Left	33	0	4
Volume Right	17	16	0
cSH	537	1700	1242
Volume to Capacity	0.09	0.19	0.00
Queue Length 95th (m)	2.5	0.0	0.1
Control Delay (s)	12.4	0.0	0.2
Lane LOS	B		A
Approach Delay (s)	12.4	0.0	0.2
Approach LOS	B		

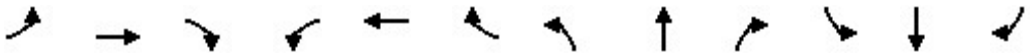
Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	26.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	16	289	15	4	211
Future Volume (Veh/h)	30	16	289	15	4	211
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	17	314	16	4	229
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	559	322			330	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	559	322			330	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	98			100	
cM capacity (veh/h)	492	724			1241	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	50	330	233
Volume Left	33	0	4
Volume Right	17	16	0
cSH	552	1700	1241
Volume to Capacity	0.09	0.19	0.00
Queue Length 95th (m)	2.4	0.0	0.1
Control Delay (s)	12.2	0.0	0.2
Lane LOS	B		A
Approach Delay (s)	12.2	0.0	0.2
Approach LOS	B		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	26.1%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	14	10	77	7	26	3	25	54	60	69	0
Future Volume (vph)	0	14	10	77	7	26	3	25	54	60	69	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	15	11	84	8	28	3	27	59	65	75	0

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total (vph)	0	26	84	36	3	86	65	75
Volume Left (vph)	0	0	84	0	3	0	65	0
Volume Right (vph)	0	11	0	28	0	59	0	0
Hadj (s)	0.00	-0.26	0.53	-0.51	0.53	-0.45	0.53	0.03
Departure Headway (s)	5.2	4.9	5.6	4.6	5.6	4.6	5.5	5.0
Degree Utilization, x	0.00	0.04	0.13	0.05	0.00	0.11	0.10	0.10
Capacity (veh/h)	670	692	612	748	622	754	629	694
Control Delay (s)	7.0	6.9	8.3	6.6	7.4	6.9	7.9	7.4
Approach Delay (s)	6.9		7.8		7.0		7.6	
Approach LOS	A		A		A		A	

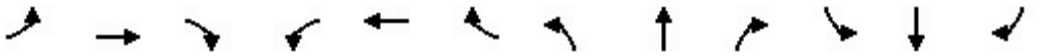
Intersection Summary				
Delay	7.5			
Level of Service	A			
Intersection Capacity Utilization	27.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	0	39	15	0	0	0
Future Volume (vph)	0	39	15	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	42	16	0	0	0

Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1
Volume Total (vph)	0	42	16	0	0
Volume Left (vph)	0	0	16	0	0
Volume Right (vph)	0	42	0	0	0
Hadj (s)	0.00	-0.67	0.53	0.00	0.00
Departure Headway (s)	4.5	3.9	5.1	4.6	4.4
Degree Utilization, x	0.00	0.05	0.02	0.00	0.00
Capacity (veh/h)	796	921	687	785	814
Control Delay (s)	6.3	5.9	7.0	6.4	7.4
Approach Delay (s)	5.9		7.0		0.0
Approach LOS	A		A		A

Intersection Summary			
Delay	6.2		
Level of Service	A		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

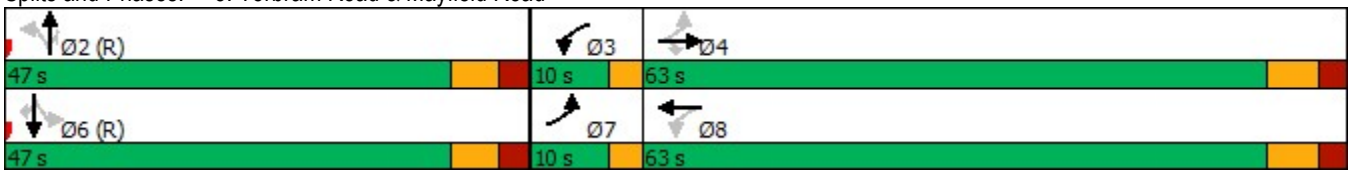


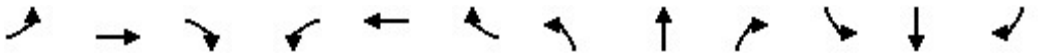
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	2208	259	198	1755	18	292	101	150	18	276	56
Future Volume (vph)	67	2208	259	198	1755	18	292	101	150	18	276	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.5	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5
Storage Length (m)	100.0		125.0	105.0		0.0	80.0		0.0	80.0		80.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	50.0			100.0			70.0			100.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.998				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	4734	1597	1785	4857	0	1785	1942	1587	1785	1942	1465
Flt Permitted	0.071			0.067			0.483			0.692		
Satd. Flow (perm)	130	4734	1597	126	4857	0	908	1942	1587	1300	1942	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			259		2				123			66
Link Speed (k/h)		80			80			70			70	
Link Distance (m)		442.3			716.7			493.9			483.3	
Travel Time (s)		19.9			32.3			25.4			24.9	
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 (%)	3%	12%	0%	0%	9%	4%	0%	0%	4%	0%	0%	9%
Adj. Flow (vph)	67	2208	259	198	1755	18	292	101	150	18	276	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	2208	259	198	1773	0	292	101	150	18	276	56
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)		3.6			3.6			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.97	1.01	1.01	0.97	0.97	1.01	0.97	0.97	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0		25.0	10.0	10.0	10.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0		15.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0		15.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6		10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	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	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	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	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Detector Phase	7	4	4	3	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	16.0	16.0	5.0	16.0		12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	8.0	47.3	47.3	8.0	47.3		40.1	40.1	40.1	40.1	40.1	40.1
Total Split (s)	10.0	63.0	63.0	10.0	63.0		47.0	47.0	47.0	47.0	47.0	47.0
Total Split (%)	8.3%	52.5%	52.5%	8.3%	52.5%		39.2%	39.2%	39.2%	39.2%	39.2%	39.2%
Maximum Green (s)	7.0	55.7	55.7	7.0	55.7		39.9	39.9	39.9	39.9	39.9	39.9
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6		4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	0.0	2.7	2.7	0.0	2.7		2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	-2.0	0.0		-2.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.3	7.3	1.0	7.3		5.1	7.1	7.1	7.1	7.1	7.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		35.0	35.0		35.0		28.0	28.0	28.0	28.0	28.0	28.0
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	0
Act Effct Green (s)	66.4	55.7	55.7	71.4	57.9		41.9	39.9	39.9	39.9	39.9	39.9
Actuated g/C Ratio	0.55	0.46	0.46	0.60	0.48		0.35	0.33	0.33	0.33	0.33	0.33
v/c Ratio	0.43	1.01	0.29	0.99	0.76		0.92	0.16	0.25	0.04	0.43	0.11
Control Delay	19.6	52.7	3.1	80.8	45.2		72.7	29.1	8.6	27.6	33.7	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.6	52.7	3.1	80.8	45.2		72.7	29.1	8.6	27.6	33.7	5.8
LOS	B	D	A	F	D		E	C	A	C	C	A
Approach Delay		46.8			48.8			46.9			28.9	
Approach LOS		D			D			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
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: 1.01			
Intersection Signal Delay: 46.4		Intersection LOS: D	
Intersection Capacity Utilization 103.9%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 3: Torbram Road & Mayfield Road



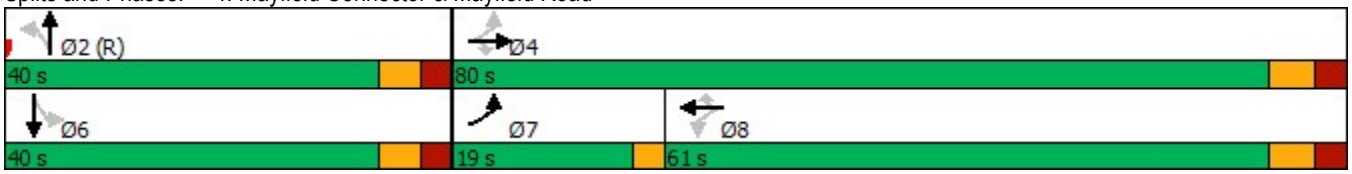


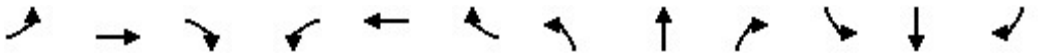
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	230	2092	110	14	1765	56	231	0	35	28	0	77
Future Volume (vph)	230	2092	110	14	1765	56	231	0	35	28	0	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.8	3.5	3.5	3.8	3.6	3.8	3.6	3.8	3.6	3.6	3.6
Storage Length (m)	75.0		55.0	75.0		55.0	55.0		0.0	55.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1517	4734	1566	1750	4864	1170	1809	1583	0	1357	1313	0
Flt Permitted	0.074			0.078			0.707			0.734		
Satd. Flow (perm)	118	4734	1566	144	4864	1170	1346	1583	0	1049	1313	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			86			60		65			253	
Link Speed (k/h)		80			80			50			50	
Link Distance (m)		716.7			643.7			353.1			866.6	
Travel Time (s)		32.3			29.0			25.4			62.4	
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 (%)	19%	12%	2%	2%	9%	38%	2%	0%	2%	33%	0%	23%
Adj. Flow (vph)	230	2092	110	14	1765	56	231	0	35	28	0	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	230	2092	110	14	1765	56	231	35	0	28	77	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)		3.6			3.6			3.8			3.8	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	0.97	1.01	1.01	0.97	1.00	0.97	1.00	0.97	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	2.0	25.0	10.0		10.0	10.0	
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0		0.0	0.0	
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0		0.0	0.0	
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	2.0	10.0	0.6		10.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	7	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		5.0	5.0	
Minimum Split (s)	9.5	25.1	25.1	25.1	25.1	25.1	24.6	24.6		24.6	24.6	
Total Split (s)	19.0	80.0	80.0	61.0	61.0	61.0	40.0	40.0		40.0	40.0	
Total Split (%)	15.8%	66.7%	66.7%	50.8%	50.8%	50.8%	33.3%	33.3%		33.3%	33.3%	
Maximum Green (s)	16.0	72.9	72.9	53.9	53.9	53.9	33.4	33.4		33.4	33.4	
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.7	3.7		3.7	3.7	
All-Red Time (s)	0.0	3.1	3.1	3.1	3.1	3.1	2.9	2.9		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.1	7.1	7.1	7.1	7.1	6.6	6.6		6.6	6.6	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	Min	Min	Min	C-Max	C-Max		Max	Max	
Walk Time (s)		7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	73.6	69.5	69.5	50.9	50.9	50.9	36.8	36.8		36.8	36.8	
Actuated g/C Ratio	0.61	0.58	0.58	0.42	0.42	0.42	0.31	0.31		0.31	0.31	
v/c Ratio	0.91	0.76	0.12	0.23	0.86	0.11	0.56	0.07		0.09	0.13	
Control Delay	76.4	3.2	0.1	14.4	18.7	0.4	42.3	2.3		32.8	0.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	76.4	3.2	0.1	14.4	18.7	0.4	42.3	2.3		32.8	0.5	
LOS	E	A	A	B	B	A	D	A		C	A	
Approach Delay		10.0			18.1			37.0			9.1	
Approach LOS		A			B			D			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 34 (28%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay: 14.7		Intersection LOS: B	
Intersection Capacity Utilization 87.2%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4: Mayfield Connector & Mayfield Road



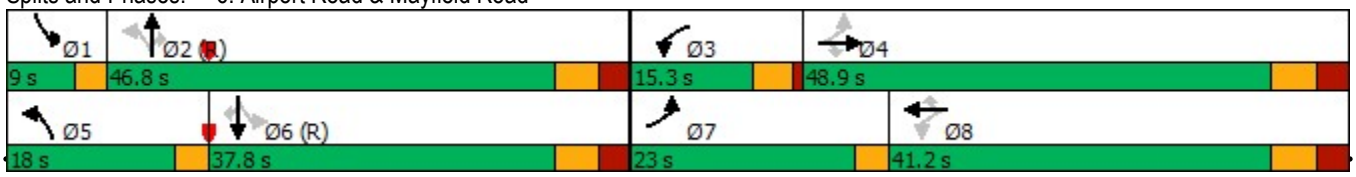


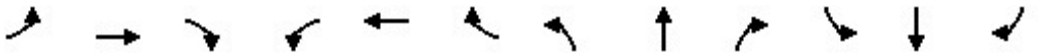
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	261	1190	443	109	1222	74	259	368	96	104	716	217
Future Volume (vph)	261	1190	443	109	1222	74	259	368	96	104	716	217
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		60.0	165.0		60.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			100.0			80.0			65.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	4939	1515	1653	5216	977	1700	3386	1426	1475	3355	1353
Flt Permitted	0.108			0.177			0.163			0.533		
Satd. Flow (perm)	147	4939	1493	308	5216	961	291	3386	1426	828	3355	1332
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			342			158			133			217
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		643.7			619.2			458.9			446.4	
Travel Time (s)		38.6			37.2			27.5			26.8	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	261	1190	443	109	1222	74	259	368	96	104	716	217
Shared Lane Traffic (%)												
Lane Group Flow (vph)	261	1190	443	109	1222	74	259	368	96	104	716	217
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.91	0.97	1.01	0.91	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	41.1	41.1	9.5	41.1	41.1	8.0	36.9	36.9	9.0	36.9	36.9
Total Split (s)	23.0	48.9	48.9	15.3	41.2	41.2	18.0	46.8	46.8	9.0	37.8	37.8
Total Split (%)	19.2%	40.8%	40.8%	12.8%	34.3%	34.3%	15.0%	39.0%	39.0%	7.5%	31.5%	31.5%
Maximum Green (s)	20.0	41.8	41.8	10.8	34.1	34.1	15.0	39.9	39.9	6.0	30.9	30.9
Yellow Time (s)	3.0	4.0	4.0	3.5	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	1.0	3.1	3.1	0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	4.5	7.1	7.1	3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0	27.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	61.2	44.0	44.0	45.3	34.1	34.1	52.8	39.9	39.9	41.2	31.3	31.3
Actuated g/C Ratio	0.51	0.37	0.37	0.38	0.28	0.28	0.44	0.33	0.33	0.34	0.26	0.26
v/c Ratio	0.98	0.66	0.58	0.51	0.82	0.19	0.87	0.33	0.17	0.33	0.82	0.43
Control Delay	65.7	34.9	19.5	26.4	45.8	1.1	51.9	31.0	2.5	25.4	50.6	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.7	34.9	19.5	26.4	45.8	1.1	51.9	31.0	2.5	25.4	50.6	7.4
LOS	E	C	B	C	D	A	D	C	A	C	D	A
Approach Delay		35.6			41.9			34.7			39.0	
Approach LOS		D			D			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 37.9		Intersection LOS: D	
Intersection Capacity Utilization 100.5%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road

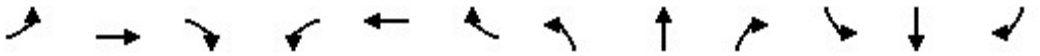




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1	33	78	0	17	46	707	83	2	879	3
Future Volume (Veh/h)	5	1	33	78	0	17	46	707	83	2	879	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
Hourly flow rate (vph)	5	1	33	78	0	17	46	707	86	2	879	3
Pedestrians		1			5							
Lane Width (m)		3.6			3.6							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1346	1774	440	1281	1691	358	883			798		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1346	1774	440	1281	1691	358	883			798		
tC, single (s)	7.9	6.5	7.2	7.6	6.5	6.9	5.8			5.8		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.4	3.6	4.0	3.3	3.1			3.1		
p0 queue free %	94	99	94	21	100	97	88			100		
cM capacity (veh/h)	84	73	535	98	83	641	398			447		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	5	34	52	43	46	354	354	86	2	440	440	3
Volume Left	5	0	52	26	46	0	0	0	2	0	0	0
Volume Right	0	33	0	17	0	0	0	86	0	0	0	3
cSH	84	451	98	148	398	1700	1700	1700	447	1700	1700	1700
Volume to Capacity	0.06	0.08	0.53	0.29	0.12	0.21	0.21	0.05	0.00	0.26	0.26	0.00
Queue Length 95th (m)	1.5	1.9	19.1	9.1	3.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Control Delay (s)	50.6	13.6	76.8	39.0	15.2	0.0	0.0	0.0	13.1	0.0	0.0	0.0
Lane LOS	F	B	F	E	C				B			
Approach Delay (s)	18.4		59.7		0.8				0.0			
Approach LOS	C		F									

Intersection Summary				
Average Delay	3.8			
Intersection Capacity Utilization	47.0%	ICU Level of Service	A	
Analysis Period (min)	15			

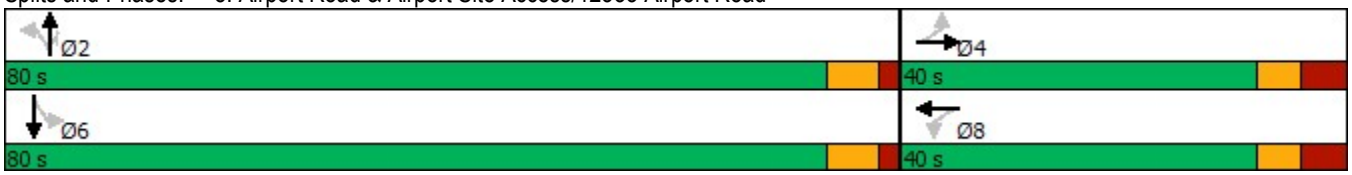


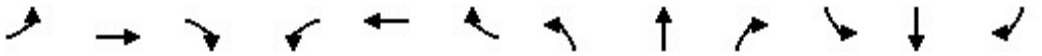
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	0	114	77	0	11	169	443	61	17	682	123
Future Volume (vph)	30	0	114	77	0	11	169	443	61	17	682	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	4.0	3.6	4.0	3.6	3.8	3.5	3.5	3.8	3.6
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		145.0	75.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			100.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.850			0.850				0.850		0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1463	1342	0	1328	1324	0	1280	3449	992	1116	3053	0
Flt Permitted	0.750			0.684			0.336			0.495		
Satd. Flow (perm)	1155	1342	0	956	1324	0	453	3449	992	581	3053	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		255			429				61		32	
Link Speed (k/h)		50			50			80			80	
Link Distance (m)		667.0			270.4			438.0			348.1	
Travel Time (s)		48.0			19.5			19.7			15.7	
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 (%)	22%	0%	23%	42%	0%	22%	41%	7%	61%	60%	19%	13%
Adj. Flow (vph)	30	0	114	77	0	11	169	443	61	17	682	123
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	114	0	77	11	0	169	443	61	17	805	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)		4.0			4.0			7.1			7.1	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane		Yes										
Headway Factor	1.01	0.97	0.97	0.94	1.00	0.94	1.00	0.97	1.01	1.01	0.97	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	10.0	10.0		10.0	10.0		25.0	10.0	10.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		15.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		15.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	10.0	0.6		10.0	0.6		10.0	0.6	10.0	10.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Minimum Split (s)	36.2	36.2		36.2	36.2		35.6	35.6	35.6	35.6	35.6	
Total Split (s)	40.0	40.0		40.0	40.0		80.0	80.0	80.0	80.0	80.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%		66.7%	66.7%	66.7%	66.7%	66.7%	
Maximum Green (s)	31.8	31.8		31.8	31.8		73.4	73.4	73.4	73.4	73.4	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.6	4.6	4.6	4.6	4.6	
All-Red Time (s)	4.2	4.2		4.2	4.2		2.0	2.0	2.0	2.0	2.0	
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)	8.2	8.2		8.2	8.2		6.6	6.6	6.6	6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		21.0	21.0	21.0	21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)	14.9	14.9		14.9	14.9		76.3	76.3	76.3	76.3	76.3	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.72	0.72	0.72	0.72	0.72	
v/c Ratio	0.19	0.28		0.57	0.02		0.52	0.18	0.08	0.04	0.37	
Control Delay	41.0	1.7		58.4	0.1		14.7	5.3	1.8	5.5	6.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	41.0	1.7		58.4	0.1		14.7	5.3	1.8	5.5	6.3	
LOS	D	A		E	A		B	A	A	A	A	
Approach Delay		9.9			51.1			7.4			6.3	
Approach LOS		A			D			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 106.1			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 9.3		Intersection LOS: A	
Intersection Capacity Utilization 61.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Airport Road & Airport Site Access/12333 Airport Road



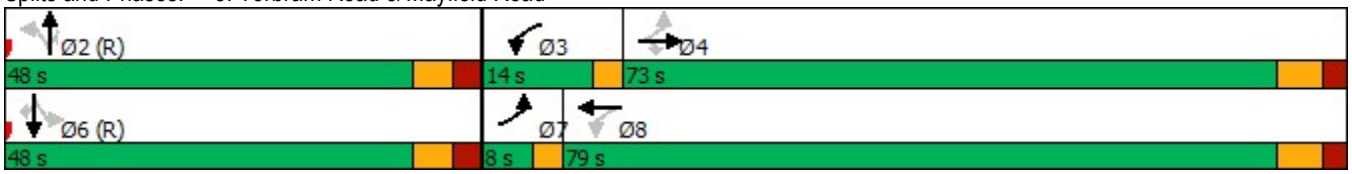


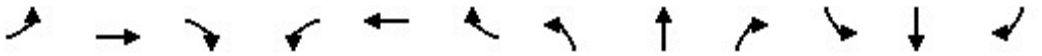
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	2118	243	177	2257	16	305	168	177	12	85	60
Future Volume (vph)	51	2118	243	177	2257	16	305	168	177	12	85	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.5	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5
Storage Length (m)	100.0		125.0	105.0		0.0	80.0		0.0	80.0		80.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	50.0			100.0			70.0			100.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	4734	1597	1785	4861	0	1785	1942	1587	1785	1942	1465
Flt Permitted	0.061			0.058			0.702			0.611		
Satd. Flow (perm)	111	4734	1597	109	4861	0	1319	1942	1587	1148	1942	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			243		1				121			83
Link Speed (k/h)		80			80			70			70	
Link Distance (m)		442.3			716.7			493.9			483.3	
Travel Time (s)		19.9			32.3			25.4			24.9	
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 (%)	3%	12%	0%	0%	9%	4%	0%	0%	4%	0%	0%	9%
Adj. Flow (vph)	51	2118	243	177	2257	16	305	168	177	12	85	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	51	2118	243	177	2273	0	305	168	177	12	85	60
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)		3.6			3.6			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.97	1.01	1.01	0.97	0.97	1.01	0.97	0.97	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0		25.0	10.0	10.0	10.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0		15.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0		15.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6		10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	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	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	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	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Detector Phase	7	4	4	3	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	16.0	16.0	5.0	16.0		12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	8.0	50.3	50.3	8.0	50.3		43.1	43.1	43.1	43.1	43.1	43.1
Total Split (s)	8.0	73.0	73.0	14.0	79.0		48.0	48.0	48.0	48.0	48.0	48.0
Total Split (%)	5.9%	54.1%	54.1%	10.4%	58.5%		35.6%	35.6%	35.6%	35.6%	35.6%	35.6%
Maximum Green (s)	5.0	65.7	65.7	11.0	71.7		40.9	40.9	40.9	40.9	40.9	40.9
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6		4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	0.0	2.7	2.7	0.0	2.7		2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	-2.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.3	7.3	1.0	7.3		7.1	7.1	7.1	7.1	7.1	7.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)		8.0	8.0		8.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		35.0	35.0		35.0		28.0	28.0	28.0	28.0	28.0	28.0
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	0
Act Effct Green (s)	74.4	65.1	65.1	85.0	72.3		41.9	41.9	41.9	41.9	41.9	41.9
Actuated g/C Ratio	0.55	0.48	0.48	0.63	0.54		0.31	0.31	0.31	0.31	0.31	0.31
v/c Ratio	0.42	0.93	0.27	0.79	0.87		0.75	0.28	0.31	0.03	0.14	0.12
Control Delay	21.9	41.0	3.0	63.3	36.9		54.9	37.1	13.8	33.7	35.0	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	41.0	3.0	63.3	36.9		54.9	37.1	13.8	33.7	35.0	3.6
LOS	C	D	A	E	D		D	D	B	C	C	A
Approach Delay		36.8			38.8			39.1			22.9	
Approach LOS		D			D			D			C	

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: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 37.5		Intersection LOS: D	
Intersection Capacity Utilization 89.6%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 3: Torbram Road & Mayfield Road



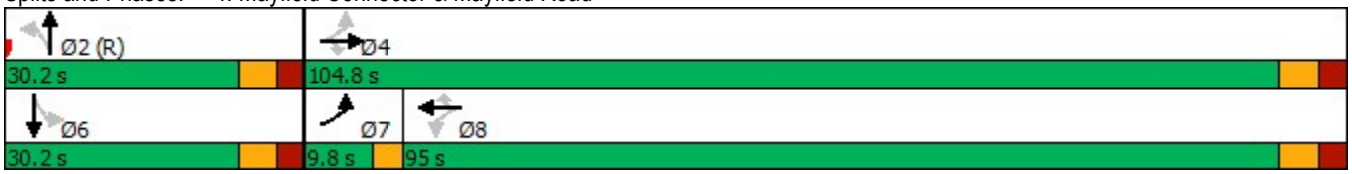


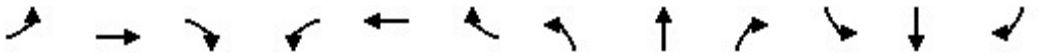
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	2155	98	41	2099	27	104	0	23	42	0	258
Future Volume (vph)	84	2155	98	41	2099	27	104	0	23	42	0	258
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.6	3.8	3.5	3.5	3.8	3.6	3.8	3.6	3.8	3.6	3.6	3.6
Storage Length (m)	75.0		55.0	75.0		55.0	55.0		0.0	55.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1517	4734	1566	1750	4864	1170	1809	1583	0	1357	1313	0
Flt Permitted	0.049			0.060			0.409			0.742		
Satd. Flow (perm)	78	4734	1566	111	4864	1170	779	1583	0	1060	1313	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			94			53		57			91	
Link Speed (k/h)		80			80			50			50	
Link Distance (m)		716.7			643.7			353.1			866.6	
Travel Time (s)		32.3			29.0			25.4			62.4	
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 (%)	19%	12%	2%	2%	9%	38%	2%	0%	2%	33%	0%	23%
Adj. Flow (vph)	84	2155	98	41	2099	27	104	0	23	42	0	258
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	2155	98	41	2099	27	104	23	0	42	258	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)		3.6			3.6			3.8			3.8	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	0.97	1.01	1.01	0.97	1.00	0.97	1.00	0.97	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	2.0	25.0	10.0		10.0	10.0	
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0		0.0	0.0	
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0		0.0	0.0	
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	2.0	10.0	0.6		10.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Detector Phase	7	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0		5.0	5.0	
Minimum Split (s)	9.5	25.1	25.1	25.1	25.1	25.1	24.6	24.6		24.6	24.6	
Total Split (s)	9.8	104.8	104.8	95.0	95.0	95.0	30.2	30.2		30.2	30.2	
Total Split (%)	7.3%	77.6%	77.6%	70.4%	70.4%	70.4%	22.4%	22.4%		22.4%	22.4%	
Maximum Green (s)	6.8	97.7	97.7	87.9	87.9	87.9	23.6	23.6		23.6	23.6	
Yellow Time (s)	3.0	4.0	4.0	4.0	4.0	4.0	3.7	3.7		3.7	3.7	
All-Red Time (s)	0.0	3.1	3.1	3.1	3.1	3.1	2.9	2.9		2.9	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.1	7.1	7.1	7.1	7.1	6.6	6.6		6.6	6.6	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	Min	Min	Min	C-Max	C-Max		Max	Max	
Walk Time (s)		7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	92.4	88.3	88.3	78.7	78.7	78.7	33.0	33.0		33.0	33.0	
Actuated g/C Ratio	0.68	0.65	0.65	0.58	0.58	0.58	0.24	0.24		0.24	0.24	
v/c Ratio	0.68	0.70	0.09	0.64	0.74	0.04	0.55	0.05		0.16	0.66	
Control Delay	46.1	27.0	7.2	52.4	24.3	0.2	59.5	0.2		46.5	40.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	46.1	27.0	7.2	52.4	24.3	0.2	59.5	0.2		46.5	40.1	
LOS	D	C	A	D	C	A	E	A		D	D	
Approach Delay		26.8			24.5			48.8			41.0	
Approach LOS		C			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 27.2		Intersection LOS: C	
Intersection Capacity Utilization 100.4%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 4: Mayfield Connector & Mayfield Road



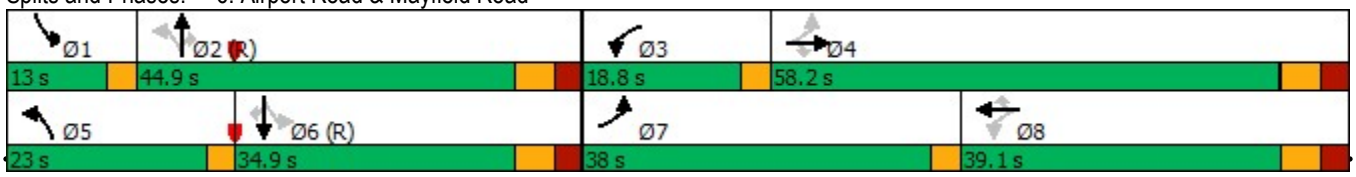


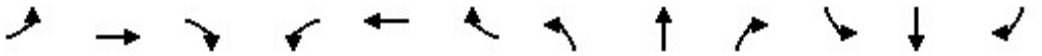
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	359	1204	224	126	1246	84	376	647	103	144	464	323
Future Volume (vph)	359	1204	224	126	1246	84	376	647	103	144	464	323
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		60.0	165.0		60.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			100.0			80.0			65.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	4939	1515	1653	5216	977	1700	3386	1426	1475	3355	1353
Flt Permitted	0.110			0.222			0.283			0.330		
Satd. Flow (perm)	150	4939	1493	386	5216	960	506	3386	1426	512	3355	1331
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			185			128			106			323
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		643.7			619.2			458.9			446.4	
Travel Time (s)		38.6			37.2			27.5			26.8	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	359	1204	224	126	1246	84	376	647	103	144	464	323
Shared Lane Traffic (%)												
Lane Group Flow (vph)	359	1204	224	126	1246	84	376	647	103	144	464	323
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.91	0.97	1.01	0.91	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	39.1	39.1	8.0	39.1	39.1	8.0	34.9	34.9	9.0	34.9	34.9
Total Split (s)	38.0	58.2	58.2	18.8	39.1	39.1	23.0	44.9	44.9	13.0	34.9	34.9
Total Split (%)	28.1%	43.1%	43.1%	13.9%	29.0%	29.0%	17.0%	33.3%	33.3%	9.6%	25.9%	25.9%
Maximum Green (s)	35.0	51.1	51.1	15.8	32.0	32.0	20.0	38.0	38.0	10.0	28.0	28.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	0.0	3.1	3.1	0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	3.0	7.1	7.1	3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		27.0	27.0		27.0	27.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	74.1	57.4	57.4	47.0	33.2	33.2	54.9	38.4	38.4	41.5	28.0	28.0
Actuated g/C Ratio	0.55	0.43	0.43	0.35	0.25	0.25	0.41	0.28	0.28	0.31	0.21	0.21
v/c Ratio	0.98	0.57	0.30	0.56	0.97	0.25	0.98	0.67	0.21	0.64	0.67	0.61
Control Delay	91.5	30.1	8.7	29.3	69.4	3.4	75.6	47.0	7.3	42.6	54.6	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.5	30.1	8.7	29.3	69.4	3.4	75.6	47.0	7.3	42.6	54.6	10.0
LOS	F	C	A	C	E	A	E	D	A	D	D	A
Approach Delay		39.7			62.1			52.9			37.3	
Approach LOS		D			E			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 125.1 (93%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 48.3		Intersection LOS: D	
Intersection Capacity Utilization 109.1%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road

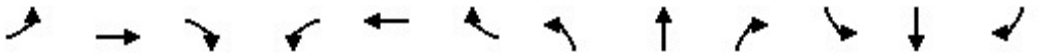




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	1	76	113	0	4	78	948	90	17	637	6
Future Volume (Veh/h)	8	1	76	113	0	4	78	948	90	17	637	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00
Hourly flow rate (vph)	8	1	76	113	0	4	78	948	94	17	637	6
Pedestrians		1			5							
Lane Width (m)		3.6			3.6							
Walking Speed (m/s)		1.2			1.2							
Percent Blockage		0			0							
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1306	1875	320	1538	1787	479	644			1047		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1306	1875	320	1538	1787	479	644			1047		
tC, single (s)	7.9	6.5	7.2	7.6	6.5	6.9	5.8			5.8		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.4	3.6	4.0	3.3	3.1			3.1		
p0 queue free %	91	98	88	0	100	99	85			95		
cM capacity (veh/h)	86	58	644	55	66	536	536			328		

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	8	77	113	4	78	474	474	94	17	318	318	6
Volume Left	8	0	113	0	78	0	0	0	17	0	0	0
Volume Right	0	76	0	4	0	0	0	94	0	0	0	6
cSH	86	570	55	536	536	1700	1700	1700	328	1700	1700	1700
Volume to Capacity	0.09	0.14	2.04	0.01	0.15	0.28	0.28	0.06	0.05	0.19	0.19	0.00
Queue Length 95th (m)	2.4	3.7	88.3	0.2	4.1	0.0	0.0	0.0	1.3	0.0	0.0	0.0
Control Delay (s)	50.9	12.3	640.9	11.8	12.9	0.0	0.0	0.0	16.6	0.0	0.0	0.0
Lane LOS	F	B	F	B	B				C			
Approach Delay (s)	15.9		619.4		0.9				0.4			
Approach LOS	C		F									

Intersection Summary				
Average Delay	37.9			
Intersection Capacity Utilization	52.5%	ICU Level of Service	A	
Analysis Period (min)	15			



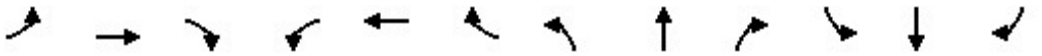
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	193	0	120	34	0	5	89	818	26	2	460	39
Future Volume (vph)	193	0	120	34	0	5	89	818	26	2	460	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	4.0	3.6	4.0	3.6	3.8	3.5	3.5	3.8	3.6
Storage Length (m)	55.0		0.0	0.0		0.0	0.0		145.0	75.0		0.0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			100.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.850			0.850				0.850		0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1463	1342	0	1328	1324	0	1280	3449	992	1116	3076	0
Flt Permitted	0.754			0.680			0.469			0.317		
Satd. Flow (perm)	1161	1342	0	950	1324	0	632	3449	992	372	3076	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		347			137				47		11	
Link Speed (k/h)		50			50			80			80	
Link Distance (m)		667.0			270.4			438.0			348.1	
Travel Time (s)		48.0			19.5			19.7			15.7	
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 (%)	22%	0%	23%	42%	0%	22%	41%	7%	61%	60%	19%	13%
Adj. Flow (vph)	193	0	120	34	0	5	89	818	26	2	460	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	193	120	0	34	5	0	89	818	26	2	499	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)		4.0			4.0			7.1			7.1	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane		Yes										
Headway Factor	1.01	0.97	0.97	0.94	1.00	0.94	1.00	0.97	1.01	1.01	0.97	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	10.0	10.0		10.0	10.0		25.0	10.0	10.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		15.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		15.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	10.0	0.6		10.0	0.6		10.0	0.6	10.0	10.0	0.6	
Detector 1 Type	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	
Detector 1 Queue (s)	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	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	
Minimum Split (s)	36.2	36.2		36.2	36.2		35.6	35.6	35.6	35.6	35.6	
Total Split (s)	51.0	51.0		51.0	51.0		69.0	69.0	69.0	69.0	69.0	
Total Split (%)	42.5%	42.5%		42.5%	42.5%		57.5%	57.5%	57.5%	57.5%	57.5%	
Maximum Green (s)	42.8	42.8		42.8	42.8		62.4	62.4	62.4	62.4	62.4	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.6	4.6	4.6	4.6	4.6	
All-Red Time (s)	4.2	4.2		4.2	4.2		2.0	2.0	2.0	2.0	2.0	
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)	8.2	8.2		8.2	8.2		6.6	6.6	6.6	6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	
Flash Dont Walk (s)	20.0	20.0		20.0	20.0		21.0	21.0	21.0	21.0	21.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)	21.5	21.5		21.5	21.5		62.9	62.9	62.9	62.9	62.9	
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.63	0.63	0.63	0.63	0.63	
v/c Ratio	0.77	0.21		0.17	0.01		0.22	0.37	0.04	0.01	0.26	
Control Delay	56.3	0.9		32.2	0.0		11.3	10.2	1.3	9.5	9.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	56.3	0.9		32.2	0.0		11.3	10.2	1.3	9.5	9.0	
LOS	E	A		C	A		B	B	A	A	A	
Approach Delay		35.1			28.1			10.1			9.0	
Approach LOS		D			C			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 99.2			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 14.6		Intersection LOS: B	
Intersection Capacity Utilization 67.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 8: Airport Road & Airport Site Access/12333 Airport Road



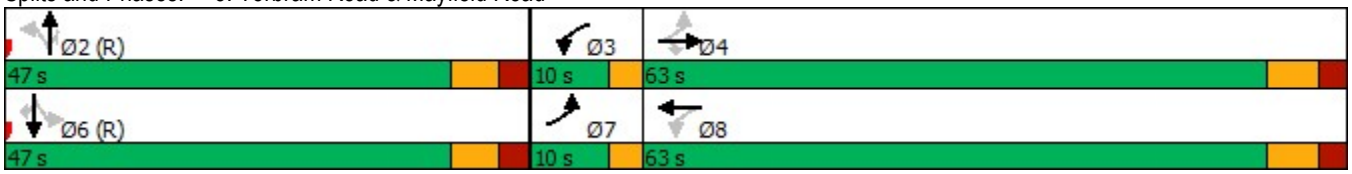


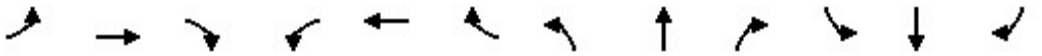
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	2160	259	188	1737	66	292	115	135	55	286	74
Future Volume (vph)	116	2160	259	188	1737	66	292	115	135	55	286	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.5	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5
Storage Length (m)	100.0		125.0	105.0		0.0	80.0		0.0	80.0		80.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	50.0			100.0			70.0			100.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.995				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	4734	1597	1785	4848	0	1785	1942	1587	1785	1942	1465
Flt Permitted	0.072			0.069			0.472			0.683		
Satd. Flow (perm)	131	4734	1597	130	4848	0	887	1942	1587	1283	1942	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			259		6				123			74
Link Speed (k/h)		80			80			70			70	
Link Distance (m)		442.3			716.7			493.9			483.3	
Travel Time (s)		19.9			32.3			25.4			24.9	
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 (%)	3%	12%	0%	0%	9%	4%	0%	0%	4%	0%	0%	9%
Adj. Flow (vph)	116	2160	259	188	1737	66	292	115	135	55	286	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	2160	259	188	1803	0	292	115	135	55	286	74
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)		3.6			3.6			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.97	1.01	1.01	0.97	0.97	1.01	0.97	0.97	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0		25.0	10.0	10.0	10.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0		15.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0		15.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6		10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	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	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	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	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Detector Phase	7	4	4	3	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	16.0	16.0	5.0	16.0		12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	8.0	47.3	47.3	8.0	47.3		40.1	40.1	40.1	40.1	40.1	40.1
Total Split (s)	10.0	63.0	63.0	10.0	63.0		47.0	47.0	47.0	47.0	47.0	47.0
Total Split (%)	8.3%	52.5%	52.5%	8.3%	52.5%		39.2%	39.2%	39.2%	39.2%	39.2%	39.2%
Maximum Green (s)	7.0	55.7	55.7	7.0	55.7		39.9	39.9	39.9	39.9	39.9	39.9
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6		4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	0.0	2.7	2.7	0.0	2.7		2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	-2.0	0.0		-2.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.3	7.3	1.0	7.3		5.1	7.1	7.1	7.1	7.1	7.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		35.0	35.0		35.0		28.0	28.0	28.0	28.0	28.0	28.0
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	0
Act Effct Green (s)	66.9	55.7	55.7	71.1	55.8		41.9	39.9	39.9	39.9	39.9	39.9
Actuated g/C Ratio	0.56	0.46	0.46	0.59	0.46		0.35	0.33	0.33	0.33	0.33	0.33
v/c Ratio	0.70	0.98	0.29	0.94	0.80		0.94	0.18	0.22	0.13	0.44	0.14
Control Delay	41.2	47.6	3.1	66.6	49.8		78.1	29.4	7.1	29.1	34.1	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.2	47.6	3.1	66.6	49.8		78.1	29.4	7.1	29.1	34.1	6.9
LOS	D	D	A	E	D		E	C	A	C	C	A
Approach Delay		42.8			51.4			50.1			28.6	
Approach LOS		D			D			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
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: 0.98			
Intersection Signal Delay: 45.5		Intersection LOS: D	
Intersection Capacity Utilization 103.0%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 3: Torbram Road & Mayfield Road



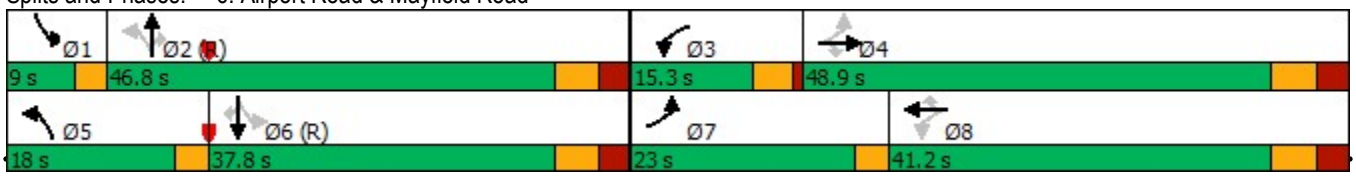


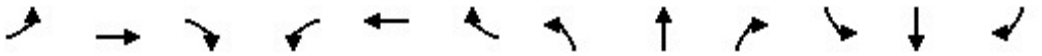
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	261	1204	466	109	1235	60	293	334	96	89	693	217
Future Volume (vph)	261	1204	466	109	1235	60	293	334	96	89	693	217
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		60.0	165.0		60.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			100.0			80.0			65.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	4939	1515	1653	5216	977	1700	3386	1426	1475	3355	1353
Flt Permitted	0.108			0.172			0.174			0.550		
Satd. Flow (perm)	147	4939	1493	299	5216	961	311	3386	1426	854	3355	1332
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			343			158			133			217
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		643.7			619.2			458.9			446.4	
Travel Time (s)		38.6			37.2			27.5			26.8	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	261	1204	466	109	1235	60	293	334	96	89	693	217
Shared Lane Traffic (%)												
Lane Group Flow (vph)	261	1204	466	109	1235	60	293	334	96	89	693	217
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.91	0.97	1.01	0.91	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	41.1	41.1	9.5	41.1	41.1	8.0	36.9	36.9	9.0	36.9	36.9
Total Split (s)	23.0	48.9	48.9	15.3	41.2	41.2	18.0	46.8	46.8	9.0	37.8	37.8
Total Split (%)	19.2%	40.8%	40.8%	12.8%	34.3%	34.3%	15.0%	39.0%	39.0%	7.5%	31.5%	31.5%
Maximum Green (s)	20.0	41.8	41.8	10.8	34.1	34.1	15.0	39.9	39.9	6.0	30.9	30.9
Yellow Time (s)	3.0	4.0	4.0	3.5	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	1.0	3.1	3.1	0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	4.5	7.1	7.1	3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0	27.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	61.2	44.0	44.0	45.3	34.1	34.1	52.8	40.0	40.0	40.7	30.9	30.9
Actuated g/C Ratio	0.51	0.37	0.37	0.38	0.28	0.28	0.44	0.33	0.33	0.34	0.26	0.26
v/c Ratio	0.98	0.67	0.61	0.52	0.83	0.16	0.95	0.30	0.17	0.28	0.80	0.43
Control Delay	66.5	36.6	21.0	26.8	46.2	0.8	64.8	30.5	2.5	23.9	49.9	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.5	36.6	21.0	26.8	46.2	0.8	64.8	30.5	2.5	23.9	49.9	7.5
LOS	E	D	C	C	D	A	E	C	A	C	D	A
Approach Delay		36.9			42.8			40.7			38.4	
Approach LOS		D			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 39.3		Intersection LOS: D	
Intersection Capacity Utilization 102.4%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road



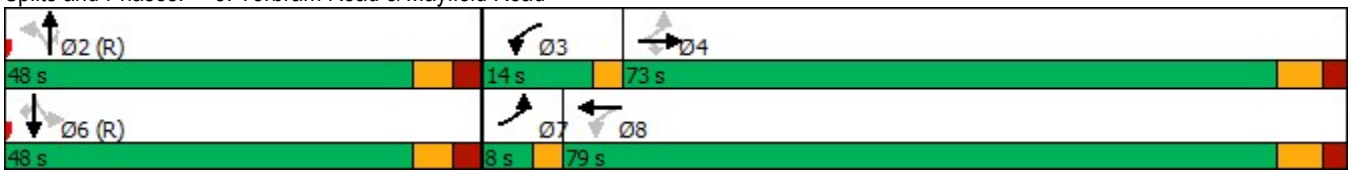


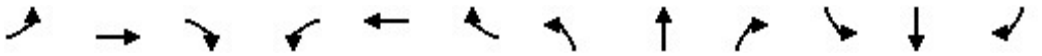
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	2100	243	167	2194	42	305	176	169	49	95	122
Future Volume (vph)	68	2100	243	167	2194	42	305	176	169	49	95	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.5	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5
Storage Length (m)	100.0		125.0	105.0		0.0	80.0		0.0	80.0		80.0
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (m)	50.0			100.0			70.0			100.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.997				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1733	4734	1597	1785	4854	0	1785	1942	1587	1785	1942	1465
Flt Permitted	0.061			0.058			0.695			0.599		
Satd. Flow (perm)	111	4734	1597	109	4854	0	1306	1942	1587	1125	1942	1465
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			243		3				121			83
Link Speed (k/h)		80			80			70			70	
Link Distance (m)		442.3			716.7			493.9			483.3	
Travel Time (s)		19.9			32.3			25.4			24.9	
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 (%)	3%	12%	0%	0%	9%	4%	0%	0%	4%	0%	0%	9%
Adj. Flow (vph)	68	2100	243	167	2194	42	305	176	169	49	95	122
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	2100	243	167	2236	0	305	176	169	49	95	122
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)		3.6			3.6			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.97	1.01	1.01	0.97	0.97	1.01	0.97	0.97	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0		25.0	10.0	10.0	10.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0		15.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0		15.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6		10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	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	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	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	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Detector Phase	7	4	4	3	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	16.0	16.0	5.0	16.0		12.0	12.0	12.0	12.0	12.0	12.0
Minimum Split (s)	8.0	50.3	50.3	8.0	50.3		43.1	43.1	43.1	43.1	43.1	43.1
Total Split (s)	8.0	73.0	73.0	14.0	79.0		48.0	48.0	48.0	48.0	48.0	48.0
Total Split (%)	5.9%	54.1%	54.1%	10.4%	58.5%		35.6%	35.6%	35.6%	35.6%	35.6%	35.6%
Maximum Green (s)	5.0	65.7	65.7	11.0	71.7		40.9	40.9	40.9	40.9	40.9	40.9
Yellow Time (s)	3.0	4.6	4.6	3.0	4.6		4.2	4.2	4.2	4.2	4.2	4.2
All-Red Time (s)	0.0	2.7	2.7	0.0	2.7		2.9	2.9	2.9	2.9	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	-2.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.3	7.3	1.0	7.3		7.1	7.1	7.1	7.1	7.1	7.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)		8.0	8.0		8.0		8.0	8.0	8.0	8.0	8.0	8.0
Flash Dont Walk (s)		35.0	35.0		35.0		28.0	28.0	28.0	28.0	28.0	28.0
Pedestrian Calls (#/hr)		0	0		0		0	0	0	0	0	0
Act Effct Green (s)	74.5	65.2	65.2	84.8	72.1		42.1	42.1	42.1	42.1	42.1	42.1
Actuated g/C Ratio	0.55	0.48	0.48	0.63	0.53		0.31	0.31	0.31	0.31	0.31	0.31
v/c Ratio	0.56	0.92	0.27	0.76	0.86		0.75	0.29	0.29	0.14	0.16	0.24
Control Delay	33.2	40.1	3.0	59.9	37.0		55.2	37.3	12.8	35.7	35.2	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.2	40.1	3.0	59.9	37.0		55.2	37.3	12.8	35.7	35.2	14.2
LOS	C	D	A	E	D		E	D	B	D	D	B
Approach Delay		36.1			38.6			39.3			25.6	
Approach LOS		D			D			D			C	

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: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 37.1		Intersection LOS: D	
Intersection Capacity Utilization 98.0%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 3: Torbram Road & Mayfield Road



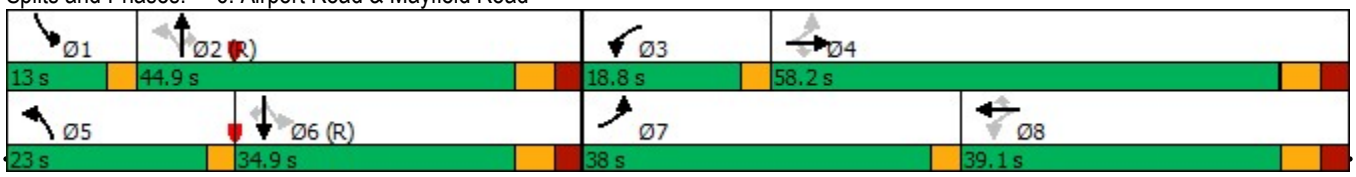


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	359	1219	246	126	1253	77	394	628	103	129	442	323
Future Volume (vph)	359	1219	246	126	1253	77	394	628	103	129	442	323
Ideal Flow (vphpl)	1900	2000	1900	1900	2000	1900	1900	1900	1900	1900	1900	1900
Lane Width (m)	3.5	3.8	3.8	3.5	3.8	3.8	3.5	3.8	3.5	3.5	3.8	3.5
Storage Length (m)	200.0		60.0	165.0		60.0	95.0		60.0	100.0		105.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	70.0			100.0			80.0			65.0		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00		0.98	1.00					0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1293	4939	1515	1653	5216	977	1700	3386	1426	1475	3355	1353
Flt Permitted	0.110			0.218			0.304			0.350		
Satd. Flow (perm)	150	4939	1493	379	5216	960	543	3386	1426	543	3355	1331
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			201			128			106			323
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		643.7			619.2			458.9			446.4	
Travel Time (s)		38.6			37.2			27.5			26.8	
Confl. Peds. (#/hr)	4		2	2		4	3					3
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 (%)	38%	13%	9%	8%	7%	69%	5%	9%	12%	21%	10%	18%
Adj. Flow (vph)	359	1219	246	126	1253	77	394	628	103	129	442	323
Shared Lane Traffic (%)												
Lane Group Flow (vph)	359	1219	246	126	1253	77	394	628	103	129	442	323
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)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.01	0.91	0.97	1.01	0.91	0.97	1.01	0.97	1.01	1.01	0.97	1.01
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0	25.0	10.0	10.0
Trailing Detector (m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Position(m)	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0	15.0	0.0	0.0
Detector 1 Size(m)	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0	10.0	0.6	10.0
Detector 1 Type	Cl+Ex	Cl+Ex	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	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	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	0.0	0.0
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0	5.0	12.0	12.0
Minimum Split (s)	8.0	39.1	39.1	8.0	39.1	39.1	8.0	34.9	34.9	9.0	34.9	34.9
Total Split (s)	38.0	58.2	58.2	18.8	39.1	39.1	23.0	44.9	44.9	13.0	34.9	34.9
Total Split (%)	28.1%	43.1%	43.1%	13.9%	29.0%	29.0%	17.0%	33.3%	33.3%	9.6%	25.9%	25.9%
Maximum Green (s)	35.0	51.1	51.1	15.8	32.0	32.0	20.0	38.0	38.0	10.0	28.0	28.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	0.0	3.1	3.1	0.0	3.1	3.1	0.0	2.9	2.9	0.0	2.9	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	7.1	7.1	3.0	7.1	7.1	3.0	6.9	6.9	3.0	6.9	6.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		27.0	27.0		27.0	27.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	74.1	57.4	57.4	47.0	33.2	33.2	54.9	38.5	38.5	41.4	28.0	28.0
Actuated g/C Ratio	0.55	0.43	0.43	0.35	0.25	0.25	0.41	0.29	0.29	0.31	0.21	0.21
v/c Ratio	0.98	0.58	0.33	0.57	0.98	0.23	1.01	0.65	0.21	0.56	0.64	0.61
Control Delay	90.5	30.2	9.0	29.7	70.4	2.3	80.6	46.3	7.3	37.7	53.6	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.5	30.2	9.0	29.7	70.4	2.3	80.6	46.3	7.3	37.7	53.6	10.0
LOS	F	C	A	C	E	A	F	D	A	D	D	A
Approach Delay		39.2			63.3			54.7			35.6	
Approach LOS		D			E			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 135			
Actuated Cycle Length: 135			
Offset: 125.1 (93%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 115			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay: 48.5		Intersection LOS: D	
Intersection Capacity Utilization 110.1%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 6: Airport Road & Mayfield Road



SIM TRAFFIC REPORTS

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	26.5	19.3	19.4	25.1
Average Queue (m)	12.6	9.4	9.8	11.4
95th Queue (m)	20.6	15.0	16.8	18.8
Link Distance (m)	581.5	516.2	3059.7	648.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	17.3	92.4	97.2	74.7	23.9	22.4	54.8	63.1	71.8	38.1	30.4	15.2
Average Queue (m)	6.3	59.3	54.2	39.7	11.6	7.5	31.6	36.6	38.5	17.5	9.1	3.0
95th Queue (m)	14.4	82.4	78.5	67.4	20.6	17.8	52.3	56.8	62.8	33.0	21.1	9.0
Link Distance (m)		652.1	652.1	652.1			1339.8	1339.8	1339.8		448.0	448.0
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)		0										
Queuing Penalty (veh)		0										

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	12.4	54.1	13.0
Average Queue (m)	2.4	30.3	3.1
95th Queue (m)	8.4	48.3	9.5
Link Distance (m)		3059.7	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	T	R	L
Maximum Queue (m)	96.8	41.4	47.6	32.1	55.3	83.2	59.3	48.2	41.2	34.8	39.7	39.4
Average Queue (m)	44.0	19.0	22.0	12.3	17.1	38.9	33.3	23.7	16.4	10.2	9.1	11.4
95th Queue (m)	83.4	36.1	38.0	25.1	36.9	64.1	56.1	40.1	31.4	25.9	23.1	27.2
Link Distance (m)		1339.8	1339.8	1339.8		87.2			440.3	440.3		
Upstream Blk Time (%)						0						
Queuing Penalty (veh)						1						
Storage Bay Dist (m)	200.0				50.0		70.0	95.0			60.0	100.0
Storage Blk Time (%)					0	3					0	
Queuing Penalty (veh)					0	11					0	

Intersection: 6: Airport Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (m)	85.4	81.8	28.1
Average Queue (m)	47.2	49.1	13.3
95th Queue (m)	72.8	74.4	23.9
Link Distance (m)	429.4	429.4	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			105.0
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T
Maximum Queue (m)	10.0	20.7	34.6	24.7	34.6	1.7	10.2	15.0	1.5
Average Queue (m)	1.1	5.7	12.9	4.8	10.8	0.1	0.6	0.5	0.1
95th Queue (m)	5.9	15.5	27.7	17.6	25.9	0.9	7.5	5.1	0.8
Link Distance (m)	101.7	101.7		122.0		429.4			416.2
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)			30.0		70.0		65.0	70.0	
Storage Blk Time (%)			3						
Queuing Penalty (veh)			0						

Intersection: 8: Airport Road & 12333 Airport Road

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	R	L	T	T
Maximum Queue (m)	62.7	19.0	22.2	27.4	16.5	18.7	45.4	33.0
Average Queue (m)	24.4	3.3	7.6	9.3	5.1	3.4	14.7	14.4
95th Queue (m)	49.9	11.7	17.9	22.5	15.7	13.8	33.8	28.6
Link Distance (m)	253.1	253.1	416.2	416.2			239.4	239.4
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					145.0	75.0		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 9: Airport Road & Healey Road

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (m)	52.8	16.4	34.6
Average Queue (m)	17.7	0.7	16.6
95th Queue (m)	35.7	6.7	33.6
Link Distance (m)	239.3	1864.7	29.2
Upstream Blk Time (%)			1
Queuing Penalty (veh)			9
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Airport Road & Old School Road

Movement	EB	NB	SB
Directions Served	LR	LT	T
Maximum Queue (m)	57.5	28.8	36.6
Average Queue (m)	18.4	11.8	3.1
95th Queue (m)	39.1	25.7	17.9
Link Distance (m)	525.3	29.2	215.9
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		1	
Storage Bay Dist (m)			
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	23.0	34.9	29.2	14.8
Average Queue (m)	10.1	15.3	16.9	7.2
95th Queue (m)	16.4	25.3	27.7	12.4
Link Distance (m)	581.5	516.2	3059.7	648.8
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	19.2	87.5	77.9	60.6	19.6	37.4	82.6	90.1	102.0	57.0	58.1	20.4
Average Queue (m)	7.3	54.7	48.9	29.0	8.1	16.4	51.1	60.7	64.6	26.1	19.9	5.3
95th Queue (m)	16.0	74.9	71.7	56.8	15.5	31.0	73.6	85.1	90.3	46.7	40.6	13.2
Link Distance (m)		652.1	652.1	652.1			1339.8	1339.8	1339.8		448.0	448.0
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)										0		
Queuing Penalty (veh)										0		

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	7.0	28.8	18.1
Average Queue (m)	0.7	8.8	3.1
95th Queue (m)	3.8	22.0	10.8
Link Distance (m)		3059.7	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	T	R	L	T	TR	L	T	T	R	L
Maximum Queue (m)	110.1	78.2	72.3	41.9	66.5	95.8	91.8	143.2	142.4	137.7	23.1	40.2
Average Queue (m)	47.6	40.2	44.2	14.6	21.2	59.4	53.5	76.0	60.2	50.0	9.1	17.3
95th Queue (m)	87.7	67.4	65.8	31.4	47.1	87.8	81.5	145.5	134.4	109.1	20.1	33.9
Link Distance (m)		1339.8	1339.8	1339.8		94.5			440.3	440.3		
Upstream Blk Time (%)						0	0					
Queuing Penalty (veh)						2	0					
Storage Bay Dist (m)	200.0				50.0		70.0	95.0			60.0	100.0
Storage Blk Time (%)					0	13	1	15	0	3		
Queuing Penalty (veh)					0	61	4	36	0	2		

Intersection: 6: Airport Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (m)	53.0	59.6	47.5
Average Queue (m)	27.7	30.7	20.9
95th Queue (m)	45.7	52.1	35.0
Link Distance (m)	429.4	429.4	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			105.0
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	R	L	T	T
Maximum Queue (m)	17.7	31.8	37.0	37.3	34.8	4.1	22.2	1.6	5.4
Average Queue (m)	2.7	10.5	18.3	2.9	13.6	0.3	3.7	0.1	0.2
95th Queue (m)	9.9	22.2	33.9	16.3	29.0	3.1	14.8	0.9	2.5
Link Distance (m)	101.7	101.7		122.0				416.2	416.2
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)			30.0		70.0	65.0	70.0		
Storage Blk Time (%)			5						
Queuing Penalty (veh)			0						

Intersection: 8: Airport Road & 12333 Airport Road

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	R	L	T	T
Maximum Queue (m)	38.9	13.5	36.7	36.5	12.8	5.5	24.6	37.2
Average Queue (m)	9.8	1.3	9.1	10.5	0.9	0.2	6.7	7.7
95th Queue (m)	24.6	7.1	26.0	29.3	6.1	3.0	19.4	23.0
Link Distance (m)	253.1	253.1	416.2	416.2			238.0	238.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					145.0	75.0		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 9: Airport Road & Healey Road

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (m)	155.3	36.4	31.4
Average Queue (m)	67.3	4.6	13.7
95th Queue (m)	136.2	20.1	31.3
Link Distance (m)	239.3	1865.7	29.2
Upstream Blk Time (%)			2
Queuing Penalty (veh)			6
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 10: Airport Road & Old School Road

Movement	EB	NB	SB
Directions Served	LR	LT	T
Maximum Queue (m)	31.0	33.6	20.0
Average Queue (m)	10.1	16.2	1.9
95th Queue (m)	22.1	31.6	12.1
Link Distance (m)	525.3	29.2	215.9
Upstream Blk Time (%)		1	
Queuing Penalty (veh)		4	
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	24.3	17.5	22.2	24.4
Average Queue (m)	12.7	8.8	10.6	12.4
95th Queue (m)	19.8	13.0	19.3	20.1
Link Distance (m)	511.1	346.5	1595.2	796.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	25.9	153.3	142.5	127.2	37.4	64.9	88.3	92.6	92.4	95.7	70.4	39.9
Average Queue (m)	8.2	102.9	94.4	78.2	16.3	34.8	38.0	44.0	46.1	58.4	13.1	12.6
95th Queue (m)	19.4	143.5	136.6	117.3	29.8	54.5	68.7	74.9	78.4	90.9	37.6	28.1
Link Distance (m)		429.6	429.6	429.6			693.0	693.0	693.0		471.3	471.3
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)		10		0			0			3	0	
Queuing Penalty (veh)		4		1			0			2	0	

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	12.0	59.0	27.0
Average Queue (m)	2.8	29.0	7.5
95th Queue (m)	9.7	48.7	19.5
Link Distance (m)		456.7	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	T	R	L	T	T	T	L	R
Maximum Queue (m)	343.6	511.0	175.9	62.5	82.4	122.6	139.4	133.2	60.0	13.0
Average Queue (m)	134.5	141.0	137.3	37.2	12.7	89.1	95.8	98.3	29.8	3.4
95th Queue (m)	237.5	278.3	171.0	81.7	57.6	118.4	125.9	126.1	55.0	10.1
Link Distance (m)	693.0	693.0	693.0			616.3	616.3	616.3		331.6
Upstream Blk Time (%)		0								
Queuing Penalty (veh)		0								
Storage Bay Dist (m)				55.0	75.0				55.0	
Storage Blk Time (%)			32	0	0	19			1	
Queuing Penalty (veh)			36	1	0	3			0	

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	R	L	T	T
Maximum Queue (m)	151.2	100.1	111.1	133.0	67.5	32.0	139.3	134.0	18.3	114.9	107.7	101.2
Average Queue (m)	80.3	47.4	55.5	71.2	60.8	11.8	82.4	81.5	1.8	72.8	53.5	24.7
95th Queue (m)	135.3	77.1	87.5	115.1	78.2	26.0	124.9	122.2	8.0	167.8	167.3	84.2
Link Distance (m)		616.3	616.3	616.3			591.7	591.7			432.1	432.1
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	200.0				60.0	165.0			60.0	95.0		
Storage Blk Time (%)	0			8	11			22		24		
Queuing Penalty (veh)	0			31	34			8		25		

Intersection: 6: Airport Road & Mayfield Road

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	T	T	R
Maximum Queue (m)	32.2	32.9	82.2	86.7	50.4
Average Queue (m)	10.9	16.3	57.9	61.3	21.9
95th Queue (m)	24.6	31.0	78.9	82.8	38.5
Link Distance (m)			417.7	417.7	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)	60.0	100.0			105.0
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	R	L	T
Maximum Queue (m)	11.6	20.4	35.3	8.3	32.2	5.9	12.1	1.5
Average Queue (m)	1.2	6.3	14.2	3.2	10.4	0.2	0.4	0.1
95th Queue (m)	6.4	15.2	27.6	9.5	25.9	3.3	4.0	0.8
Link Distance (m)	101.7	101.7		257.1				416.3
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			30.0		70.0	65.0	70.0	
Storage Blk Time (%)			2					
Queuing Penalty (veh)			0					

Intersection: 8: Airport Road & 12333 Airport Road

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	R	L	T	T
Maximum Queue (m)	60.6	10.8	31.6	32.3	24.9	17.6	39.0	33.4
Average Queue (m)	20.3	1.8	10.3	10.2	5.2	3.9	18.3	13.7
95th Queue (m)	43.0	7.1	23.2	23.7	17.3	13.7	34.5	30.4
Link Distance (m)	253.1	253.1	416.3	416.3			336.1	336.1
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					145.0	75.0		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Network Summary

Network wide Queuing Penalty: 143

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	20.4	28.1	40.4	15.5
Average Queue (m)	9.7	14.8	18.2	7.6
95th Queue (m)	15.8	23.0	31.8	14.8
Link Distance (m)	511.1	346.5	1595.2	796.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	19.8	173.4	159.2	123.9	40.8	66.8	65.8	68.8	70.6	98.5	71.8	45.8
Average Queue (m)	9.0	114.7	104.9	79.8	15.6	37.6	14.6	15.9	16.0	58.8	24.9	17.5
95th Queue (m)	19.1	153.2	139.5	113.0	29.2	60.2	43.4	46.9	47.2	85.4	54.8	35.5
Link Distance (m)		429.6	429.6	429.6			693.0	693.0	693.0		471.3	471.3
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)		13		0			1			2	0	
Queuing Penalty (veh)		5		0			1			3	0	

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	4.6	23.6	17.3
Average Queue (m)	0.2	6.9	3.7
95th Queue (m)	1.8	17.9	12.0
Link Distance (m)		456.7	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	T	R	L	T	T	T	L	R
Maximum Queue (m)	194.2	183.5	185.2	62.5	82.3	136.4	149.9	147.3	40.3	10.7
Average Queue (m)	155.1	148.9	148.3	34.4	22.8	99.0	108.3	111.3	14.2	2.7
95th Queue (m)	188.5	179.1	178.7	79.7	66.4	130.6	141.7	141.3	31.6	8.7
Link Distance (m)	693.0	693.0	693.0			616.3	616.3	616.3		331.6
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)				55.0	75.0				55.0	
Storage Blk Time (%)			30	0	0	19			0	
Queuing Penalty (veh)			29	0	0	8			0	

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	R	L	T	T
Maximum Queue (m)	198.3	67.1	64.1	69.2	65.8	264.6	390.8	379.3	129.9	175.0	446.6	445.5
Average Queue (m)	125.1	26.3	32.9	38.3	19.1	189.5	224.4	211.7	36.9	171.3	336.2	317.2
95th Queue (m)	191.8	54.2	57.0	61.9	44.3	310.3	396.8	385.4	125.3	190.4	536.7	537.9
Link Distance (m)		616.3	616.3	616.3			591.7	591.7			432.1	432.1
Upstream Blk Time (%)											35	15
Queuing Penalty (veh)											0	0
Storage Bay Dist (m)	200.0				60.0	165.0			60.0	95.0		
Storage Blk Time (%)	3			3	0	59	12	52		96	0	11
Queuing Penalty (veh)	8			5	0	272	14	32		248	0	10

Intersection: 6: Airport Road & Mayfield Road

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	T	T	R
Maximum Queue (m)	59.7	69.6	55.7	66.4	64.0
Average Queue (m)	12.4	29.0	33.4	35.1	31.8
95th Queue (m)	33.7	55.1	51.4	56.8	54.5
Link Distance (m)			417.7	417.7	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)	60.0	100.0			105.0
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	T	R
Maximum Queue (m)	14.2	22.1	37.1	45.6	42.5	1.6	3.8	21.0	1.6	1.5	3.2
Average Queue (m)	1.7	9.5	21.7	5.4	13.0	0.1	0.1	3.8	0.1	0.1	0.1
95th Queue (m)	7.7	17.9	37.4	31.6	31.7	0.9	2.1	15.1	0.9	0.8	1.8
Link Distance (m)	101.7	101.7		257.1		417.7			416.3	416.3	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)			30.0		70.0		65.0	70.0			60.0
Storage Blk Time (%)			10	0							
Queuing Penalty (veh)			0	0							

Intersection: 8: Airport Road & 12333 Airport Road

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	R	L	T	T
Maximum Queue (m)	33.1	13.2	47.0	52.0	17.7	13.2	24.8	26.1
Average Queue (m)	11.5	1.2	12.1	15.6	1.3	0.7	8.0	6.3
95th Queue (m)	25.3	6.9	33.1	40.2	8.3	5.5	21.3	19.1
Link Distance (m)	253.1	253.1	416.3	416.3			336.1	336.1
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					145.0	75.0		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Network Summary

Network wide Queuing Penalty: 636

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	31.2	15.0	28.9	24.7
Average Queue (m)	12.3	8.0	11.2	12.9
95th Queue (m)	20.9	12.7	21.1	20.2
Link Distance (m)	511.1	346.5	1595.2	796.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	25.2	143.3	136.9	117.9	43.9	73.1	295.8	109.3	111.0	128.6	99.9	30.2
Average Queue (m)	8.5	101.4	93.6	79.3	19.4	38.3	48.3	45.3	47.4	63.2	19.0	11.6
95th Queue (m)	20.0	135.4	127.6	110.4	34.3	66.4	165.8	83.1	85.1	111.8	75.2	24.5
Link Distance (m)		429.6	429.6	429.6			693.0	693.0	693.0		471.3	471.3
Upstream Blk Time (%)							0					
Queuing Penalty (veh)							0					
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)		9					0			9		
Queuing Penalty (veh)		4					0			5		

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	14.1	61.2	28.7
Average Queue (m)	3.0	34.1	8.6
95th Queue (m)	9.6	56.6	22.3
Link Distance (m)		456.7	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	T	R	L	T	T	T	L	R
Maximum Queue (m)	157.7	162.7	165.7	62.5	62.0	119.9	123.3	128.8	56.8	33.4
Average Queue (m)	125.1	126.0	133.9	33.0	8.3	86.7	92.7	95.2	29.8	4.4
95th Queue (m)	155.1	154.0	162.1	75.7	38.8	122.0	129.0	130.5	53.3	18.6
Link Distance (m)	693.0	693.0	693.0			616.3	616.3	616.3		331.6
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)				55.0	75.0				55.0	
Storage Blk Time (%)			31	0		20			0	
Queuing Penalty (veh)			34	1		3			0	

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	R	L	T	T
Maximum Queue (m)	112.0	83.4	84.3	118.7	67.5	31.3	123.3	127.8	19.1	110.0	62.5	50.4
Average Queue (m)	63.5	48.4	53.0	67.9	61.3	11.9	78.9	76.9	2.1	56.3	20.0	15.9
95th Queue (m)	97.5	71.5	75.7	110.5	78.2	25.9	113.2	113.2	9.0	106.7	42.9	36.6
Link Distance (m)		616.3	616.3	616.3			591.7	591.7			432.1	432.1
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	200.0				60.0	165.0			60.0	95.0		
Storage Blk Time (%)				8	13			19		4	0	0
Queuing Penalty (veh)				31	38			7		4	0	0

Intersection: 6: Airport Road & Mayfield Road

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	T	T	R
Maximum Queue (m)	23.4	28.9	80.4	87.2	48.5
Average Queue (m)	10.0	13.0	52.9	55.3	21.6
95th Queue (m)	21.0	25.8	71.9	76.9	38.5
Link Distance (m)			417.7	417.7	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)	60.0	100.0			105.0
Storage Blk Time (%)			0	0	
Queuing Penalty (veh)			0	0	

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	TR	L	L	T
Maximum Queue (m)	14.1	16.0	33.9	8.2	29.6	4.0	1.5
Average Queue (m)	1.2	5.2	13.4	2.8	9.7	0.1	0.0
95th Queue (m)	6.7	12.6	27.0	8.9	25.4	2.2	0.8
Link Distance (m)	101.7	101.7		257.1			416.3
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)			30.0		70.0	70.0	
Storage Blk Time (%)			2				
Queuing Penalty (veh)			0				

Intersection: 8: Airport Road & 12333 Airport Road

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	R	L	T	T
Maximum Queue (m)	55.8	17.6	25.8	25.9	18.2	20.0	52.5	37.7
Average Queue (m)	19.5	3.2	9.3	9.2	4.4	4.6	20.5	11.5
95th Queue (m)	41.5	11.3	19.7	21.2	15.4	15.4	42.7	28.2
Link Distance (m)	253.1	253.1	416.3	416.3			336.1	336.1
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					145.0	75.0		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Network Summary

Network wide Queuing Penalty: 128

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	19.4	31.4	47.1	17.8
Average Queue (m)	9.7	14.7	18.9	7.9
95th Queue (m)	16.4	23.4	33.1	13.9
Link Distance (m)	511.1	346.5	1595.2	796.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	28.1	156.3	148.1	124.0	39.4	75.1	56.6	63.1	62.4	110.0	70.2	47.6
Average Queue (m)	9.6	111.9	102.4	82.8	14.5	34.8	12.9	15.1	16.0	61.0	22.6	18.8
95th Queue (m)	22.3	149.1	137.9	117.7	27.0	61.3	35.9	39.5	41.8	96.4	49.0	39.1
Link Distance (m)		429.6	429.6	429.6			693.0	693.0	693.0		471.3	471.3
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)		12		0						3	0	
Queuing Penalty (veh)		5		0						4	0	

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	9.5	26.6	15.9
Average Queue (m)	0.7	10.5	3.6
95th Queue (m)	4.8	23.7	11.2
Link Distance (m)		456.7	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	T	R	L	T	T	T	L	R
Maximum Queue (m)	192.7	180.9	177.8	62.5	82.4	136.4	139.4	143.0	34.5	10.9
Average Queue (m)	154.6	147.4	148.7	28.5	25.6	98.2	104.4	110.5	15.0	3.0
95th Queue (m)	187.0	177.5	178.9	73.4	75.3	127.1	132.2	139.3	30.2	9.3
Link Distance (m)	693.0	693.0	693.0			616.3	616.3	616.3		331.6
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)				55.0	75.0				55.0	
Storage Blk Time (%)			30	0	0	20				
Queuing Penalty (veh)			29	0	0	8				

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	R	L	T	T
Maximum Queue (m)	174.9	55.5	57.0	63.8	51.7	118.6	208.9	212.6	129.9	175.0	447.4	443.0
Average Queue (m)	116.9	26.5	32.7	37.7	16.7	29.5	123.0	121.1	25.3	173.6	358.0	342.6
95th Queue (m)	180.5	51.0	55.3	58.9	38.7	115.0	230.7	229.0	100.7	183.4	535.1	538.1
Link Distance (m)		616.3	616.3	616.3			591.7	591.7			432.1	432.1
Upstream Blk Time (%)											38	14
Queuing Penalty (veh)											0	0
Storage Bay Dist (m)	200.0				60.0	165.0			60.0	95.0		
Storage Blk Time (%)	1			2	0		11	38		96	0	8
Queuing Penalty (veh)	2			3	0		12	23		249	0	7

Intersection: 6: Airport Road & Mayfield Road

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	T	T	R
Maximum Queue (m)	34.4	74.0	62.6	66.6	67.2
Average Queue (m)	13.7	29.1	35.1	35.8	31.0
95th Queue (m)	27.5	57.1	52.4	56.0	55.7
Link Distance (m)			417.7	417.7	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)	60.0	100.0			105.0
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	R	L	T	T
Maximum Queue (m)	12.0	28.4	37.0	39.3	40.0	7.3	17.3	3.6	2.9
Average Queue (m)	1.8	10.6	21.5	5.2	13.6	0.2	2.5	0.1	0.1
95th Queue (m)	7.6	21.0	37.5	28.5	30.5	2.9	11.7	2.0	1.2
Link Distance (m)	101.7	101.7		257.1				416.3	416.3
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)			30.0		70.0	65.0	70.0		
Storage Blk Time (%)			11						
Queuing Penalty (veh)			0						

Intersection: 8: Airport Road & 12333 Airport Road

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	R	L	T	T
Maximum Queue (m)	45.8	12.3	42.4	49.0	14.9	2.4	26.8	22.7
Average Queue (m)	11.4	1.6	12.0	14.8	1.4	0.1	8.4	6.4
95th Queue (m)	28.4	7.1	34.6	39.6	7.8	1.3	21.3	18.0
Link Distance (m)	253.1	253.1	416.3	416.3			336.1	336.1
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					145.0	75.0		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Network Summary

Network wide Queuing Penalty: 344

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	31.1	15.4	24.8	25.6
Average Queue (m)	13.9	8.8	11.4	13.7
95th Queue (m)	22.9	13.3	20.7	21.8
Link Distance (m)	511.1	346.5	1595.2	796.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	105.0	221.5	205.2	183.7	50.3	96.0	123.4	134.8	127.3	149.9	279.9	45.0
Average Queue (m)	19.4	132.4	124.3	104.7	19.7	48.8	49.3	55.1	55.8	133.0	150.3	18.0
95th Queue (m)	82.8	190.9	179.9	156.4	36.3	85.1	95.2	103.0	103.3	176.6	340.0	36.6
Link Distance (m)		429.6	429.6	429.6			693.0	693.0	693.0		471.3	471.3
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)		23		3		0	1			77		
Queuing Penalty (veh)		9		8		0	2			46		

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	14.8	75.2	18.4
Average Queue (m)	2.7	38.8	6.2
95th Queue (m)	9.2	65.0	15.0
Link Distance (m)		456.7	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	T	R	L	T	T	T	L	R
Maximum Queue (m)	184.7	360.4	353.7	62.5	82.3	310.1	313.6	158.0	59.0	35.7
Average Queue (m)	145.8	155.0	161.7	30.9	7.8	103.1	108.3	105.1	31.6	4.9
95th Queue (m)	181.7	255.0	256.0	77.5	38.6	203.1	206.8	148.4	59.2	19.0
Link Distance (m)	693.0	693.0	693.0			616.3	616.3	616.3		331.6
Upstream Blk Time (%)		0				0	0			
Queuing Penalty (veh)		0				0	0			
Storage Bay Dist (m)				55.0	75.0				55.0	
Storage Blk Time (%)			32	0		22			1	
Queuing Penalty (veh)			35	0		3			0	

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (m)	148.3	107.8	250.8	292.7	67.5	42.2	99.1	98.3	85.1	16.2	125.9	102.2
Average Queue (m)	73.9	61.4	72.2	85.6	61.4	13.1	65.3	62.9	51.0	1.5	56.4	21.8
95th Queue (m)	118.1	92.9	156.9	186.5	80.2	29.9	93.1	88.7	78.4	7.9	115.5	59.7
Link Distance (m)		616.3	616.3	616.3			591.7	591.7	591.7			432.1
Upstream Blk Time (%)				0								
Queuing Penalty (veh)				0								
Storage Bay Dist (m)	200.0				60.0	165.0				60.0	95.0	
Storage Blk Time (%)				14	12				3		10	0
Queuing Penalty (veh)				58	43				1		10	0

Intersection: 6: Airport Road & Mayfield Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R
Maximum Queue (m)	63.4	26.4	41.2	110.8	112.4	57.9
Average Queue (m)	18.4	10.8	18.0	65.2	71.1	22.8
95th Queue (m)	41.6	22.9	35.3	97.0	102.3	43.0
Link Distance (m)	432.1			415.9	415.9	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)		60.0	100.0			105.0
Storage Blk Time (%)				1	1	
Queuing Penalty (veh)				0	2	

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	R	L	T	R
Maximum Queue (m)	7.9	20.0	33.0	22.4	25.7	18.4	7.5	4.0	7.5
Average Queue (m)	1.0	6.7	15.1	4.6	9.7	0.6	0.3	0.1	0.3
95th Queue (m)	5.3	16.8	29.9	19.3	23.1	6.5	4.2	2.2	4.2
Link Distance (m)	101.7	101.7		257.1				416.3	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)			30.0		70.0	65.0	70.0		60.0
Storage Blk Time (%)			5						
Queuing Penalty (veh)			1						

Intersection: 8: Airport Road & 12333 Airport Road

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	R	L	T	T
Maximum Queue (m)	59.5	12.9	23.4	30.2	19.4	18.8	50.3	35.1
Average Queue (m)	22.3	3.5	10.6	10.7	5.6	2.6	19.4	13.5
95th Queue (m)	44.4	11.5	22.0	24.6	16.7	12.1	40.3	28.7
Link Distance (m)	253.1	253.1	416.3	416.3			336.1	336.1
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					145.0	75.0		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Network Summary

Network wide Queuing Penalty: 221

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	21.5	26.3	39.8	21.8
Average Queue (m)	9.9	14.9	19.8	8.7
95th Queue (m)	16.3	22.9	33.7	15.7
Link Distance (m)	511.1	346.5	1595.2	796.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	106.5	184.3	171.5	151.5	32.5	68.7	278.7	283.1	80.5	110.8	91.0	52.3
Average Queue (m)	14.0	127.8	115.7	94.5	14.7	38.0	29.3	34.4	30.1	62.3	28.3	19.7
95th Queue (m)	56.7	173.0	160.2	136.6	27.4	59.9	147.1	152.6	62.5	104.4	60.8	39.0
Link Distance (m)		429.6	429.6	429.6			693.0	693.0	693.0		471.3	471.3
Upstream Blk Time (%)								0				
Queuing Penalty (veh)								0				
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)		17		1						7	0	
Queuing Penalty (veh)		7		2						9	0	

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	7.3	40.3	16.0
Average Queue (m)	0.6	12.8	3.2
95th Queue (m)	3.7	29.5	10.7
Link Distance (m)		456.7	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	T	R	L	T	T	T	L	R
Maximum Queue (m)	214.9	362.3	203.0	62.5	82.4	327.1	329.3	168.4	39.4	10.5
Average Queue (m)	173.4	173.3	168.6	24.6	19.4	123.3	130.2	127.3	18.0	2.1
95th Queue (m)	214.2	271.9	206.0	69.0	59.3	217.8	225.0	163.7	35.2	7.4
Link Distance (m)	693.0	693.0	693.0			616.3	616.3	616.3		331.6
Upstream Blk Time (%)		0				0	0			
Queuing Penalty (veh)		0				0	0			
Storage Bay Dist (m)				55.0	75.0				55.0	
Storage Blk Time (%)			29	0	0	20				
Queuing Penalty (veh)			29	0	0	8				

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (m)	236.2	174.0	162.3	163.4	60.1	60.1	136.3	135.0	122.9	58.3	175.0	450.2
Average Queue (m)	145.7	60.8	51.5	45.8	19.3	25.8	91.7	88.4	73.9	4.2	174.7	386.0
95th Queue (m)	241.9	205.2	142.3	102.1	44.5	49.7	137.3	135.4	124.9	27.8	177.7	521.3
Link Distance (m)		616.3	616.3	616.3			591.7	591.7	591.7			432.1
Upstream Blk Time (%)												46
Queuing Penalty (veh)												0
Storage Bay Dist (m)	200.0				60.0	165.0				60.0	95.0	
Storage Blk Time (%)	10			3	0		0		18		97	0
Queuing Penalty (veh)	38			6	0		0		11		263	1

Intersection: 6: Airport Road & Mayfield Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R
Maximum Queue (m)	446.2	71.2	64.2	63.4	76.3	103.7
Average Queue (m)	367.4	17.6	30.1	38.4	40.4	38.0
95th Queue (m)	535.1	48.5	57.8	56.1	62.9	70.6
Link Distance (m)	432.1			415.9	415.9	
Upstream Blk Time (%)	19					
Queuing Penalty (veh)	0					
Storage Bay Dist (m)		60.0	100.0			105.0
Storage Blk Time (%)	12					0
Queuing Penalty (veh)	12					0

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	R	L	T	T
Maximum Queue (m)	9.9	30.2	37.3	60.5	38.6	3.8	18.6	3.4	5.3
Average Queue (m)	2.9	10.3	21.6	7.8	15.1	0.1	2.8	0.2	0.2
95th Queue (m)	9.1	21.0	39.6	38.5	31.3	2.1	11.7	1.7	2.9
Link Distance (m)	101.7	101.7		257.1				416.3	416.3
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)			30.0		70.0	65.0	70.0		
Storage Blk Time (%)			14	0					
Queuing Penalty (veh)			1	0					

Intersection: 8: Airport Road & 12333 Airport Road

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	R	L	T	T
Maximum Queue (m)	27.5	11.4	49.9	50.1	15.4	7.5	37.8	31.9
Average Queue (m)	9.6	1.6	11.1	14.9	1.7	0.3	8.5	7.0
95th Queue (m)	23.2	7.8	32.1	38.0	9.0	3.4	24.9	21.9
Link Distance (m)	253.1	253.1	416.3	416.3			336.1	336.1
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					145.0	75.0		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Network Summary

Network wide Queuing Penalty: 389

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	28.9	17.2	22.6	27.0
Average Queue (m)	14.2	9.3	10.8	14.9
95th Queue (m)	22.7	13.7	19.2	23.6
Link Distance (m)	511.1	346.5	1595.2	796.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	149.9	445.3	435.1	432.1	195.0	102.9	119.5	123.7	122.9	150.0	415.8	323.8
Average Queue (m)	43.9	316.4	302.6	282.2	144.4	64.1	53.6	58.0	60.2	144.8	273.7	77.1
95th Queue (m)	146.4	473.0	457.3	446.3	271.9	107.1	99.0	103.1	105.5	167.6	546.2	331.3
Link Distance (m)		429.6	429.6	429.6			693.0	693.0	693.0		471.3	471.3
Upstream Blk Time (%)		6	4	4							11	3
Queuing Penalty (veh)		0	0	0							0	0
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)		55		50		4	1			90		
Queuing Penalty (veh)		20		129		22	2			61		

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	16.5	78.2	17.9
Average Queue (m)	3.7	45.0	6.0
95th Queue (m)	11.7	73.9	14.9
Link Distance (m)		456.7	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	T	R	L	T	T	T	L	R
Maximum Queue (m)	515.9	520.5	347.1	62.5	59.7	147.8	150.2	145.6	59.2	36.8
Average Queue (m)	168.8	171.6	169.0	25.4	5.0	98.4	103.8	106.9	35.2	6.2
95th Queue (m)	331.1	331.4	259.6	68.3	25.5	140.9	148.0	149.9	58.8	25.2
Link Distance (m)	693.0	693.0	693.0			616.3	616.3	616.3		331.6
Upstream Blk Time (%)	0	0								
Queuing Penalty (veh)	0	0								
Storage Bay Dist (m)				55.0	75.0				55.0	
Storage Blk Time (%)			30	0		20			1	
Queuing Penalty (veh)			34	0		3			0	

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (m)	127.0	111.2	126.4	151.2	67.5	64.9	107.9	102.3	96.3	15.2	155.9	282.2
Average Queue (m)	77.4	66.1	72.4	88.9	64.1	20.5	67.6	66.4	55.6	1.6	135.5	156.7
95th Queue (m)	117.9	98.1	108.3	133.5	78.2	52.6	96.6	92.4	85.0	8.5	221.8	378.3
Link Distance (m)		616.3	616.3	616.3			591.7	591.7	591.7			432.1
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	200.0				60.0	165.0				60.0	95.0	
Storage Blk Time (%)				20	12				5		67	
Queuing Penalty (veh)				85	48				2		76	

Intersection: 6: Airport Road & Mayfield Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R
Maximum Queue (m)	253.0	27.0	36.8	95.3	103.0	57.4
Average Queue (m)	126.8	13.8	16.6	66.6	70.0	24.1
95th Queue (m)	341.2	26.1	32.5	90.8	96.9	42.6
Link Distance (m)	432.1			415.9	415.9	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)		60.0	100.0			105.0
Storage Blk Time (%)	0			0	0	
Queuing Penalty (veh)	0			0	0	

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	L	R	L
Maximum Queue (m)	16.2	14.8	35.4	48.1	32.0	10.6	15.6
Average Queue (m)	1.5	4.8	15.4	5.5	12.4	0.4	0.9
95th Queue (m)	8.2	11.7	29.4	25.7	28.5	4.3	6.9
Link Distance (m)	101.7	101.7		257.1			
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)			30.0		70.0	65.0	70.0
Storage Blk Time (%)			3				
Queuing Penalty (veh)			1				

Intersection: 8: Airport Road & 12333 Airport Road

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	R	L	T	T
Maximum Queue (m)	52.1	14.2	28.3	28.4	20.7	20.7	44.5	38.6
Average Queue (m)	20.5	1.9	11.1	10.7	6.6	3.9	18.6	15.3
95th Queue (m)	40.2	8.1	23.5	25.5	18.8	14.2	37.2	32.7
Link Distance (m)	253.1	253.1	416.3	416.3			336.1	336.1
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					145.0	75.0		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Network Summary

Network wide Queuing Penalty: 484

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	19.9	29.3	50.7	18.8
Average Queue (m)	10.1	17.0	21.7	8.1
95th Queue (m)	15.4	25.8	39.0	14.6
Link Distance (m)	511.1	346.5	1595.2	796.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	109.2	271.5	259.2	210.0	86.4	72.3	269.1	286.4	287.1	110.5	91.0	55.8
Average Queue (m)	19.7	183.6	173.9	140.9	29.2	37.8	37.1	42.8	43.3	66.0	28.3	19.6
95th Queue (m)	82.6	302.1	292.7	246.1	109.3	64.0	156.5	165.3	163.4	100.2	63.8	41.4
Link Distance (m)		429.6	429.6	429.6			693.0	693.0	693.0		471.3	471.3
Upstream Blk Time (%)								0				
Queuing Penalty (veh)								0				
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)		33		11			0			7	0	
Queuing Penalty (veh)		13		28			1			11	0	

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	4.9	29.6	21.9
Average Queue (m)	0.7	12.6	4.7
95th Queue (m)	4.1	26.6	16.0
Link Distance (m)		456.7	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB
Directions Served	T	T	T	R	L	T	T	T	L	R
Maximum Queue (m)	223.6	218.8	215.8	62.5	72.3	167.1	167.6	169.6	44.0	12.6
Average Queue (m)	171.4	164.5	167.2	20.2	23.8	121.7	126.4	131.2	17.8	3.1
95th Queue (m)	234.9	225.6	223.0	61.5	63.2	164.1	168.7	174.1	35.3	9.4
Link Distance (m)	693.0	693.0	693.0			616.3	616.3	616.3		331.6
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)				55.0	75.0				55.0	
Storage Blk Time (%)			27	0	0	17				
Queuing Penalty (veh)			26	0	0	7				

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (m)	240.4	472.5	294.8	258.0	67.5	202.4	337.7	328.7	302.0	130.0	175.0	449.1
Average Queue (m)	187.6	163.5	128.6	80.0	30.2	55.0	201.9	196.6	181.9	45.1	174.9	399.2
95th Queue (m)	292.9	463.7	377.7	243.7	67.6	186.0	339.9	329.9	307.6	140.0	175.5	524.5
Link Distance (m)		616.3	616.3	616.3			591.7	591.7	591.7			432.1
Upstream Blk Time (%)												61
Queuing Penalty (veh)												0
Storage Bay Dist (m)	200.0				60.0	165.0				60.0	95.0	
Storage Blk Time (%)	28	1		12	0		34		64	0	96	0
Queuing Penalty (veh)	109	4		25	0		43		44	0	276	1

Intersection: 6: Airport Road & Mayfield Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R
Maximum Queue (m)	445.4	68.1	70.8	70.0	72.0	84.0
Average Queue (m)	389.0	18.1	35.1	39.8	42.1	43.9
95th Queue (m)	528.8	45.4	77.3	61.9	65.8	76.5
Link Distance (m)	432.1			415.9	415.9	
Upstream Blk Time (%)	23					
Queuing Penalty (veh)	0					
Storage Bay Dist (m)		60.0	100.0			105.0
Storage Blk Time (%)	14	0	3			
Queuing Penalty (veh)	14	1	6			

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T
Maximum Queue (m)	11.8	38.0	37.4	76.0	44.3	3.0	13.3	25.4	3.5
Average Queue (m)	2.2	11.4	24.1	11.8	13.1	0.1	0.6	4.3	0.1
95th Queue (m)	8.6	25.1	41.3	50.9	30.7	1.4	6.1	16.1	1.9
Link Distance (m)	101.7	101.7		257.1		415.9			416.3
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)			30.0		70.0		65.0	70.0	
Storage Blk Time (%)			19	0					
Queuing Penalty (veh)			1	0					

Intersection: 8: Airport Road & 12333 Airport Road

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	T	T	R	L	T	T
Maximum Queue (m)	27.5	14.8	40.5	45.3	17.3	6.9	29.8	37.0
Average Queue (m)	11.0	1.4	10.5	14.5	1.3	0.5	8.1	7.7
95th Queue (m)	24.9	7.8	30.9	37.6	8.0	4.0	22.5	24.0
Link Distance (m)	253.1	253.1	416.3	416.3			336.1	336.1
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)					145.0	75.0		
Storage Blk Time (%)								
Queuing Penalty (veh)								

Network Summary

Network wide Queuing Penalty: 611

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	27.0	18.3	22.4	24.3
Average Queue (m)	13.6	9.7	10.2	12.9
95th Queue (m)	22.3	14.7	17.2	20.3
Link Distance (m)	511.1	346.5	1592.6	796.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Torbram Road & Torbram Connector

Movement	WB	WB	SB
Directions Served	L	R	LT
Maximum Queue (m)	21.4	9.0	25.6
Average Queue (m)	8.5	2.0	2.5
95th Queue (m)	16.1	8.0	13.4
Link Distance (m)		664.4	1592.6
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	55.0		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	149.5	171.7	160.3	135.9	35.4	79.9	131.3	137.2	141.4	133.8	193.6	36.8
Average Queue (m)	26.6	116.0	106.0	86.4	16.9	39.6	70.1	78.2	81.1	79.6	45.9	17.4
95th Queue (m)	68.0	158.2	148.5	121.7	28.7	71.1	117.8	125.9	129.2	139.2	162.4	33.5
Link Distance (m)		429.6	429.6	429.6			692.7	692.7	692.7		471.2	471.2
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)		15		0			3			21	0	
Queuing Penalty (veh)		18		1			5			22	0	

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	31.9	61.0	22.8
Average Queue (m)	12.4	36.2	8.9
95th Queue (m)	26.6	57.0	20.6
Link Distance (m)		455.0	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR
Maximum Queue (m)	82.4	172.6	348.2	171.7	62.5	81.6	136.2	141.6	136.2	62.5	59.4	32.0
Average Queue (m)	58.2	126.4	131.3	133.0	29.5	9.4	89.2	94.2	97.0	21.9	33.0	4.6
95th Queue (m)	98.7	167.5	237.8	166.3	74.4	43.1	126.4	129.8	130.5	61.4	57.9	17.9
Link Distance (m)		692.7	692.7	692.7			615.8	615.8	615.8			331.5
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (m)	75.0				55.0	75.0				55.0	55.0	
Storage Blk Time (%)	1	20		31	0		24		41	0	1	
Queuing Penalty (veh)	7	33		34	1		3		23	1	0	

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	SB	SB
Directions Served	L	TR
Maximum Queue (m)	23.6	23.6
Average Queue (m)	4.2	6.2
95th Queue (m)	15.3	16.9
Link Distance (m)		833.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	55.0	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	R	L	T	T
Maximum Queue (m)	200.4	201.5	188.8	135.7	67.5	124.4	223.8	222.5	130.0	175.0	381.0	376.4
Average Queue (m)	129.0	85.3	79.6	80.2	61.8	20.6	133.5	134.9	35.0	158.7	204.8	178.0
95th Queue (m)	247.9	250.6	203.5	126.7	80.1	64.1	221.2	225.3	124.4	202.5	437.8	416.7
Link Distance (m)		615.8	615.8	615.8			591.7	591.7			432.1	432.1
Upstream Blk Time (%)											6	1
Queuing Penalty (veh)											0	0
Storage Bay Dist (m)	200.0				60.0	165.0			60.0	95.0		
Storage Blk Time (%)	13	0		9	13		11	48		88	0	1
Queuing Penalty (veh)	40	0		37	41		11	26		136	0	1

Intersection: 6: Airport Road & Mayfield Road

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	T	T	R
Maximum Queue (m)	23.4	41.0	93.5	100.9	47.3
Average Queue (m)	10.1	18.3	62.6	66.5	20.1
95th Queue (m)	20.4	35.1	84.7	90.1	35.6
Link Distance (m)			417.7	417.7	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)	60.0	100.0			105.0
Storage Blk Time (%)			0	0	
Queuing Penalty (veh)			0	0	

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	R	L	T
Maximum Queue (m)	9.7	18.0	31.2	11.1	34.4	2.2	16.8	1.2
Average Queue (m)	1.0	6.4	14.0	3.6	10.8	0.1	0.6	0.0
95th Queue (m)	5.6	14.7	26.7	10.5	27.9	1.2	5.7	0.7
Link Distance (m)	101.7	101.7		254.7				413.3
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			30.0		70.0	65.0	70.0	
Storage Blk Time (%)			1					
Queuing Penalty (veh)			0					

Intersection: 8: Airport Road & Airport Site Access/12333 Airport Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (m)	30.5	33.9	53.3	12.4	72.1	31.1	28.1	17.6	15.9	53.6	42.3
Average Queue (m)	6.6	12.7	22.6	2.7	26.8	9.0	10.9	4.6	3.0	22.1	16.9
95th Queue (m)	19.1	25.4	43.2	8.9	54.1	22.0	25.8	13.2	11.9	45.2	33.5
Link Distance (m)		635.4	251.2	251.2	413.3	413.3	413.3			336.4	336.4
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	55.0							145.0	75.0		
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 12: Torbram Road & Site Access "1"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	11.6	5.7
Average Queue (m)	2.8	0.5
95th Queue (m)	9.9	3.9
Link Distance (m)	368.9	131.9
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Torbram Road & Site Access "2"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	11.3	15.8
Average Queue (m)	2.8	0.9
95th Queue (m)	9.8	6.2
Link Distance (m)	300.4	197.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Mayfield Connector & Airport Connector

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	11.5	14.4	15.8	9.0	24.3	8.7	10.8
Average Queue (m)	3.2	5.8	9.0	2.1	13.3	3.8	4.6
95th Queue (m)	10.4	11.9	14.1	8.2	21.2	10.7	11.9
Link Distance (m)	179.3		635.4		833.6		622.6
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)		55.0		55.0		55.0	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 15: Mayfield Connector & Torbram Connector

Movement	EB	NB
Directions Served	R	L
Maximum Queue (m)	11.3	14.1
Average Queue (m)	2.7	6.0
95th Queue (m)	9.6	13.7
Link Distance (m)	664.4	622.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 440

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	16.1	35.4	42.2	16.3
Average Queue (m)	10.3	15.3	19.7	7.5
95th Queue (m)	16.2	24.7	32.0	13.3
Link Distance (m)	511.1	346.5	1592.6	796.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Torbram Road & Torbram Connector

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (m)	19.2	13.8	2.2	7.7
Average Queue (m)	10.3	7.8	0.1	0.5
95th Queue (m)	17.2	13.7	1.2	3.6
Link Distance (m)		664.4	605.9	1592.6
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	55.0			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	32.4	146.6	126.8	107.4	34.4	77.6	83.6	95.8	96.9	143.7	153.5	47.8
Average Queue (m)	14.6	101.0	90.7	69.3	16.4	37.9	24.8	32.7	36.3	83.9	41.3	20.3
95th Queue (m)	27.0	137.4	123.7	101.3	27.8	70.4	56.0	67.6	71.2	140.7	98.3	40.4
Link Distance (m)		429.6	429.6	429.6			692.7	692.7	692.7		471.2	471.2
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)		8		0			0			24	0	
Queuing Penalty (veh)		5		0			0			35	0	

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	33.6	35.8	38.3
Average Queue (m)	11.3	17.1	16.0
95th Queue (m)	25.9	32.5	31.2
Link Distance (m)		455.0	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR
Maximum Queue (m)	82.3	212.4	197.5	189.0	62.5	82.3	139.6	142.4	143.2	62.5	37.6	12.8
Average Queue (m)	36.7	156.4	149.1	150.2	31.5	16.9	93.2	101.4	106.4	12.0	15.5	2.2
95th Queue (m)	89.8	204.8	190.8	189.4	76.2	58.2	136.3	142.9	148.9	47.4	32.4	8.0
Link Distance (m)		692.7	692.7	692.7			615.8	615.8	615.8			331.5
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	75.0				55.0	75.0				55.0	55.0	
Storage Blk Time (%)	0	28		33	0	0	17		29	0		
Queuing Penalty (veh)	0	16		33	0	0	7		8	0		

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	SB	SB
Directions Served	L	TR
Maximum Queue (m)	50.1	69.5
Average Queue (m)	9.0	24.8
95th Queue (m)	27.9	51.4
Link Distance (m)		833.8
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	55.0	
Storage Blk Time (%)	0	1
Queuing Penalty (veh)	0	0

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	R	L	T	T
Maximum Queue (m)	219.5	147.7	122.8	80.0	66.4	265.0	603.1	604.9	130.0	175.0	447.9	446.2
Average Queue (m)	133.3	37.6	37.3	38.5	23.6	222.1	314.7	295.0	24.2	174.6	391.7	382.4
95th Queue (m)	215.9	101.5	81.0	70.2	53.8	320.0	610.7	606.1	95.1	177.7	532.4	538.3
Link Distance (m)		615.8	615.8	615.8			591.7	591.7			432.1	432.1
Upstream Blk Time (%)							14	13			56	21
Queuing Penalty (veh)							0	0			0	0
Storage Bay Dist (m)	200.0				60.0	165.0			60.0	95.0		
Storage Blk Time (%)	7	0		2	1	79	8	33	0	96	1	15
Queuing Penalty (veh)	21	0		5	2	376	9	23	1	274	5	14

Intersection: 6: Airport Road & Mayfield Road

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	T	T	R
Maximum Queue (m)	89.2	58.2	69.6	73.2	84.6
Average Queue (m)	15.2	29.2	43.4	45.2	31.1
95th Queue (m)	49.9	49.0	63.3	65.4	56.4
Link Distance (m)			417.7	417.7	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)	60.0	100.0			105.0
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T
Maximum Queue (m)	9.6	30.4	35.5	50.7	39.6	1.6	3.4	4.6	21.0	1.6	3.8
Average Queue (m)	1.4	10.9	24.5	9.3	15.1	0.1	0.1	0.4	3.7	0.1	0.1
95th Queue (m)	6.5	21.5	40.2	46.1	33.1	0.9	1.9	3.7	14.1	0.9	2.1
Link Distance (m)	101.7	101.7		254.7		417.7	417.7			413.3	413.3
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)			30.0		70.0			65.0	70.0		
Storage Blk Time (%)			17								
Queuing Penalty (veh)			1								

Intersection: 8: Airport Road & Airport Site Access/12333 Airport Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (m)	61.3	24.2	32.6	9.4	35.1	50.3	53.1	16.1	2.2	31.1	36.5
Average Queue (m)	28.8	11.4	9.5	0.8	10.7	17.4	20.0	2.6	0.1	13.3	10.8
95th Queue (m)	48.3	21.5	23.5	4.7	27.1	39.8	43.9	10.9	1.2	27.2	26.4
Link Distance (m)		635.4	251.2	251.2	413.3	413.3	413.3			336.4	336.4
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	55.0							145.0	75.0		
Storage Blk Time (%)	1										
Queuing Penalty (veh)	1										

Intersection: 12: Torbram Road & Site Access "1"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	13.6	8.2
Average Queue (m)	7.7	0.4
95th Queue (m)	14.2	3.7
Link Distance (m)	368.9	131.9
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Torbram Road & Site Access "2"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	16.0	2.6
Average Queue (m)	7.2	0.3
95th Queue (m)	14.1	2.8
Link Distance (m)	300.4	197.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Mayfield Connector & Airport Connector

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	9.2	17.7	15.8	8.9	26.0	15.5	16.7
Average Queue (m)	4.7	7.5	6.5	0.7	10.0	8.5	8.9
95th Queue (m)	11.9	12.8	13.1	4.6	20.1	14.4	14.9
Link Distance (m)	180.3		635.4		833.8		622.6
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)		55.0		55.0		55.0	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 15: Mayfield Connector & Torbram Connector

Movement	EB	NB
Directions Served	R	L
Maximum Queue (m)	16.0	9.3
Average Queue (m)	7.6	3.6
95th Queue (m)	14.4	11.0
Link Distance (m)	664.4	622.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 838

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	28.5	19.3	21.9	29.6
Average Queue (m)	12.8	9.7	10.7	14.9
95th Queue (m)	21.3	14.6	18.4	24.2
Link Distance (m)	511.1	346.5	1592.6	796.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Torbram Road & Torbram Connector

Movement	WB	WB	SB
Directions Served	L	R	LT
Maximum Queue (m)	15.7	11.4	23.7
Average Queue (m)	8.8	2.2	2.9
95th Queue (m)	14.5	8.6	13.6
Link Distance (m)		664.4	1592.6
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	55.0		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	149.7	193.2	179.9	151.1	40.1	83.4	122.7	130.6	137.1	144.6	157.2	36.8
Average Queue (m)	36.1	126.9	115.8	96.0	20.0	40.1	70.4	77.5	80.6	99.7	47.0	16.2
95th Queue (m)	106.1	181.6	172.3	145.8	34.0	77.7	114.4	123.4	129.1	157.3	138.1	31.9
Link Distance (m)		429.6	429.6	429.6			692.7	692.7	692.7		471.2	471.2
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)		22		3		0	3			43	0	
Queuing Penalty (veh)		25		9		0	5			45	0	

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	28.2	67.1	26.5
Average Queue (m)	12.5	40.8	9.6
95th Queue (m)	25.0	61.2	21.7
Link Distance (m)		455.0	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR
Maximum Queue (m)	82.4	330.7	325.9	170.3	62.5	60.0	123.5	121.7	131.4	62.5	61.2	44.3
Average Queue (m)	58.5	134.0	130.6	134.6	31.0	8.6	89.2	92.7	97.7	25.7	35.0	6.3
95th Queue (m)	98.3	230.7	225.2	168.2	77.1	41.9	118.0	119.8	130.2	68.0	60.0	27.9
Link Distance (m)		692.7	692.7	692.7			615.8	615.8	615.8			331.5
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	75.0				55.0	75.0				55.0	55.0	
Storage Blk Time (%)	1	19		32	0	0	26		40	0	2	
Queuing Penalty (veh)	4	31		35	1	0	4		23	1	1	

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	SB	SB
Directions Served	L	TR
Maximum Queue (m)	13.4	20.3
Average Queue (m)	3.2	4.7
95th Queue (m)	10.5	14.4
Link Distance (m)		833.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	55.0	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	R	L	T	T
Maximum Queue (m)	198.0	145.2	141.8	150.0	67.5	212.3	347.2	356.1	130.0	175.0	402.0	392.0
Average Queue (m)	112.8	64.4	62.9	83.4	63.2	81.4	221.1	220.3	37.1	171.6	294.6	259.3
95th Queue (m)	198.6	130.6	104.0	132.4	79.0	251.6	469.2	465.2	127.2	188.6	532.0	526.8
Link Distance (m)		615.8	615.8	615.8			591.7	591.7			432.1	432.1
Upstream Blk Time (%)							1	0			27	8
Queuing Penalty (veh)							0	0			0	0
Storage Bay Dist (m)	200.0				60.0	165.0			60.0	95.0		
Storage Blk Time (%)	3	0		9	17		31	59		98		0
Queuing Penalty (veh)	11	0		37	53		30	32		152		0

Intersection: 6: Airport Road & Mayfield Road

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	T	T	R
Maximum Queue (m)	25.9	39.2	93.0	101.0	44.6
Average Queue (m)	10.2	16.2	62.1	66.7	21.9
95th Queue (m)	20.9	31.3	87.9	92.0	39.2
Link Distance (m)			417.7	417.7	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)	60.0	100.0			105.0
Storage Blk Time (%)			0	0	
Queuing Penalty (veh)			0	0	

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	R	L	T	T
Maximum Queue (m)	9.9	14.5	34.4	8.9	56.4	11.5	8.6	1.3	2.6
Average Queue (m)	1.1	5.0	15.8	3.7	14.3	0.5	0.5	0.0	0.1
95th Queue (m)	5.7	12.2	28.9	10.6	37.6	5.2	4.8	0.7	1.0
Link Distance (m)	101.7	101.7		254.7				413.3	413.3
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)			30.0		70.0	65.0	70.0		
Storage Blk Time (%)			3		0				
Queuing Penalty (veh)			0		0				

Intersection: 8: Airport Road & Airport Site Access/12333 Airport Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (m)	24.8	28.0	53.2	13.0	47.4	28.5	26.8	17.9	24.9	46.6	42.9
Average Queue (m)	6.2	12.5	24.0	2.4	22.4	8.8	8.6	3.5	3.2	20.2	18.3
95th Queue (m)	17.9	24.0	48.5	9.0	42.9	21.1	21.3	13.1	14.4	39.4	36.6
Link Distance (m)		635.4	251.2	251.2	413.3	413.3	413.3			336.4	336.4
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	55.0							145.0	75.0		
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 12: Torbram Road & Site Access "1"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	15.4	15.3
Average Queue (m)	3.8	0.9
95th Queue (m)	11.6	6.5
Link Distance (m)	368.9	131.9
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Torbram Road & Site Access "2"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	9.1	5.3
Average Queue (m)	3.0	0.4
95th Queue (m)	9.8	3.4
Link Distance (m)	300.4	197.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Mayfield Connector & Airport Connector

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	9.1	11.6	18.1	8.9	27.2	8.6	12.9
Average Queue (m)	1.8	5.2	9.0	2.3	12.5	3.9	3.8
95th Queue (m)	7.6	11.1	13.6	8.5	22.1	10.7	11.0
Link Distance (m)	178.9		635.4		833.4		622.6
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)		55.0		55.0		55.0	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 15: Mayfield Connector & Torbram Connector

Movement	EB	NB
Directions Served	R	L
Maximum Queue (m)	11.4	9.3
Average Queue (m)	3.5	6.2
95th Queue (m)	10.7	13.2
Link Distance (m)	664.4	622.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 499

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	20.6	27.4	46.7	16.7
Average Queue (m)	10.2	15.6	20.6	7.8
95th Queue (m)	17.2	24.9	34.1	14.2
Link Distance (m)	511.1	346.5	1592.6	796.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Torbram Road & Torbram Connector

Movement	WB	WB	SB
Directions Served	L	R	LT
Maximum Queue (m)	24.6	17.4	7.6
Average Queue (m)	10.8	7.8	0.6
95th Queue (m)	18.8	14.2	4.0
Link Distance (m)		664.4	1592.6
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	55.0		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	30.0	146.2	134.6	112.6	34.8	61.0	68.4	73.7	78.4	120.4	112.5	50.3
Average Queue (m)	14.2	99.3	91.0	70.7	16.0	32.9	21.9	30.2	32.9	76.2	37.7	19.8
95th Queue (m)	26.3	131.8	121.1	101.3	29.5	56.5	48.3	57.4	62.0	119.2	78.9	38.4
Link Distance (m)		429.6	429.6	429.6			692.7	692.7	692.7		471.2	471.2
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)		6		0						13	0	
Queuing Penalty (veh)		4		0						19	0	

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	28.0	38.2	43.2
Average Queue (m)	10.2	16.7	17.1
95th Queue (m)	23.5	32.4	34.8
Link Distance (m)		455.0	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR
Maximum Queue (m)	82.4	212.5	360.9	201.1	62.5	82.3	136.2	151.4	145.6	62.5	36.7	10.5
Average Queue (m)	30.5	162.2	160.1	153.2	24.1	22.3	102.3	111.3	115.5	8.6	15.9	2.2
95th Queue (m)	78.4	203.6	258.5	191.9	65.6	67.4	130.5	138.9	146.0	36.5	33.1	7.4
Link Distance (m)		692.7	692.7	692.7			615.8	615.8	615.8			331.5
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	75.0				55.0	75.0				55.0	55.0	
Storage Blk Time (%)	0	29		35	0	0	20		31	0		
Queuing Penalty (veh)	0	17		34	0	0	8		8	0		

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	SB	SB
Directions Served	L	TR
Maximum Queue (m)	38.0	68.1
Average Queue (m)	6.4	26.5
95th Queue (m)	22.3	53.5
Link Distance (m)		833.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	55.0	
Storage Blk Time (%)		1
Queuing Penalty (veh)		1

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	R	L	T	T
Maximum Queue (m)	269.7	357.2	349.3	185.3	67.5	89.9	206.1	206.3	130.0	175.0	449.1	450.2
Average Queue (m)	205.6	125.3	81.5	47.7	23.7	23.8	120.6	120.5	30.0	174.9	428.1	420.1
95th Queue (m)	313.3	363.1	261.5	124.8	54.4	54.3	189.5	189.6	110.4	175.2	483.9	510.9
Link Distance (m)		615.8	615.8	615.8			591.7	591.7			432.1	432.1
Upstream Blk Time (%)											81	34
Queuing Penalty (veh)											0	0
Storage Bay Dist (m)	200.0				60.0	165.0			60.0	95.0		
Storage Blk Time (%)	44	2		3	0		4	43		96	0	12
Queuing Penalty (veh)	141	5		8	0		4	30		275	0	12

Intersection: 6: Airport Road & Mayfield Road

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	T	T	R
Maximum Queue (m)	41.0	64.7	88.6	94.6	81.4
Average Queue (m)	13.0	28.5	48.1	51.3	31.9
95th Queue (m)	28.6	52.4	76.3	83.5	59.1
Link Distance (m)			417.7	417.7	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)	60.0	100.0			105.0
Storage Blk Time (%)	0		0	0	
Queuing Penalty (veh)	0		0	0	

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	L	T	T
Maximum Queue (m)	13.8	30.0	37.0	53.0	32.8	23.4	5.0	1.4
Average Queue (m)	2.0	11.1	24.5	11.7	12.5	3.3	0.3	0.0
95th Queue (m)	8.4	23.1	41.2	50.3	27.9	14.4	2.5	0.7
Link Distance (m)	101.7	101.7		254.7			413.3	413.3
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			30.0		70.0	70.0		
Storage Blk Time (%)			21	0				
Queuing Penalty (veh)			1	0				

Intersection: 8: Airport Road & Airport Site Access/12333 Airport Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (m)	60.8	42.8	31.4	12.6	35.0	50.3	55.6	9.9	4.0	42.2	39.8
Average Queue (m)	29.0	13.3	10.6	1.8	10.8	16.2	21.1	1.9	0.2	14.1	13.4
95th Queue (m)	51.9	29.0	24.7	8.7	26.5	37.8	45.0	8.5	2.5	31.2	32.8
Link Distance (m)		635.4	251.2	251.2	413.3	413.3	413.3			336.4	336.4
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	55.0							145.0	75.0		
Storage Blk Time (%)	1										
Queuing Penalty (veh)	1										

Intersection: 12: Torbram Road & Site Access "1"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	13.8	9.6
Average Queue (m)	7.0	0.3
95th Queue (m)	13.9	4.3
Link Distance (m)	368.9	131.9
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Torbram Road & Site Access "2"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	13.5	5.2
Average Queue (m)	7.3	0.2
95th Queue (m)	13.6	2.9
Link Distance (m)	300.4	197.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Mayfield Connector & Airport Connector

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	11.3	18.6	14.4	8.9	24.6	15.6	17.1
Average Queue (m)	5.0	7.8	5.9	0.3	10.4	8.0	8.4
95th Queue (m)	12.3	13.0	12.8	2.9	18.1	13.1	15.0
Link Distance (m)	182.4		635.4		833.6		622.6
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)		55.0		55.0		55.0	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 15: Mayfield Connector & Torbram Connector

Movement	EB	NB
Directions Served	R	L
Maximum Queue (m)	13.6	9.3
Average Queue (m)	6.6	3.8
95th Queue (m)	13.7	11.2
Link Distance (m)	664.4	622.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 570

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	28.9	16.0	22.2	27.9
Average Queue (m)	14.6	9.1	10.6	14.8
95th Queue (m)	24.5	14.2	18.2	23.1
Link Distance (m)	511.1	346.5	1592.6	796.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Torbram Road & Torbram Connector

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (m)	19.0	9.0	2.2	22.3
Average Queue (m)	8.6	2.1	0.1	2.8
95th Queue (m)	15.4	8.0	1.2	12.1
Link Distance (m)		664.4	605.9	1592.6
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	55.0			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	149.9	303.9	291.5	261.0	143.8	88.5	142.0	154.1	153.0	150.0	475.8	479.2
Average Queue (m)	70.1	195.1	184.6	158.7	52.2	46.5	77.5	85.9	89.0	149.5	408.6	250.0
95th Queue (m)	170.5	327.2	308.0	273.6	162.5	76.3	129.7	139.8	141.2	154.2	589.5	619.1
Link Distance (m)		429.6	429.6	429.6			692.7	692.7	692.7		471.2	471.2
Upstream Blk Time (%)											48	18
Queuing Penalty (veh)											0	0
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)		40		21			5			94		
Queuing Penalty (veh)		46		55			8			101		

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	30.0	82.4	36.0
Average Queue (m)	12.7	44.8	11.5
95th Queue (m)	26.5	69.5	26.2
Link Distance (m)		455.0	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)		1	
Queuing Penalty (veh)		1	

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR
Maximum Queue (m)	82.4	185.5	353.0	356.0	62.5	53.0	153.7	153.9	152.5	62.5	61.1	63.1
Average Queue (m)	59.6	141.0	147.4	163.8	30.8	5.5	104.0	109.5	112.1	22.4	37.9	6.6
95th Queue (m)	103.5	186.9	250.4	297.7	76.4	28.1	145.8	151.0	151.5	63.8	60.8	29.1
Link Distance (m)		692.7	692.7	692.7			615.8	615.8	615.8			331.5
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	75.0				55.0	75.0				55.0	55.0	
Storage Blk Time (%)	1	19		30	0		27		40	0	2	
Queuing Penalty (veh)	6	32		33	0		4		22	1	1	

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	SB	SB
Directions Served	L	TR
Maximum Queue (m)	28.5	24.7
Average Queue (m)	5.8	6.7
95th Queue (m)	18.6	19.3
Link Distance (m)		834.0
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	55.0	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (m)	200.6	197.8	161.6	159.5	67.5	38.9	105.6	103.8	92.9	17.3	165.9	176.8
Average Queue (m)	130.8	91.5	85.9	96.7	64.4	15.5	73.9	70.4	57.3	2.2	108.2	56.7
95th Queue (m)	237.4	193.4	154.4	145.0	78.2	32.7	99.9	97.4	85.5	9.5	186.9	175.5
Link Distance (m)		615.8	615.8	615.8			591.7	591.7	591.7			432.1
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	200.0				60.0	165.0				60.0	95.0	
Storage Blk Time (%)	13	0		20	12				6		40	0
Queuing Penalty (veh)	47	1		91	46				4		64	0

Intersection: 6: Airport Road & Mayfield Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R
Maximum Queue (m)	120.8	29.7	39.5	110.3	118.0	55.4
Average Queue (m)	43.2	11.0	18.6	72.1	77.4	23.0
95th Queue (m)	128.5	23.5	33.6	106.5	108.2	44.3
Link Distance (m)	432.1			415.9	415.9	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)		60.0	100.0			105.0
Storage Blk Time (%)	0			2	1	
Queuing Penalty (veh)	0			1	2	

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	L	R	L
Maximum Queue (m)	7.9	22.9	33.0	25.6	28.8	8.6	11.6
Average Queue (m)	1.1	6.7	13.2	5.1	9.5	0.3	1.1
95th Queue (m)	5.4	16.5	26.7	19.6	24.3	3.4	7.6
Link Distance (m)	101.7	101.7		254.7			
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)			30.0		70.0	65.0	70.0
Storage Blk Time (%)			3	0			
Queuing Penalty (veh)			0	0			

Intersection: 8: Airport Road & Airport Site Access/12333 Airport Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (m)	29.1	31.7	53.5	12.7	54.4	29.4	32.2	16.0	26.4	40.7	37.4
Average Queue (m)	6.5	12.2	21.2	2.2	21.4	8.4	8.7	3.2	4.5	18.6	15.8
95th Queue (m)	19.3	24.7	43.7	8.2	42.2	20.2	23.4	11.3	16.8	35.1	31.6
Link Distance (m)		635.4	251.2	251.2	413.3	413.3	413.3			336.4	336.4
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	55.0							145.0	75.0		
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 12: Torbram Road & Site Access "1"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	9.3	23.5
Average Queue (m)	2.8	1.3
95th Queue (m)	9.6	9.5
Link Distance (m)	368.9	131.9
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Torbram Road & Site Access "2"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	9.1	34.4
Average Queue (m)	3.1	2.1
95th Queue (m)	10.0	14.2
Link Distance (m)	300.4	197.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Mayfield Connector & Airport Connector

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	9.2	11.8	13.3	11.5	26.0	10.8	11.0
Average Queue (m)	2.5	5.6	7.8	2.2	11.9	4.4	4.4
95th Queue (m)	9.1	11.4	13.3	8.8	19.8	11.6	11.8
Link Distance (m)	176.6		635.4		834.0		622.6
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)		55.0		55.0		55.0	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 15: Mayfield Connector & Torbram Connector

Movement	EB	NB
Directions Served	R	L
Maximum Queue (m)	11.2	11.7
Average Queue (m)	4.1	5.9
95th Queue (m)	11.4	13.5
Link Distance (m)	664.4	622.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 568

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	22.3	29.2	53.6	18.1
Average Queue (m)	10.6	16.5	24.5	8.8
95th Queue (m)	17.6	26.2	43.2	13.8
Link Distance (m)	511.1	346.5	1592.6	796.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Torbram Road & Torbram Connector

Movement	WB	WB	SB
Directions Served	L	R	LT
Maximum Queue (m)	17.4	16.8	8.3
Average Queue (m)	10.1	7.5	0.8
95th Queue (m)	16.1	14.3	4.8
Link Distance (m)		664.4	1592.6
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	55.0		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	113.6	197.7	185.0	161.6	33.3	75.0	130.2	320.6	139.9	111.4	108.7	55.9
Average Queue (m)	29.6	136.3	128.6	105.3	15.5	35.0	51.9	67.5	62.2	69.5	39.2	22.8
95th Queue (m)	95.4	187.3	179.1	149.8	27.1	64.4	102.9	186.6	112.5	114.3	86.2	42.6
Link Distance (m)		429.6	429.6	429.6			692.7	692.7	692.7		471.2	471.2
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)		23		3			1			9	0	
Queuing Penalty (veh)		15		6			2			15	0	

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	31.9	38.6	34.9
Average Queue (m)	11.0	16.3	16.3
95th Queue (m)	24.7	31.0	31.0
Link Distance (m)		455.0	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR
Maximum Queue (m)	82.2	219.5	368.2	222.7	62.5	82.3	162.6	167.8	172.1	61.8	45.9	12.5
Average Queue (m)	29.7	175.1	175.4	168.3	26.5	22.5	123.8	130.2	133.3	6.3	17.1	2.8
95th Queue (m)	74.8	225.0	277.7	225.4	71.7	66.5	165.5	170.2	174.5	31.9	35.8	9.1
Link Distance (m)		692.7	692.7	692.7			615.8	615.8	615.8			331.5
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	75.0				55.0	75.0				55.0	55.0	
Storage Blk Time (%)	0	25		30	0	0	25		31	0	0	
Queuing Penalty (veh)	0	15		29	1	0	10		8	0	0	

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	SB	SB
Directions Served	L	TR
Maximum Queue (m)	48.7	75.8
Average Queue (m)	11.2	31.1
95th Queue (m)	32.2	60.7
Link Distance (m)		833.8
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	55.0	
Storage Blk Time (%)	0	1
Queuing Penalty (veh)	0	0

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (m)	225.4	125.7	128.7	117.0	67.5	53.9	138.1	143.8	140.3	30.3	175.0	451.3
Average Queue (m)	135.9	54.0	58.7	59.1	37.5	22.6	81.9	81.4	71.5	4.8	174.9	419.4
95th Queue (m)	206.0	99.9	102.3	96.6	77.0	44.7	115.6	118.1	109.7	17.2	175.8	519.7
Link Distance (m)		615.8	615.8	615.8			591.7	591.7	591.7			432.1
Upstream Blk Time (%)												75
Queuing Penalty (veh)												0
Storage Bay Dist (m)	200.0				60.0	165.0				60.0	95.0	
Storage Blk Time (%)	3			15	0		0		12		94	1
Queuing Penalty (veh)	11			35	1		0		9		281	2

Intersection: 6: Airport Road & Mayfield Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R
Maximum Queue (m)	445.9	51.2	63.2	77.2	83.2	78.7
Average Queue (m)	412.2	14.4	31.0	46.6	48.4	36.5
95th Queue (m)	519.4	33.7	56.9	69.5	72.7	64.8
Link Distance (m)	432.1			415.9	415.9	
Upstream Blk Time (%)	27					
Queuing Penalty (veh)	0					
Storage Bay Dist (m)		60.0	100.0			105.0
Storage Blk Time (%)	15	0				0
Queuing Penalty (veh)	14	1				0

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	R
Maximum Queue (m)	17.0	21.5	37.4	86.4	48.8	1.7	5.3	3.2	20.4	3.2
Average Queue (m)	2.7	9.5	28.6	27.0	15.1	0.1	0.2	0.1	4.1	0.1
95th Queue (m)	10.1	18.3	44.5	91.8	35.9	0.9	2.3	1.8	15.0	1.8
Link Distance (m)	101.7	101.7		254.7		415.9	415.9			
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)			30.0		70.0			65.0	70.0	60.0
Storage Blk Time (%)			38	0						
Queuing Penalty (veh)			2	0						

Intersection: 8: Airport Road & Airport Site Access/12333 Airport Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (m)	61.7	46.0	31.2	6.6	26.4	51.4	57.4	15.0	14.0	40.5	30.8
Average Queue (m)	30.5	13.2	11.3	0.7	8.2	16.4	21.2	1.8	0.8	13.4	11.2
95th Queue (m)	57.6	29.5	26.1	4.0	20.3	38.9	46.2	8.6	5.8	30.9	24.7
Link Distance (m)		635.4	251.2	251.2	413.3	413.3	413.3			336.4	336.4
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	55.0							145.0	75.0		
Storage Blk Time (%)	3	0									
Queuing Penalty (veh)	2	0									

Intersection: 12: Torbram Road & Site Access "1"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	16.3	10.6
Average Queue (m)	7.0	0.4
95th Queue (m)	14.1	4.0
Link Distance (m)	368.9	131.9
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Torbram Road & Site Access "2"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	11.7	5.7
Average Queue (m)	7.1	0.3
95th Queue (m)	13.5	2.7
Link Distance (m)	300.4	197.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Mayfield Connector & Airport Connector

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	9.2	14.5	12.6	9.0	17.9	15.3	17.7
Average Queue (m)	5.2	7.0	5.4	0.7	10.2	7.4	8.7
95th Queue (m)	12.2	12.1	12.0	4.6	17.4	13.5	14.6
Link Distance (m)	179.0		635.4		833.8		622.6
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)		55.0		55.0		55.0	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 15: Mayfield Connector & Torbram Connector

Movement	EB	NB
Directions Served	R	L
Maximum Queue (m)	17.0	11.6
Average Queue (m)	6.7	4.0
95th Queue (m)	14.8	11.6
Link Distance (m)	664.4	622.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 463

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	25.0	18.9	23.7	40.9
Average Queue (m)	14.3	9.9	10.4	16.9
95th Queue (m)	22.4	15.3	18.7	29.1
Link Distance (m)	511.1	346.5	1592.6	796.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Torbram Road & Torbram Connector

Movement	WB	WB	SB
Directions Served	L	R	LT
Maximum Queue (m)	17.5	9.0	21.3
Average Queue (m)	8.2	1.5	1.7
95th Queue (m)	15.6	6.7	9.8
Link Distance (m)		664.4	1592.6
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	55.0		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	149.9	447.7	448.8	448.8	195.0	98.0	321.4	330.3	146.1	150.0	475.9	476.4
Average Queue (m)	100.4	422.5	419.4	409.8	178.4	51.2	93.5	99.5	95.5	147.4	410.7	272.9
95th Queue (m)	200.8	490.1	495.8	513.1	260.3	98.5	208.5	216.1	145.1	171.7	589.0	639.6
Link Distance (m)		429.6	429.6	429.6			692.7	692.7	692.7		471.2	471.2
Upstream Blk Time (%)		40	34	44			0	0			51	23
Queuing Penalty (veh)		0	0	0			0	0			0	0
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)		58		59		4	6			94		
Queuing Penalty (veh)		68		153		21	12			108		

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	34.2	83.6	34.0
Average Queue (m)	12.7	50.5	10.7
95th Queue (m)	26.0	74.1	25.9
Link Distance (m)		455.0	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR
Maximum Queue (m)	82.4	528.5	518.5	347.4	62.5	82.3	155.7	313.6	170.7	62.5	58.6	14.8
Average Queue (m)	53.7	167.5	158.0	153.4	30.5	8.6	108.9	117.8	118.1	20.6	35.1	4.0
95th Queue (m)	95.0	356.1	322.8	248.9	75.5	42.1	147.4	214.1	156.4	62.0	57.5	11.7
Link Distance (m)		692.7	692.7	692.7			615.8	615.8	615.8			331.5
Upstream Blk Time (%)		0	0					0				
Queuing Penalty (veh)		0	0					0				
Storage Bay Dist (m)	75.0				55.0	75.0				55.0	55.0	
Storage Blk Time (%)	1	19		29	0		30		39	0	1	
Queuing Penalty (veh)	4	31		32	1		4		22	1	0	

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	SB	SB
Directions Served	L	TR
Maximum Queue (m)	31.6	23.6
Average Queue (m)	6.8	6.3
95th Queue (m)	20.8	17.4
Link Distance (m)		833.7
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	55.0	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (m)	221.8	169.2	192.4	156.0	67.5	56.9	121.5	121.4	112.1	37.1	175.0	380.0
Average Queue (m)	121.0	78.7	82.4	93.0	65.9	17.3	81.3	79.6	69.9	3.9	144.0	184.4
95th Queue (m)	211.4	137.7	141.4	140.5	74.0	37.3	111.7	111.5	104.2	17.8	208.7	442.8
Link Distance (m)		615.8	615.8	615.8			591.7	591.7	591.7			432.1
Upstream Blk Time (%)												11
Queuing Penalty (veh)												0
Storage Bay Dist (m)	200.0				60.0	165.0				60.0	95.0	
Storage Blk Time (%)	8	0		19	15				13		68	0
Queuing Penalty (veh)	32	0		89	60				8		113	0

Intersection: 6: Airport Road & Mayfield Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R
Maximum Queue (m)	366.3	34.3	60.8	116.5	122.0	62.0
Average Queue (m)	168.0	12.4	23.4	79.6	83.6	26.2
95th Queue (m)	418.7	27.2	45.4	122.2	124.2	49.7
Link Distance (m)	432.1			415.9	415.9	
Upstream Blk Time (%)	3					
Queuing Penalty (veh)	0					
Storage Bay Dist (m)		60.0	100.0			105.0
Storage Blk Time (%)	0			4	5	
Queuing Penalty (veh)	0			4	11	

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	SB	SB	SB
Directions Served	L	TR	L	LTR	L	L	T	T
Maximum Queue (m)	12.0	20.0	37.3	74.0	33.0	7.8	3.0	1.4
Average Queue (m)	1.4	6.4	8.9	25.1	12.2	0.4	0.1	0.0
95th Queue (m)	7.0	15.6	30.3	55.6	28.2	3.6	1.2	0.8
Link Distance (m)	101.7	101.7		254.7			413.3	413.3
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			30.0		70.0	70.0		
Storage Blk Time (%)			0	22				
Queuing Penalty (veh)			0	9				

Intersection: 8: Airport Road & Airport Site Access/12333 Airport Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (m)	25.4	29.5	58.1	12.5	59.4	23.3	32.0	23.1	18.1	54.3	55.4
Average Queue (m)	5.4	11.8	21.2	1.8	23.0	8.7	8.9	3.8	4.1	21.1	17.9
95th Queue (m)	17.2	24.4	45.3	8.0	45.2	20.6	22.8	13.8	13.5	43.0	38.9
Link Distance (m)		635.4	251.2	251.2	413.3	413.3	413.3			336.4	336.4
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	55.0							145.0	75.0		
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 12: Torbram Road & Site Access "1"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	9.3	8.0
Average Queue (m)	3.2	0.5
95th Queue (m)	10.3	4.3
Link Distance (m)	368.9	131.9
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Torbram Road & Site Access "2"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	9.1	7.9
Average Queue (m)	4.0	0.4
95th Queue (m)	11.1	3.7
Link Distance (m)	300.4	197.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Mayfield Connector & Airport Connector

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	9.1	11.7	15.7	9.0	18.8	11.0	8.6
Average Queue (m)	2.4	5.2	8.5	2.1	11.3	4.6	4.7
95th Queue (m)	8.9	11.0	13.4	8.2	18.9	11.8	11.4
Link Distance (m)	175.1		635.4		833.7		622.6
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)		55.0		55.0		55.0	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 15: Mayfield Connector & Torbram Connector

Movement	EB	NB
Directions Served	R	L
Maximum Queue (m)	9.1	9.3
Average Queue (m)	3.9	5.4
95th Queue (m)	10.9	12.8
Link Distance (m)	664.4	622.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 784

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	23.1	41.8	67.4	15.2
Average Queue (m)	11.0	18.7	25.5	8.2
95th Queue (m)	18.3	31.1	46.3	13.6
Link Distance (m)	511.1	346.5	1592.6	796.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Torbram Road & Torbram Connector

Movement	WB	WB	SB
Directions Served	L	R	LT
Maximum Queue (m)	24.0	19.9	5.5
Average Queue (m)	11.5	7.8	0.3
95th Queue (m)	20.2	15.8	2.7
Link Distance (m)		664.4	1592.6
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	55.0		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	149.7	192.0	176.2	166.6	38.2	71.4	183.6	186.6	189.7	133.1	112.8	49.5
Average Queue (m)	20.0	139.0	128.6	105.6	16.5	33.7	105.7	115.9	118.2	79.0	40.7	22.6
95th Queue (m)	73.1	187.0	175.0	151.3	31.4	62.7	168.8	176.6	179.9	131.9	101.4	41.8
Link Distance (m)		429.6	429.6	429.6			692.7	692.7	692.7		471.2	471.2
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)		22		2			8			17	0	
Queuing Penalty (veh)		15		4			14			30	0	

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	25.8	37.6	47.1
Average Queue (m)	10.4	18.2	21.5
95th Queue (m)	21.7	34.1	41.8
Link Distance (m)		455.0	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR
Maximum Queue (m)	43.3	127.8	319.0	99.0	62.4	40.8	118.5	122.5	124.8	61.7	53.2	10.8
Average Queue (m)	15.1	29.4	42.9	29.6	6.0	9.9	37.0	39.9	41.3	5.6	21.3	2.9
95th Queue (m)	32.2	86.6	213.7	76.7	29.5	27.3	87.7	95.1	96.3	29.4	40.2	8.3
Link Distance (m)		692.7	692.7	692.7			615.8	615.8	615.8			331.5
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (m)	75.0				55.0	75.0				55.0	55.0	
Storage Blk Time (%)		1		3	0		1		4	0	0	
Queuing Penalty (veh)		1		3	0		1		1	0	0	

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	SB	SB
Directions Served	L	TR
Maximum Queue (m)	62.3	77.5
Average Queue (m)	14.1	31.5
95th Queue (m)	39.2	60.6
Link Distance (m)		833.8
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	55.0	
Storage Blk Time (%)	0	3
Queuing Penalty (veh)	0	1

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (m)	233.6	190.9	156.3	95.0	66.7	237.7	390.2	380.9	361.5	130.0	175.0	448.0
Average Queue (m)	148.5	56.1	52.1	48.3	21.7	73.4	222.6	216.7	207.3	63.2	174.7	415.3
95th Queue (m)	254.2	159.8	115.4	85.2	57.5	228.4	385.1	369.3	360.4	162.7	177.1	518.7
Link Distance (m)		615.8	615.8	615.8			591.7	591.7	591.7			432.1
Upstream Blk Time (%)												74
Queuing Penalty (veh)												0
Storage Bay Dist (m)	200.0				60.0	165.0				60.0	95.0	
Storage Blk Time (%)	10	0		3	0	0	45		65	1	92	0
Queuing Penalty (veh)	39	0		7	0	0	57		50	2	288	2

Intersection: 6: Airport Road & Mayfield Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R
Maximum Queue (m)	445.3	95.6	70.9	78.0	73.6	77.2
Average Queue (m)	403.1	18.0	33.0	44.2	46.7	41.0
95th Queue (m)	539.3	47.6	61.4	66.4	66.8	69.2
Link Distance (m)	432.1			415.9	415.9	
Upstream Blk Time (%)	28					
Queuing Penalty (veh)	0					
Storage Bay Dist (m)		60.0	100.0			105.0
Storage Blk Time (%)	15					
Queuing Penalty (veh)	16					

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T
Maximum Queue (m)	12.3	24.1	37.3	90.9	44.4	11.9	3.7	24.8	4.1
Average Queue (m)	1.8	9.8	23.6	15.9	17.3	0.4	0.1	4.0	0.2
95th Queue (m)	7.6	18.8	40.4	68.0	36.3	5.0	2.1	16.3	1.7
Link Distance (m)	101.7	101.7		254.7		415.9			413.3
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)			30.0		70.0		65.0	70.0	
Storage Blk Time (%)			25	0					
Queuing Penalty (veh)			1	0					

Intersection: 8: Airport Road & Airport Site Access/12333 Airport Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (m)	56.6	59.6	34.0	13.0	31.8	49.8	57.1	14.9	4.3	42.4	34.0
Average Queue (m)	30.5	14.1	8.8	1.6	10.4	16.3	21.0	2.1	0.1	13.7	12.8
95th Queue (m)	51.7	38.0	23.9	7.6	24.1	37.0	46.2	9.5	1.7	30.4	28.0
Link Distance (m)		635.4	251.2	251.2	413.3	413.3	413.3			336.4	336.4
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	55.0							145.0	75.0		
Storage Blk Time (%)	2										
Queuing Penalty (veh)	2										

Intersection: 12: Torbram Road & Site Access "1"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	11.2	7.6
Average Queue (m)	7.5	0.3
95th Queue (m)	13.2	3.5
Link Distance (m)	368.9	131.9
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Torbram Road & Site Access "2"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	20.2	7.8
Average Queue (m)	7.7	0.3
95th Queue (m)	15.7	2.6
Link Distance (m)	300.4	197.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Mayfield Connector & Airport Road/Airport Connector

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	9.2	15.8	14.4	8.8	22.1	18.2	16.9
Average Queue (m)	5.1	7.4	5.6	0.6	9.7	8.0	8.3
95th Queue (m)	12.4	13.0	12.6	4.2	17.5	14.7	14.1
Link Distance (m)	181.0		635.4		833.8		622.6
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)		55.0		55.0		55.0	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 15: Mayfield Connector & Torbram Connector

Movement	EB	NB
Directions Served	R	L
Maximum Queue (m)	18.0	9.3
Average Queue (m)	6.3	3.5
95th Queue (m)	14.0	10.8
Link Distance (m)	664.4	622.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 534

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	21.7	34.8	53.6	18.3
Average Queue (m)	10.7	17.2	23.0	8.9
95th Queue (m)	18.0	27.4	40.4	14.8
Link Distance (m)	511.1	346.5	1592.6	796.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Torbram Road & Torbram Connector

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

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	149.8	230.3	219.3	208.1	85.2	68.2	179.2	505.8	188.2	143.9	188.0	51.6
Average Queue (m)	28.8	153.5	142.2	114.2	16.8	40.5	74.0	104.3	87.9	93.9	60.6	24.2
95th Queue (m)	99.2	227.5	216.7	185.9	49.5	65.9	154.1	300.1	171.0	154.7	161.7	44.9
Link Distance (m)		429.6	429.6	429.6			692.7	692.7	692.7		471.2	471.2
Upstream Blk Time (%)								0				
Queuing Penalty (veh)								0				
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)	0	27		5			5			33	0	
Queuing Penalty (veh)	0	14		12			10			56	0	

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	16.8	43.8	28.8
Average Queue (m)	2.5	14.0	8.9
95th Queue (m)	10.0	30.4	21.8
Link Distance (m)		455.0	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR
Maximum Queue (m)	82.3	227.1	368.2	227.0	62.5	72.7	172.9	194.7	187.4	62.5	40.8	17.1
Average Queue (m)	31.7	154.3	156.7	153.2	22.7	16.7	117.1	126.0	127.9	9.5	18.2	3.1
95th Queue (m)	71.0	236.3	276.3	229.7	65.0	46.1	180.4	193.7	195.4	43.9	35.9	11.0
Link Distance (m)		692.7	692.7	692.7			615.8	615.8	615.8			331.5
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (m)	75.0				55.0	75.0				55.0	55.0	
Storage Blk Time (%)	0	19		25	0		23		30	0		
Queuing Penalty (veh)	0	16		24	0		9		8	1		

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	SB	SB
Directions Served	L	TR
Maximum Queue (m)	62.2	124.8
Average Queue (m)	13.9	48.8
95th Queue (m)	41.6	96.1
Link Distance (m)		833.9
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	55.0	
Storage Blk Time (%)	0	9
Queuing Penalty (veh)	0	4

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (m)	232.0	168.1	161.1	173.0	67.5	192.3	411.9	408.7	404.4	130.0	175.0	447.3
Average Queue (m)	137.0	78.4	82.7	90.0	42.2	100.2	278.2	271.7	259.6	77.8	165.0	328.9
95th Queue (m)	215.5	142.0	141.8	155.7	84.1	287.9	541.1	527.1	507.4	176.8	209.5	565.0
Link Distance (m)		615.8	615.8	615.8			591.7	591.7	591.7			432.1
Upstream Blk Time (%)							4	2	2			45
Queuing Penalty (veh)							0	0	0			0
Storage Bay Dist (m)	200.0				60.0	165.0				60.0	95.0	
Storage Blk Time (%)	4	0		25	0		43		72	0	83	1
Queuing Penalty (veh)	17	1		56	1		54		61	1	269	2

Intersection: 6: Airport Road & Mayfield Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R
Maximum Queue (m)	444.8	64.2	128.4	103.8	83.6	105.3
Average Queue (m)	314.5	14.3	71.3	51.7	52.1	46.4
95th Queue (m)	561.4	38.6	132.1	80.1	77.0	84.2
Link Distance (m)	432.1			415.9	415.9	
Upstream Blk Time (%)	21					
Queuing Penalty (veh)	0					
Storage Bay Dist (m)		60.0	100.0			105.0
Storage Blk Time (%)	19		15	0		0
Queuing Penalty (veh)	20		35	0		0

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	L	T	T
Maximum Queue (m)	14.1	28.3	37.4	102.2	51.4	4.6	24.6	8.3	1.9
Average Queue (m)	2.6	10.9	29.8	26.8	16.2	0.2	3.4	0.3	0.2
95th Queue (m)	9.9	21.0	45.7	84.4	36.5	2.0	14.0	2.9	1.7
Link Distance (m)	101.7	101.7		254.7		415.9		413.3	413.3
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)			30.0		70.0		70.0		
Storage Blk Time (%)			41	0	0				
Queuing Penalty (veh)			2	0	0				

Intersection: 8: Airport Road & Airport Site Access/12333 Airport Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (m)	62.1	88.3	26.2	8.4	47.5	70.7	73.0	18.6	9.9	46.2	44.9
Average Queue (m)	39.6	20.8	8.2	1.1	15.2	22.3	27.8	2.7	0.5	17.7	15.1
95th Queue (m)	64.1	53.3	21.5	5.9	36.0	51.3	58.5	11.5	4.5	37.1	32.7
Link Distance (m)		635.4	251.2	251.2	413.3	413.3	413.3			336.4	336.4
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	55.0							145.0	75.0		
Storage Blk Time (%)	4										
Queuing Penalty (veh)	4										

Intersection: 12: Torbram Road & Site Access "1"

Movement	WB
Directions Served	LR
Maximum Queue (m)	13.8
Average Queue (m)	6.4
95th Queue (m)	13.5
Link Distance (m)	368.9
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 13: Torbram Road & Site Access "2"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	15.7	7.6
Average Queue (m)	7.3	0.3
95th Queue (m)	14.1	3.2
Link Distance (m)	300.4	197.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Mayfield Connector & Airport Connector

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	11.2	18.6	22.7	6.0	27.3	21.8	22.6
Average Queue (m)	4.8	7.2	8.6	0.4	12.4	11.2	11.1
95th Queue (m)	12.3	14.7	16.6	3.4	22.0	17.4	17.5
Link Distance (m)	177.8		635.4		833.9		622.6
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)		55.0		55.0		55.0	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 15: Mayfield Connector & Torbram Connector

Movement	EB	NB
Directions Served	R	L
Maximum Queue (m)	24.8	25.6
Average Queue (m)	12.6	10.2
95th Queue (m)	20.4	18.5
Link Distance (m)		622.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 678

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	26.2	15.8	23.6	29.3
Average Queue (m)	14.3	9.7	11.5	16.0
95th Queue (m)	22.4	14.9	20.7	24.7
Link Distance (m)	511.1	346.5	1592.6	796.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Torbram Road & Torbram Connector

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

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	149.9	445.3	446.6	440.9	195.0	177.4	264.7	275.1	243.4	150.0	481.5	482.9
Average Queue (m)	63.3	347.9	338.9	307.7	142.2	132.6	127.0	115.0	92.5	149.9	447.5	336.9
95th Queue (m)	172.2	501.7	497.4	477.4	272.0	226.9	268.0	236.3	163.9	149.9	547.9	671.4
Link Distance (m)		429.6	429.6	429.6			692.7	692.7	692.7		471.2	471.2
Upstream Blk Time (%)		12	9	10							66	30
Queuing Penalty (veh)		0	0	0							0	0
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)		53		48		53	1			96		
Queuing Penalty (veh)		36		125		312	2			97		

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	23.8	84.8	20.3
Average Queue (m)	4.8	50.8	7.0
95th Queue (m)	15.4	74.6	17.5
Link Distance (m)		455.0	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)		1	
Queuing Penalty (veh)		0	

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR
Maximum Queue (m)	82.3	508.1	509.6	173.8	62.5	39.7	128.7	131.2	296.5	62.4	61.6	60.8
Average Queue (m)	59.2	103.2	107.6	80.9	26.6	7.5	42.3	42.6	49.9	8.0	36.7	8.2
95th Queue (m)	92.4	288.0	313.3	130.7	70.1	28.5	86.4	86.7	161.5	30.6	58.5	33.3
Link Distance (m)		692.7	692.7	692.7			615.8	615.8	615.8			331.5
Upstream Blk Time (%)		0	0									
Queuing Penalty (veh)		0	0									
Storage Bay Dist (m)	75.0				55.0	75.0				55.0	55.0	
Storage Blk Time (%)	13	6		25	0		5		7	0	3	
Queuing Penalty (veh)	93	13		28	0		1		4	0	1	

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	SB	SB
Directions Served	L	TR
Maximum Queue (m)	26.6	41.8
Average Queue (m)	6.5	14.6
95th Queue (m)	18.9	33.3
Link Distance (m)		833.7
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	55.0	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (m)	189.7	149.1	138.8	174.0	67.5	38.0	131.0	131.2	123.1	64.8	132.8	100.0
Average Queue (m)	104.5	66.0	73.6	83.4	58.7	13.6	87.4	87.6	75.9	11.4	73.5	29.5
95th Queue (m)	177.4	109.7	114.4	139.2	82.7	29.9	132.5	132.6	122.1	60.2	127.2	65.4
Link Distance (m)		615.8	615.8	615.8			591.7	591.7	591.7			432.1
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	200.0				60.0	165.0				60.0	95.0	
Storage Blk Time (%)	0			9	4		0		17		11	0
Queuing Penalty (veh)	1			38	17		0		13		20	0

Intersection: 6: Airport Road & Mayfield Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R
Maximum Queue (m)	63.4	32.1	93.4	132.4	143.5	90.0
Average Queue (m)	33.0	12.2	28.0	86.8	93.0	30.4
95th Queue (m)	55.9	26.2	69.3	134.4	142.6	68.4
Link Distance (m)	432.1			415.9	415.9	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)		60.0	100.0			105.0
Storage Blk Time (%)	0			9	9	
Queuing Penalty (veh)	0			9	19	

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	LTR	L	L	R
Maximum Queue (m)	7.2	20.2	29.4	45.5	27.0	11.2	7.8
Average Queue (m)	1.2	6.6	5.3	20.5	11.0	1.0	0.3
95th Queue (m)	6.1	16.0	21.8	39.9	24.8	7.2	4.3
Link Distance (m)	101.7	101.7		254.7			
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)			30.0		70.0	70.0	60.0
Storage Blk Time (%)			0	12			
Queuing Penalty (veh)			0	5			

Intersection: 8: Airport Road & Airport Site Access/12333 Airport Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (m)	31.8	45.9	55.1	11.2	95.2	25.0	30.4	19.4	16.4	55.4	52.0
Average Queue (m)	8.7	18.0	25.0	1.6	43.3	9.3	11.6	4.3	3.2	24.5	17.6
95th Queue (m)	23.7	34.9	47.1	6.9	78.7	21.3	25.7	14.6	11.8	47.0	41.2
Link Distance (m)		635.4	251.2	251.2	413.3	413.3	413.3			336.4	336.4
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	55.0							145.0	75.0		
Storage Blk Time (%)		0									
Queuing Penalty (veh)		0									

Intersection: 12: Torbram Road & Site Access "1"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	9.3	10.4
Average Queue (m)	3.2	0.7
95th Queue (m)	10.2	5.6
Link Distance (m)	368.9	131.9
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Torbram Road & Site Access "2"

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (m)	9.1	2.2	7.6
Average Queue (m)	4.0	0.1	0.3
95th Queue (m)	11.2	1.2	3.2
Link Distance (m)	300.4	131.9	197.6
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Mayfield Connector & Airport Connector

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	9.2	13.9	22.4	9.0	31.0	20.2	21.4
Average Queue (m)	1.6	5.4	11.7	1.6	16.3	8.2	7.9
95th Queue (m)	7.2	11.3	18.5	7.1	25.7	14.6	15.9
Link Distance (m)	174.7		635.4		833.7		622.6
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)		55.0		55.0		55.0	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 15: Mayfield Connector & Torbram Connector

Movement	EB	NB
Directions Served	R	L
Maximum Queue (m)	20.2	19.0
Average Queue (m)	9.6	12.0
95th Queue (m)	15.2	18.6
Link Distance (m)		622.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 835

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	31.7	21.7	21.1	43.2
Average Queue (m)	15.2	10.4	11.1	16.9
95th Queue (m)	25.1	17.0	18.2	29.7
Link Distance (m)	511.1	346.5	1592.6	796.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Torbram Road & Torbram Connector

Movement	WB	WB	SB
Directions Served	L	R	LT
Maximum Queue (m)	15.5	9.0	23.9
Average Queue (m)	7.6	2.3	1.6
95th Queue (m)	14.3	8.4	10.2
Link Distance (m)		664.4	1592.6
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	55.0		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	149.9	333.1	321.6	307.1	144.6	135.6	146.0	154.9	162.0	150.0	478.3	479.7
Average Queue (m)	60.1	264.1	252.1	227.1	88.6	68.8	90.5	102.1	105.5	149.9	408.6	259.0
95th Queue (m)	157.9	469.8	456.1	432.0	229.0	131.3	140.1	152.9	156.2	149.9	548.2	625.1
Link Distance (m)		429.6	429.6	429.6			692.7	692.7	692.7		471.2	471.2
Upstream Blk Time (%)		6	3	3							50	21
Queuing Penalty (veh)		0	0	0							0	0
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)		42		30		15	3			96		
Queuing Penalty (veh)		49		78		85	7			111		

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	27.9	87.7	35.1
Average Queue (m)	12.2	50.4	11.5
95th Queue (m)	24.5	74.5	27.1
Link Distance (m)		455.0	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)		1	
Queuing Penalty (veh)		1	

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR
Maximum Queue (m)	82.1	528.4	697.2	359.4	62.5	41.7	295.0	306.4	151.0	61.3	62.0	56.7
Average Queue (m)	38.7	97.9	119.0	90.6	25.1	8.8	51.5	52.1	47.4	7.7	39.4	6.3
95th Queue (m)	69.6	291.2	377.3	212.2	68.6	36.9	165.6	167.7	107.1	30.4	59.3	25.3
Link Distance (m)		692.7	692.7	692.7			615.8	615.8	615.8			331.5
Upstream Blk Time (%)		0	0	0			0	0				
Queuing Penalty (veh)		0	1	0			0	0				
Storage Bay Dist (m)	75.0				55.0	75.0				55.0	55.0	
Storage Blk Time (%)	1	11		26	0		7		10	0	3	
Queuing Penalty (veh)	5	19		28	0		1		5	0	1	

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	SB	SB
Directions Served	L	TR
Maximum Queue (m)	33.0	30.9
Average Queue (m)	7.8	8.5
95th Queue (m)	23.6	22.7
Link Distance (m)		833.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	55.0	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (m)	203.8	261.2	257.0	175.1	67.5	38.1	135.0	137.0	137.9	95.7	174.9	305.4
Average Queue (m)	127.9	127.0	118.6	88.0	60.1	15.4	85.2	83.4	74.2	6.0	147.7	149.2
95th Queue (m)	274.1	340.9	299.5	145.2	83.3	31.9	120.1	119.7	111.9	38.6	203.3	382.0
Link Distance (m)		615.8	615.8	615.8			591.7	591.7	591.7			432.1
Upstream Blk Time (%)												3
Queuing Penalty (veh)												0
Storage Bay Dist (m)	200.0				60.0	165.0				60.0	95.0	
Storage Blk Time (%)	20	2		9	6				16		71	0
Queuing Penalty (veh)	81	4		40	23				9		119	0

Intersection: 6: Airport Road & Mayfield Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R
Maximum Queue (m)	290.9	38.2	90.8	144.3	144.4	93.2
Average Queue (m)	120.7	11.6	27.9	88.3	92.6	34.8
95th Queue (m)	350.8	26.0	74.6	154.3	155.0	91.3
Link Distance (m)	432.1			415.9	415.9	
Upstream Blk Time (%)	0					
Queuing Penalty (veh)	0					
Storage Bay Dist (m)		60.0	100.0			105.0
Storage Blk Time (%)	1			10	11	
Queuing Penalty (veh)	1			9	23	

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	LTR	L	R	L	T
Maximum Queue (m)	9.9	15.5	37.3	58.6	31.8	13.1	5.9	9.3
Average Queue (m)	1.5	5.9	7.8	22.1	10.7	0.4	0.3	0.4
95th Queue (m)	6.8	13.8	28.5	50.3	26.3	7.2	4.0	3.9
Link Distance (m)	101.7	101.7		254.7				413.3
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			30.0		70.0	65.0	70.0	
Storage Blk Time (%)			0	15				
Queuing Penalty (veh)			0	6				

Intersection: 8: Airport Road & Airport Site Access/12333 Airport Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (m)	27.5	30.2	71.0	14.5	54.1	23.3	27.6	14.9	24.9	54.7	57.9
Average Queue (m)	6.5	13.7	24.7	2.3	23.4	9.8	11.0	2.9	4.5	21.2	19.2
95th Queue (m)	19.6	26.5	51.4	8.7	45.1	21.1	25.0	11.0	16.3	46.6	41.8
Link Distance (m)		635.4	251.2	251.2	413.3	413.3	413.3			336.4	336.4
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	55.0							145.0	75.0		
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 12: Torbram Road & Site Access "1"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	11.7	14.8
Average Queue (m)	3.7	0.8
95th Queue (m)	11.2	6.1
Link Distance (m)	368.9	131.9
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Torbram Road & Site Access "2"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	9.1	13.3
Average Queue (m)	3.7	1.0
95th Queue (m)	10.9	6.6
Link Distance (m)	300.4	197.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Mayfield Connector & Airport Connector

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	9.1	15.9	18.2	8.9	23.6	13.4	10.8
Average Queue (m)	2.0	5.9	8.4	1.5	11.5	4.4	4.7
95th Queue (m)	8.1	12.0	14.4	6.9	19.8	11.8	11.6
Link Distance (m)	176.6		635.4		833.6		622.6
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)		55.0		55.0		55.0	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 15: Mayfield Connector & Torbram Connector

Movement	EB	NB
Directions Served	R	L
Maximum Queue (m)	13.6	13.9
Average Queue (m)	4.2	6.5
95th Queue (m)	11.6	13.8
Link Distance (m)	664.4	622.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 706

Intersection: 1: Torbram Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	24.0	44.2	57.5	20.9
Average Queue (m)	10.7	18.8	25.5	9.0
95th Queue (m)	18.1	31.7	45.1	16.2
Link Distance (m)	511.1	346.5	1592.6	796.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Torbram Road & Torbram Connector

Movement	WB	WB	SB
Directions Served	L	R	LT
Maximum Queue (m)	21.1	18.2	10.6
Average Queue (m)	10.8	8.2	0.8
95th Queue (m)	17.5	15.3	5.0
Link Distance (m)		664.4	1592.6
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	55.0		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Torbram Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	TR	L	T	R
Maximum Queue (m)	149.9	193.1	177.1	148.0	41.1	86.6	151.4	163.3	171.8	145.3	181.3	59.9
Average Queue (m)	32.9	130.7	120.9	94.4	15.5	45.5	70.2	77.4	83.2	86.9	54.7	24.2
95th Queue (m)	94.4	177.9	165.4	138.0	28.8	77.1	150.7	162.4	171.1	136.7	138.0	48.8
Link Distance (m)		429.6	429.6	429.6			692.7	692.7	692.7		471.2	471.2
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	100.0				125.0	105.0				80.0		
Storage Blk Time (%)		20		1			5			21	0	
Queuing Penalty (veh)		14		3			8			37	0	

Intersection: 3: Torbram Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	R
Maximum Queue (m)	30.0	44.2	46.5
Average Queue (m)	10.4	17.3	19.4
95th Queue (m)	22.6	35.1	37.4
Link Distance (m)		455.0	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	80.0		80.0
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	TR
Maximum Queue (m)	82.3	230.6	376.9	379.1	62.5	82.3	173.2	181.4	180.5	48.8	36.9	14.7
Average Queue (m)	35.3	160.4	164.6	161.4	25.7	21.9	116.5	122.0	126.8	6.0	17.1	3.5
95th Queue (m)	78.9	243.1	312.6	280.1	69.4	62.1	175.8	184.2	188.2	26.0	33.4	10.0
Link Distance (m)		692.7	692.7	692.7			615.8	615.8	615.8			331.5
Upstream Blk Time (%)				0	0							
Queuing Penalty (veh)				0	0							
Storage Bay Dist (m)	75.0				55.0	75.0				55.0	55.0	
Storage Blk Time (%)	0	21		27	0	0	21		29	0		
Queuing Penalty (veh)	0	13		27	0	0	9		8	0		

Intersection: 4: Mayfield Connector & Mayfield Road

Movement	SB	SB
Directions Served	L	TR
Maximum Queue (m)	62.1	69.6
Average Queue (m)	9.6	32.5
95th Queue (m)	31.6	60.6
Link Distance (m)		834.0
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	55.0	
Storage Blk Time (%)	0	2
Queuing Penalty (veh)	0	1

Intersection: 6: Airport Road & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	R	L	T	T	T	R	L	T
Maximum Queue (m)	229.2	196.4	162.8	158.9	67.5	154.0	294.9	285.9	263.9	130.0	175.0	448.0
Average Queue (m)	145.4	79.1	82.5	87.1	43.9	60.2	177.2	174.2	161.6	42.9	174.2	403.3
95th Queue (m)	227.9	150.1	146.4	150.6	84.4	198.5	330.1	321.9	308.4	137.2	184.2	516.5
Link Distance (m)		615.8	615.8	615.8			591.7	591.7	591.7			432.1
Upstream Blk Time (%)												61
Queuing Penalty (veh)												0
Storage Bay Dist (m)	200.0				60.0	165.0				60.0	95.0	
Storage Blk Time (%)	6	0		21	0	1	24		56		92	1
Queuing Penalty (veh)	26	0		52	1	4	30		43		288	3

Intersection: 6: Airport Road & Mayfield Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R
Maximum Queue (m)	445.8	63.8	83.5	91.5	85.7	101.3
Average Queue (m)	394.7	16.3	45.1	50.8	51.2	46.6
95th Queue (m)	518.8	46.8	80.6	78.1	75.2	84.0
Link Distance (m)	432.1			415.9	415.9	
Upstream Blk Time (%)	25					
Queuing Penalty (veh)	0					
Storage Bay Dist (m)		60.0	100.0			105.0
Storage Blk Time (%)	22		1	0		0
Queuing Penalty (veh)	22		2	0		0

Intersection: 7: Airport Road & Perdue Court/Davis Lane

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	R	L	T	T
Maximum Queue (m)	10.0	27.3	37.4	108.1	40.0	3.9	8.1	28.5	1.3	6.6
Average Queue (m)	2.0	9.6	28.9	35.8	13.0	0.1	0.5	4.1	0.0	0.2
95th Queue (m)	7.9	20.5	44.1	114.5	32.2	2.2	4.6	16.1	0.7	2.6
Link Distance (m)	101.7	101.7		254.7		415.9			413.3	413.3
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)			30.0		70.0		65.0	70.0		
Storage Blk Time (%)			45	1						
Queuing Penalty (veh)			2	1						

Intersection: 8: Airport Road & Airport Site Access/12333 Airport Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	TR
Maximum Queue (m)	60.6	59.5	29.3	10.2	30.2	53.1	61.8	16.2	8.2	42.0	32.9
Average Queue (m)	31.3	14.9	9.3	0.7	10.7	19.5	24.3	2.2	0.4	17.0	12.8
95th Queue (m)	58.1	39.0	22.0	4.6	23.4	43.7	51.3	10.0	4.4	35.4	27.2
Link Distance (m)		635.4	251.2	251.2	413.3	413.3	413.3			336.4	336.4
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (m)	55.0							145.0	75.0		
Storage Blk Time (%)	3										
Queuing Penalty (veh)	2										

Intersection: 12: Torbram Road & Site Access "1"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	13.7	2.7
Average Queue (m)	6.2	0.1
95th Queue (m)	13.6	1.5
Link Distance (m)	368.9	131.9
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 13: Torbram Road & Site Access "2"

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	13.3	5.1
Average Queue (m)	6.8	0.2
95th Queue (m)	13.3	2.0
Link Distance (m)	300.4	197.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Mayfield Connector & Airport Connector

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	TR	L	TR	L	TR	L	TR
Maximum Queue (m)	11.7	16.9	17.9	9.1	19.0	15.7	16.7
Average Queue (m)	4.8	7.2	5.3	0.5	10.7	7.9	8.8
95th Queue (m)	12.4	12.8	13.4	3.9	17.1	14.2	14.5
Link Distance (m)	179.4		635.4		834.0		622.6
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)		55.0		55.0		55.0	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 15: Mayfield Connector & Torbram Connector

Movement	EB	NB
Directions Served	R	L
Maximum Queue (m)	16.8	11.7
Average Queue (m)	7.6	4.2
95th Queue (m)	14.6	11.8
Link Distance (m)	664.4	622.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 598

Appendix H

Signal Warrant and Auxiliary Turn-Lane Warrant Analysis Excerpts

2022-5842
Tullamore

Right Turn Warrants

Storage Calculator S=(NV/30) S=storage length (n N=volumes (v/h) V=vehicle length (m)
PTAC Vehicle Length (m) 7.5
Volumes used are the greater of A.M. and P.M. peak volumes

2026 Future Total / Approach	NBR			SBR		
Intersection	(N) Volumes	Volume>60?	(S) Storage Length	(N) Volumes	Volume>60?	(S) Storage Length
Torbram at Street C	52	No	N/A			
Torbram at Site Access 1	15	No	N/A			
Torbram at Site Access 2	15	No	N/A			

2026 Future Total / Approach	NBR			SBR		
Intersection	(N) Volumes	Volume>60?	(S) Storage Length	(N) Volumes	Volume>60?	(S) Storage Length
Torbram at Street C	52	No	N/A			
Torbram at Site Access 1	15	No	N/A			
Torbram at Site Access 2	15	No	N/A			

2022-5842
Tullamore

Left Turn Warrants

Storage Calculator S=(NV/30) S=storage length (m N=volumes (v/h) V=vehicle length (m)
PTAC Vehicle Length (m) 7.5
Volumes used are the greater of A.M. and P.M. peak volumes

AM

2026 Future Total / Approach	Data				
Intersection	**VA**	**VAL**	**VAL %**	**VO**	**Storage Lane Warranted**
Torbram at Street C	329	28	9%	109	NONE
Torbram at Site Access 1	367	12	3%	252	NONE
Torbram at Site Access 2	367	12	3%	218	NONE

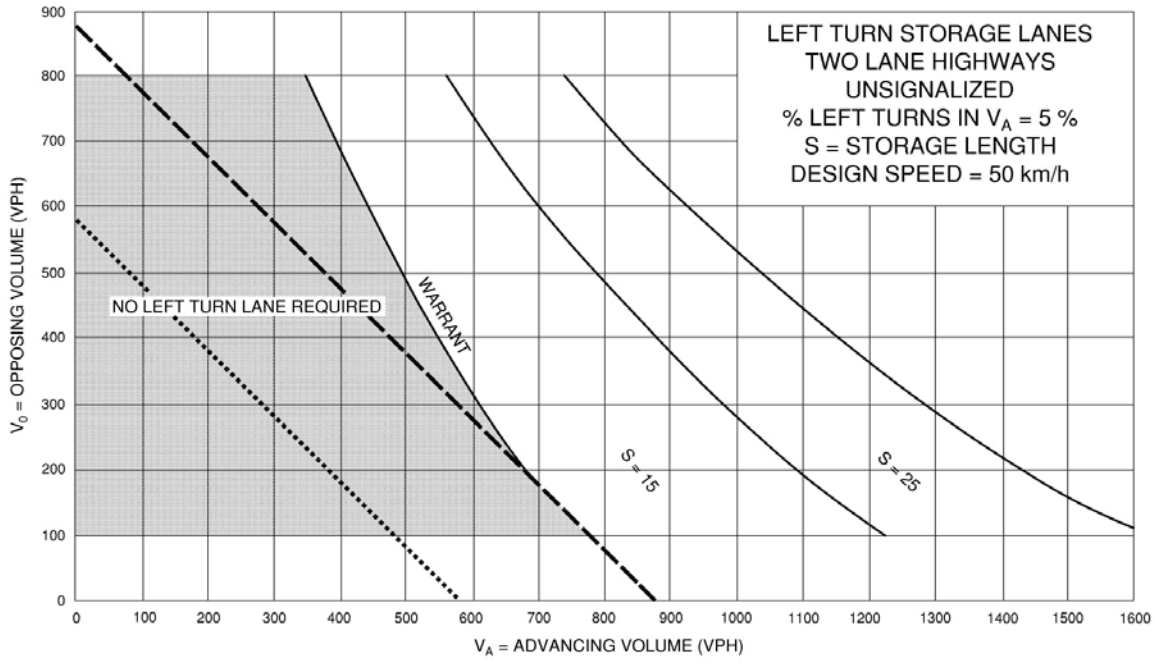
2036 Future Total / Approach	Data				
Intersection	**VA**	**VAL**	**VAL %**	**VO**	**Storage Lane Warranted**
Torbram at Street C	386	28	7%	132	NONE
Torbram at Site Access 1	424	12	3%	275	NONE
Torbram at Site Access 2	424	12	3%	241	NONE

PM

2026 Future Total / Approach	Data				
Intersection	**VA**	**VAL**	**VAL %**	**VO**	**Storage Lane Warranted**
Torbram at Street C	98	10	10%	213	NONE
Torbram at Site Access 1	224	4	2%	248	NONE
Torbram at Site Access 2	198	4	2%	249	NONE

2036 Future Total / Approach	Data				
Intersection	**VA**	**VAL**	**VAL %**	**VO**	**Storage Lane Warranted**
Torbram at Street C	116	10	9%	253	NONE
Torbram at Site Access 1	241	4	2%	288	NONE
Torbram at Site Access 2	215	4	2%	289	NONE

Exhibit 9A-3


LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 5 %
S = STORAGE LENGTH
DESIGN SPEED = 50 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S = 15
S = 25
V_0 = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)
TRAFFIC SIGNALS MAY BE WARRANTED IN RURAL AREAS OR URBAN AREAS WITH RESTRICTED FLOW
TRAFFIC SIGNALS MAY BE WARRANTED IN "FREE FLOW" URBAN AREAS

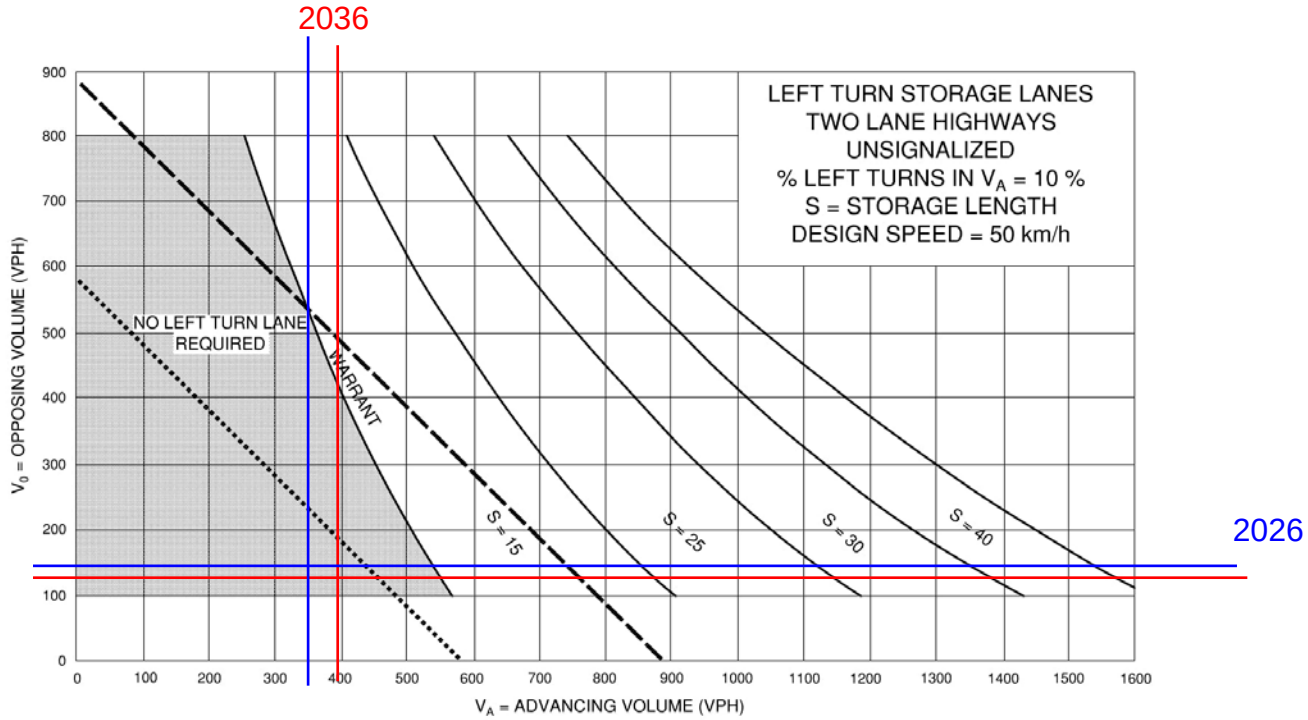
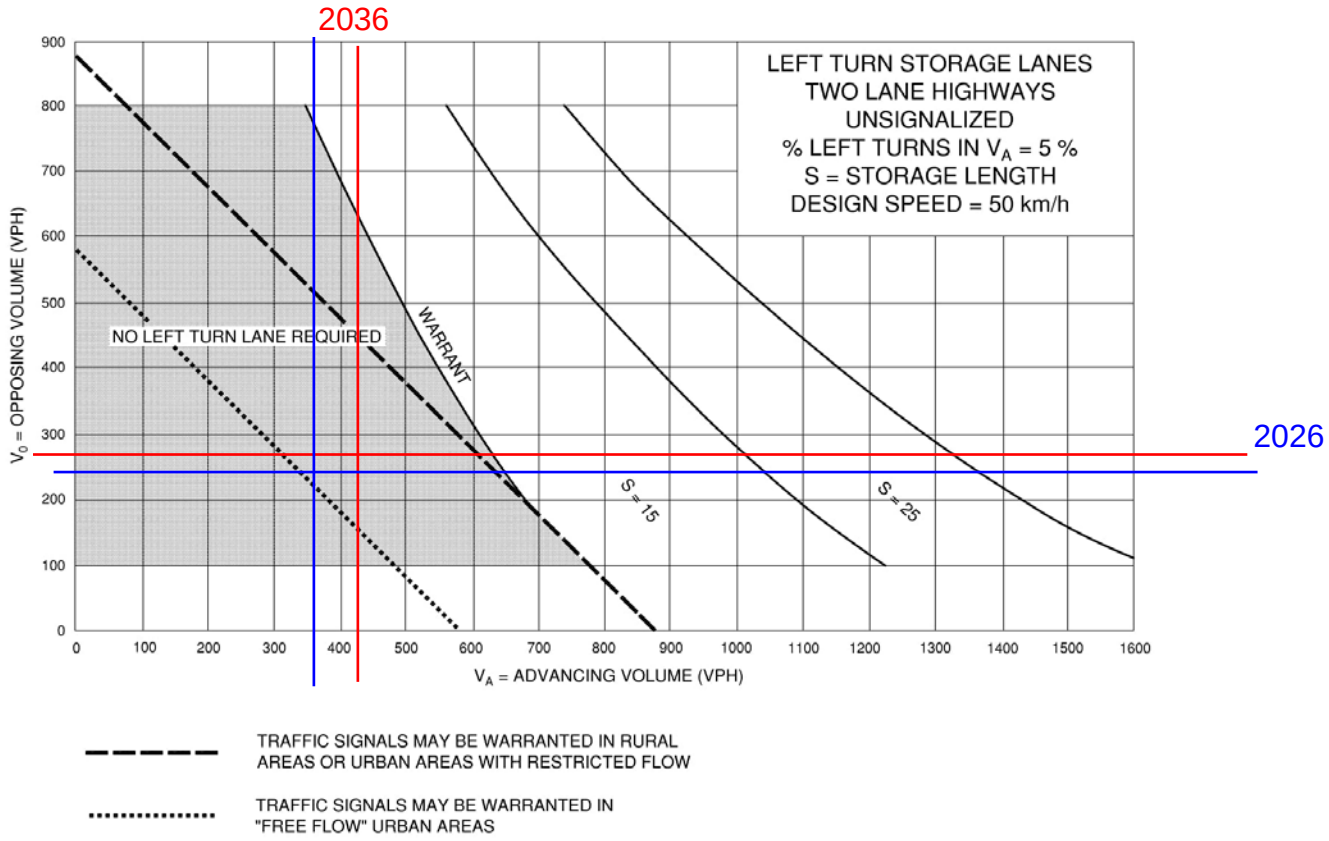

2036
2026
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 10 %
S = STORAGE LENGTH
DESIGN SPEED = 50 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S = 15
S = 25
S = 30
S = 40
V_0 = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)

Exhibit 9A-3


2036
2026
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 5 %
S = STORAGE LENGTH
DESIGN SPEED = 50 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S = 15
S = 25
V_0 = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)
TRAFFIC SIGNALS MAY BE WARRANTED IN RURAL AREAS OR URBAN AREAS WITH RESTRICTED FLOW
TRAFFIC SIGNALS MAY BE WARRANTED IN "FREE FLOW" URBAN AREAS

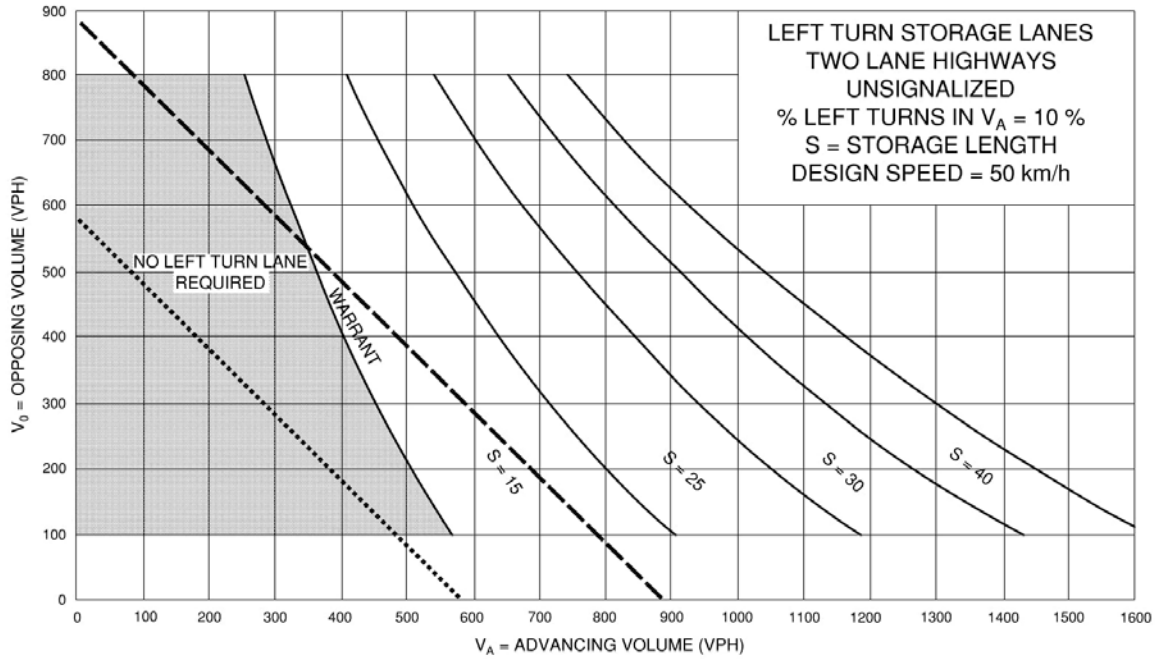
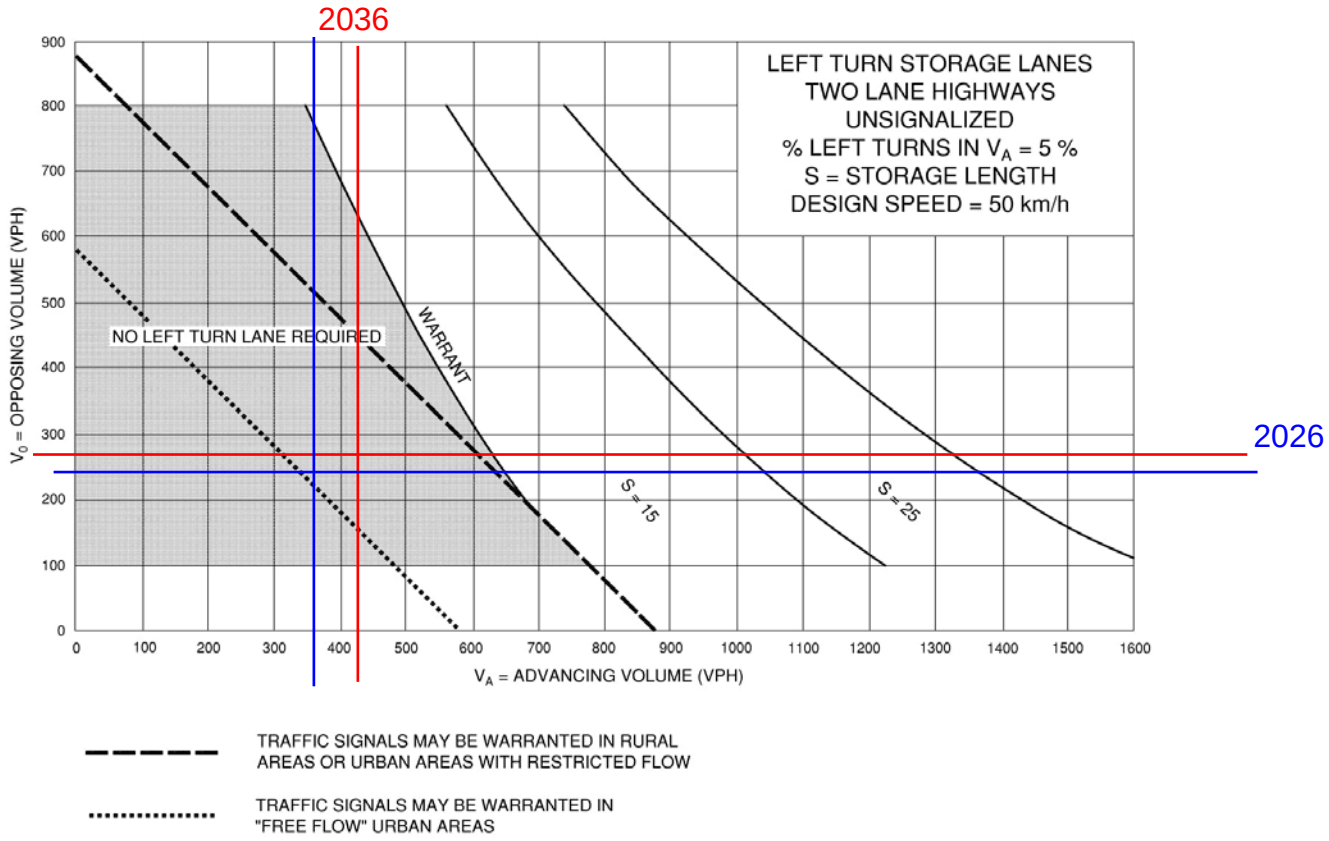
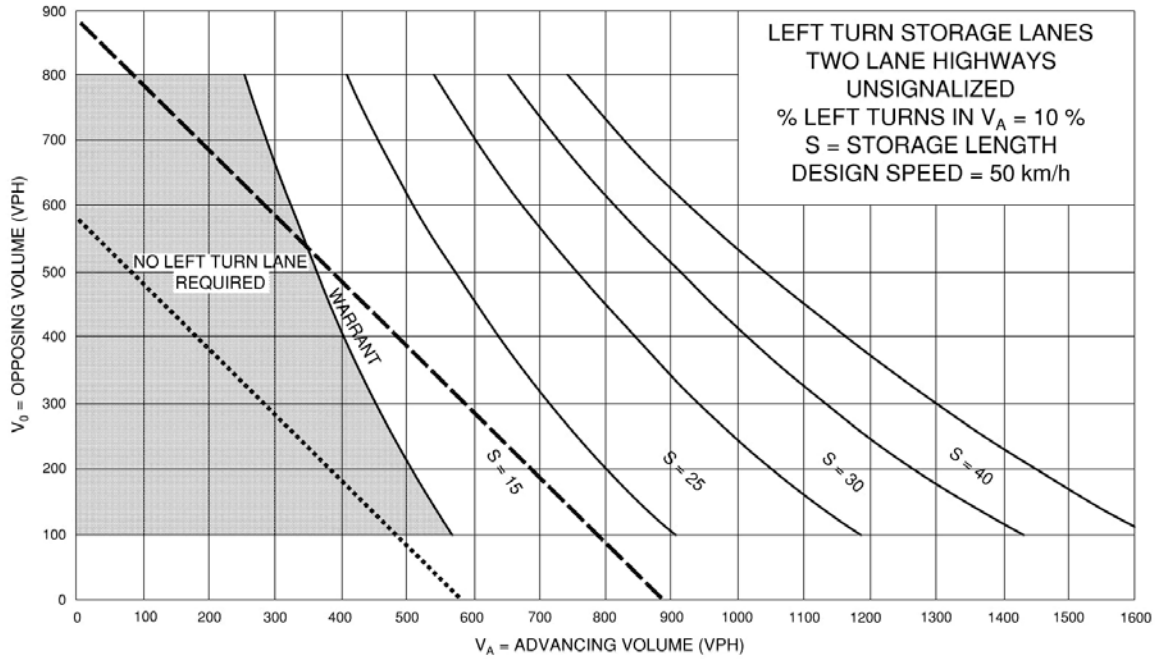

LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 10 %
S = STORAGE LENGTH
DESIGN SPEED = 50 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S = 15
S = 25
S = 30
S = 40
V_0 = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)

Exhibit 9A-3


2036
2026
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 5 %
S = STORAGE LENGTH
DESIGN SPEED = 50 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S = 15
S = 25
V_O = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)
TRAFFIC SIGNALS MAY BE WARRANTED IN RURAL AREAS OR URBAN AREAS WITH RESTRICTED FLOW
TRAFFIC SIGNALS MAY BE WARRANTED IN "FREE FLOW" URBAN AREAS


LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 10 %
S = STORAGE LENGTH
DESIGN SPEED = 50 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S = 15
S = 25
S = 30
S = 40
V_O = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)

Input Data Sheet

Analysis Sheet | Results Sheet | Proposed Collision

GO TO Justification:

What are the intersecting roadways? Street A at Street B

What is the direction of the Main Road street? North-South

When was the data collected? 2036 Future Total

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road? 1

b.- Number of lanes on the Minor Road? 1

c.- How many approaches? 4

d.- What is the operating environment? Rural **Population < 10,000 AND Speed >= 70 km/hr**

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	3	22	27	0	5	3	21	23	0	31	6	22	0
8:00	3	22	27	0	5	3	21	23	0	31	6	22	0
9:00	3	22	27	0	5	3	21	23	0	31	6	22	0
10:00	3	22	27	0	5	3	21	23	0	31	6	22	0
16:00	3	22	27	0	5	3	21	23	0	31	6	22	0
17:00	3	22	27	0	5	3	21	23	0	31	6	22	0
18:00	3	22	27	0	5	3	21	23	0	31	6	22	0
19:00	3	22	27	0	5	3	21	23	0	31	6	22	0
Total	**24**	**176**	**216**	**0**	**40**	**24**	**168**	**184**	**0**	**248**	**48**	**176**	**0**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume									
Factored 8 hour pedestrian volume	0		0		0		0		
% Assigned to crossing rate	23%		34%		30%		100%		
Net 8 Hour Pedestrian Volume at Crossing									0
Net 8 Hour Vehicular Volume on Street Being Crossed									2,000

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	0	0	0	0	0	0	0	0	
Factored volume of total pedestrians	0		0		0		0		
Factored volume of delayed pedestrians	0		0		0		0		
% Assigned to Crossing Rate	23%		34%		30%		100%		
Net 8 Hour Volume of Total Pedestrians									0
Net 8 Hour Volume of Delayed Pedestrians									0

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Street A at Street B

Count Date: 2036 Future Total

Justification 1: Minimum Vehicle Volumes

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	7:00	8:00	9:00	10:00	16:00	17:00	18:00	19:00		
	☑	☐	☐	☐										
1A	480	720	600	900	163	163	163	163	163	163	163	163		
	COMPLIANCE %				34	34	34	34	34	34	34	34	272	34
1B	120	170	120	170	67	67	67	67	67	67	67	67		
	COMPLIANCE %				56	56	56	56	56	56	56	56	447	56
Free Flow Signal Justification 1:					**Both 1A and 1B 100% Fullfilled each of 8 hours** Yes ☐ No ☐ **Lesser of 1A or 1B at least 80% fulfilled each of 8 hours** Yes ☐ No ☑									

Justification 2: Delay to Cross Traffic

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	7:00	8:00	9:00	10:00	16:00	17:00	18:00	19:00		
	☑	☐	☐	☐										
2A	480	720	600	900	96	96	96	96	96	96	96	96		
	COMPLIANCE %				20	20	20	20	20	20	20	20	160	20
2B	50	75	50	75	37	37	37	37	37	37	37	37		
	COMPLIANCE %				74	74	74	74	74	74	74	74	592	74
Free Flow Signal Justification 2:					**Both 2A and 2B 100% Fullfilled each of 8 hours** Yes ☐ No ☐ **Lesser of 2A or 2B at least 80% fulfilled each of 8 hours** Yes ☐ No ☑									

Justification 3: Combination

Combination Justification 1 and 2

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimun Vehicular Volume	☐	☑	YES	NO
Justification 2	Delay Cross Traffic	☐	☑	☐	NOT JUSTIFIED ☑

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main) X	Heaviest Minor Approach Y (actual)	Required Value Y (warrant threshold)	Average % Compliance	Overall % Compliance
Justification 4	7:00	96	59	513	12 %	12 %
	8:00	96	59	513	12 %	
	9:00	96	59	513	12 %	
	10:00	96	59	513	12 %	

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Street A at Street B

Count Date: 2036 Future Total

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

8 Hour Vehicular Volume V_8		Net 8 Hour Pedestrian Volume				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600	Not Justified				
	2601 - 7000					
	> 7000					

Pedestrian Delay Analysis

Net Total 8 Hour Volume of Total Pedestrians		Net Total 8 Hour Volume of Delayed Pedestrians		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

Intersection: Street A at Street B

Count Date: 2036 Future Total

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	34	%		
	B	Crossing Volume	56	%		☑
2. Delay to Cross Traffic	A	Main Road	20	%		
	B	Crossing Road	74	%		☑
3. Combination	A	Justificaton 1	34	%		
	B	Justification 2	20	%		☑
4. 4-Hr Volume			12	%		☑
5. Collision Experience			0	%		☑
6. Pedestrians	A	Volume	Justification not met			
	B	Delay	Justification not met			☑

Input Data Sheet

Analysis Sheet | Results Sheet | Proposed Collision

GO TO Justification:

What are the intersecting roadways? Street B at Mayfield Road

What is the direction of the Main Road street? East-West

When was the data collected? 2036 Future Total

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road? 2 or more

b.- Number of lanes on the Minor Road? 1

c.- How many approaches? 4

d.- What is the operating environment? Rural Population < 10,000 AND Speed >= 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Eastbound Approach			Minor Northbound Approach			Main Westbound Approach			Minor Southbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	56	1080	52	84	0	15	14	985	33	18	0	59	0
8:00	56	1080	52	84	0	15	14	985	33	18	0	59	0
9:00	56	1080	52	84	0	15	14	985	33	18	0	59	0
10:00	56	1080	52	84	0	15	14	985	33	18	0	59	0
16:00	56	1080	52	84	0	15	14	985	33	18	0	59	0
17:00	56	1080	52	84	0	15	14	985	33	18	0	59	0
18:00	56	1080	52	84	0	15	14	985	33	18	0	59	0
19:00	56	1080	52	84	0	15	14	985	33	18	0	59	0
Total	**448**	**8,640**	**416**	**672**	**0**	**120**	**112**	**7,880**	**264**	**144**	**0**	**472**	**0**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume									
Factored 8 hour pedestrian volume	0		0		0		0		
% Assigned to crossing rate	23%		34%		30%		100%		
Net 8 Hour Pedestrian Volume at Crossing									0
Net 8 Hour Vehicular Volume on Street Being Crossed									2,000

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	0	0	0	0	0	0	0	0	
Factored volume of total pedestrians	0		0		0		0		
Factored volume of delayed pedestrians	0		0		0		0		
% Assigned to Crossing Rate	23%		34%		30%		100%		
Net 8 Hour Volume of Total Pedestrians									0
Net 8 Hour Volume of Delayed Pedestrians									0

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Street B at Mayfield Road

Count Date: 2036 Future Total

Justification 1: Minimum Vehicle Volumes

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	7:00	8:00	9:00	10:00	16:00	17:00	18:00	19:00		
1A	480	720	600	900	2,396	2,396	2,396	2,396	2,396	2,396	2,396	2,396		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
1B	120	170	120	170	176	176	176	176	176	176	176	176		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
Free Flow Signal Justification 1:					**Both 1A and 1B 100% Fullfilled each of 8 hours** Yes ☐ No ☐ **Lesser of 1A or 1B at least 80% fulfilled each of 8 hours** Yes ☑ No ☐									

Justification 2: Delay to Cross Traffic

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	7:00	8:00	9:00	10:00	16:00	17:00	18:00	19:00		
2A	480	720	600	900	2,220	2,220	2,220	2,220	2,220	2,220	2,220	2,220		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
2B	50	75	50	75	102	102	102	102	102	102	102	102		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
Free Flow Signal Justification 2:					**Both 2A and 2B 100% Fullfilled each of 8 hours** Yes ☐ No ☐ **Lesser of 2A or 2B at least 80% fulfilled each of 8 hours** Yes ☑ No ☐									

Justification 3: Combination

Combination Justification 1 and 2

	Justification Satisfied 80% or More		Two Justifications Satisfied 80% or More	
Justification 1	Minimun Vehicular Volume	YES ☑ NO ☐	YES ☑	NO ☐
Justification 2	Delay Cross Traffic	YES ☑ NO ☐	JUSTIFIED	

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main) X	Heaviest Minor Approach Y (actual)	Required Value Y (warrant threshold)	Average % Compliance	Overall % Compliance
Justification 4	7:00	2,220	99	115	86 %	86 %
	8:00	2,220	99	115	86 %	
	9:00	2,220	99	115	86 %	
	10:00	2,220	99	115	86 %	

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Street B at Mayfield Road

Count Date: 2036 Future Total

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

8 Hour Vehicular Volume V_8		Net 8 Hour Pedestrian Volume				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600	Not Justified				
	2601 - 7000					
	> 7000					

Pedestrian Delay Analysis

Net Total 8 Hour Volume of Total Pedestrians		Net Total 8 Hour Volume of Delayed Pedestrians		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

Intersection: Street B at Mayfield Road

Count Date: 2036 Future Total

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	100	%		
	B	Crossing Volume	100	%	☑	☐
2. Delay to Cross Traffic	A	Main Road	100	%		
	B	Crossing Road	100	%	☑	☐
3. Combination	A	Justificaton 1	100	%		
	B	Justification 2	100	%	☑	☐
4. 4-Hr Volume			86	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met			
	B	Delay	Justification not met		☐	☑

Input Data Sheet

Analysis Sheet | Results Sheet | Proposed Collision

GO TO Justification:

What are the intersecting roadways? Streeet C at Street B

What is the direction of the Main Road street? North-South

When was the data collected? 2036 Future Total

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road? 1

b.- Number of lanes on the Minor Road? 1

c.- How many approaches? 3

d.- What is the operating environment? Rural Population < 10,000 AND Speed >= 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	0	0	15	13	0	0	0	0	0	0	0	0	0
8:00	0	0	15	13	0	0	0	0	0	0	0	0	0
9:00	0	0	15	13	0	0	0	0	0	0	0	0	0
10:00	0	0	15	13	0	0	0	0	0	0	0	0	0
16:00	0	0	15	13	0	0	0	0	0	0	0	0	0
17:00	0	0	15	13	0	0	0	0	0	0	0	0	0
18:00	0	0	15	13	0	0	0	0	0	0	0	0	0
19:00	0	0	15	13	0	0	0	0	0	0	0	0	0
Total	**0**	**0**	**120**	**104**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume									
Factored 8 hour pedestrian volume	0		0		0		0		
% Assigned to crossing rate	23%		34%		30%		100%		
Net 8 Hour Pedestrian Volume at Crossing									0
Net 8 Hour Vehicular Volume on Street Being Crossed									2,000

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	0	0	0	0	0	0	0	0	
Factored volume of total pedestrians	0		0		0		0		
Factored volume of delayed pedestrians	0		0		0		0		
% Assigned to Crossing Rate	23%		34%		30%		100%		
Net 8 Hour Volume of Total Pedestrians									0
Net 8 Hour Volume of Delayed Pedestrians									0

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Streeet C at Street B

Count Date: 2036 Future Total

Justification 1: Minimum Vehicle Volumes

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	7:00	8:00	9:00	10:00	16:00	17:00	18:00	19:00		
	☑	☐	☐	☐										
1A	480	720	600	900	28	28	28	28	28	28	28	28		
	COMPLIANCE %				6	6	6	6	6	6	6	6	47	6
1B	180	255	180	255	13	13	13	13	13	13	13	13		
	COMPLIANCE %				7	7	7	7	7	7	7	7	58	7
Free Flow Signal Justification 1:	**Both 1A and 1B 100% Fullfilled each of 8 hours**									**Yes** ☐		**No** ☑		
	Lesser of 1A or 1B at least 80% fulfilled each of 8 hours									**Yes** ☐		**No** ☑		

Justification 2: Delay to Cross Traffic

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	7:00	8:00	9:00	10:00	16:00	17:00	18:00	19:00		
	☑	☐	☐	☐										
2A	480	720	600	900	15	15	15	15	15	15	15	15		
	COMPLIANCE %				3	3	3	3	3	3	3	3	25	3
2B	50	75	50	75	13	13	13	13	13	13	13	13		
	COMPLIANCE %				26	26	26	26	26	26	26	26	208	26
Free Flow Signal Justification 2:	**Both 2A and 2B 100% Fullfilled each of 8 hours**									**Yes** ☐		**No** ☑		
	Lesser of 2A or 2B at least 80% fulfilled each of 8 hours									**Yes** ☐		**No** ☑		

Justification 3: Combination

Combination Justification 1 and 2

	Justification Satisfied 80% or More			Two Justifications Satisfied 80% or More	
Justification 1	Minimun Vehicular Volume	☐	☐	YES	NO
Justification 2	Delay Cross Traffic	☐	☑	☐	NOT JUSTIFIED ☑

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main) X	Heaviest Minor Approach Y (actual)	Required Value Y (warrant threshold)	Average % Compliance	Overall % Compliance
Justification 4	7:00	15	13	567	2 %	2 %
	8:00	15	13	567	2 %	
	9:00	15	13	567	2 %	
	10:00	15	13	567	2 %	

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Streeet C at Street B

Count Date: 2036 Future Total

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

8 Hour Vehicular Volume V_8		Net 8 Hour Pedestrian Volume				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600	Not Justified				
	2601 - 7000					
	> 7000					

Pedestrian Delay Analysis

Net Total 8 Hour Volume of Total Pedestrians		Net Total 8 Hour Volume of Delayed Pedestrians		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

Intersection: Streeet C at Street B

Count Date: 2036 Future Total

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	6	%		
	B	Crossing Volume	7	%		☑
2. Delay to Cross Traffic	A	Main Road	3	%		
	B	Crossing Road	26	%		☑
3. Combination	A	Justificaton 1	6	%		
	B	Justification 2	3	%		☑
4. 4-Hr Volume			2	%		
						☑
5. Collision Experience			0	%		
						☑
6. Pedestrians	A	Volume	Justification not met			
	B	Delay	Justification not met			☑

Input Data Sheet

Analysis Sheet | Results Sheet | Proposed Collision

GO TO Justification:

What are the intersecting roadways? Streeet C at Torbram

What is the direction of the Main Road street? North-South

When was the data collected? 2036 Future Total

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road? 1

b.- Number of lanes on the Minor Road? 1

c.- How many approaches? 3

d.- What is the operating environment? Rural Population < 10,000 AND Speed >= 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	0	96	41	0	0	0	10	116	0	44	0	14	0
8:00	0	96	41	0	0	0	10	116	0	44	0	14	0
9:00	0	96	41	0	0	0	10	116	0	44	0	14	0
10:00	0	96	41	0	0	0	10	116	0	44	0	14	0
16:00	0	96	41	0	0	0	10	116	0	44	0	14	0
17:00	0	96	41	0	0	0	10	116	0	44	0	14	0
18:00	0	96	41	0	0	0	10	116	0	44	0	14	0
19:00	0	96	41	0	0	0	10	116	0	44	0	14	0
Total	**0**	**768**	**328**	**0**	**0**	**0**	**80**	**928**	**0**	**352**	**0**	**112**	**0**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume									
Factored 8 hour pedestrian volume	0		0		0		0		
% Assigned to crossing rate	23%		34%		30%		100%		
Net 8 Hour Pedestrian Volume at Crossing									0
Net 8 Hour Vehicular Volume on Street Being Crossed									2,000

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	0	0	0	0	0	0	0	0	
Factored volume of total pedestrians	0		0		0		0		
Factored volume of delayed pedestrians	0		0		0		0		
% Assigned to Crossing Rate	23%		34%		30%		100%		
Net 8 Hour Volume of Total Pedestrians									0
Net 8 Hour Volume of Delayed Pedestrians									0

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Streeet C at Torbram

Count Date: 2036 Future Total

Justification 1: Minimum Vehicle Volumes

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	7:00	8:00	9:00	10:00	16:00	17:00	18:00	19:00		
	☑	☐	☐	☐										
1A	480	720	600	900	321	321	321	321	321	321	321	321		
	COMPLIANCE %				67	67	67	67	67	67	67	67	535	67
1B	180	255	180	255	58	58	58	58	58	58	58	58		
	COMPLIANCE %				32	32	32	32	32	32	32	32	258	32
Free Flow Signal Justification 1:					**Both 1A and 1B 100% Fullfilled each of 8 hours** Yes ☐ No ☑									
					Lesser of 1A or 1B at least 80% fulfilled each of 8 hours Yes ☐ No ☑									

Justification 2: Delay to Cross Traffic

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	7:00	8:00	9:00	10:00	16:00	17:00	18:00	19:00		
	☑	☐	☐	☐										
2A	480	720	600	900	263	263	263	263	263	263	263	263		
	COMPLIANCE %				55	55	55	55	55	55	55	55	438	55
2B	50	75	50	75	44	44	44	44	44	44	44	44		
	COMPLIANCE %				88	88	88	88	88	88	88	88	704	88
Free Flow Signal Justification 2:					**Both 2A and 2B 100% Fullfilled each of 8 hours** Yes ☐ No ☑									
					Lesser of 2A or 2B at least 80% fulfilled each of 8 hours Yes ☐ No ☑									

Justification 3: Combination

Combination Justification 1 and 2

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimun Vehicular Volume	YES ☑	NO ☐	YES	NO
Justification 2	Delay Cross Traffic	YES ☐	NO ☑		NOT JUSTIFIED ☑

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main) X	Heaviest Minor Approach Y (actual)	Required Value Y (warrant threshold)	Average % Compliance	Overall % Compliance
Justification 4	7:00	263	58	411	14 %	14 %
	8:00	263	58	411	14 %	
	9:00	263	58	411	14 %	
	10:00	263	58	411	14 %	

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Streeet C at Torbram

Count Date: 2036 Future Total

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

8 Hour Vehicular Volume V_8		Net 8 Hour Pedestrian Volume				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600	Not Justified				
	2601 - 7000					
	> 7000					

Pedestrian Delay Analysis

Net Total 8 Hour Volume of Total Pedestrians		Net Total 8 Hour Volume of Delayed Pedestrians		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

Intersection: Streeet C at Torbram

Count Date: 2036 Future Total

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	67	%		
	B	Crossing Volume	32	%	☐	☑
2. Delay to Cross Traffic	A	Main Road	55	%		
	B	Crossing Road	88	%	☐	☑
3. Combination	A	Justificaton 1	32	%		
	B	Justification 2	55	%	☐	☑
4. 4-Hr Volume			14	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification not met			
	B	Delay	Justification not met		☐	☑

Input Data Sheet

Analysis Sheet | Results Sheet | Proposed Collision

GO TO Justification:

What are the intersecting roadways? Streeet D at Street B

What is the direction of the Main Road street? North-South

When was the data collected? 2036 Future Total

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road? 1

b.- Number of lanes on the Minor Road? 1

c.- How many approaches? 3

d.- What is the operating environment? Rural Population < 10,000 AND Speed >= 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	0	13	31	0	0	0	0	15	0	29	0	0	0
8:00	0	13	31	0	0	0	0	15	0	29	0	0	0
9:00	0	13	31	0	0	0	0	15	0	29	0	0	0
10:00	0	13	31	0	0	0	0	15	0	29	0	0	0
16:00	0	13	31	0	0	0	0	15	0	29	0	0	0
17:00	0	13	31	0	0	0	0	15	0	29	0	0	0
18:00	0	13	31	0	0	0	0	15	0	29	0	0	0
19:00	0	13	31	0	0	0	0	15	0	29	0	0	0
Total	**0**	**104**	**248**	**0**	**0**	**0**	**0**	**120**	**0**	**232**	**0**	**0**	**0**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume									
Factored 8 hour pedestrian volume	0		0		0		0		
% Assigned to crossing rate	23%		34%		30%		100%		
Net 8 Hour Pedestrian Volume at Crossing									0
Net 8 Hour Vehicular Volume on Street Being Crossed									2,000

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	0	0	0	0	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	0	0	0	0	0	0	0	0	
Factored volume of total pedestrians	0		0		0		0		
Factored volume of delayed pedestrians	0		0		0		0		
% Assigned to Crossing Rate	23%		34%		30%		100%		
Net 8 Hour Volume of Total Pedestrians									0
Net 8 Hour Volume of Delayed Pedestrians									0

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Streeet D at Street B

Count Date: 2036 Future Total

Justification 1: Minimum Vehicle Volumes

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	7:00	8:00	9:00	10:00	16:00	17:00	18:00	19:00		
	☑	☐	☐	☐										
1A	480	720	600	900	88	88	88	88	88	88	88	88		
	COMPLIANCE %				18	18	18	18	18	18	18	18	147	18
1B	180	255	180	255	29	29	29	29	29	29	29	29		
	COMPLIANCE %				16	16	16	16	16	16	16	16	129	16
Free Flow Signal Justification 1:					Both 1A and 1B 100% Fullfilled each of 8 hours								Yes ☐	No ☑
					Lesser of 1A or 1B at least 80% fulfilled each of 8 hours								Yes ☐	No ☑

Justification 2: Delay to Cross Traffic

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW	RESTR. FLOW	FREE FLOW	RESTR. FLOW	7:00	8:00	9:00	10:00	16:00	17:00	18:00	19:00		
	☑	☐	☐	☐										
2A	480	720	600	900	59	59	59	59	59	59	59	59		
	COMPLIANCE %				12	12	12	12	12	12	12	12	98	12
2B	50	75	50	75	29	29	29	29	29	29	29	29		
	COMPLIANCE %				58	58	58	58	58	58	58	58	464	58
Free Flow Signal Justification 2:					Both 2A and 2B 100% Fullfilled each of 8 hours								Yes ☐	No ☑
					Lesser of 2A or 2B at least 80% fulfilled each of 8 hours								Yes ☐	No ☑

Justification 3: Combination

Combination Justification 1 and 2

	Justification Satisfied 80% or More		Two Justifications Satisfied 80% or More	
Justification 1	Minimun Vehicular Volume	☐	YES	NO
Justification 2	Delay Cross Traffic	☑	☐	NOT JUSTIFIED ☑
		☐	☑	

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main) X	Heaviest Minor Approach Y (actual)	Required Value Y (warrant threshold)	Average % Compliance	Overall % Compliance
Justification 4	7:00	59	29	537	5 %	5 %
	8:00	59	29	537	5 %	
	9:00	59	29	537	5 %	
	10:00	59	29	537	5 %	

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Streeet D at Street B

Count Date: 2036 Future Total

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

8 Hour Vehicular Volume V_8		Net 8 Hour Pedestrian Volume				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600	Not Justified				
	2601 - 7000					
	> 7000					

Pedestrian Delay Analysis

Net Total 8 Hour Volume of Total Pedestrians		Net Total 8 Hour Volume of Delayed Pedestrians		
		< 75	75 - 130	> 130
Justification 6B	< 200	Not Justified		
	200 - 300			
	> 300			

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

Intersection: Streeet D at Street B

Count Date: 2036 Future Total

Summary Results

Justification			Compliance	Signal Justified? YES	NO
1. Minimum Vehicular Volume	A	Total Volume	18 %		
	B	Crossing Volume	16 %		☑
2. Delay to Cross Traffic	A	Main Road	12 %		
	B	Crossing Road	58 %		☑
3. Combination	A	Justificaton 1	16 %		
	B	Justification 2	12 %		☑
4. 4-Hr Volume			5 %		☑
5. Collision Experience			0 %		☑
6. Pedestrians	A	Volume	Justification not met		
	B	Delay	Justification not met		☑

Appendix I

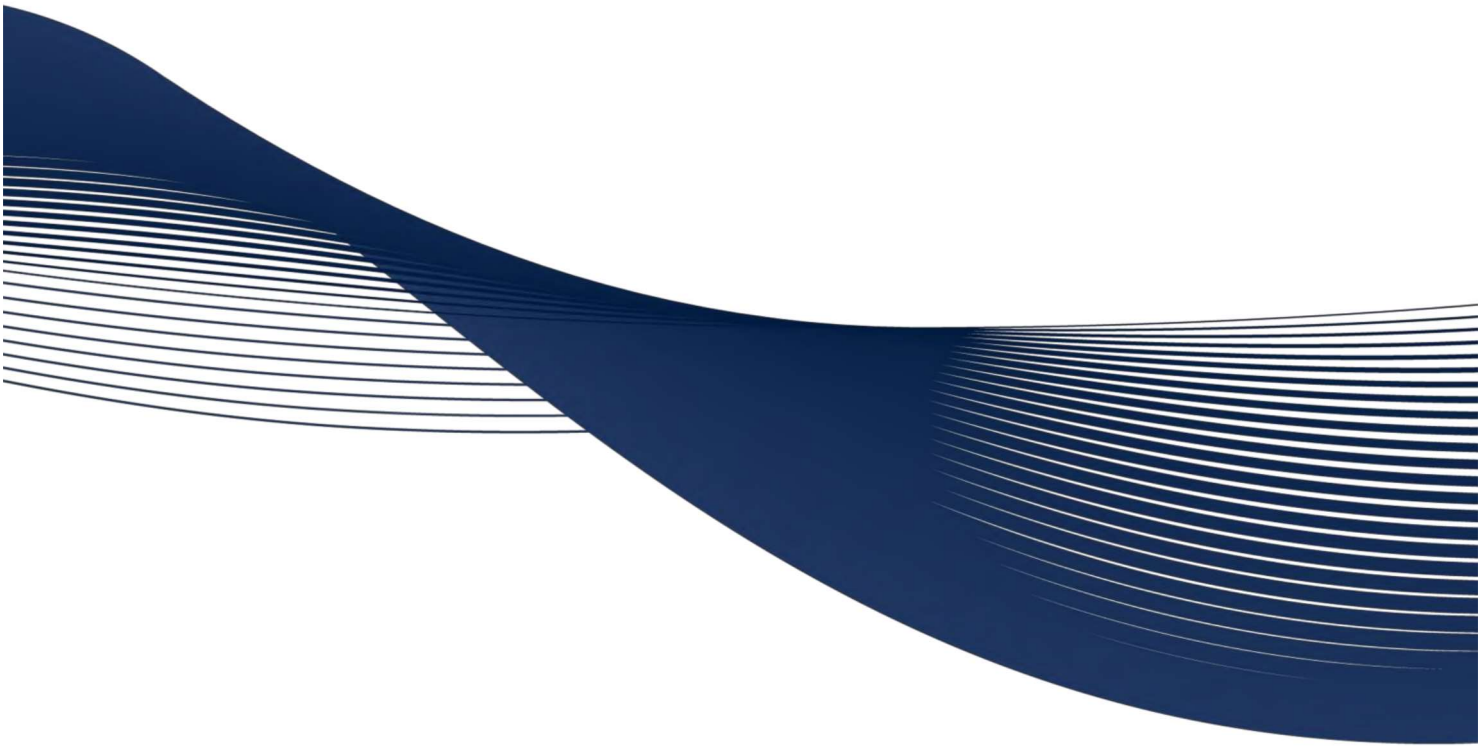
Background Development Information

BRAMPTON AREA LANDOWERS GROUP INC.

REVISED TRAFFIC IMPACT STUDY

Block 48-2 Proposed Mixed-Use Development, City of Brampton

Project No.: T11-646



MAY 2017

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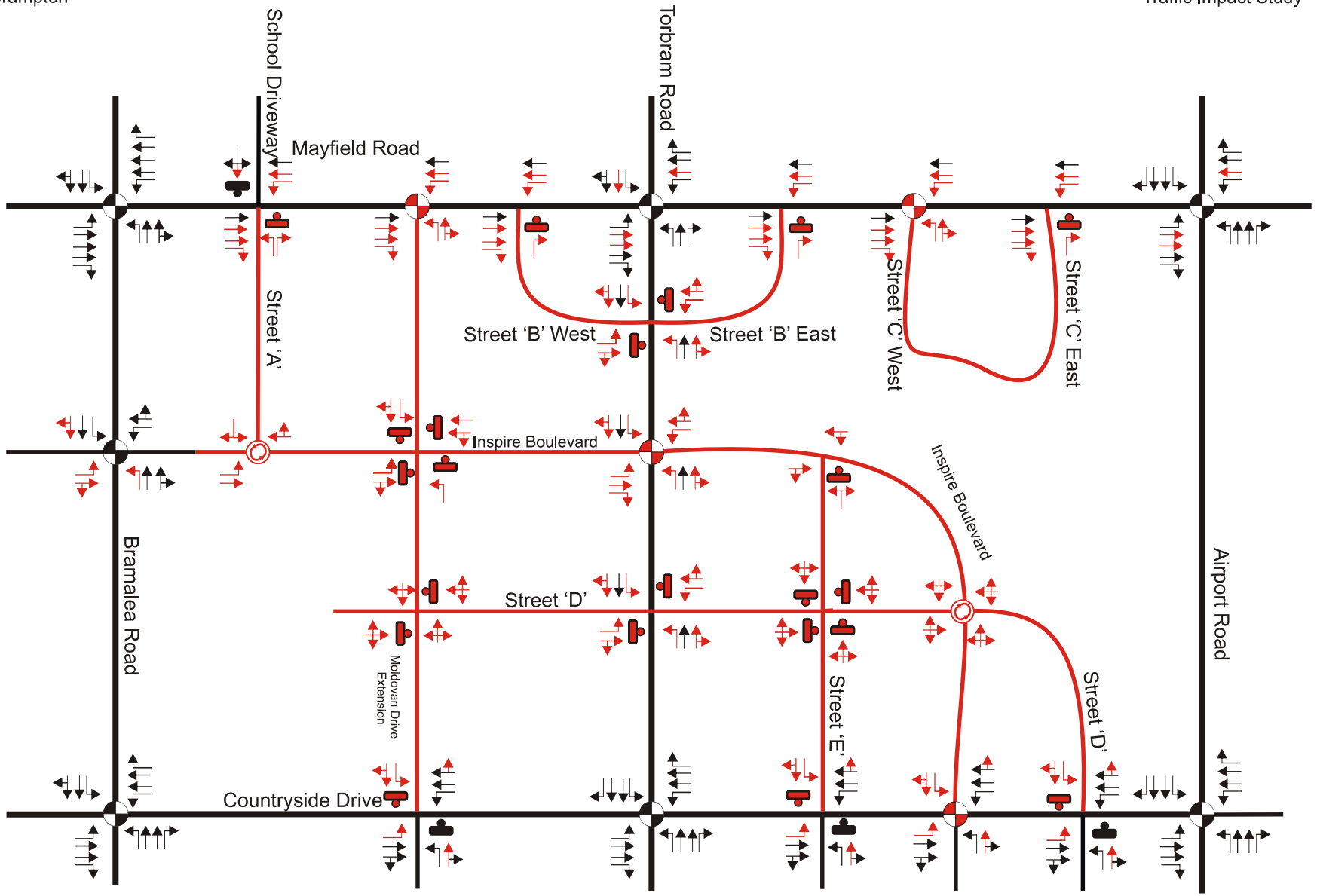


Figure 5-3
2021 Road Network



Figure 5-4
2031 Total Traffic Volumes

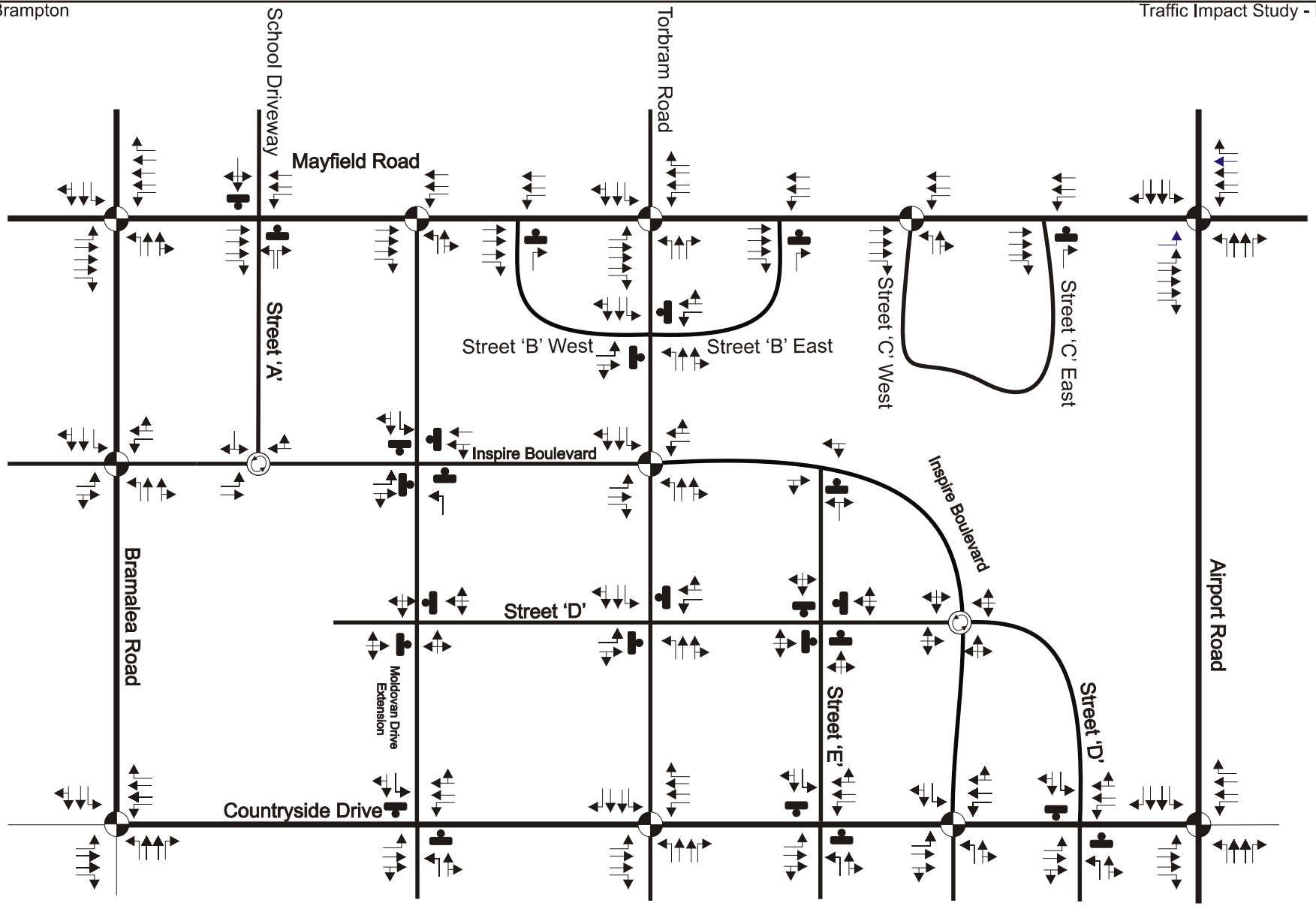
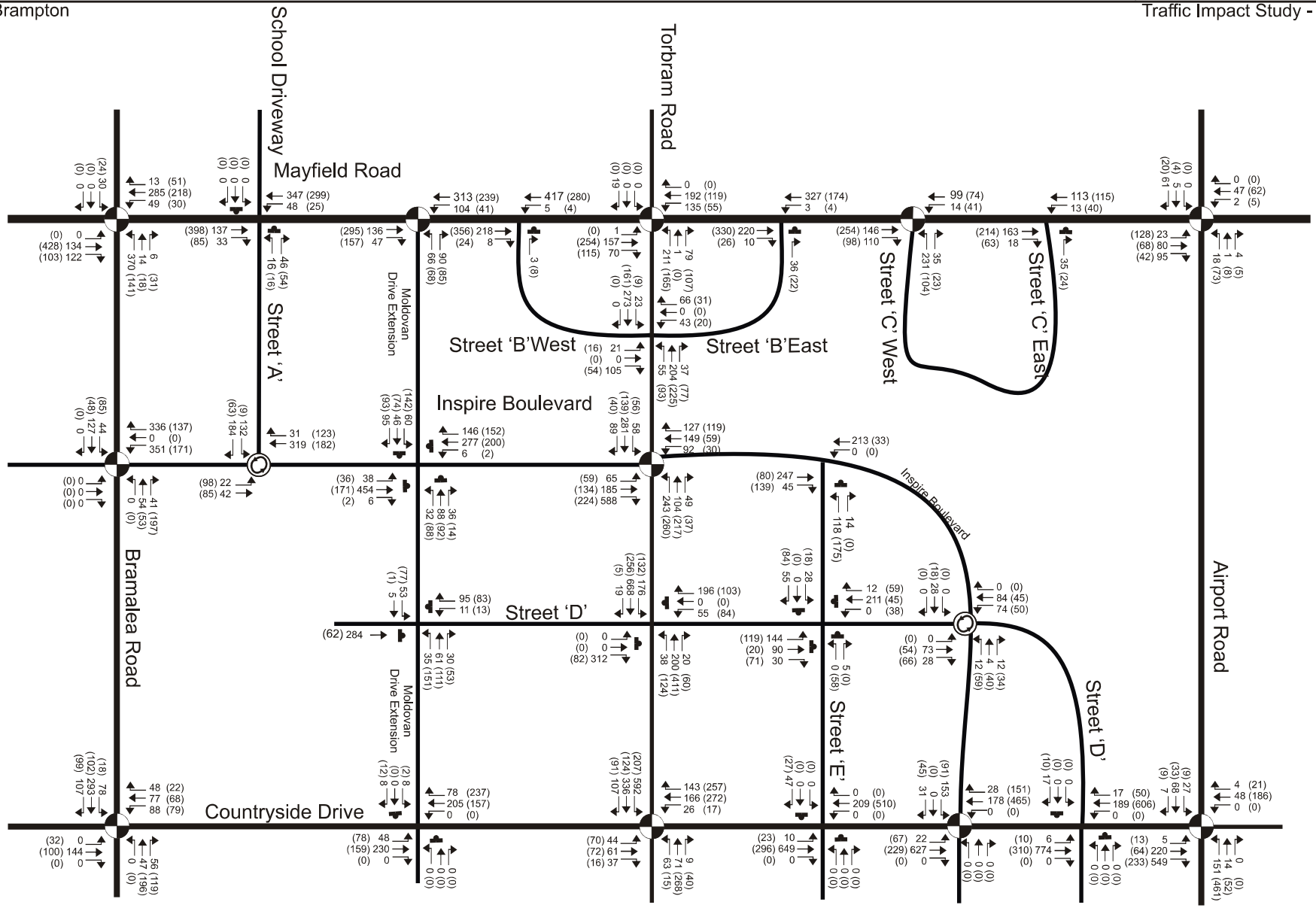


Figure 5-5
2031 Road Network



Legend

- Right Turn Movement
- Through Movement
- Left Turn Movement
- 99 (99) Weekday AM (Weekday PM) Peak Hour Traffic Volumes

N.T.S

Figure 3-10
Total Site Traffic Volumes

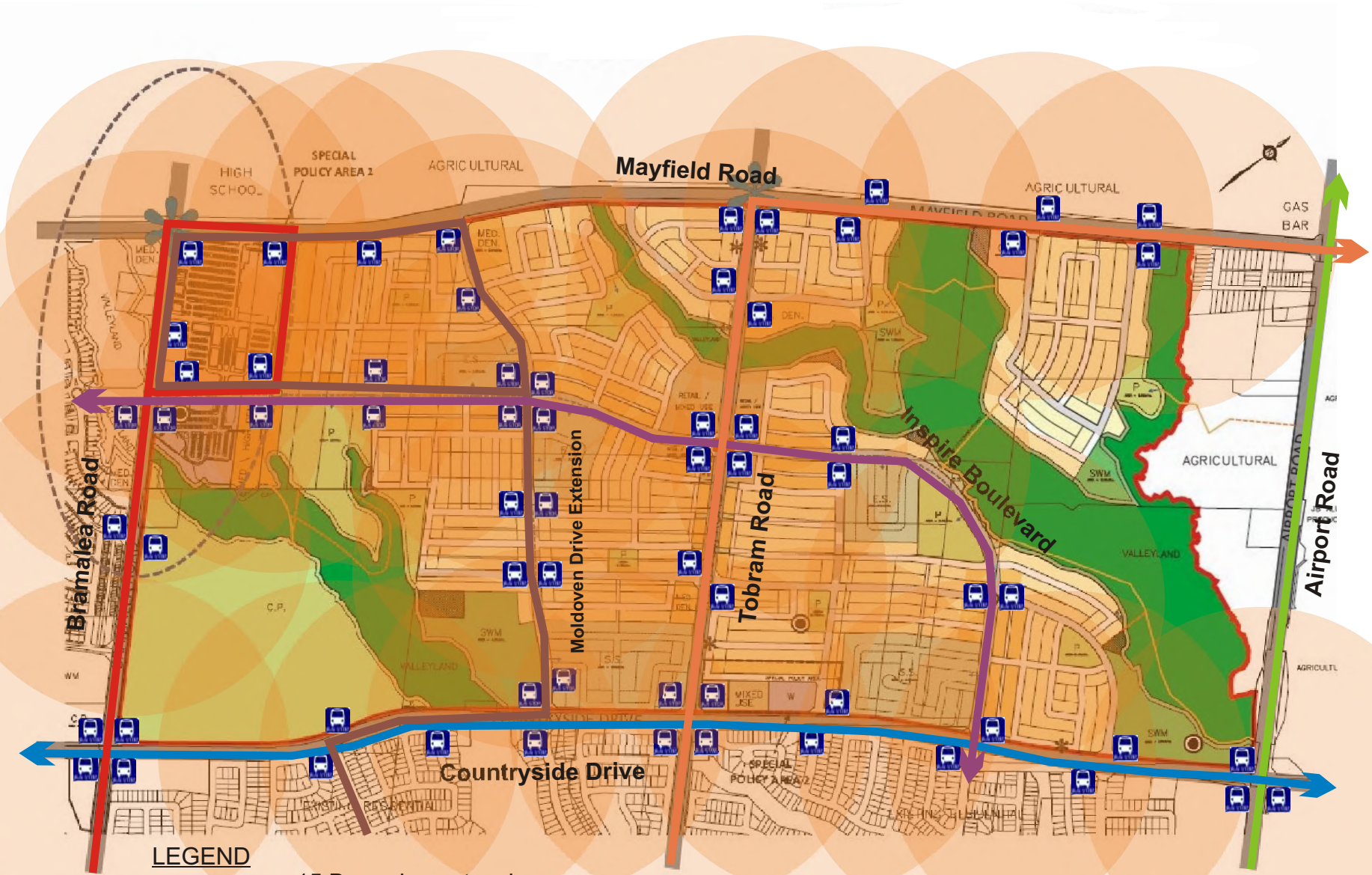
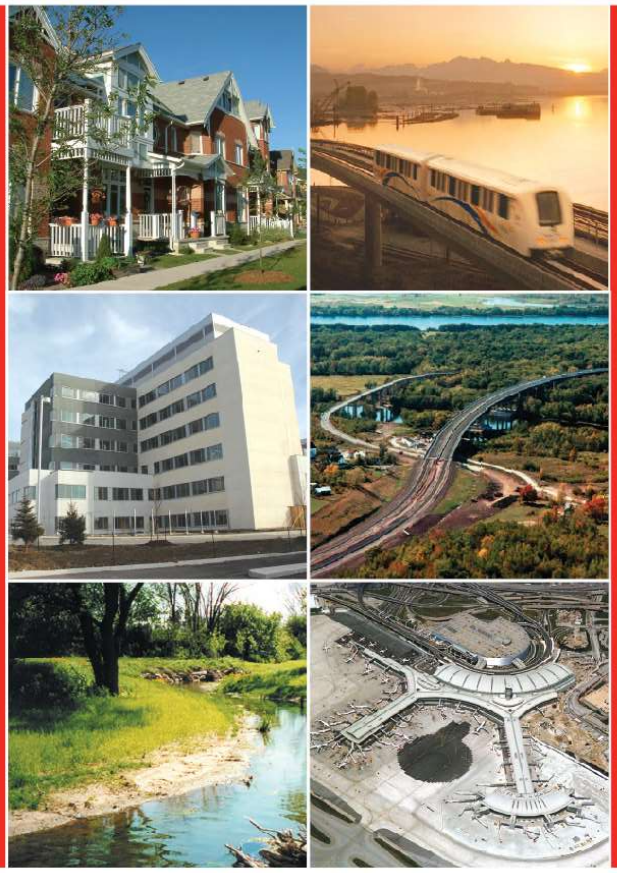


Figure 3-8
Conceptual Transit Routes

MMM Group Limited



Updated Traffic Impact Study
Proposed Block Plan 48-1
Countryside Villages

City of Brampton

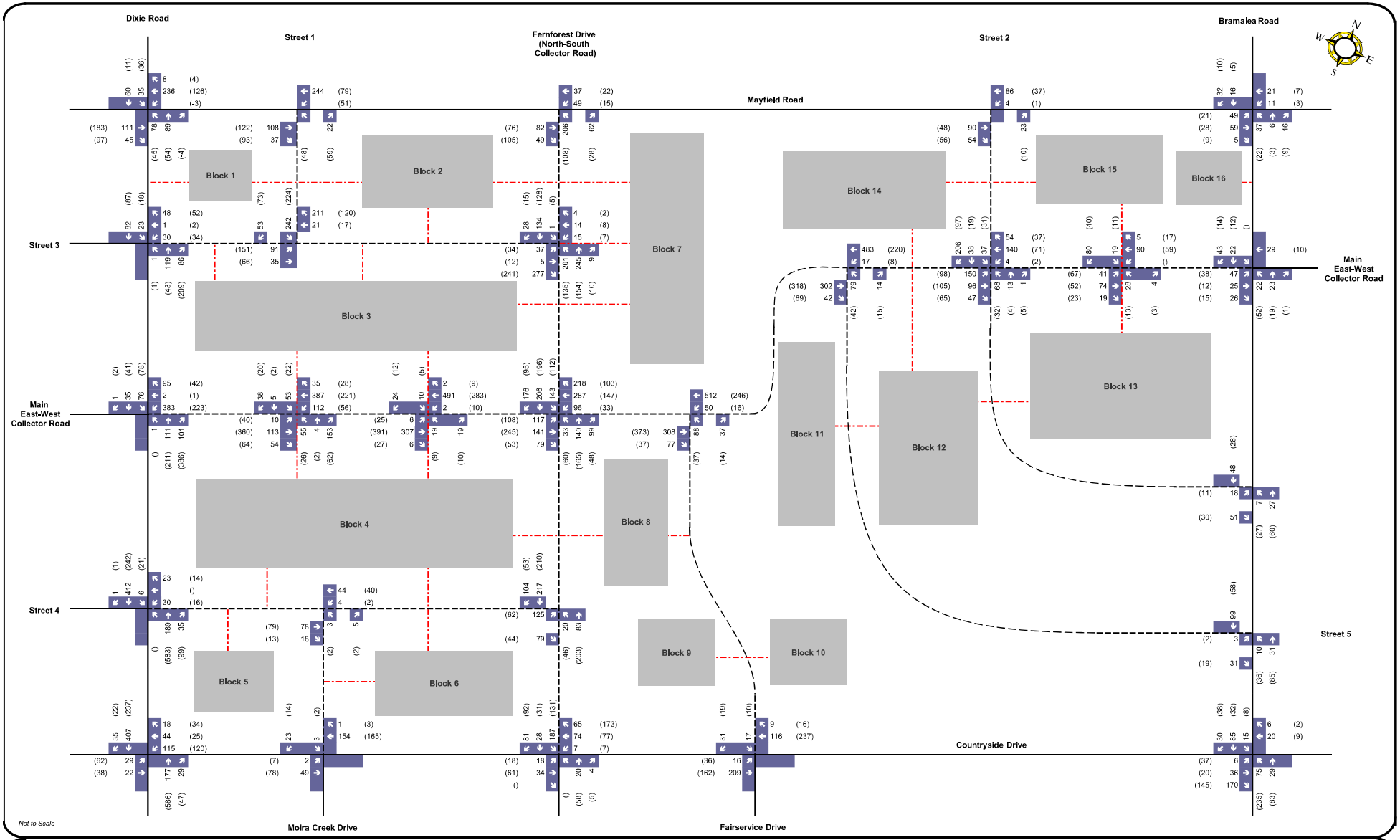
Prepared for:

Brampton Area 48 Landowners Group Inc.

COMMUNITIES
TRANSPORTATION
BUILDINGS
INFRASTRUCTURE

MMM GROUP

January 2012 | 16-10012-001-T02



LEGEND

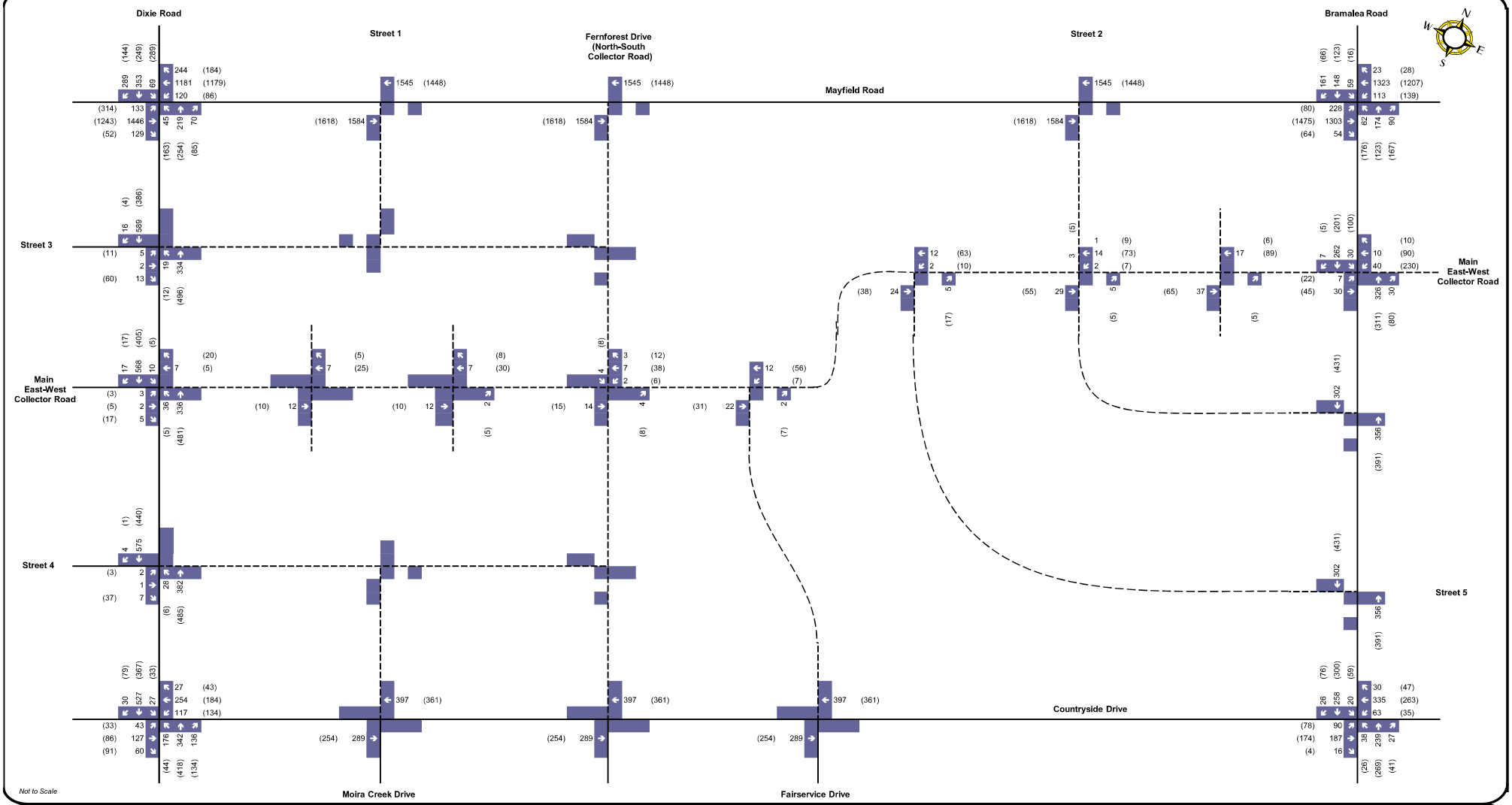
XX AM Peak Hour Volumes
(XX) PM Peak Hour Volumes

Assumed Access Locations*
Proposed Internal Spine Road Network

** Site traffic has been assigned to the assumed access locations. The assignment used for the specific access locations has not been illustrated.*

MMM GROUP

FIGURE 3.8
Horizon 2020
Site Traffic Assignment



LEGEND

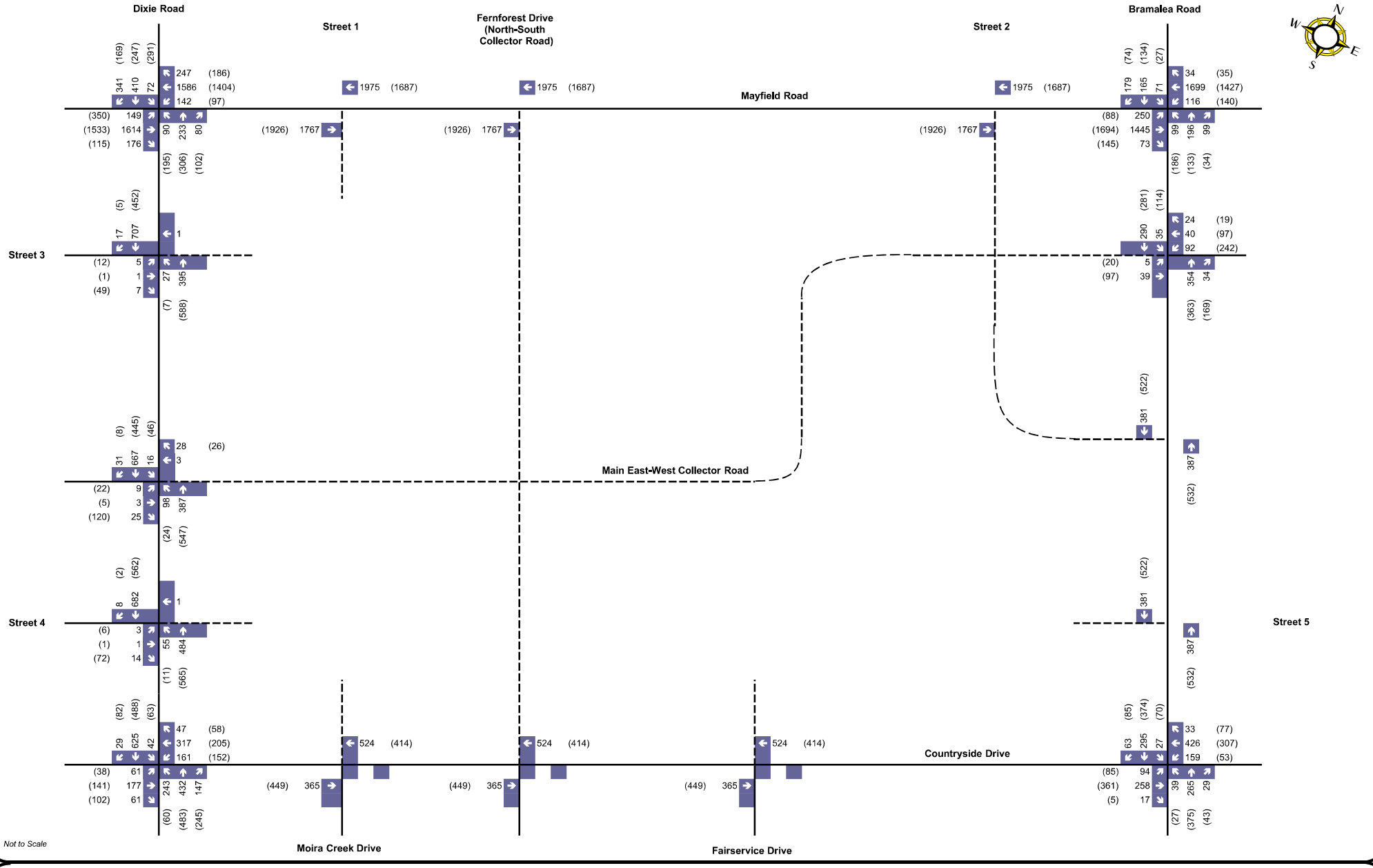
XX AM Peak Hour Volumes
(XX) PM Peak Hour Volumes

Proposed Internal Spine Road Network

MMM GROUP

FIGURE 4.7

Horizon 2015
Overall Background Traffic Volumes



LEGEND

XX AM Peak Hour Volumes
(XX) PM Peak Hour Volumes
Proposed Internal Spine Road Network

MMM GROUP

FIGURE 4.8

Horizon 2020
Overall Background Traffic Volumes

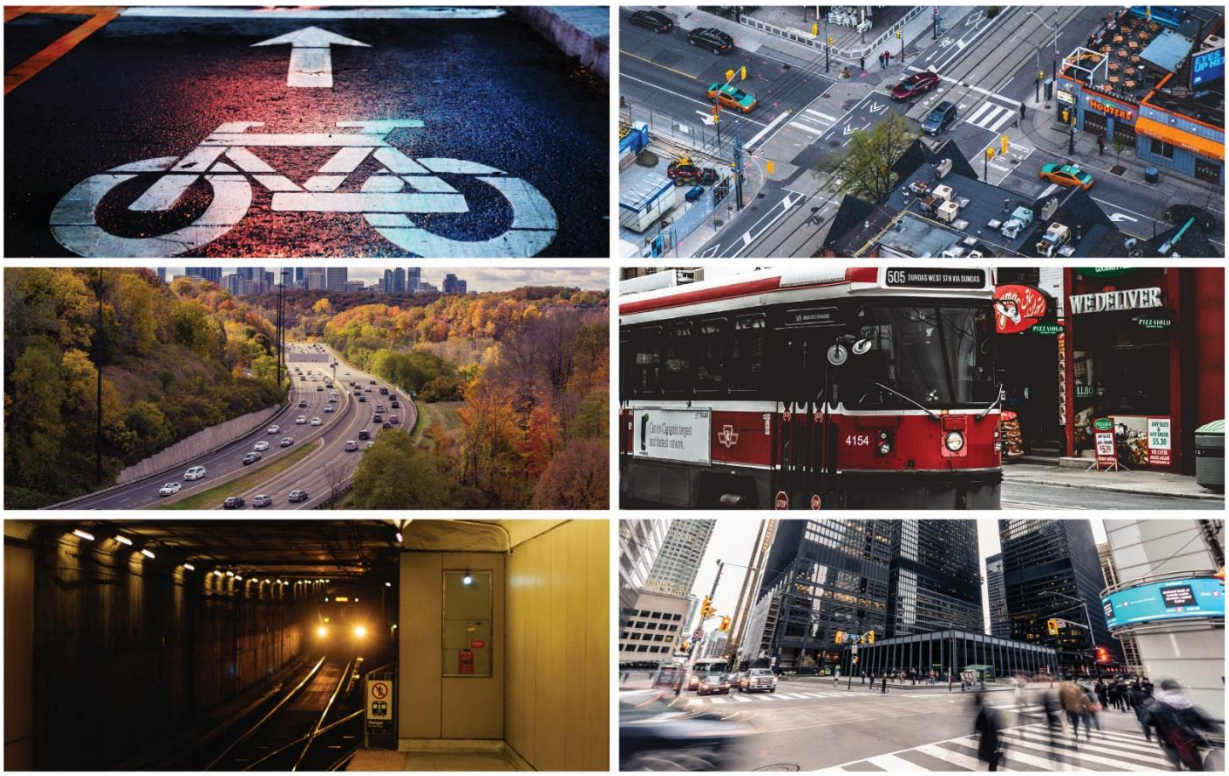
TOWN OF CALEDON
PLANNING
RECEIVED
July 30, 2021

AIRFIELD DEVELOPMENTS INC. & AIRFIELD II DEVELOPMENTS INC.

6034 MAYFIELD ROAD

TRANSPORTATION IMPACT STUDY AND DEMAND MANAGEMENT PLAN

JULY 29, 2021



wsp

4.2 TRIP GENERATION

The trips generated by the proposed development during the weekday a.m. and p.m. peak hours were estimated using the trip generation equations outlined in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition*. As both warehouse and general industrial uses are currently being contemplated for the development, trip generation estimates using the ITE Land Use Codes 150 (Warehousing) and 110 (General Light Industrial) are compared in **Table 4.1**. Since, as shown in the table, general industrial uses are expected to generate a greater number of peak hour trips, the trip generation estimate for this use was conservatively adopted for this study.

It should be noted that these equations include both vehicle and truck trips to the development; truck trips were assumed to account for 13% of total peak hour trips based on truck trip generation information available from the ITE.

Based on Transportation Tomorrow Survey (TTS) 2016 data for employment trips to/from zones 3014, 3015, 3441, and 3442, it was determined that there was very minimal use of non-auto modes of travel. As such, no mode share adjustments were applied to the ITE-derived trips.

Table 4.1: Site Generated Trips

ITE Land Use (Code)		Weekday A.M. Peak Hour			Weekday P.M. Peak Hour		
		In	Out	Total	In	Out	Total
Warehousing (150)	Equation (X=1000 ft²)	T = 0.12 X + 25.32			T = 0.12 X + 27.82		
	Directional Splits	77%	23%	100%	27%	73%	100%
	Trips (479,375 ft²)	**64**	**19**	**83**	**23**	**62**	**85**
General Light Industrial (110)	Equation (X=1000 ft²)	Ln(T) = 0.74 Ln(X) + 0.39			Ln(T) = 0.69 Ln(X) + 0.43		
	Directional Splits	88%	12%	100%	13%	87%	100%
	Trips (479,375 ft²)	**125**	**17**	**142**	**14**	**95**	**109**
	Vehicle Trips (87%)	109	15	124	12	83	95
	Truck Trips (13%)	16	2	18	2	12	14

As presented above, the proposed development is forecasted to generate **142 and 109 total trips** during the a.m. and p.m. peak hours, respectively.

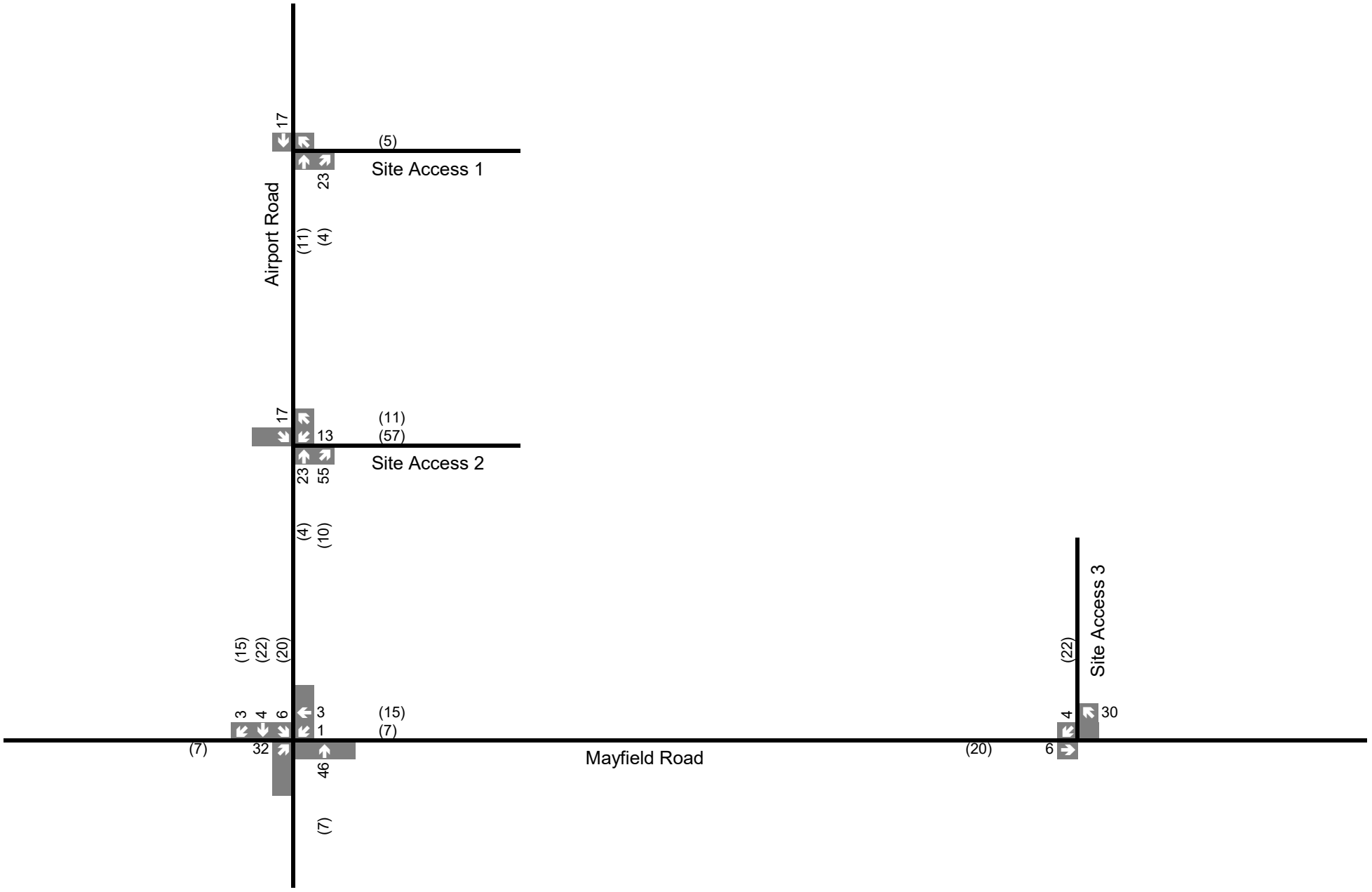
4.3 TRIP DISTRIBUTION AND ASSIGNMENT

Trip distribution and assignment of the site-generated trips was derived from the TTS data and assigned to the gateways based on local road network and land use considerations. The overall trip distribution is shown in **Table 4.2.**

Table 4.2: Trip Distribution

Gateway Direction	AM Inbound	AM Outbound	PM Inbound	PM Outbound
North	14%	0%	0%	17%
West	26%	34%	50%	31%
South	37%	34%	50%	31%
East	24%	32%	0%	20%

Figure 4.2 illustrates the resulting site traffic volumes for future horizon years.



Legend

xx A.M. Peak Hour Traffic Volumes

(xx) P.M. Peak Hour Traffic Volumes

Figure 4.2

Site Generated Traffic Volumes

Appendix J

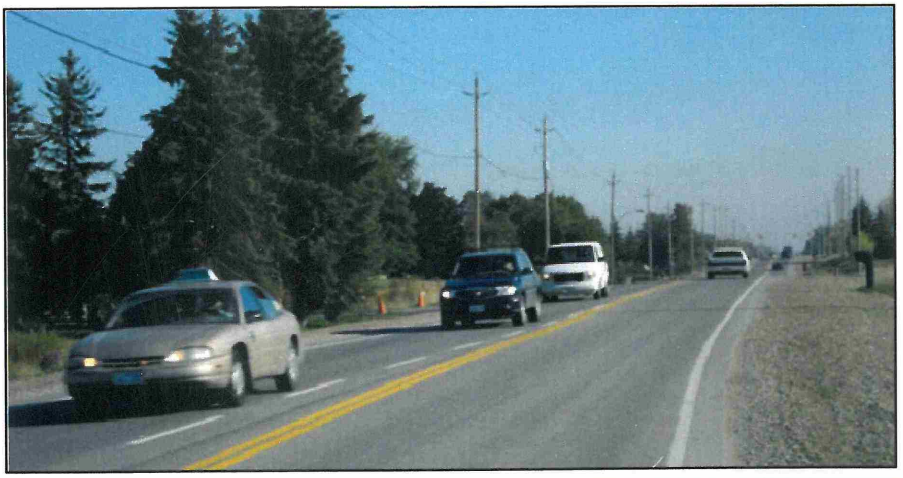
Background Roadway Improvements

Project Number:
2007-317P

April/2013

Mayfield Road Improvements

Airport Road to Coleraine Drive – Class Environmental Assessment



ENVIRONMENTAL STUDY REPORT

Volume 1 of 5
Environmental Study Report

April 5, 2013

Stantec

Region of Peel
Working for you

The Recommended Design Concept is illustrated in the foldout plans included accompanying this section and is described in more detail as follows:

6.1.1 Mayfield Road – Airport Road to Maisonneuve Boulevard

Details of this section include:

Current rural cross section of two lanes plus turn lanes is upgraded to four lanes plus turn lanes with a continuous 6.0 m wide two-way left turn lane (TWTL) in the interim phase (prior to 2017) and further upgraded in the ultimate phase (prior to 2032) to six (6) lanes with turning lanes, continuous two way left turn lane. This may also include the recommended replacement of the TWTL with raised median based on adjacent area development progression. Within this section is one culvert crossing TRCA ID No. 1 and a SWM facility on the north side at Sta. 11+600 and pedestrian facilities at both sides (1.5 m concrete sidewalk on north side and 3.0 m asphalt multi-use trail on the south side). The potential for a multi-use trail on the north side will also be investigated during the detailed design phase which is recommended in the Region's 2012 Active Transportation Plan.

External roadside drainage at crossing No. 1 is captured and conveyed within a closed storm sewer system connecting to the south side and outlet directly to the watercourse on the east side Maisonneuve Boulevard.

The preliminary design for this section of Mayfield Road is represented on drawings No. P1A through P2B and a typical cross section is provided as Figure CS1-1.

Ultimate Intersection Configuration:

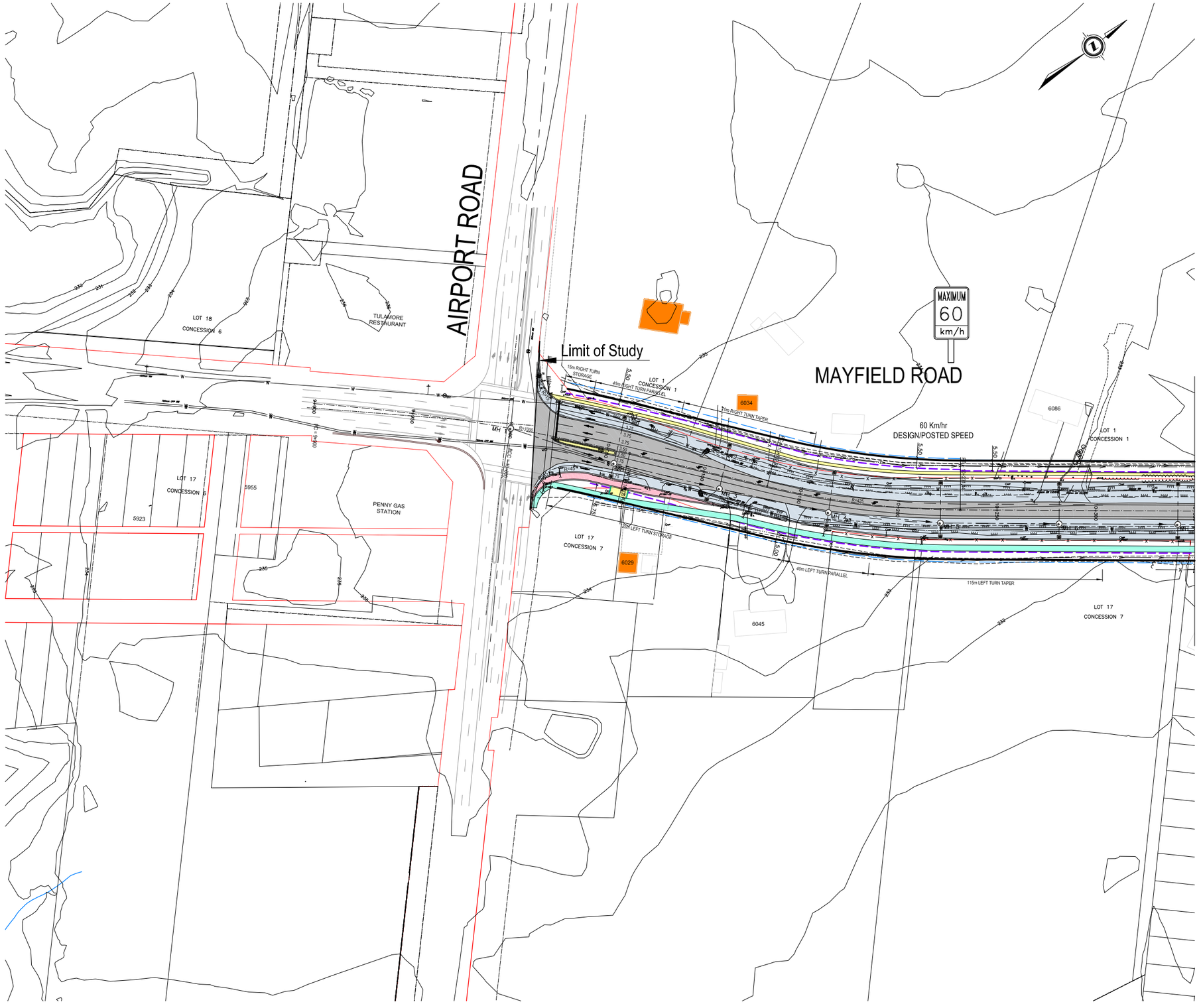
Airport Road:

Eastbound – three through lanes
Westbound – three through lanes
Westbound Left Turn Lane - 125 m storage/parallel lane
Westbound Right Turn Lane - 60 m storage/parallel lane

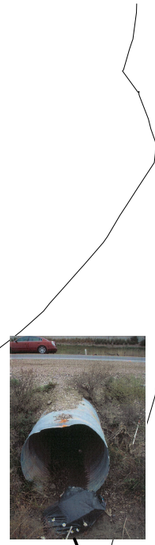
Maisonneuve Boulevard:

Eastbound – three through lanes
Westbound – three through lanes
Westbound Left Turn Lane – 50/40 m storage/parallel lane
Eastbound Right Turn Lane - 30/45 m storage/parallel lane

Initial construction of the four lane section will be skewed to the south with a full urban cross section on the south side and a semi-rural section retained on the north side. Deferral of the north side sidewalk may be considered subject to confirmation with the Town of Caledon.


AIRPORT ROAD
MAYFIELD ROAD
Limit of Study
MAXIMUM 60 km/h
60 Km/hr DESIGN/POSTED SPEED
LOT 18 CONCESSION 6
TULAMORE RESTAURANT
LOT 17 CONCESSION 6
PENNY GAS STATION
LOT 17 CONCESSION 7
LOT 1 CONCESSION 1
15m RIGHT TURN STORAGE
45m RIGHT TURN PARALLEL
70m RIGHT TURN TAPER
15m LEFT TURN STORAGE
40m LEFT TURN PARALLEL
115m LEFT TURN TAPER
6034
6029
6045
6086
5923
5955
MH 1
MH 2
MH 3
MH 4
MH 5
MH 6
MH 7
MH 8
MH 9
MH 10
MH 11
MH 12
MH 13
MH 14
MH 15
MH 16
MH 17
MH 18
MH 19
MH 20
MH

MATCHLINE STA. 10+350
SEE DRAWING P1A



FUTURE LEFT TURN LANE
TO BE CONFIRMED DURING
PLANNING PROCESS

SWMF 1
STORM WATER
MANAGEMENT
FACILITY REQUIRED
(+/- 0.65ha)

RE-ALIGN CREEK TO SUIT
CULVERT EXTENSION

EX. 1800mm x 2500mm
ELLIPTICAL CSP CULVERT
REPLACE WITH 1800mm DIA. CSP

MAXIMUM
60
km/h

FUTURE RIGHT TURN LANE
REQUIRED. UTILITIES TO BE
DESIGNED ACCORDINGLY

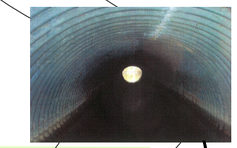
60 Km/hr
DESIGN/POSTED SPEED

MAYFIELD ROAD

FUTURE 6.0m
CONTINUOUS
RAISED MEDIAN

EX. 1200mm DIA. CSP
REPLACE WITH
675mm CONC. STM

LOCATION OF
POTENTIAL FUTURE
DEVELOPMENT ACCESS



FUTURE 30m RIGHT TURN STORAGE
FUTURE 45m RIGHT TURN PARALLEL
FUTURE 70m RIGHT TURN TAPER
50m LEFT TURN STORAGE
40m LEFT TURN PARALLEL
115m LEFT TURN TAPER

LOT 1
CONCESSION 1

LOT 17
CONCESSION 7

MAISONEUVE BLVD

RE-ALIGN CREEK TO SUIT
CULVERT EXTENSION

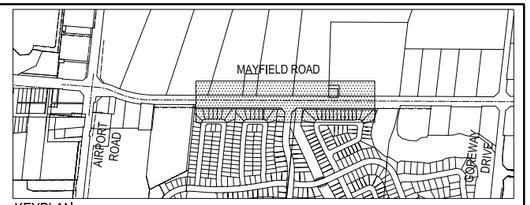
INSTALL RIP RAP AS
REQUIRED (TYP.)

INSTALL HEADWALL
AS REQUIRED





MATCHLINE STA. 10+950
SEE DRAWING P3A



KEYPLAN

LEGEND

- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- APPROXIMATE GRADING LIMIT
- CALCULATED CLEAR ZONE INDICATING MINIMUM DISTANCE FROM EDGE OF PAVEMENT FOR HYDRO POLE LOCATION.
- MINIMUM OFFSET FOR GUYING EASEMENT BASED ON POLES LOCATED A MINIMUM CLEAR ZONE OFFSET FROM EDGE OF PAVEMENT. (5.0m "HYDRO ONE BRAMPTON" - SOUTHSIDE, 5.5m "HYDRO ONE NETWORKS" - NORTH SIDE.)
- TRCA WATERCOURSE DESIGNATION
- OVERLAND FLOW DIRECTION
- POTENTIAL PROPERTY LINE 3.5m FROM CLEAR ZONE REQUIREMENTS
- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- PROPOSED CONCRETE MEDIANS, SIDEWALKS & BUS PADS
- PROPOSED 3.0m MULTI-USE PATHWAY
- PROPOSED CONC. BUS BAY
- PROPOSED PROPERTY ACQUISITION OUTSIDE OF RIGHT OF WAY
- BUILT HERITAGE FEATURE
- FUTURE SIGNALIZED INTERSECTION

Scale

20m 0 20 40 60m HORIZONTAL SCALE

2m 0 2 4 6m VERTICAL SCALE

Stantec

Client

Region of Peel
Working for you

Drawing Title

MAYFIELD ROAD
AIRPORT ROAD TO COLERAINE DRIVE
CLASS EA STUDY REPORT
RECOMMENDED DESIGN ALTERNATIVE
PLAN
STA. 10+350 TO STA. 14+350

Drawn By	Checked By	Drawing Number
W.R.W.	J.C.B.	P2A
Date	Project No.	
2012-10-17	160210480	

V:\01602\Active\160210480\design\drawings\class_ea\report\esr_dwgs\opt4B_mayfield_rd_esr_rprt
2012/10/17 5:56 PM by:white, bill (kitchener)

BY 2031

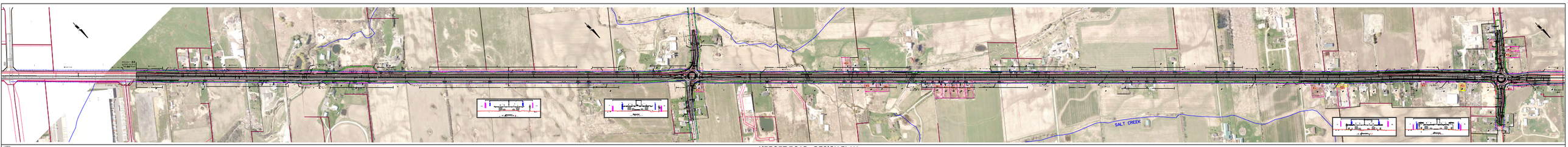
Road	Details of Improvement	EA Status	Part of 2019 Approved Budget?
Airport Road	2 to 5 lane widening from 1.0 km north of Mayfield Road to King Street	Completed	Y
	Corridor Improvements from King Street to Hunstmill Drive	Works in Progress	Y
	4 to 6 lane widening from Braydon Boulevard to Countryside Drive	Works in Progress	Y
Bovaird Drive	2 to 4 lane widening from Mississauga Road to 1.5 km West of Heritage Road	Completed	Y
	4 to 6 lane widening from James Potter/Creditview to Mississauga Road	Completed	Y
	4 to 6 lane widening from Mississauga Road to North/South Freeway (1 km W of Mississauga Road)	Completed	Y
Cawthra Road	Corridor and Intersection Improvements from Eastgate Parkway to Queen Elizabeth Way	Works in Progress	Y
Coleraine Drive	2 to 4 lane widening from Highway 50 to Mayfield Road	–	N
Dixie Road	4 to 6 lane widening from Queen Street East to Bovaird Drive	Completed	Y
	2 to 4 lane widening from Countryside Drive to Mayfield Road	Completed	Y
	2 to 5 lane widening from Mayfield Road to 2 km northerly	Completed	Y
	4 to 6 lane widening from Bovaird Drive to Countryside Drive	Completed	Y
Highway 50	5 to 7 lane widening from Castlemore Road to Mayfield Road	Completed	Y
Mavis Road	4 to 6 lane widening of Mavis Road, Region's portion, including the structure over Highway 407	Completed	Y
Mayfield Road	2 to 5 lane widening from Airport Road to The Gore Road	Completed	Y
	2 to 4 lane widening from Coleraine Drive to Hwy 50	Completed	Y
	2 to 6 lane widening from Hurontario Street to Chinguacousy Road	Completed	Y
	2 to 4 lane widening from The Gore Road to Coleraine Drive	Completed	Y
	2 to 5 lane widening from Chinguacousy Road to Mississauga Road	Completed	Y
	5 to 6 lane widening from Dixie Road to Bramalea Road	Completed	Y
	2 to 4 lane widening from Mississauga Road to Winston Churchill Boulevard	Completed	Y
	4 to 6 lane widening from Heart Lake Road to Hurontario Street	Completed	Y
	North Side Boulevard Widening - Bramalea Rd to Airport Rd	Completed	Y
	4 to 6 lane widening from Airport Rd to Clarkway Dr	Completed	Y
Mississauga Road	2 to 4 lane widening from Bovaird Drive to Mayfield Rd	Completed	Y
	4 to 6 lane widening from Financial Drive to Queen Street	Works in Progress	Y
	4 to 6 lane widening from Queen Street to Bovaird Drive	Works in Progress	Y
	4 to 6 lane widening from Bovaird Drive to Sandalwood Pkwy	Completed	Y
North/South Arterial Road	6 lane road from Future BramWest Pkwy to Bovaird Drive	–	Y
	6 lane road from Bovaird Drive to Future Sandalwood Pkwy	–	Y

Steeles Avenue West	4 to 6 lane widening from Chinguacousy Road to Mississauga Road	Completed	Y
	4 to 6 lane widening from Mississauga Road to Winston Churchill Boulevard	Completed	Y
The Gore Road	2 to 4 widening from Squire Ellis Drive to Mayfield Road and	Completed	Y
	Corridor Improvements from Queen Street East to Castlemore Road	Completed	Y
	*4 to 6 lane widening from Castlemore Road to Countryside Drive	–	Y*
Winston Churchill Boulevard	2 to 4 lane widening from 2.0 km South of Embleton Road to Embleton Road	Works in Progress	Y
	4 to 6 lane widening from Highway 401 to Steeles Avenue	Works in Progress	Y
	5 to 7 lane widening from Steeles Avenue to 2 km South of Embleton Road	Works in Progress	Y
	4 to 6 lane widening from 2 km South of Embleton Road to Embleton Road	Works in Progress	Y
	4 to 6 lane widening from North Sheridan Way to Dundas Street	–	Y

BY 2041

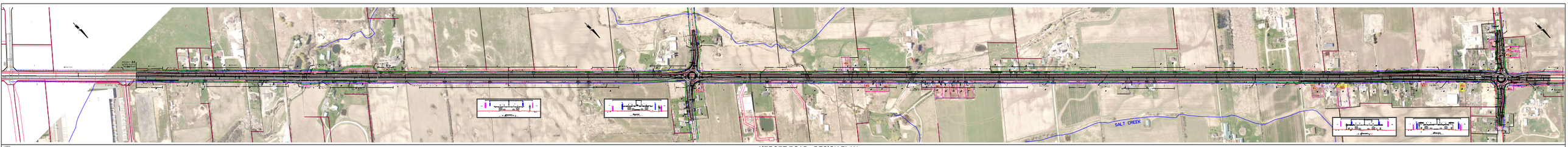
Road	Details of Improvement	EA Status	Part of 2019 Approved Budget?
Mayfield Road	5 to 6 lane widening from Chinguacousy Road to West of Mississauga Road	Completed	Y
	4 to 6 lane widening from Clarkway Drive to Coleraine Drive	-	N
Mississauga Road	2 to 4 lane widening from Mayfield Road to Old School Road	-	N
The Gore Road	2 to 4 lane widening from Mayfield Road to Healey Road	-	N
A2	6 lane road from Mayfield Road to Highway 50	Work in Progress	N

* The 2012 LRTP recommended the widening of The Gore Road between Queen Street and Countryside Drive. An Environmental Assessment (EA) was completed for The Gore Road between Queen Street and Castlemore Road. The results recommended corridor improvements versus road widening. In this regard, the portion of The Gore Road between Castlemore Road and Countryside Drive is no longer required to be widened to 6 lanes.



AIRPORT ROAD - DESIGN PLAN

BETWEEN MAYFIELD ROAD AND KING STREET

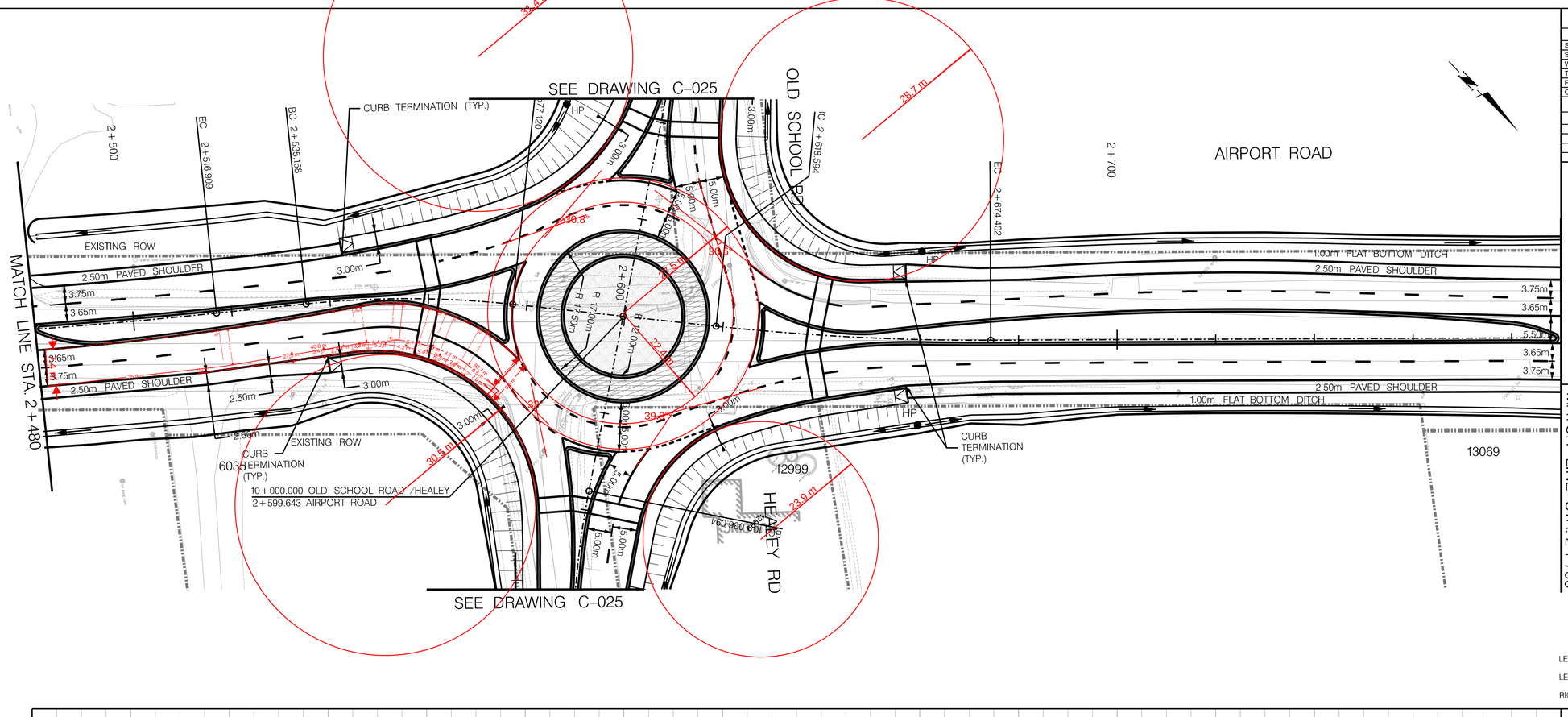


AIRPORT ROAD - DESIGN PLAN

BETWEEN MAYFIELD ROAD AND KING STREET

Appendix K

Relevant Excerpts from Airport Road EA



SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS	MAY 00, 2014	X.X.	GAS MAINS	MAY 00, 2014	X.X.
STORM SEWERS	MAY 00, 2014	X.X.	BELL U/G CABLE	MAY 00, 2014	X.X.
WATERMAINS	MAY 00, 2014	X.X.	HYDRO U/G CABLE	MAY 00, 2014	X.X.
TRANSIT	MAY 00, 2014	X.X.	HYDRO ONE	MAY 00, 2014	X.X.
PARKS & REC.	MAY 00, 2014	X.X.	CTV	MAY 00, 2014	X.X.
ONT. CLEAN WATER	MAY 00, 2014	X.X.	COMMUNIC. CABLES	MAY 00, 2014	X.X.

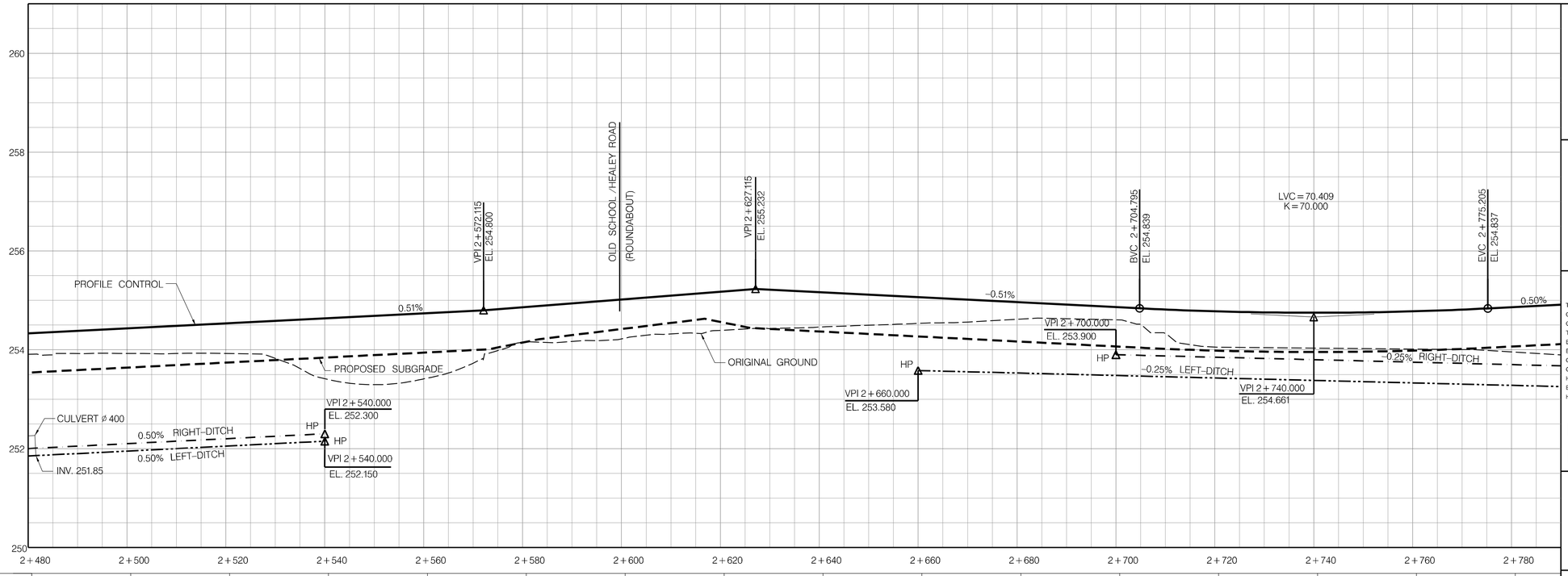
REVISIONS

DATE	DETAILS	INIT.
JULY 2018	ISSUED FOR 30% DESIGN REVIEW	T.P.
JAN 2019	ISSUED FOR 60% DESIGN REVIEW	T.P.

LEGEND:

LEFT DITCH

RIGHT DITCH



PROPOSED	254.334	254.435	254.536	254.638	254.739	254.862	255.019	255.176	255.167	255.066	254.964	254.863	254.779	254.750	254.777	254.861			
EXISTING	253.907	253.927	253.925	253.414	253.412	254.150	254.222	254.393	254.460	254.534	254.617	254.607	254.055	254.033	254.013	253.955			

General Notes

All Driveways Are ASPHALT Unless Otherwise Noted

All Water And Sanitary Service Locations Are Approximate And Must Be Located Accurately In The Field

All Horizontal And Vertical Bends Are In Degrees

All Pipes Size In mm

20C Existing Water Service, Size In mm

WS20 Proposed Water Service, Size In mm

B.M. No. Elev.
Description
Location

The Contractor Is Responsible For Locating And Protecting All Existing Utilities Prior To And During Construction. Location Of Existing Utilities Approximate Only, To Be Verified In Field By Contractor.

Designed by

Chkd.

Approved by

NOTICE TO CONTRACTOR

48 HOURS PRIOR TO COMMENCING WORK NOTIFY THE FOLLOWING

THE REGIONAL MUNICIPALITY OF PEEL
CITY OF MISSISSAUGA WORKS DEPT.
CITY OF BRAMPTON WORKS DEPT.
TOWN OF CALEDON WORKS DEPT.
BELL CANADA
ENBRIDGE INCORPORATED-GAS DISTRIBUTION
ONTARIO MINISTRY OF TRANSPORTATION
ONTARIO CLEAN WATER AGENCY
HYDRO ONE NETWORKS
ENERSOURCE, HYDRO MISSISSAUGA
HYDRO ONE BRAMPTON

CABLE TELEVISION/FIBREOPTIC PROVIDERS:
BELL CANADA
ENERSOURCE TELECOM
HYDRO ONE TELECOM
ROGERS CABLE
ALLSTREAM
PSN (PUBLIC SECTOR NETWORK)
FUTUREWAY (FCI BROADBAND)

10m 0 10 20 30m — HORIZONTAL SCALE

1m 0 1 2 3m — VERTICAL SCALE

Region of Peel
Working for you

AIRPORT ROAD
PLAN AND PROFILE

(FROM STA. 2+480 TO STA. 2+790)

CAD Area	X-XX	Area	X-XX
Checked by		Drawn by	G.P.
Date	JULY 2018	Sheet	X of X

Project No. 14-4030

Plan No. **NC-009**

Appendix L

TTS Data Results

Tue Jun 15 2021 12:39:01 GMT-0400 (Eastern Daylight Time) - Run Time: 3327ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of origin - pd_orig
Column: Primary travel mode of trip - mode_prime
Table: 2006 GTA zone of destination - gta06_dest

Filters:
(2006 GTA zone of destination - gta06_dest In 3014 3015
and
Start time of trip - start_time In 700-900
and
Primary travel mode of trip - mode_prime In D)

Trip 2016
Table: 3014

	Auto driver
PD 3 of Toronto	19
PD 7 of Toronto	17
Aurora	17
Vaughan	29
Caledon	158
Brampton	278
Halton Hills	66

Trip 2016
Table: 3015

	Auto driver
PD 8 of Toronto	29
Brampton	56
Orangeville	23
Mono	21

Tue Jun 15 2021 12:39:41 GMT-0400 (Eastern Daylight Time) - Run Time: 2380ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of origin - pd_orig
Column: Primary travel mode of trip - mode_prime

Filters:
(Planning district of destination - pd_dest In 34

and
Start time of trip - start_time In 700-900
and
Primary travel mode of trip - mode_prime In D)

Trip 2016
Table:

	Auto driver
PD 1 of Toronto	68
PD 2 of Toronto	37
PD 3 of Toronto	85
PD 4 of Toronto	35
PD 6 of Toronto	60
PD 7 of Toronto	38
PD 8 of Toronto	157
PD 9 of Toronto	69
PD 10 of Toronto	135
PD 11 of Toronto	80
PD 12 of Toronto	20
PD 13 of Toronto	15
PD 14 of Toronto	14
PD 15 of Toronto	16
Oshawa	21
East Gwillimbury	5
Newmarket	64
Aurora	47
Richmond Hill	143
Markham	174
King	242
Vaughan	689
Caledon	5780
Brampton	3104
Mississauga	459
Halton Hills	499
Milton	103
Oakville	25
Burlington	91
Hamilton	57
City of Guelph	98
Guelph/Eramosa	49
Centre Wellington	42
Erin	85
Orangeville	423
Barrie	21
Innisfil	34
Bradford-West Gwillimbury	10

New Tecumseth	355
Adjala-Tosorontio	225
Essa	7
Springwater	13
Oro-Medonte	22
Mulmur	9
Shelburne	12
Mono	187
East Garafraxa	35

Tue Jun 15 2021 12:46:33 GMT-0400 (Eastern Daylight Time) - Run Time: 3041ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of destination - pd_dest
Column: Primary travel mode of trip - mode_prime
Table: 2006 GTA zone of origin - gta06_orig

Filters:
(2006 GTA zone of origin - gta06_orig In 3014 3015
and
Start time of trip - start_time In 700-900
and
Primary travel mode of trip - mode_prime In D)

Trip 2016
Table: 3014

	Auto driver
PD 8 of Toronto	36
Vaughan	15
Caledon	10
Brampton	193

Trip 2016
Table: 3015

	Auto driver
PD 10 of Toronto	35
Vaughan	26
Brampton	74
Mississauga	64

Tue Jun 15 2021 12:45:40 GMT-0400 (Eastern Daylight Time) - Run Time: 2535ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of destination - pd_dest
Column: Primary travel mode of trip - mode_prime

Filters:
(Planning district of origin - pd_orig In 34
and
Start time of trip - start_time In 700-900
and

Primary travel mode of trip - mode_prime In D)

Trip 2016
Table:

	Auto driver
PD 1 of Toronto	401
PD 2 of Toronto	50
PD 3 of Toronto	25
PD 4 of Toronto	185
PD 5 of Toronto	90
PD 7 of Toronto	158
PD 8 of Toronto	485
PD 9 of Toronto	1042
PD 10 of Toronto	332
PD 11 of Toronto	113
PD 12 of Toronto	83
PD 13 of Toronto	64
PD 16 of Toronto	30
Oshawa	22
Clarington	12
East Gwillimbury	41
Newmarket	185
Aurora	107
Richmond Hill	103
Whitchurch-Stouffville	34
Markham	361
King	398
Vaughan	1740
Caledon	5780
Brampton	4706
Mississauga	2348
Halton Hills	224
Milton	41
Oakville	154
Burlington	39
Flamborough	6
Hamilton	89
Welland	50
Cambridge	27
Woolwich	13
City of Guelph	96
Erin	239
Orangeville	520
Barrie	72
Innisfil	7
Bradford-West Gwillimbury	59

New Tecumseth	142
Adjala-Tosorontio	69
Springwater	9
Grey	8
Collingwood	82
Oro-Medonte	9
Mono	236
East Garafraxa	9
External	14

Tue Jun 15 2021 12:41:27 GMT-0400 (Eastern Daylight Time) - Run Time: 3374ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of origin - pd_orig
Column: Primary travel mode of trip - mode_prime
Table: 2006 GTA zone of destination - gta06_dest

Filters:
(2006 GTA zone of destination - gta06_dest In 3014 3015
and
Start time of trip - start_time In 1600-1800
and
Primary travel mode of trip - mode_prime In D)

Trip 2016
Table: 3014

	Auto driver
Caledon	54
Brampton	54

Trip 2016
Table: 3015

	Auto driver
PD 1 of Toronto	35
PD 9 of Toronto	50
Caledon	31
Brampton	66

Tue Jun 15 2021 12:42:24 GMT-0400 (Eastern Daylight Time) - Run Time: 2250ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of origin - pd_orig
Column: Primary travel mode of trip - mode_prime

Filters:
(Planning district of destination - pd_dest In 34
and
Start time of trip - start_time In 1600-1800
and
Primary travel mode of trip - mode_prime In D)

Trip 2016
Table:

	Auto driver
PD 1 of Toronto	538
PD 2 of Toronto	68
PD 3 of Toronto	72
PD 4 of Toronto	228
PD 5 of Toronto	125
PD 6 of Toronto	7
PD 7 of Toronto	180
PD 8 of Toronto	519
PD 9 of Toronto	845
PD 10 of Toronto	675
PD 11 of Toronto	45
PD 12 of Toronto	29
PD 13 of Toronto	74
PD 16 of Toronto	15
Oshawa	64
East Gwillimbury	119
Newmarket	208
Aurora	122
Richmond Hill	99
Whitchurch-Stouffville	49
Markham	340
King	255
Vaughan	1941
Caledon	5006
Brampton	4079
Mississauga	2409
Halton Hills	450
Milton	10
Oakville	179
Burlington	79
Flamborough	6
St. Catharines	21
Welland	50
Kitchener	51
Woolwich	47
City of Guelph	103
Erin	126
Orangeville	397
Barrie	79
Bradford-West Gwillimbury	59
New Tecumseth	140
Adjala-Tosorontio	83
Essa	7

Collingwood	90
Penetanguishene	63
Oro-Medonte	9
Amaranth	57
Mono	165
East Garafraxa	17

Tue Jun 15 2021 12:44:08 GMT-0400 (Eastern Daylight Time) - Run Time: 3147ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of destination - pd_dest
Column: Primary travel mode of trip - mode_prime
Table: 2006 GTA zone of origin - gta06_orig

Filters:
(2006 GTA zone of origin - gta06_orig In 3014 3015
and
Start time of trip - start_time In 1600-1800
and
Primary travel mode of trip - mode_prime In D)

Trip 2016
Table: 3014

	Auto driver
PD 7 of Toronto	17
Aurora	17
Caledon	131
Brampton	97
Mississauga	9
Halton Hills	58
Shelburne	11

Trip 2016
Table: 3015

	Auto driver
Caledon	51
Brampton	151
Milton	27
Burlington	47
Mono	21

Tue Jun 15 2021 12:45:07 GMT-0400 (Eastern Daylight Time) - Run Time: 2385ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of destination - pd_dest
Column: Primary travel mode of trip - mode_prime

Filters:

(Planning district of origin - pd_orig In 34
and
Start time of trip - start_time In 1600-1800
and
Primary travel mode of trip - mode_prime In D)

Trip 2016
Table:

	Auto driver
PD 1 of Toronto	162
PD 2 of Toronto	23
PD 3 of Toronto	105
PD 4 of Toronto	17
PD 5 of Toronto	74
PD 6 of Toronto	33
PD 7 of Toronto	138
PD 8 of Toronto	122
PD 9 of Toronto	264
PD 10 of Toronto	67
PD 11 of Toronto	80
PD 12 of Toronto	14
PD 13 of Toronto	25
PD 14 of Toronto	33
PD 16 of Toronto	49
Ajax	17
Oshawa	57
East Gwillimbury	55
Newmarket	73
Aurora	47
Richmond Hill	138
Markham	192
King	203
Vaughan	857
Caledon	5006
Brampton	3025
Mississauga	673
Halton Hills	408
Milton	154
Oakville	78
Burlington	80
Glanbrook	105
Stoney Creek	16
Hamilton	13
Grimsby	42
St. Catharines	46
Welland	24

Kitchener	29
City of Guelph	119
Guelph/Eramosa	62
Centre Wellington	58
Erin	91
Orangeville	751
Barrie	14
Innisfil	43
Bradford-West Gwillimbury	26
New Tecumseth	576
Adjala-Tosorontio	167
Essa	22
Clearview	28
Springwater	69
Grey	14
Oro-Medonte	22
Shelburne	118
Mono	333
East Garafraxa	38

Tue Jun 15 2021 12:23:41 GMT-0400 (Eastern Daylight Time) - Run Time: 2225ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of household - pd_hhld
Column: Primary travel mode of trip - mode_prime

Filters:
(Planning district of household - pd_hhld In 34
and
Start time of 1500-1900
and
Age of person - age In 18-99)

Trip 2016
Table:

	Transit excluding GO rail	Cycle	Auto driver	GO rail only	Joint GO rail and local transit
Caledon	605	28	56246	295	114

Auto passenger	School bus	Taxi passenger	Paid rideshare	Walk
3946	64	41	37	312

Appendix M

Detailed Trip Distribution Worksheets

Project Name	Tullamore Industrial
Project Number	2022-5842
Current Table:	Trip Distribution Z1 Trip Dist

TRIP DISTRIBUTION AND ASSIGNMENT

AM

Gateway Number	Location	CARS				TRUCKS			
		N	E	S	W	N	E	S	W
1	West via Mayfield				90%				100%
2	West via Old School				10%				
3	East Via Mayfield		90%				100%		
4	East via Healey		10%						
5	South Via Torbram			100%					
6	South Via Airport							100%	
7	North Via Torbram	100%							
8	North Via Airport					100%			
9									
10									
11									
12									
13									
14									
15									
	TOTAL	100%	100%	100%	100%	100%	100%	100%	100%

PM

Gateway Number	Location	CARS				TRUCKS			
		N	E	S	W	N	E	S	W
1	West via Mayfield				90%				100%
2	West via Old School				10%				
3	East Via Mayfield		90%				100%		
4	East via Healey		10%						
5	South Via Torbram			100%					
6	South Via Airport							100%	
7	North Via Torbram	100%							
8	North Via Airport					100%			
9									
10									
11									
12									
13									
14									
15									
	TOTAL	100%	100%	100%	100%	100%	100%	100%	100%

Time Period	CARS				Total	TRUCKS				Total
	N	E	S	W		N	E	S	W	
AM (IN)	20.0%	10.0%	35.0%	35.0%	100.0%	20.0%	10.0%	35.0%	35.0%	100.0%
AM (OUT)	10.0%	20.0%	45.0%	25.0%	100.0%	10.0%	20.0%	45.0%	25.0%	100.0%
PM (IN)	15.0%	12.0%	44.0%	29.0%	100.0%	15.0%	12.0%	44.0%	29.0%	100.0%
PM (OUT)	30.0%	10.0%	20.0%	40.0%	100.0%	30.0%	10.0%	20.0%	40.0%	100.0%

Project Name	Tullamore Industrial
Project Number	2022-5842
Current Table:	Trip Distribution Z2 Trip Dist

TRIP DISTRIBUTION AND ASSIGNMENT

AM

Gateway Number	Location	CARS				TRUCKS			
		N	E	S	W	N	E	S	W
1	West via Mayfield				90%				100%
2	West via Old School				10%				
3	East Via Mayfield		80%				100%		
4	East via Healey		20%						
5	South Via Torbram								
6	South Via Airport			100%				100%	
7	North Via Torbram								
8	North Via Airport	100%				100%			
9									
10									
11									
12									
13									
14									
15									
	TOTAL	100%	100%	100%	100%	100%	100%	100%	100%

PM

Gateway Number	Location	CARS				TRUCKS			
		N	E	S	W	N	E	S	W
1	West via Mayfield				90%				100%
2	West via Old School				10%				
3	East Via Mayfield		80%				100%		
4	East via Healey		20%						
5	South Via Torbram								
6	South Via Airport			100%				100%	
7	North Via Torbram								
8	North Via Airport	100%				100%			
9									
10									
11									
12									
13									
14									
15									
	TOTAL	100%	100%	100%	100%	100%	100%	100%	100%

Time Period	CARS				Total	TRUCKS				Total
	N	E	S	W		N	E	S	W	
AM (IN)	20.0%	10.0%	35.0%	35.0%	100.0%	20.0%	10.0%	35.0%	35.0%	100.0%
AM (OUT)	10.0%	20.0%	45.0%	25.0%	100.0%	10.0%	20.0%	45.0%	25.0%	100.0%
PM (IN)	15.0%	12.0%	44.0%	29.0%	100.0%	15.0%	12.0%	44.0%	29.0%	100.0%
PM (OUT)	30.0%	10.0%	20.0%	40.0%	100.0%	30.0%	10.0%	20.0%	40.0%	100.0%

Project Name	Tullamore Industrial
Project Number	2022-5842
Current Table:	Trip Distribution Z3 Trip Dist

TRIP DISTRIBUTION AND ASSIGNMENT

AM

Gateway Number	Location	CARS				TRUCKS			
		N	E	S	W	N	E	S	W
1	West via Mayfield				100%				100%
2	West via Old School								
3	East Via Mayfield		100%				100%		
4	East via Healey								
5	South Via Torbram			30%					
6	South Via Airport			70%				100%	
7	North Via Torbram								
8	North Via Airport	100%				100%			
9									
10									
11									
12									
13									
14									
15									
	TOTAL	100%	100%	100%	100%	100%	100%	100%	100%

PM

Gateway Number	Location	CARS				TRUCKS			
		N	E	S	W	N	E	S	W
1	West via Mayfield				100%				100%
2	West via Old School								
3	East Via Mayfield		100%				100%		
4	East via Healey								
5	South Via Torbram			30%					
6	South Via Airport			70%				100%	
7	North Via Torbram								
8	North Via Airport	100%				100%			
9									
10									
11									
12									
13									
14									
15									
	TOTAL	100%	100%	100%	100%	100%	100%	100%	100%

Time Period	CARS				Total	TRUCKS				Total
	N	E	S	W		N	E	S	W	
AM (IN)	20.0%	10.0%	35.0%	35.0%	100.0%	20.0%	10.0%	35.0%	35.0%	100.0%
AM (OUT)	10.0%	20.0%	45.0%	25.0%	100.0%	10.0%	20.0%	45.0%	25.0%	100.0%
PM (IN)	15.0%	12.0%	44.0%	29.0%	100.0%	15.0%	12.0%	44.0%	29.0%	100.0%
PM (OUT)	30.0%	10.0%	20.0%	40.0%	100.0%	30.0%	10.0%	20.0%	40.0%	100.0%

Project Name	Tullamore Industrial
Project Number	2022-5842
Current Table:	Trip Distribution Z4 Trip Dist

TRIP DISTRIBUTION AND ASSIGNMENT

AM

Gateway Number	Location	CARS				TRUCKS			
		N	E	S	W	N	E	S	W
1	West via Mayfield				100%				100%
2	West via Old School								
3	East Via Mayfield		100%				100%		
4	East via Healey								
5	South Via Torbram			30%					
6	South Via Airport			70%				100%	
7	North Via Torbram								
8	North Via Airport	100%				100%			
9									
10									
11									
12									
13									
14									
15									
	TOTAL	100%	100%	100%	100%	100%	100%	100%	100%

PM

Gateway Number	Location	CARS				TRUCKS			
		N	E	S	W	N	E	S	W
1	West via Mayfield				100%				100%
2	West via Old School								
3	East Via Mayfield		100%				100%		
4	East via Healey								
5	South Via Torbram			30%					
6	South Via Airport			70%				100%	
7	North Via Torbram								
8	North Via Airport	100%				100%			
9									
10									
11									
12									
13									
14									
15									
	TOTAL	100%	100%	100%	100%	100%	100%	100%	100%

Time Period	CARS				Total	TRUCKS				Total
	N	E	S	W		N	E	S	W	
AM (IN)	20.0%	10.0%	35.0%	35.0%	100.0%	20.0%	10.0%	35.0%	35.0%	100.0%
AM (OUT)	10.0%	20.0%	45.0%	25.0%	100.0%	10.0%	20.0%	45.0%	25.0%	100.0%
PM (IN)	15.0%	12.0%	44.0%	29.0%	100.0%	15.0%	12.0%	44.0%	29.0%	100.0%
PM (OUT)	30.0%	10.0%	20.0%	40.0%	100.0%	30.0%	10.0%	20.0%	40.0%	100.0%

Project Name	Tullamore Industrial
Project Number	2022-5842
Current Table:	Trip Distribution Z5 Trip Dist

TRIP DISTRIBUTION AND ASSIGNMENT

AM

Gateway Number	Location	CARS				TRUCKS			
		N	E	S	W	N	E	S	W
1	West via Mayfield				100%				100%
2	West via Old School								
3	East Via Mayfield		100%				100%		
4	East via Healey								
5	South Via Torbram			30%					
6	South Via Airport			70%				100%	
7	North Via Torbram								
8	North Via Airport	100%				100%			
9									
10									
11									
12									
13									
14									
15									
	TOTAL	100%	100%	100%	100%	100%	100%	100%	100%

PM

Gateway Number	Location	CARS				TRUCKS			
		N	E	S	W	N	E	S	W
1	West via Mayfield				100%				100%
2	West via Old School								
3	East Via Mayfield		100%				100%		
4	East via Healey								
5	South Via Torbram			30%					
6	South Via Airport			70%				100%	
7	North Via Torbram								
8	North Via Airport	100%				100%			
9									
10									
11									
12									
13									
14									
15									
	TOTAL	100%	100%	100%	100%	100%	100%	100%	100%

Time Period	CARS				Total	TRUCKS				Total
	N	E	S	W		N	E	S	W	
AM (IN)	20.0%	10.0%	35.0%	35.0%	100.0%	20.0%	10.0%	35.0%	35.0%	100.0%
AM (OUT)	10.0%	20.0%	45.0%	25.0%	100.0%	10.0%	20.0%	45.0%	25.0%	100.0%
PM (IN)	15.0%	12.0%	44.0%	29.0%	100.0%	15.0%	12.0%	44.0%	29.0%	100.0%
PM (OUT)	30.0%	10.0%	20.0%	40.0%	100.0%	30.0%	10.0%	20.0%	40.0%	100.0%

Appendix N

Town of Caledon Official Plan Relevant Excerpts

Other Heritage Matters

Rehabilitation of Mineral Resource Extraction Areas of Cultural Heritage Interest.

4.4.67 The Town is characterized by a number of historic mineral resource extraction areas of cultural heritage interest and value that include former nineteenth and early twentieth century quarries, brick works and lime kilns. The Town will encourage the identification, designation and conservation of historic mineral resource extraction areas.

Adaptive Re-Use in Prime Agricultural Areas and Rural Lands.

4.4.68 Where appropriate in Prime Agricultural Areas and Rural Lands, and in accordance with the provisions of this Plan and any other relevant legislation, regulations, policy or by-law, the retention and conservation of non-residential built heritage resources, such as barns, will be encouraged through their conservation and sympathetic adaptive re-use.

Density Bonuses

4.4.69 Through the use of bonusing, and in the context of development applications, the Town may permit increases to the density limits applicable to a proposed development in order to conserve cultural heritage resources in a manner satisfactory to the Town. Such bonusing will ensure retention of existing cultural heritage resources on the Subject Lands and avoid adverse impact to adjacent or nearby cultural heritage resources.

4.5 Our Mobility Plan to Connect Caledon

Vision

The Town of Caledon has developed transportation policies to ensure that both people and goods can safely and efficiently move across the Town and across the region. The Town will have a multimodal transportation system that is safe, equitable, convenient, economical, efficient, low-carbon and sustainable for the movement of people and goods and is well-integrated with the envisioned land

use designations and development within the Town and adjacent municipalities.

In order to achieve more sustainable transportation practices in the future, the Town has devised policies to provide an integrated, diverse transportation system for all residents and businesses that is safe, convenient, affordable, efficient, minimizes environmental impacts, and manages future demand and congestion. A low-carbon transportation system is a crucial element toward the objective of net-zero emissions, recognizing that over half of the Town's greenhouse gas emissions are attributed to transportation, including commuters, commercial vehicles, and trucks.

To reach sustainability targets and net-zero emissions, the Town intends to reduce single-occupant vehicle dependency by supporting and promoting sustainable modes through efficient inter and intra-regional transit connections, the introduction and periodic update of an Active Transportation Master Plan, complete streets design principles, parking strategies that balance modal choice objectives with operational needs, and the support of carpooling/carsharing and bike infrastructure. The Town will also promote and support the use of zero-emission vehicles through the implementation of more electrical vehicle charging infrastructure.

Objectives

4.5.1 Through this Official Plan, the Town will endeavour to:

a) Develop an environmentally sustainable transportation system that allows for safe, convenient, economical, equitable, and efficient movement of people (including persons with disabilities), goods and services.

b) Develop a transportation system that supports connections to the Region of Peel and the rest of the Greater Toronto and Hamilton.

c) Encourage and support sustainable mobility options such as public transit, active transportation, and car-sharing through further investment into facilities and by ensuring seamless integration with other modes of transportation.

d) Increase active transportation mode shares, through the development of a safe and well-connected active transportation network that prioritizes a high level of protection for cycling and pedestrian facilities and is well-integrated with active transportation networks in adjacent municipalities.

e) Create and regularly update an Active Transportation Master Planfor the Town that seeks to create a safer community through the provision of new pedestrian and cycling facilities, trail networks and complete streets

f) Establish a connected and continuous grid system for the street network to support convenient and efficient travel by all modes of transportation.

g) Embrace a transportation system that prioritizes transportation equity by recognizing that auto-mobile based transportation systems disproportionately affect vulnerable residents. This includes impacts to low-income residents, children, seniors, and persons with disabilities, and others who are restricted in movement caused by auto-mobile dependency. Freedom of mobility is a fundamental human right, therefore a transportation system needs to accommodate this vision.

h) Collaborate and coordinate with the Province, the Region of Peel, Metrolinx and neighbouring municipalities to encourage these authorities to maintain, connect and improve roads and services under their jurisdiction within the Town, as appropriate, and ensure that the Caledon transportation system is well-integrated with the surrounding region and protects for future transportation facilities.

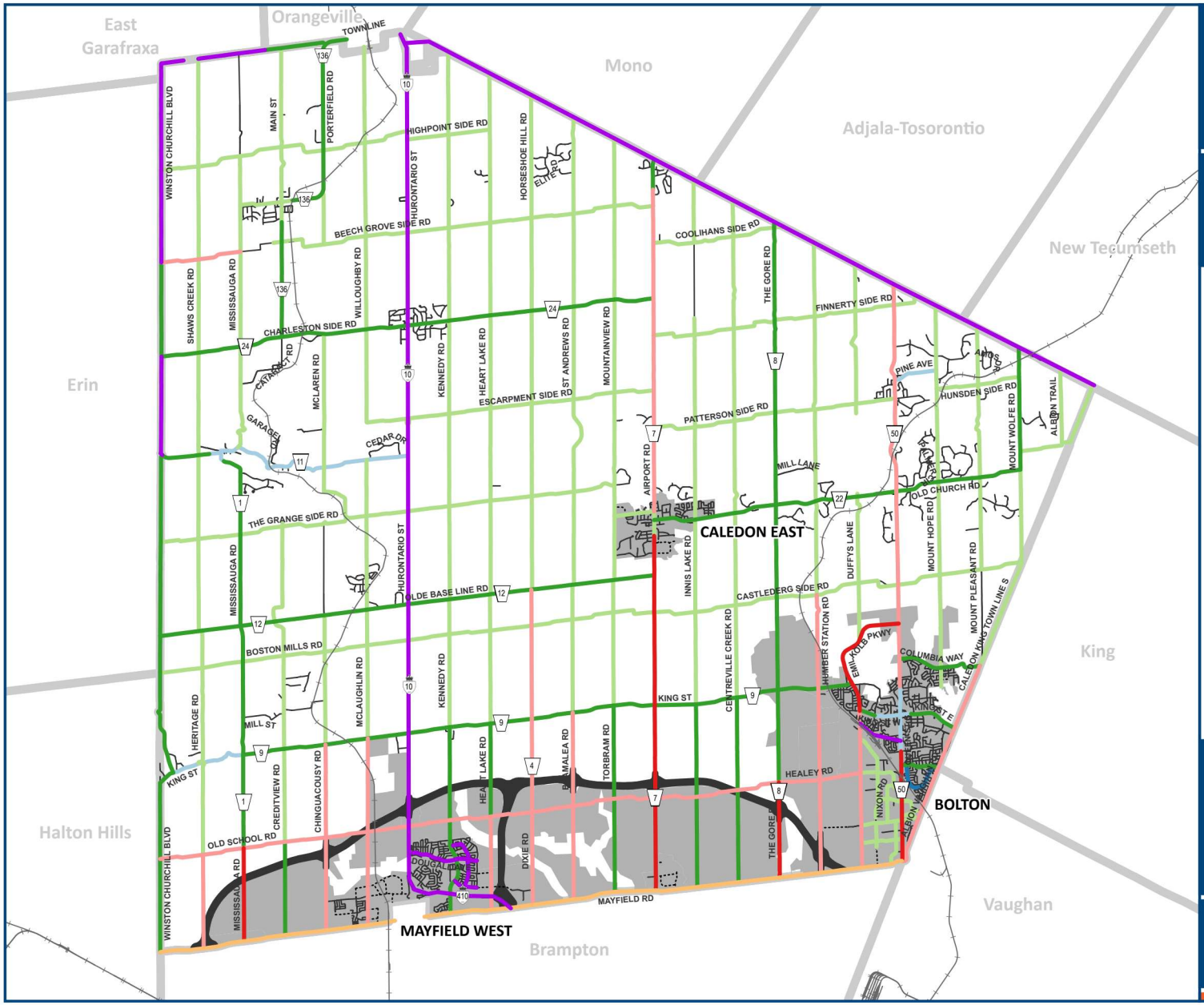
i) Support the Climate Change objectives and policies of this Plan by developing a transportation system that targets net-zero emissions through the prioritization of transit and active transportation facilities and the development of a community-wide zero-emission vehicle strategy, including expansion of public vehicle charging infrastructure.

j) Prioritize transit investments within Centres and Corridors by maximizing the use of existing and planned transit infrastructure in accordance with the policies of this Plan, with consideration of the existing and planned level of transit service and potential impacts on nearby neighbourhoods.

General Policies

4.5.2 The Town will adopt complete streets design principles to prioritize travel of all modes and ensure safety of all ages and abilities within the existing and new built form.

4.5.3 The Town will prioritize transit and active transportation in all transportation network updates and expansion, and


East Garafraxa
Orangeville
Mono
Adjala-Tosorontio
New Tecumseth
Erin
King
Halton Hills
Vaughan
Brampton
CALEDON EAST
BOLTON
MAYFIELD WEST
TOWNLINE
HIGHPOINT SIDE RD
BEECH GROVE SIDE RD
CHARLESTON SIDE RD
ESCARPMENT SIDE RD
COOLIHANS SIDE RD
FINNERTY SIDE RD
PATTERSON SIDE RD
MILL LANE
OLD CHURCH RD
HUNSDEN SIDE RD
PINE AVE
THE GRANGE SIDE RD
OLDE BASE LINE RD
CASTLEDERG SIDE RD
BOSTON MILLS RD
KING ST
MILL ST
HEALEY RD
OLD SCHOOL RD
MAYFIELD RD
COLUMBIA WAY
EMIL KOLB PKWY
CALEDON KING TOWN LINE S
WINSTON CHURCHILL BLVD
MAIN ST
PORTERFIELD RD
HORSESHOE HILL RD
BEECH GROVE SIDE RD
SHAWS CREEK RD
MISSISSAUGA RD
WILLOUGHBY RD
CHARLESTON SIDE RD
CATARACTY RD
MCLAREN RD
KENNEDY RD
HEART LAKE RD
ST ANDREWS RD
MOUNTAINVIEW RD
THE GORE RD
AIRPORT RD
INNIS LAKE RD
DUFFYS LANE
MOUNT HOPE RD
MOUNT WOLFE RD
ALBION TRAIL
MOUNT PLEASANT RD
HUMBER STATION RD
CENTREVILLE CREEK RD
TORBRAM RD
DIXIE RD
NIXON RD
HERITAGE RD
MCLAUGHLIN RD
CREDITVIEW RD
CHINGUACOUSY RD
GARAGE RD
CEDAR DR
Draft Schedule "G4"
Road Right-of-Way Widths
Town of Caledon Official Plan
Municipal Boundary
Urban Area
Protected Transportation Corridor
20 Metre ROW
22 Metre ROW
26 Metre ROW
30 Metre ROW
36 Metre ROW
45 Metre ROW
50 Metre ROW
99 Metre ROW
Local Road
Planned Future Roads
Rail
Sources: Town of Caledon
Projection: UTM NAD83 Zone 17
This map is illustrative only. Do not rely on it as being a precise indicator of routes, locations of features, not as a guide to navigation. The Town of Caledon shall not be liable in any way for the use of, or reliance upon, this map or any information on this map.
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TOWN OF CALEDON

Appendix O

Town of Caledon Relevant Zoning By-Law Excerpts

SECTION 5
PARKING, LOADING AND DELIVERY STANDARDS

5.1 APPLICABILITY OF THIS SECTION

a) The *parking, loading* and *delivery space* requirements of this section of the By-law shall not apply to any *building* in existence at the date of passing of this By-law so long as the *floor area*, as it existed at such date, is not increased or if the *building* or *structure* is used for a purpose that requires more *parking spaces*.

b) If an addition is made to the *building* that increases the *floor area*, additional *parking*, *loading* and *delivery spaces* shall be provided for the additional *floor area* only, as required by the regulations of this By-law.

5.2 PARKING

5.2.1 Restriction On *Use* Of Land, *Buildings* And *Structures*

No *person* shall use any land, *building* or *structure* in any *Zone* for any purpose permitted by this By-law, unless *parking spaces* are provided in accordance with the provisions of this Section of the By-law.

5.2.2 Residential *Parking* Requirements

The number of *parking spaces* required for residential *uses* shall be calculated in accordance with the standards set out in **Table 5.1**:

TABLE 5.1

Type or Nature of *Use*	**Minimum Off-Street *Parking* Requirements**
Apartment, Accessory	1 *parking space* per each 70m^2 or portion thereof to a maximum of 2 *parking spaces*
Bed & Breakfast Establishment	1 *parking space* per *guest room,* in addition to the minimum *parking* requirement for a *detached dwelling*
Building, Apartment	1.5 *parking spaces* per *dwelling unit* + 0.25 *parking spaces* per unit for visitor parking in a designated visitor *parking area*
Country Inn	1 *parking space* per *guest room,* in addition to the minimum *parking* requirement for a *detached dwelling*
Day Care, Private Home	No requirement
Dwelling, Back-to-Back Townhouse	2 *parking spaces* per *dwelling unit* plus 0.25 visitor *parking spaces* for each *dwelling unit*. Such visitor *parking spaces* shall not be located on exclusive use lands
Dwelling, Detached	2 *parking spaces* per *dwelling unit*
Dwelling, Duplex	2 *parking spaces* per *dwelling unit*

Dwelling, Linked	2 *parking spaces* per *dwelling unit*
Dwelling, Semi-Detached	2 *parking spaces* per *dwelling unit*
Dwelling, Townhouse	2 *parking spaces* per *dwelling unit* + 0.25 *parking spaces* per unit for visitors on a *lot* with four or more *dwelling units*
Dwelling Unit, Accessory	1 *parking space* per each 70m^2 or portion thereof to a maximum of 2 *parking spaces*
Home Business (ORM)	*Parking spaces* in addition to the required parking for the residential *use* shall be provided in accordance with the following: • 0-10m^2 - no additional *parking spaces* • >10m^2 - 1 *parking space*
Home Industry (ORM)	*Parking spaces* in addition to the required parking for the residential *use* shall be provided in accordance with the following: • 0-10m^2 - no additional *parking spaces* • >10m^2 - 1 *parking space*
Home Occupation	*Parking spaces* in addition to the required parking for the residential *use* shall be provided in accordance with the following: • 0-10m^2 - no additional *parking spaces* • >10m^2 - 1 *parking space*
Seniors Retirement Facility	1.5 *parking spaces* per *dwelling unit* + 0.25 *parking spaces* per unit for visitor parking in a designated visitor *parking area*

5.2.3 Non-Residential *Parking* Requirements

The number of *parking spaces* required for non-residential *uses* shall be calculated in accordance with the standards set out in **Table 5.2**:

TABLE 5.2

Type or Nature of *Use*	**Minimum Off-Street *Parking* Requirements**
Adult Day Centre	1 *parking space* per staff member + 1 *parking space* per 30 m^2 of *net floor area* or portion thereof
Animal Hospital	1 *parking space* per 16.5 m^2 *of net floor area* or portion thereof
Art Gallery	1 *parking space* per 100 m^2 of *net floor area* or portion thereof where no retail; 1 per 60 m^2 or portion thereof where retail component
Artisan Operation	1 *parking space* per 100 m^2 of *net floor area* or portion thereof where no retail; 1 per 60 m^2 or portion thereof where retail component

Artist Studio & Gallery	1 *parking space* per 100 m^2 of *net floor area* or portion thereof where no retail; 1 per 60 m^2 or portion thereof where retail component
Bakery	1 *parking space* per 20 m^2 of *net floor area* or portion thereof
Business Office	1 *parking space* per 30 m^2 of *net floor area* or portion thereof
Cannabis-Related Use – Indoor	1 *parking space* per 100 m^2 of *gross floor area* or portion thereof
Clinic	1 *parking space* per 16.5 m^2 *of net floor area* or portion thereof
Club	1 *parking space* per 15 m^2 of *net floor area* or portion thereof
Community Centre	1 *parking space* per 15 m^2 of *net floor area* or portion thereof
Day Nursery	1 *parking space* per staff member + 1 *parking space* per 30 m^2 of *net floor area* or portion thereof
Dry Cleaning or Laundry Plant	1 *parking space* per 20 m^2 of *net floor area* or portion thereof
Dry Cleaning or Laundry Outlet	1 *parking space* per 20 m^2 of *net floor area* or portion thereof
Factory Outlet	1 *parking space* per 20 m^2 of *net floor area* or portion thereof
Financial Institution	1 *parking space* per 25 m^2 of *net floor area* or portion thereof
Fitness Centre	1 *parking space* per 15 m^2 of *net floor area* or portion thereof
Funeral Home	1 *parking space* per 20 m^2 of *net floor area* or portion thereof
Golf Course	12 *parking spaces* per hole
Hospital	1.5 *parking spaces* per bed
Hotel	1 *parking space* per *guest room*, plus 1 *parking space* per 10 m^2 or portion thereof of *net floor area* devoted to meeting, dining and banquet facilities.
Industrial Hemp-Related Use - Indoor	1 *parking space* per 100m^2 of *gross floor area* or portion thereof
Industrial Use	a) If accessory office and retail *net floor area*s are 15% or less of the total *net floor area*: • Up to 5,000 m^2 – 1 *parking space* per 60 m^2 *net floor area* or portion thereof • 5,000 to 10,000 m^2 – 83 *parking spaces*, plus 1 *parking space* per 90 m^2 of *net floor area* or portion thereof over 5,000 m^2 • Over 10,000 m^2 – 139 *parking spaces*, plus 1 *parking space* per 170 m^2 or portion thereof of *net floor area* or portion thereof over 10,000 m^2

	b) If associated office and retail *net floor areas* are more than 15% of the total *net floor area*: In addition to the standards contained above in (a), the applicable *net floor areas* exceeding 15% shall be subject to the applicable office or retail parking requirements
Laundromat	1 *parking space* per 20 m^2 of *net floor area* or portion thereof
Library	1 *parking space* per 30 m^2 of *net floor area* or portion thereof
Light Equipment Rental Establishment	1 *parking space* per 20 m^2 of *net floor area* or portion thereof
Long Term Care Facility	0.5 *parking spaces* per bed
Medical Centre	1 *parking space* per 16.5 m^2 *of net floor area* or portion thereof
Medical Laboratory	1 *parking space* per 16.5 m^2 *of net floor area* or portion thereof
Merchandise Service Shop	1 *parking space* per 20 m^2 of *net floor area* or portion thereof
Motel	1 *parking space* per *guest room*, plus 1 *parking space* per 10 m^2 or portion thereof of *net floor area* devoted to meeting, dining and banquet facilities.
Motor Vehicle Body Shop	3 *parking spaces* per service bay plus 1 *parking space* per 20 m^2 or portion thereof of *net floor area* for the office and any retail *use*
Motor Vehicle Gas Bar	1 *parking space* per 20 m^2 or portion thereof of *net floor area* exclusive of fuel dispensing spaces
Motor Vehicle Repair Facility	3 *parking spaces* per service bay plus 1 *parking space* per 20 m^2 or portion thereof of *net floor area* for the office and any retail *use*
Motor Vehicle Service Centre	3 *parking spaces* per service bay plus 1 *parking space* per 20 m^2 or portion thereof of *net floor area* for the office and any retail *use*
Motor Vehicle uses not otherwise listed	1 *parking space* per 20 m^2 or portion thereof of *net floor area* exclusive of display and storage parking
Museum	1 *parking space* per 100 m^2 of *net floor area* or portion thereof where no retail; 1 per 60 m^2 or portion thereof where retail component
On-farm Diversified Use	1 *parking space* per 100 m^2 of *gross floor area* or portion thereof
Park	5 *parking spaces* per hectare or portion thereof
Personal Service Shop	1 *parking space* per 20 m^2 of *net floor area* or portion thereof
Place of Assembly	1 *parking space* per 15 m^2 of *net floor area* or portion thereof
Place of Entertainment	the greater of 1 *parking space* per 6 seats capacity or 1 *parking space* per 10m^2 of *net floor area* or portion thereof

Place of Worship	the greater of 1 *parking space* per 6 persons design capacity of the worship area or 1 *parking space* for 10 m^2 of *net floor area* or portion thereof of the worship areas and any *accessory use* areas, excluding residential *uses*.
Printing & Processing Service Shop	1 *parking space* per 20 m^2 of *net floor area* or portion thereof
Recreational *Use*	30 *parking spaces* per ball field 30 *parking spaces* per soccer field 4 *parking spaces* per tennis court
Research Establishment	1 *parking space* per 30 m^2 of *net floor area* or portion thereof
Restaurant	1 *parking space* per 15 m^2 of *net floor area* or portion thereof
Retail Store	1 *parking space* per 20 m^2 of *net floor area* or portion thereof
Sales Service and Repair Shop	1 *parking space* per 20 m^2 of *net floor area* or portion thereof
School	Elementary – 1 *parking space* per 100 m^2 of *gross floor area* or portion thereof and 1 *parking space* per portable Secondary – 1.5 *parking spaces* per 100 m^2 of *gross floor area* or portion thereof and 1 *parking space* per portable classroom
Studio	1 *parking space* per 100 m^2 of *net floor area* or portion thereof
Sports Arena	1 *parking space* per 15 m^2 of *net floor area* or portion thereof
Training Facility	1 *parking space* per 30 m^2 of *net floor area* or portion thereof
Transportation Depot	a) If associated office or retail *net floor areas* are 15% or less of the total *net floor area*: • Up to 7,000 m^2 – 1 *parking space* per 90 m^2 *net floor area* or portion thereof7,000 to 20,000 m^2 – 78 *parking spaces*, plus 1 *parking space* per 145 m^2 of *net floor area* or portion thereof over 7000 m^2 • Over 20,000 m^2 – 168 *parking spaces*, plus 1 *parking space* per 170 m^2 of *net floor area* or portion thereof over 20,000 m^2 b) If associated office or retail *net floor areas* are more than 15% of the total *net floor area*: In addition to the standards contained above in (a), the applicable *net floor areas* exceeding 15% shall be subject to the applicable office or retail parking requirements
Warehouse	a) If associated office or retail *net floor areas* are 15% or less of the total *net floor area*: • Up to 7,000 m^2 – 1 *parking space* per 90 m^2 *net floor area* or portion thereof 7,000 to 20,000 m^2 –

	78 *parking spaces*, plus 1 *parking space* per 145 m^2 of *net floor area* or portion thereof over 7000 m^2 • Over 20,000 m^2 – 168 *parking spaces*, plus 1 *parking space* per 170 m^2 of *net floor area* or portion thereof over 20,000 m^2 b) If associated office or retail *net floor areas* are more than 15% of the total *net floor area*: In addition to the standards contained above in (a), the applicable *net floor areas* exceeding 15% shall be subject to the applicable office or retail parking requirements
Warehouse, Public Self-Storage	1 *parking space* per 30 m^2 of *net floor area* or portion thereof within the office; plus 1 *parking space* per 100 m^2 of *net floor area* or portion thereof of the *building*
Warehouse, Retail	1 *parking space* per 30 m^2 *of net floor area* or portion thereof
Warehouse, Wholesale	1 space per 80 m^2 *of net floor area* or portion thereof
Wellness Centre	1 *parking space* per 15 m^2 of *net floor area* or portion thereof
Veterinary Hospital	1 *parking space* per 16.5 m^2 *of net floor area* or portion thereof
Uses permitted by this By-law other than those listed in this Table	1 *parking space* per 45 m^2 of total *floor area* or portion thereof

Where the minimum parking requirement in an Exception *Zone* is different from the above requirements, the applicable minimum *parking* provisions of the Exception *Zone* shall apply.

5.2.4 Calculation Of *Parking, Loading* and *Delivery* Requirements

Where the minimum number of *parking, loading* or *delivery spaces* is calculated on the basis of a rate or ratio, the required number of *parking, loading or delivery spaces* shall be rounded to the next higher whole number.

5.2.5 More Than One *Use* On A *Lot*

The parking requirements for more than one *use* on a single *lot* or for a *building* containing more than one *use*, shall be the sum total of the parking requirements for each of the component *uses*, unless otherwise noted.

5.2.6 Barrier-Free *Parking*

Barrier-free *parking spaces* shall be provided in accordance with the provisions of the barrier-free access requirements in Town of Caledon By-law 2015-058, as may be amended from time to time.

5.2.7 Exclusive Use Of A *Parking, Loading* or *Delivery Space*

Any required *parking, loading* or *delivery space* shall be unobstructed and available for parking, delivery or loading purposes and used exclusively for that purpose at all times, unless otherwise specified in this By-law.

5.2.8 Location Of Required *Parking, Loading* and *Delivery Spaces*

Required *parking, loading* and *delivery spaces* shall be located on the same *lot* as the *use* that requires the *parking, loading* or *delivery space*. Notwithstanding the above, required *parking, loading* and *delivery spaces* for any commercial *use* permitted within the **CC** and **CV** *Zones* may be located on another *lot* within 150 metres of the *lot* on which *parking, loading* or *delivery spaces* would be required for a *use*, provided the off-site *parking, loading* or *delivery spaces* are located on a *lot* in a Commercial *zone* and subject to the applicant/proponent executing an Off-Site Parking, Loading and/or Delivery Agreement with the Town.

5.2.9 *Parking* Required For *Outdoor Patios*

Parking spaces are not required for any *outdoor patio* that is less than 40% of the *net floor area* of the *restaurant* it serves. The standard *restaurant* ratio shall apply to any area over 40%.

5.2.10 Location Of Parking On A *Lot* Used For Residential Purposes

The parking of *motor vehicles* associated with a residential *use* is permitted only within a *parking garage*, *private garage*, *carport* or on a *driveway* accessing an individual *dwelling unit*, a *private garage* or a *carport*.

5.2.11 Size Of *Parking Spaces*

a) Where *parking spaces* are provided in a surface *parking area*, each *parking space* shall have width of not less than 2.75 metres and length of not less than 6.0 metres, with the exception of a barrier-free *parking space* which shall have a width and a length which complies with the Town's barrier-free parking requirements

b) Where *parking space*s are provided in an enclosed or underground *parking garage*, such *parking spaces* shall have width of not less than 2.6 metres and length of not less than 5.8 metres.

c) The width and length of a parking space shall be measured exclusive of the width or length of any painted lines marking such parking space.

5.2.12 Width Of *Aisles*

The minimum width of an *aisle* providing access to a *parking space* within a *parking area* shall be 6.0 metres, except in the case of angled off-street parking accessed by a one-way *aisle*, which shall be a minimum width of 4.5 metres.

5.2.13 Width Of Access Ramps And D*riveways*

Access ramps and *driveways* accessing a *parking area* or *parking lot* shall be a minimum of 4.5 metres in width for one-way traffic and a minimum of 6.0 metres in width

for two-way traffic. For a *Commercial* or *Municipal Parking Lot,* a minimum of 9.0 metres in width shall be required.

5.2.14 *Driveway* Provisions for Residential *Dwellings*

a) Notwithstanding any other provision of this By-law, in no case shall the width of an individual *driveway* accessing a single *detached, semi-detached, linked or townhouse dwelling* exceed the following at its widest point:

   i) 6.0 metres for a *lot* having a *lot frontage* of 12.0 metres or less;

   ii) Equal to 50% of the *lot frontage* on a *lot* having greater than 12.0 metres and less than 18.0 metres of *lot frontage*;

   iii) 10.0 metres for a *lot* having a *lot frontage* equal to or greater than 18.0 metres

b) The maximum *driveway width* provisions in this section apply to a *driveway* accessing any residential *use*

c) The calculation of *driveway width* shall apply along the entire length of the *driveway*, perpendicular to the path of travel. The measurement shall be calculated including any continuous hard surface area, measured along the entire length of the *driveway* perpendicular from one edge to the other edge of the continuous hard surface area

d) Circular *driveways* are permitted, subject to the following standards:

   i) The maximum coverage of a *driveway*, including the circular portion of the *driveway*, shall be 50% of the area of the *yard* in which the *driveway* is located

   ii) The *front lot line* or *exterior side lot line* containing the *entrance* is equal to or greater than 36 metres in width

   iii) Notwithstanding Section 4.3.5 Access Regulations, the maximum cumulative *entrance widths*, measured at the point of crossing the *front lot line* and/or the *exterior side yard lot line*, shall be 10.0 metres

   iv) The widest point beyond circular portion of the *driveway* shall not exceed a maximum width of 10.0 metres.

   v) The open space between access points complies with the minimum *entrance separation* provisions in Section 4.3.4 of this By-law

e) Hammerhead *driveways* are permitted, subject to the following standards:

   i) The hammerhead may be used for the parking of *motor vehicles*

   ii) The hammerhead must be located in a *front yard* or *exterior side yard*

iii) The maximum length of the hammerhead extending perpendicularly from the *driveway* shall be 2.0 metres

iv) The maximum width of the hammerhead that is parallel to the *driveway* shall be 3.0 metres

v) A hammerhead *driveway* must meet the required *driveway setback* of the applicable *zone*

5.2.15 Surface Treatment

All required *parking spaces* and *parking area*s and all *driveways* to any *parking area* or *parking lot* shall be maintained with a stable surface which may include asphalt, concrete, concrete pavers, gravel or similar material which is treated so as to prevent the raising of dust or loose particles.

5.2.16 *Parking Garages*

Parking garages shall comply with the *Zone* provisions for the *main building* for the *Zone* in which it is located in accordance with this By-law. No *setbacks* or *yards* shall be required for any portion of a *parking garage* constructed completely below the established grade. This exemption shall also apply to ventilation shafts and housings, stairways and other similar facilities associated with below grade parking garages that extend from below established grade.

5.2.17 *Parking Area* Location On A Non-Residential *Lot*

Notwithstanding any other provisions of this By-law, *parking areas* shall be set back a minimum of 2.0 metres from any *building* or *structure*.

5.2.18 Illumination

Where *parking areas* are illuminated, the lighting fixtures shall be provided in accordance with the following provisions:

a) No part of the lighting fixture shall be more than 9 metres above grade and no closer than 4.5m to any *lot line*; and,

b) Lighting fixtures shall be installed in such a manner that all light emitted by the fixture, either directly from the lamp or a diffusing element, or indirectly by reflection or refraction from any part of the fixture is projected below the lamp and onto the *lot* the lighting is intended to serve.

5.2.19 Parking of *Commercial Motor Vehicles*

5.2.19.1 The parking or storage of one *commercial motor vehicle* per *dwelling* on a *lot* is permitted on any *lot* subject to the Environmental Policy Area Zone, Residential Zone or Agricultural and Rural Zone provisions, provided the *commercial motor vehicle* has a registered gross vehicle weight of 4,500 kilograms or less and provided that all other *zone* standards including, but not limited to, *driveway* width and minimum parking requirements are met. If the *commercial motor vehicle* is a school bus, it may exceed a weight of 4,500 kilograms.

5.2.19.2 The parking or storage of a *commercial motor vehicle* with a registered gross vehicle weight of more than 4,500 kilograms on any *lot* that is subject to Residential Zone, Environmental Policy Area Zone or Agricultural and Rural Zone provisions is prohibited.

5.2.20 Parking and Storage of *Tractor Trailers*

5.2.20.1 The parking or storage of a *tractor trailer* on any *lot* that is subject to Residential Zone, Environmental Policy Area Zone or Agricultural and Rural Zone provisions is prohibited.

5.2.20.2 The parking or storage of a *tractor trailer* on any *lot* shall be screened by a *building,* a solid board fence or chain link fence with opaque fencing material which is a minimum of 2.0 metres high.

5.3 LOADING

5.3.1 Restriction On Use Of Land, *Buildings* And *Structures*

No *person* shall use any land, *building* or *structure* in any Commercial or Industrial *Zone* for any purpose permitted by this By-law, unless *loading spaces* are provided in accordance with the provisions of this Section of the By-law.

5.3.2 *Loading Space* Requirements

The minimum number of *loading spaces* required for the *uses* identified in Table **5.3.1** shall be calculated in accordance with the standards set out in **Table 5.3.2**:

TABLE 5.3.1

Uses
Airport
Building Supply Outlet
Bulk Storage Facility
Cannabis-Related Use - Indoor
Contractor's Facility
Dry Cleaning or Laundry Plant

Equipment Storage Building
Home Improvement Centre
Industrial Cannabis-Related Use – Outdoor
Industrial Hemp-Related Use – Indoor
Industrial Hemp-Related Use – Outdoor
Industrial Use
Light Equipment Rental Establishment
Maintenance Garage, Accessory
Motor Vehicle Body Shop
Motor Vehicle Repair Facility
Gravel Pit
Quarry
Research Establishment
Sanitary Landfill Site
Sewage Treatment Facility
Supermarket
Transportation Depot
Warehouse
Warehouse, Public Self-Storage
Warehouse, Wholesale
Waste Transfer Facility
Waste Processing Plant

TABLE 5.3.2

For that portion of the *Net Floor Area* of a *use* in Table 5.3.1 that is:	***Loading Space* Requirements (1)**
300 m^2 or less	Nil
301 m^2 to 2,325 m^2	1 *loading space*
2,326 m^2 to 7,440 m^2	*2 loading spaces*

7,441 m^2 or greater	3 *loading spaces* plus 1 additional *loading space* for each additional 9,300 m^2 or portion thereof in excess of 7,441 m^2

Footnote to Table 5.3.2:

(1) A *public use* with a *floor area* greater than 301m^2, owned and operated by the Town, shall require a maximum of one l*oading space.*

5.3.3 Size

Each *loading space* shall be at least 14 metres long, 3.5 metres wide and have a vertical clearance of at least 3.35 metres.

5.3.4 More Than One *Use* On A Lot

The minimum *loading space* requirements for more than one *use* on a *lot* or for a *building* containing more than one *use*, shall be the sum total of the *loading space* requirements for each of the component *uses*, unless otherwise noted.

5.3.5 Exclusive *Use* Of A *Loading Space*

Any required *loading space* shall be unobstructed and available for loading purposes and used exclusively for that purpose at all times, unless otherwise specified in this By-law.

5.3.6 Location Of Required *Loading Spaces*

Required *loading spaces* shall:

a) not be permitted in the *front yard* or *exterior side yard*;

b) not be located closer than 20 metres from any *street line* or Residential *Zone* boundary, but may be permitted within this area if the *loading space* is located entirely within a *structure* on a floor above the *first storey* or below established grade.

5.3.7 Surface Treatment

All required *loading spaces* and all *driveways* to any *loading space* shall be maintained with a stable surface which may include asphalt, concrete, concrete pavers, gravel or similar material which is treated so as to prevent the raising of dust or loose particles.

5.4 DELIVERY

5.4.1 Restriction on Use of Land, *Buildings* and *Structures*

No *person* shall use any land, *building* or *structure* in any Non-Residential *Zone* for any purpose permitted by this By-law, unless *delivery spaces* are provided in accordance with the provisions of this Section of the By-law.

5.4.2 *Delivery Space* Requirements

The minimum number of *delivery spaces* for the *uses* shown shall be calculated in accordance with the standards set out in **Table 5.4**:

TABLE 5.4

Uses	***Delivery Space* Requirements**
Adult Day Centre	1 per *building* per *lot*
Animal Hospital	1 per *building* per *lot*
Business Office	1 per *building* per *lot*
Community Centre	1 per *building* per *lot*
Clinic	1 per *building* per *lot*
Convenience Store	1 per *building* per *lot*
Crisis Care Facility	1 per *building* per *lot*
Day Care Facility	1 per *building* per *lot*
Day Nursery	1 per *building* per *lot*
Drive-Through Service Facility	1 per *building* per *lot*
Financial Institution	1 per *building* per *lot*
Fitness Centre	1 per *building* per *lot*
Funeral Home	2 per *lot*
Grocery Store	1 per *building* per *lot*
Hospital	2 per *lot*
Hotel	1 for each 20 guest rooms or portion thereof
Library	1 per *building* per *lot*
Long-Term Care Facility	1 per *building* per *lot*
Merchandise Service Shop	1 per *building* per *lot*
Motel	1 for each 20 guest rooms or portion thereof
Museum	1 per *building* per *lot*
Place of Assembly	1 per *building* per *lot*
Place of Entertainment	1 per *building* per *lot*
Place of Worship	1 per *building* per *lot*

Private Club	1 per *building* per *lot*
Restaurant	1 per *building* per *lot*
Retail Store	1 per *building* per *lot*
School	2 per *lot*
Sports Arena	1 per *building* per *lot*
Tourist Camp	1 for each accessory management office, plus 1 for each recreation building
Training Facility	1 per *building* per *lot*
Wellness Centre	1 per *building* per *lot*

5.4.3 Size

Each *delivery space* shall be at least 9 metres long, 3.5 metres wide and have a vertical clearance of at least 3 metres.

5.4.4 More Than One *Use* on a *Lot*

The minimum *delivery space* requirements for more than one *use* on a single *lot* or for a building containing more than one *use*, shall be the sum total of the *delivery space* requirements for each of the component *uses,* unless otherwise noted.

5.4.5 Exclusive *Use* of a *Delivery Space*

Any required *delivery space* shall be unobstructed and available for delivery purposes and used exclusively for that purpose at all times, unless otherwise specified in this By-law.

5.4.6 Location of Required *Delivery Spaces*

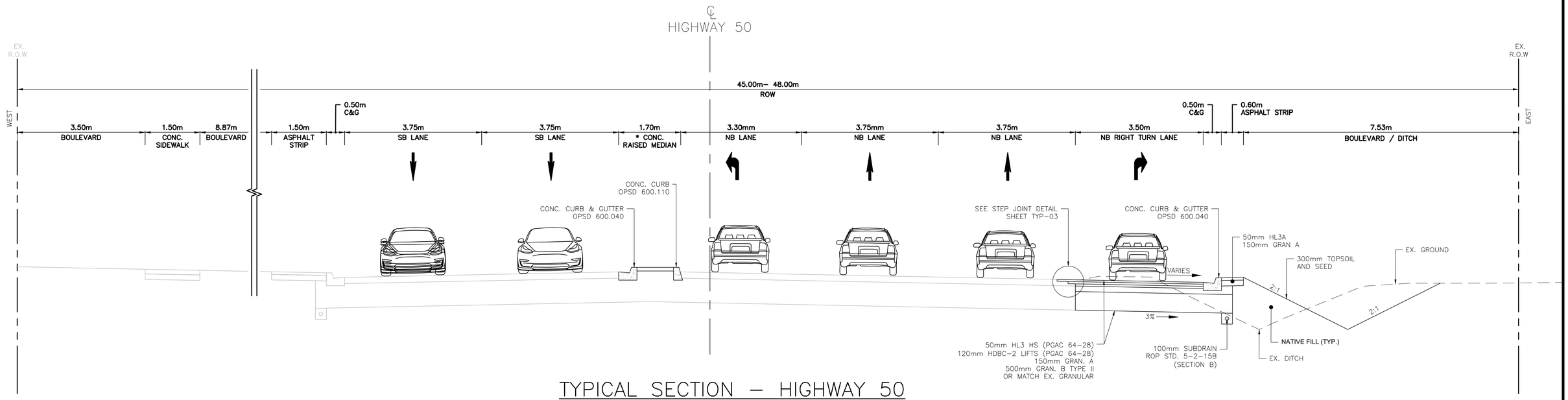
Required *delivery spaces* shall be located a minimum of 3 metres from any *street line* and a minimum of 6 metres from any Residential *zone* boundary.

5.4.7 Surface Treatment

All required *delivery spaces* and all *driveways* to any *delivery space* shall be maintained with a stable surface which may include asphalt, concrete, concrete pavers, gravel or similar material which is treated so as to prevent the raising of dust or loose particles.

Appendix P

Proposed Cross-Section - George Bolton - Hwy 50 Cross Section

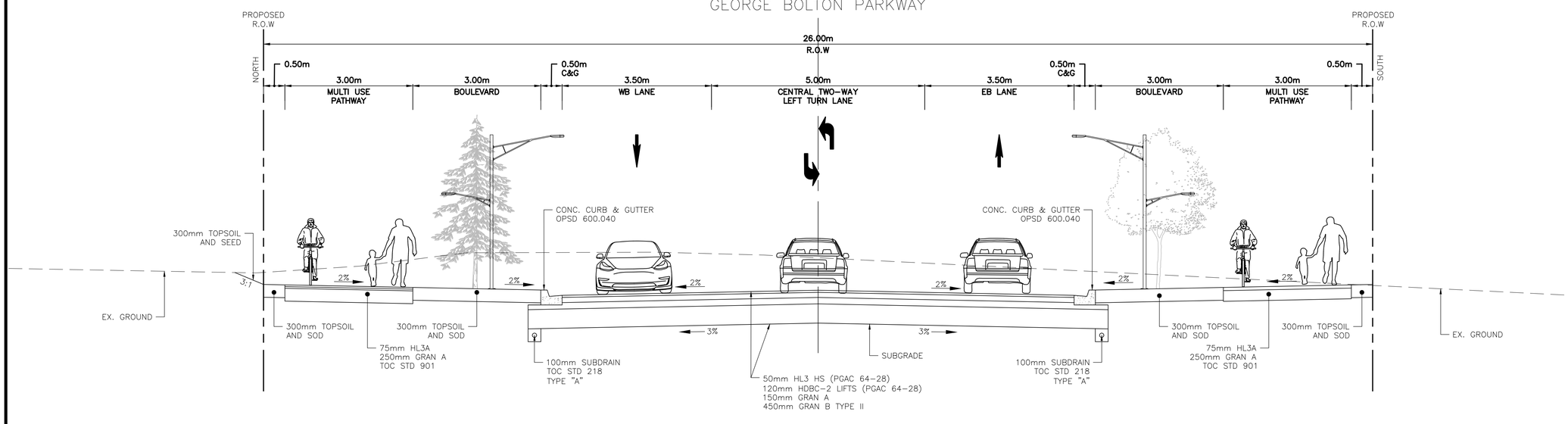


TYPICAL SECTION – HIGHWAY 50

STA. 9+821.457 TO STA. 10+067.327

* SOUTH = STA. 9+947.938 TO STA. 9+978.688

* NORTH = STA. 10+020.177 TO STA. 10+067.327



TYPICAL SECTION – GEORGE BOLTON PARKWAY

STA. 1+026.81 TO STA. 1+541.60

NOTE: ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.

NO.	BY	DATE	REVISION	CONS. CHECKED	TOWN APPR'D
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1	A.I.	22/04/22	60% DESIGN REVIEW SUBMISSION		

APPROVED FOR CONSTRUCTION

THIS APPROVAL CONSTITUTES A GENERAL REVIEW AND DOES NOT CERTIFY DIMENSIONAL ACCURACY.

THIS APPROVAL IS SUBJECT TO THE FURTHER CERTIFICATION OF THE "AS RECORDED" WORKS BY A REGISTERED PROFESSIONAL ENGINEER OF THE PROVINCE OF ONTARIO.

DATE :_____ APPROVED BY:_____
MANAGER OF ENGINEERING SERVICES

BENCH MARK:

ENGINEER'S STAMP

PROJECT NAME
GEORGE BOLTON PARKWAY EXTENSION

CONSULTANT
BURNSIDE
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6990 Creditview Road, Unit 2
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REGION OF PEEL

TOWN OF CALEDON

GEORGE BOLTON PARKWAY / HIGHWAY 50
TYPICAL CROSS SECTIONS

SCALE: N.T.S.			PROJECT No. 300052765
DESIGNED BY: R.B.	DRAWN BY: R.B.		DRAWING No. TYP–01
CHECKED BY: A.I.	DATE: 2021/05/19		SHEET No. 46 OF 94

Plotted – April 21, 2022 File: \\Vmonty\Shared Work Areas\052765 George Bolton Ext\03_Production\Dwg\10–052765–Typical_Cross_Sections.dwg

Appendix Q

Town of Caledon Official Plan Conformance to Collector Network

Official Plan Conformance: The Town of Caledon Draft Official Plan (2022) issues a series of mobility objectives per Section 4.5 (Our Mobility Plan to Connect Caledon). The ability of the proposed development's collector network (Street's A, B and C) and its conformance with these policy objectives are summarized in the Table below. In addition, potential collector road network opportunities beyond the subject lands were also reviewed to confirm that the proposed development does not preclude the establishment of a future collector network beyond the subject lands that satisfy the Town's policy objectives.

Section 4.5 – Our Mobility Plan to Connect Caledon		
Draft OP Section	**Objective**	**Conformance with Objective**
4.5.1	Through this Official Plan, the Town will endeavour to: a) Develop an environmentally sustainable transportation system that allows for safe, convenient, economical, equitable, and efficient movement of people (including persons with disabilities), goods and services. b) Develop a transportation system that supports connections to the Region of Peel and the rest of the Greater Toronto and Hamilton. c) Encourage and support sustainable mobility options such as public transit, active transportation, and car-sharing through further investment into facilities and by ensuring seamless integration with other modes of transportation. d) Increase active transportation mode shares, through the development of a safe and well-connected active transportation network that prioritizes a high level of protection for cycling and pedestrian facilities and is wellintegrated with active transportation networks in adjacent municipalities. e) Create and regularly update an Active Transportation Master Plan for the Town that seeks to create a safer community through the provision of new pedestrian and cycling facilities, trail networks and complete streets f) Establish a connected and continuous grid system for the street network to support convenient and efficient travel by all modes of transportation. g) Embrace a transportation system that prioritizes transportation equity by recognizing that auto-mobile based transportation systems disproportionately affect vulnerable residents. This includes impacts to low-income residents, children, seniors, and persons with disabilities, and others who are restricted in movement caused by auto-mobile dependency. Freedom of mobility is a	**Subject Lands** The subject lands propose collector roadways that connect with existing and planned intersections. The cross sections proposed have 3.0m multi use paths on both sides of the roadways which provide physical separation for active transportation from automobile paths of travel within the development. Street B connects to Block 48-2 roadways south of Mayfield Road, facilitating a well-connected active transportation network with existing MUP on the south side of Mayfield and planned sidewalks and MUPs within Block 48-2. Transit opportunities within the proposed development are currently being explored with Brampton Transit to modify adjacent routes (Route 30) to serve the development; with potential bus stops located at internal intersections. **Potential Collector Network** The potential collector road network opportunities beyond the subject development can support a modified grid network that allows for north-south and east-west connectivity to support mobility options for future development. Potential collector links will have opportunity to connect future development with the Regional network (Airport Road and Mayfield Road) and will also have opportunities for proximal connections near the future

	fundamental human right, therefore a transportation system needs to accommodate this vision. h) Collaborate and coordinate with the Province, the Region of Peel, Metrolinx and neighbouring municipalities to encourage these authorities to maintain, connect and improve roads and services under their jurisdiction within the Town, as appropriate, and ensure that the Caledon transportation system is well-integrated with the surrounding region and protects for future transportation facilities. i) Support the Climate Change objectives and policies of this Plan by developing a transportation system that targets net-zero emissions through the prioritization of transit and active transportation facilities and the development of a communitywide zero-emission vehicle strategy, including expansion of public vehicle charging infrastructure. j) Prioritize transit investments within Centres and Corridors by maximizing the use of existing and planned transit infrastructure in accordance with the policies of this Plan, with consideration of the existing and planned level of transit service and potential impacts on nearby neighbourhoods	Highway 413 route for increased convenience if desired. It is expected that a future collector road network will also have adequate ROW to support active transportation infrastructure on both sides of the roadway, with the ability to accommodate future transit service when warranted.
4.5.2	The Town will adopt complete streets design principles to prioritize travel of all modes and ensure safety of all ages and abilities within the existing and new built form	**Subject Lands** All internal collector roadways have been designed with 3.0m MUP on both sides providing pedestrian and cyclist connectivity to the external roadway network, with physical separation from automobile paths of travel. Transit service is also supportable within the proposed street design, and opportunities to provide internal transit service via modification of adjacent routes are currently being discussed with Brampton Transit and Town of Caledon. The pavement width will also be able to accommodate automobile traffic including truck traffic associated with the industrial nature of the proposed development. **Potential Collector Network Opportunities** The potential network opportunities beyond the subject site is expected to support all modes of travel with physical separation of active transportation facilities from vehicle paths of travel where possible, subject to any constraints that me be identified during more detailed review. The potential for a modified grid
4.5.3	The Town will prioritize transit and active transportation in all transportation network updates and expansion, and consider lower minimum parking requirements in appropriate areas to encourage transit usage.	

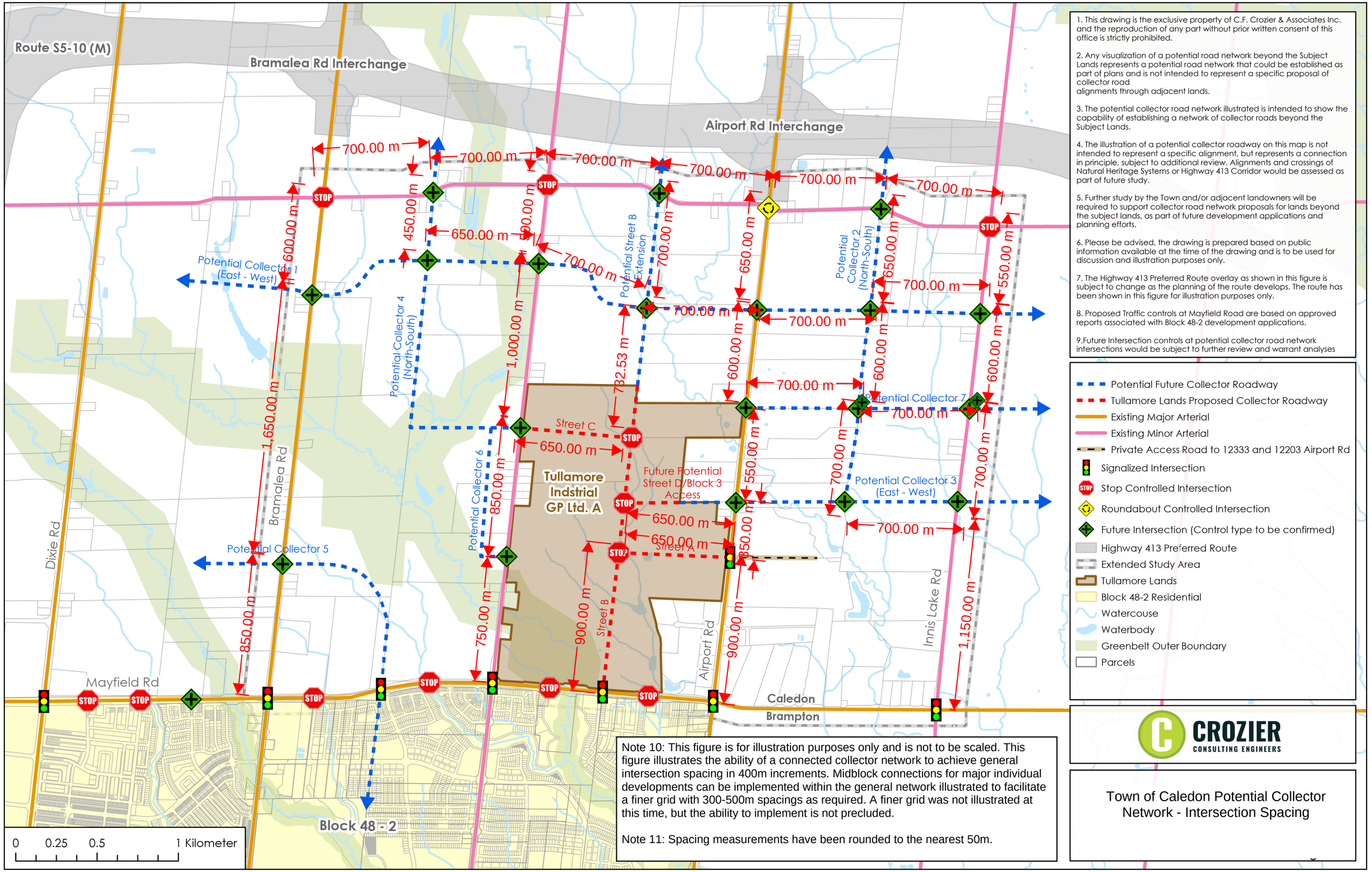
		system will also support active transportation connectivity and opportunities for transit route expansion with direct pedestrian connections to future bus stops.
4.5.45	The Town will examine the need for a public transit service, as warranted by economic feasibility and service demand, and will incorporate the transit function in the planning and development process by: a) Establishing a grid system for roads as development occurs, to enable effective transit use for community services, the efficient movement of traffic and emergency vehicle access; b) Including future public transit facilities in the formulation of secondary plans; c) Providing future transit facilities in staging settlement expansions and future development; d) Including future public transit facilities in the approval process for subdivision plans, site plans and other development proposals; e) Locating high density residential or commercial developments on anticipated transit routes or within 400 metres of those routes; f) Locating retirement homes and community facilities on anticipated transit routes or within 200 to 300 metres of those routes; and, g) Encouraging the use of park 'n' ride automobile facilities and ride sharing centres, to access inter-regional and municipal transit services connecting the Town with urban centres	**Subject Lands** A modified grid system is proposed within the subject development. Public transit facilities including potential bus stop locations are identified as part of the internal collector network, with bus stop locations within 400m. Discussions with Brampton Transit are ongoing with regards to providing service within the proposed development via modifying adjacent transit routes. **Potential Collector Network Opportunities** The opportunities for a potential collector network beyond the proposed development have the ability to support a modified grid pattern that can support future transit service as demand warrants. Such a network can also support future development within 400m of potential transit routes with shorter connections if required depending on the future land uses envisioned.
4.5.53	The Town will strive to achieve a significant increase in vehicle occupancy rates on an overall basis by continuing to work with the Region of Peel to encourage employers/employees to choose sustainable modes of transportation for their daily commutes	**Subject Lands** TDM opportunities have been identified to support increased mode share within the proposed development, which include planning for expanded transit service, carpool priority parking spaces, encouraging future tenants to join Travel Management Associations such as Smart Commute to assist with trip planning and provision of bike facilities on-site. Specific TDM measures for each block will be confirmed through future Site Plan Applications. **Potential Collector Network Opportunities** The opportunities for a potential collector network beyond the proposed development have the ability to support increase

		active transportation mode share, and future transit routes. It is expected that future developments will develop TDM plans to support increased sustainable mode share and reduce SOV trips.
4.5.54	In new developments in the designated greenfield areas, the Town will require the creation of street configurations, densities and urban form that prioritize walking, cycling and that can accommodate the early integration and sustained viability of transit services.	**Subject Lands** A modified grid system is proposed within the subject development. MUPs are proposed on both sides of the internal street network that prioritize walking and cycling. Public transit facilities including potential bus stop locations are identified as part of the internal collector network and discussions with Brampton Transit are ongoing with regards to providing service within the proposed development via modifying adjacent transit routes. **Potential Collector Network Opportunities** The opportunities for a potential collector network beyond the proposed development have the ability to prioritize active transportation modes by providing dedicated facilities and connectivity via a modified grid pattern. Similarly, future transit service is supportable and will have the potential to be implemented when demand warrants.
4.5.68	The Town will promote active transportation modes in collaboration with relevant jurisdictions and agencies by implementing infrastructure elements and requiring active transportation systems for new developments that include but are not limited to: a) Provisioning for safe and convenient active transportation facilities such as sidewalks, multi-use paths, trails, cycling infrastructure, and bicycle parking for all development applications; b) Establishing Site Plan control requirements to improve pedestrian and cycling connectivity at and between a site; c) Building safe active transportation facilities that make connections between settlement areas and rural settlement areas; d) Designing sidewalks and cycling facilities to remain consistent with Accessibility for Ontarians with Disabilities Act standards to achieve a barrier-free network accessible for all ages and abilities;	**Subject Lands** All internal collector roadways have been designed with 3.0m MUP on both sides providing pedestrian and cyclist connectivity to the external roadway network, with physical separation from automobile paths of travel. As cycling and bike facilities will be on both sides of the roadway, pedestrian and cycling facilities will be located within the vicinity of all future transits stops. Bicycle parking provisions are encouraged for individual blocks and should be confirmed as part of future Site Plan applications. During detailed design, adequate signage and design of AT facilities will also be required. **Potential Collector Network Opportunities**

	e) Providing a degree of separation for bicycle facilities where applicable; f) Providing bike parking and storage facilities at transit terminals and MTSAs g) Providing safe pedestrian and cycling facilities in the vicinity of transit stops and stations; h) Provisioning for pedestrian facilities on all existing, new and reconstructed roads during the review of development applications and as part of road construction and reconstruction projects, while also considering the impact to the character of the community and surrounding land uses and design; i) Adopting requirements for minimum bicycle parking spaces, bicycle storage facilities and other active transportation amenities, such as showers and change rooms, in conjunction with all high/medium density residential developments, employment nodes and other appropriate locations; j) Integrating active transportation facilities where possible when designing and constructing/reconstructing roads, bridges, and intersections; and k) Ensuring that all active transportation facilities meet or exceed industry safety standards, and are supported through appropriate design, signage and consistent safety enforcement	The potential network opportunities beyond the subject site is expected to support all modes of travel with physical separation of active transportation facilities from vehicle paths of travel where possible, subject to any constraints that me be identified during more detailed review. Future development is also expected to provide active transportation supportive infrastructure as well as the establishment of site-specific TDM plans. A future collector system beyond the subject lands will have the ability to prioritize active transportation infrastructure as required.
4.5.72	The Town will encourage the development of a system of bicycle and pedestrian facilities to link major public open spaces, activity centres, public washrooms, and the transportation network in a manner that enhances the quality of life for residents, businesses and visitors.	**Subject Lands** All internal collector roadways have been designed with 3.0m MUP on both sides providing pedestrian and cyclist connectivity to the external roadway network, with physical separation from automobile paths of travel and direct linkages to major open spaces such as the potential park southwest of the subject lands, and planned open spaces within Block 48-2. Transit service is also supportable within the proposed street design, and opportunities to provide internal transit service via modification of adjacent routes are currently being discussed with Brampton Transit and Town of Caledon. The pavement width will also be able to accommodate automobile traffic including truck traffic associated with the industrial nature of the proposed development. **Potential Collector Network Opportunities**

		The potential network opportunities beyond the subject site is expected to support all modes of travel with physical separation of active transportation facilities from vehicle paths of travel where possible, subject to any constraints that me be identified during more detailed review. The potential for a modified grid system will also support active transportation connectivity and opportunities for transit route expansion with direct pedestrian connections to future bus stops.
4.5.73	Consideration will be given in all new subdivision and development proposals to provisions for multi-use links with transportation networks.	**Subject Lands** All internal collector roadways have been designed with 3.0m MUP on both sides providing pedestrian and cyclist connectivity to the external roadway network, with physical separation from automobile paths of travel. Transit service is also supportable within the proposed street design, and opportunities to provide internal transit service via modification of adjacent routes are currently being discussed with Brampton Transit and Town of Caledon. The pavement width will also be able to accommodate automobile traffic including truck traffic associated with the industrial nature of the proposed development. **Potential Collector Network Opportunities** The potential network opportunities beyond the subject site is expected to support all modes of travel with physical separation of active transportation facilities from vehicle paths of travel where possible, subject to any constraints that me be identified during more detailed review. The potential for a modified grid system will also support active transportation connectivity and opportunities for transit route expansion with direct pedestrian connections to future bus stops.
4.5.74	To provide for the safe efficient movement of trucks through and within the Town and minimize the impact of heavy trucks on residential areas, the Town: a) Will generally encourage the primary through truck traffic onto high-capacity arterial roadways, where road pavement structure is deemed structurally	**Subject Lands** The subject site abuts the Regional Roads of Airport Road and Mayfield Road and proposes collector connections to these roadways. Heavy Truck Traffic generated by the subject site will

	adequate. The Town will endeavour to keep the arterial roads open to truck traffic throughout the year; b) Will permit truck use of medium capacity arterials and collector roadways only as connectors to service high-capacity arterial routes, pending structural suitability; c) Will prohibit truck traffic on all local roadways, except in cases of local delivery and only in the absence of alternative acceptable routing; d) May restrict heavy truck usage on part or all thereof of any municipal right-of-way through passage of a "No Heavy Truck" by-law; and, e) May endeavour to impose seasonal load restrictions on arterial and collector roadways for reasons of structural inadequacy. Primary route closures due to seasonal load restrictions will be discouraged and every effort will be made to re-route truck traffic onto acceptable routes for the term of the restriction	not require use of local roadways to access the site, beyond the new collectors proposed as part of the development proposal. **Potential Collector Network Opportunities** For future development beyond the subject lands, a potential collector road network in the future has the potential to connect with Airport Road and Mayfield Road to serve Heavy Truck Traffic as warranted, which would facilitate future access to the Regional road network. It is expected that future developments that may require Heavy Truck usage would evaluate truck routes to comply with Town by-law requirements on truck restrictions; or make appropriate arrangements with the Town to ensure any alternate routes will be on roadways with structural adequacy.



1. This drawing is the exclusive property of C.F. Crozier & Associates Inc. and the reproduction of any part without prior written consent of this office is strictly prohibited.

2. Any visualization of a potential road network beyond the Subject Lands represents a potential road network that could be established as part of plans and is not intended to represent a specific proposal of collector road alignments through adjacent lands.

3. The potential collector road network illustrated is intended to show the capability of establishing a network of collector roads beyond the Subject Lands.

4. The illustration of a potential collector roadway on this map is not intended to represent a specific alignment, but represents a connection in principle, subject to additional review. Alignments and crossings of Natural Heritage Systems or Highway 413 Corridor would be assessed as part of future study.

5. Further study by the Town and/or adjacent landowners will be required to support collector road network proposals for lands beyond the subject lands, as part of future development applications and planning efforts.

6. Please be advised, the drawing is prepared based on public information available at the time of the drawing and is to be used for discussion and illustration purposes only.

7. The Highway 413 Preferred Route overlay as shown in this figure is subject to change as the planning of the route develops. The route has been shown in this figure for illustration purposes only.

8. Proposed Traffic controls at Mayfield Road are based on approved reports associated with Block 48-2 development applications.

9.Future Intersection controls at potential collector road network intersections would be subject to further review and warrant analyses

- Potential Future Collector Roadway
- Tullamore Lands Proposed Collector Roadway
- Existing Major Arterial
- Existing Minor Arterial
- Private Access Road to 12333 and 12203 Airport Rd
- Signalized Intersection
- Stop Controlled Intersection
- Roundabout Controlled Intersection
- Future Intersection (Control type to be confirmed)
- Highway 413 Preferred Route
- Extended Study Area
- Tullamore Lands
- Block 48-2 Residential
- Watercouse
- Waterbody
- Greenbelt Outer Boundary
- Parcels

Note 10: This figure is for illustration purposes only and is not to be scaled. This figure illustrates the ability of a connected collector network to achieve general intersection spacing in 400m increments. Midblock connections for major individual developments can be implemented within the general network illustrated to facilitate a finer grid with 300-500m spacings as required. A finer grid was not illustrated at this time, but the ability to implement is not precluded.

Note 11: Spacing measurements have been rounded to the nearest 50m.

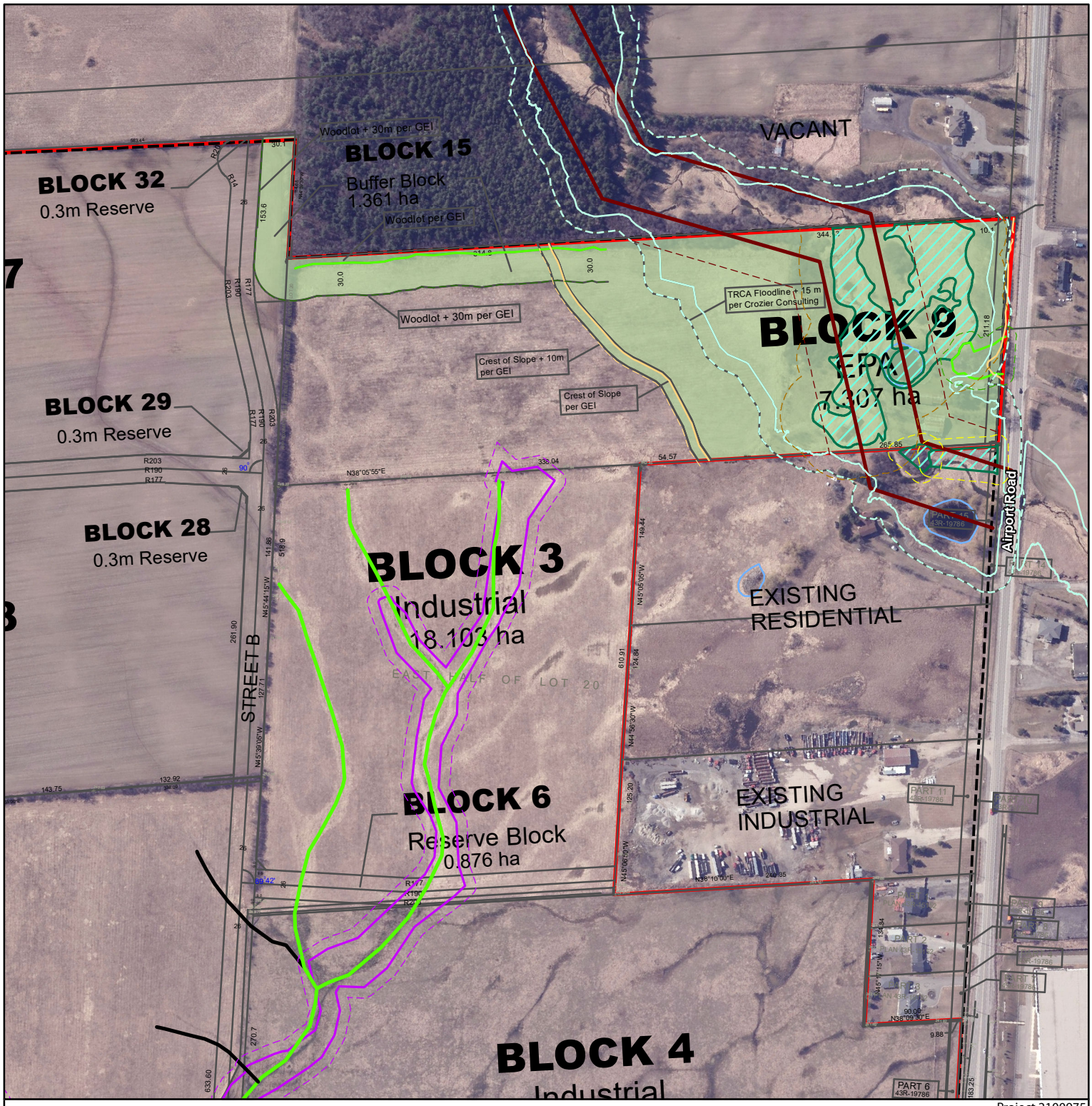
CROZIER CONSULTING ENGINEERS

Town of Caledon Potential Collector Network - Intersection Spacing

Crozier Project No. 2022-5842

Appendix R

CEISMP Excerpts



Project 2100975

NOTES:

1. Coordinate System: NAD 1983 UTM Zone 17N.
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2023; Toronto Region Conservation Authority, 2023.
3. Orthoimagery © First Base Solutions, 2021. Imagery taken in 2019.
4. Concept Plan: 10208 Draft Plan D6_2023-10-24.

** Contributing Redside Dace Habitats would also include wetlands and their associated setbacks*

Legend

- Subject Lands
- Study Area
- Draft Plan (2023-10-24)
- Waterbody (LIO)
- Wetland
- ELC Wetlands (Ground-Truthed, Not Staked)
- Regional Floodline (Croziers, 2022)
- Dripline (GEI, Jan 2023)
- Meander Belt

HDF Management Recommendation

- Mitigation
- No Management Required
- Crest of Slope (TRCA)
- Meander Belt +30m
- Regional Floodline +10m
- Wetland +10m
- Wetland +30m
- Woodland +10m
- Woodland +30m
- Crest of Slope +10m
- Salt Creek Floodline (Crozier)
- Salt Creek Floodline +15m (Crozier)
- Natural Heritage System

Comprehensive Environmental Impact Study and Management Plan, Tullamore Employment Lands
Tullamore Industrial LP

Figure 12A
Conceptual Plan and Natural Heritage System (Salt Creek Area)

0 100 m

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GEI Consultants

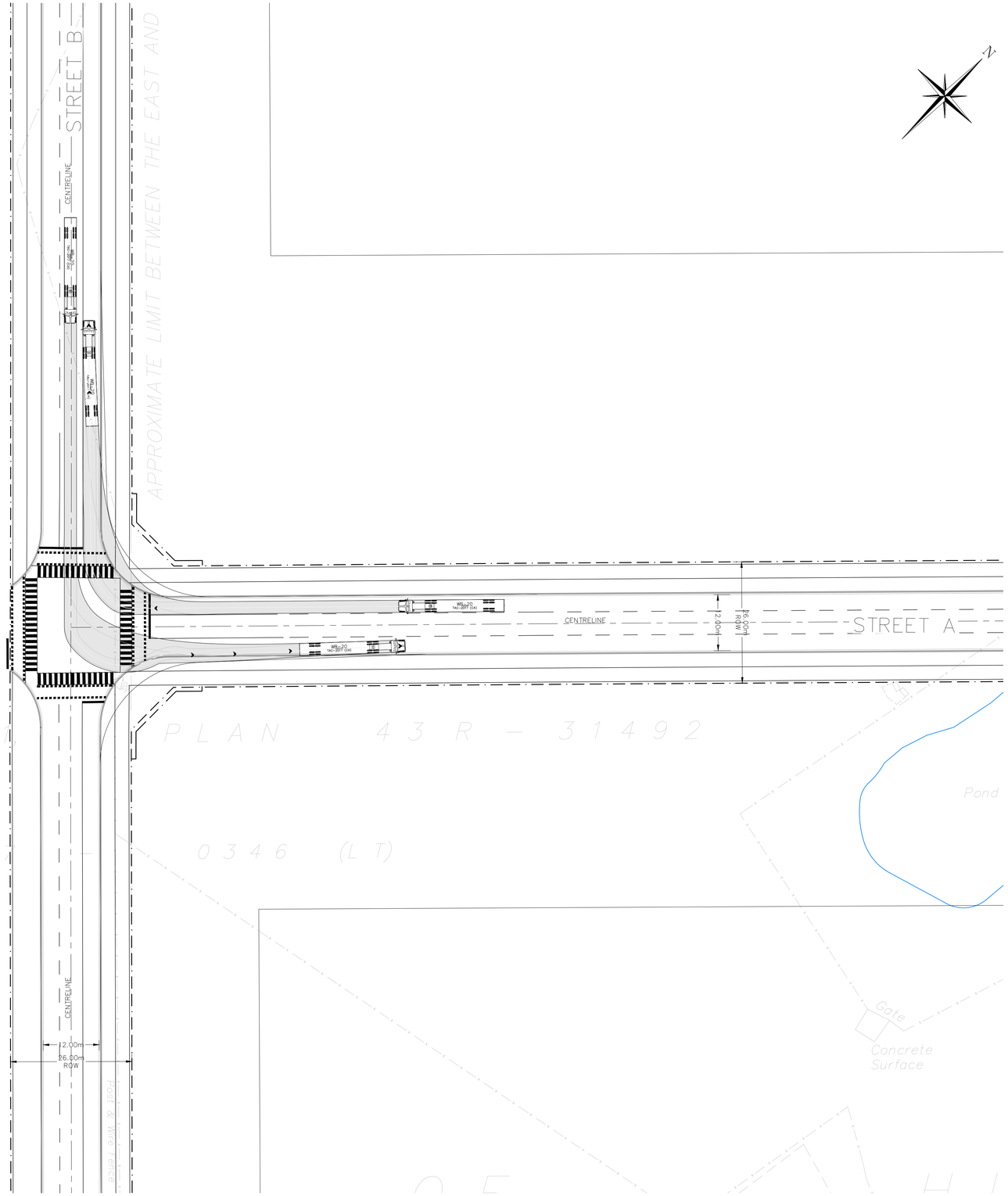
Path: \\box-pzco-1\Data_Storage\Working\RICE GROUP\2100975 Tullamore Employment Lands\05_GIS\figures\report_figures\2023 01 17 eis\2100975_rpt_fig12A_concept_plan_and_NHS_salt_creek_area.mxd Date Saved: Friday, October 27, 2023

Appendix S

Functional Design Considerations & Truck Turning Templates

NOTE: WB-20 SWEPT PATH IS OVERLAID ON STANDARD CURB RADII TO ILLUSTRATE THAT CURB MODIFICATIONS CAN OCCUR WITHIN THE PROPOSED ROW TO ACCOMODATE DESIGN VEHICLE.

CURB AND PEDEDSTRIAN/CYCLING CROSSING DETAILS WILL BE CONFIRMED DURING THE DETAIL DESIGN OF THE INTERNAL ROADWAYS



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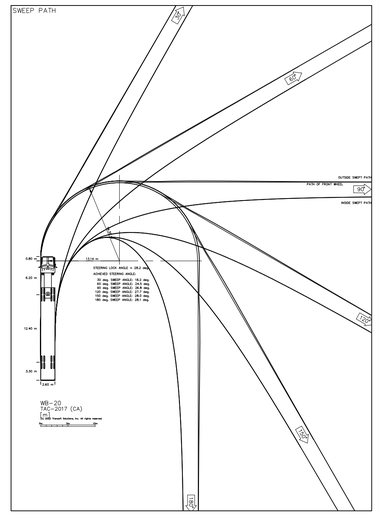
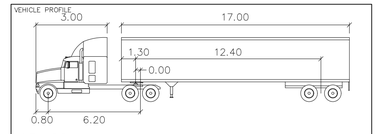
NOT TO BE USED FOR CONSTRUCTION





WB-20

meters

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Trailer Width	: 2.60	Steering Angle	: 28.2
Tractor Track	: 2.60	Articulating Angle	: 70.0
Trailer Track	: 2.60		

No.	ISSUE	DATE: MM/DD/YYYY
1	ISSUED FOR SUBMISSION	10/27/2023

Project
TULLAMORE LANDS
CITY OF BRAMPTON

Drawing
WB-20
VEHICLE MANEUVERING ANALYSIS
STREET A & STREET B INTERSECTION

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R.L.			2022-5842
Check By	Check By	Scale	Drawing
M.L.		1:500	T300

NOTE: WB-20 SWEPT PATH IS OVERLAID ON STANDARD CURB RADII TO ILLUSTRATE THAT CURB MODIFICATIONS CAN OCCUR WITHIN THE PROPOSED ROW TO ACCOMODATE DESIGN VEHICLE.

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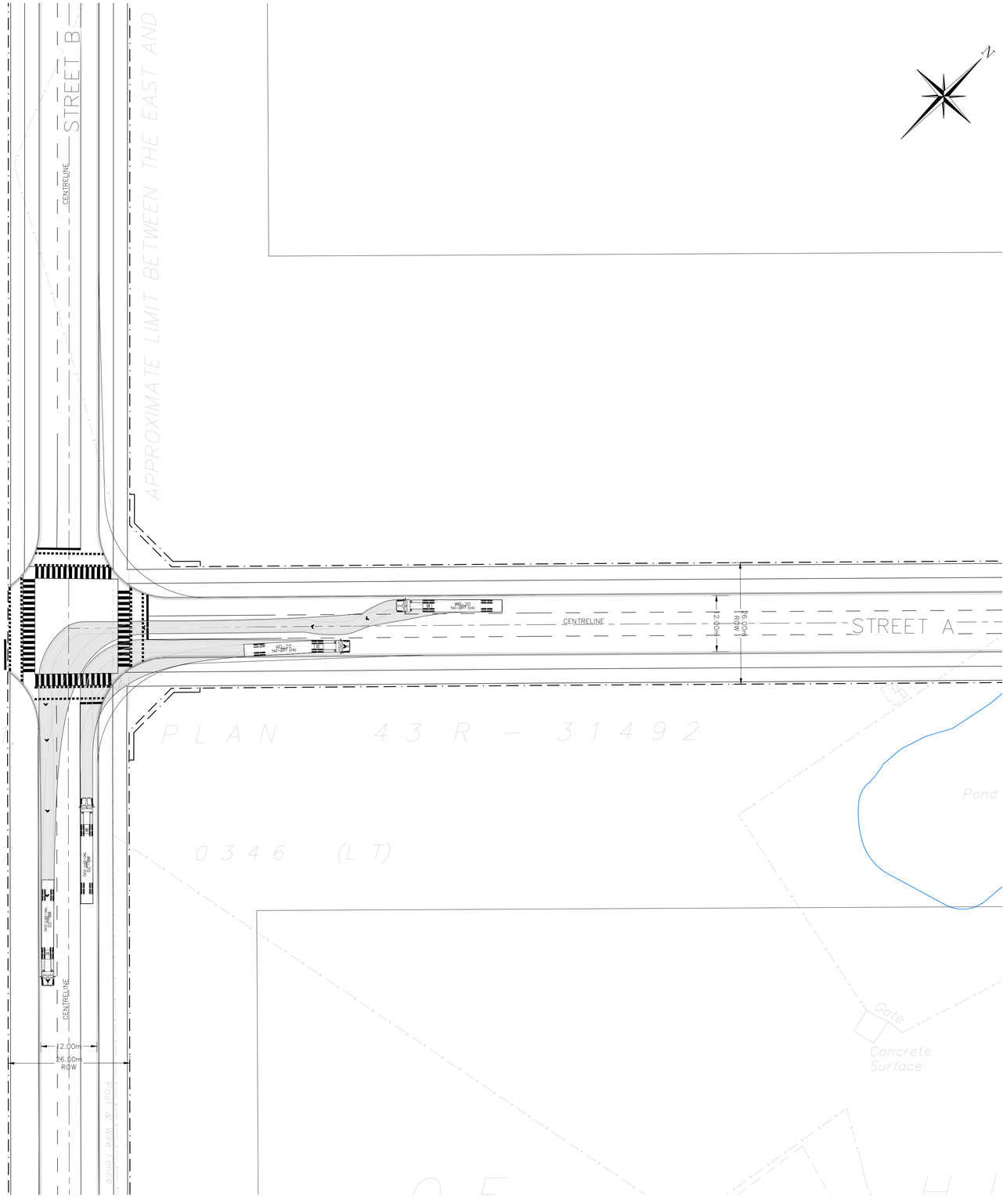

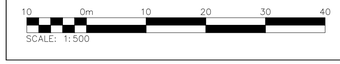

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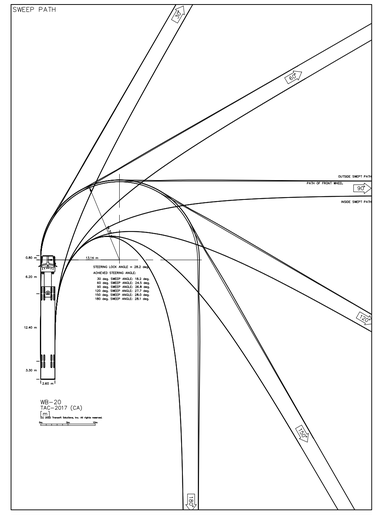

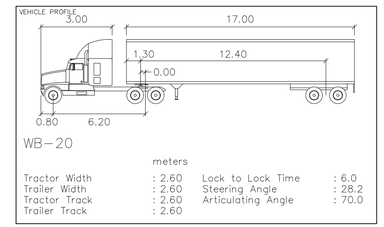

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1	ISSUED FOR SUBMISSION	10/27/2023

Project
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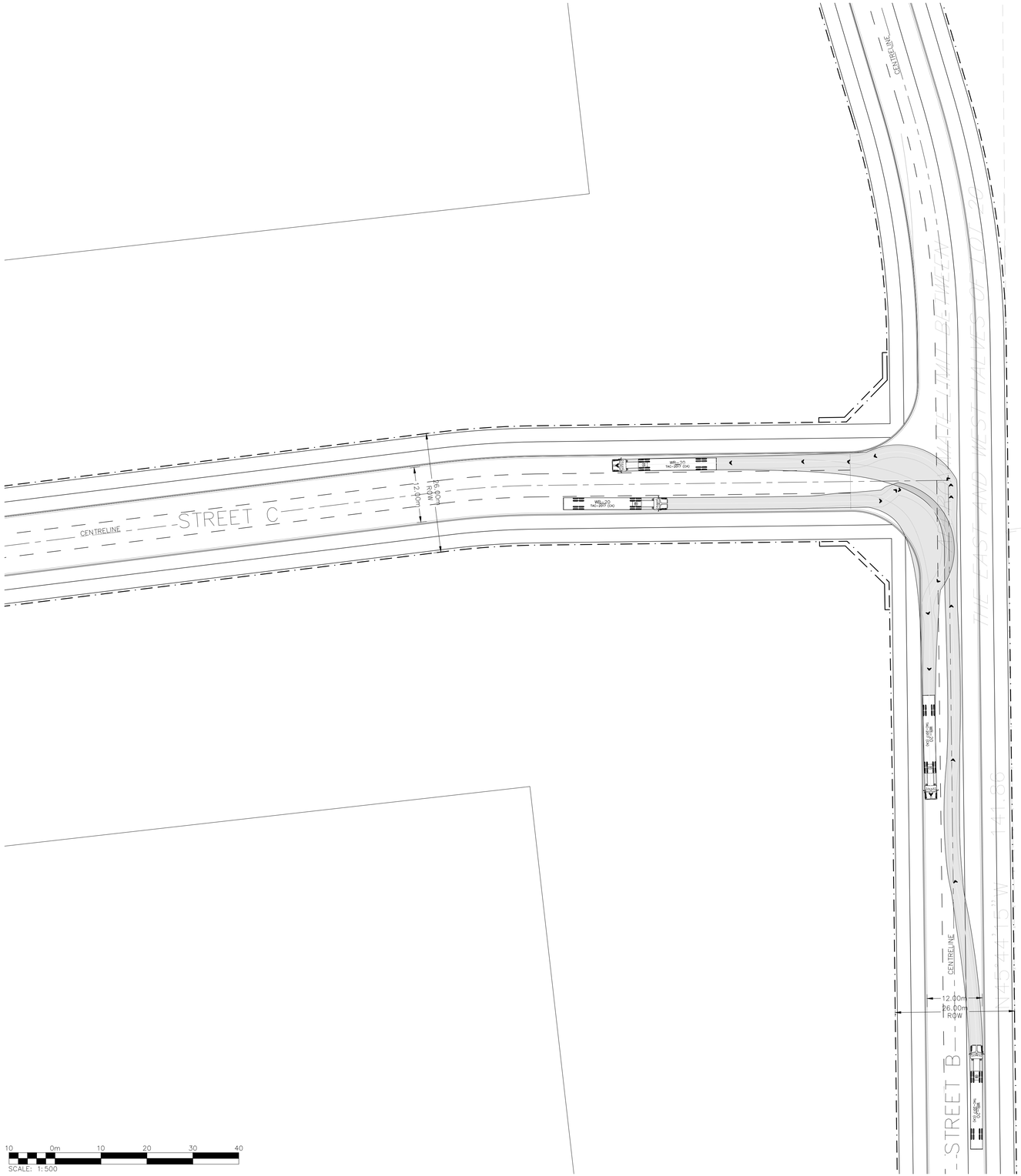
Drawn By	R.L.	Design By		Project	2022-5842
Check By	M.L.	Check By		Scale 1:500	Drawing T301



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NOTE: WB-20 SWEPT PATH IS OVERLAID ON STANDARD CURB RADII TO ILLUSTRATE THAT CURB MODIFICATIONS CAN OCCUR WITHIN THE PROPOSED ROW TO ACCOMODATE DESIGN VEHICLE.

CURB AND PEDEDSTRIAN/CYCLING CROSSING DETAILS WILL BE CONFIRMED DURING THE DETAIL DESIGN OF THE INTERNAL ROADWAYS

FOR REVIEW
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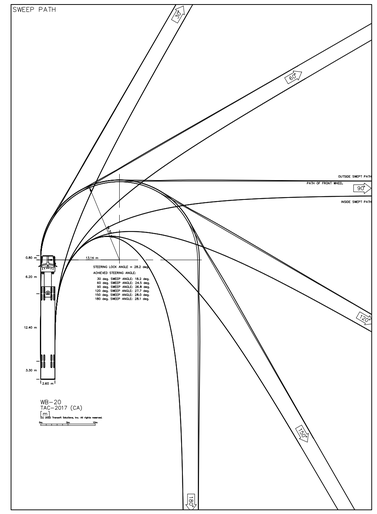

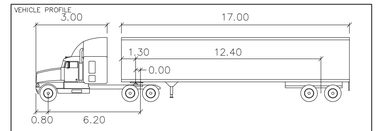

WB–20

meters

Tractor Width	: 2.60	Lock to Lock Time	: 6.0
Trailer Width	: 2.60	Steering Angle	: 28.2
Tractor Track	: 2.60	Articulating Angle	: 70.0
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CITY OF BRAMPTON

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Drawn By	Design By	Project	
R.L.			2022–5842
Check By	Check By	Scale	Drawing
M.L.		1:500	T302



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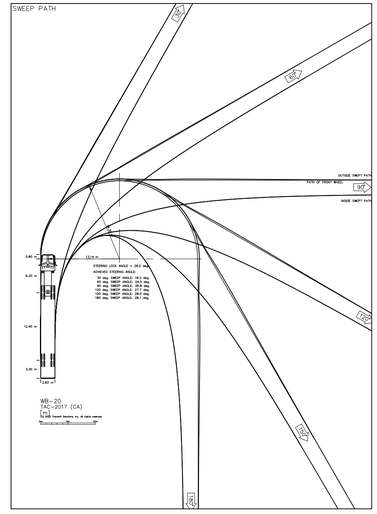
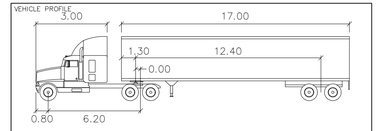
SCALE: 1:500

NOTE: WB-20 SWEPT PATH IS OVERLAID ON STANDARD CURB RADII TO ILLUSTRATE THAT CURB MODIFICATIONS CAN OCCUR WITHIN THE PROPOSED ROW TO ACCOMODATE DESIGN VEHICLE.

CURB AND PEDEDSTRIAN/CYCLING CROSSING DETAILS WILL BE CONFIRMED DURING THE DETAIL DESIGN OF THE INTERNAL ROADWAYS

FOR REVIEW
NOT TO BE USED FOR CONSTRUCTION





WB–20

meters

Tractor Width	: 2.60	Lock to Lock Time	: 6.0
Trailer Width	: 2.60	Steering Angle	: 28.2
Tractor Track	: 2.60	Articulating Angle	: 70.0
Trailer Track	: 2.60		

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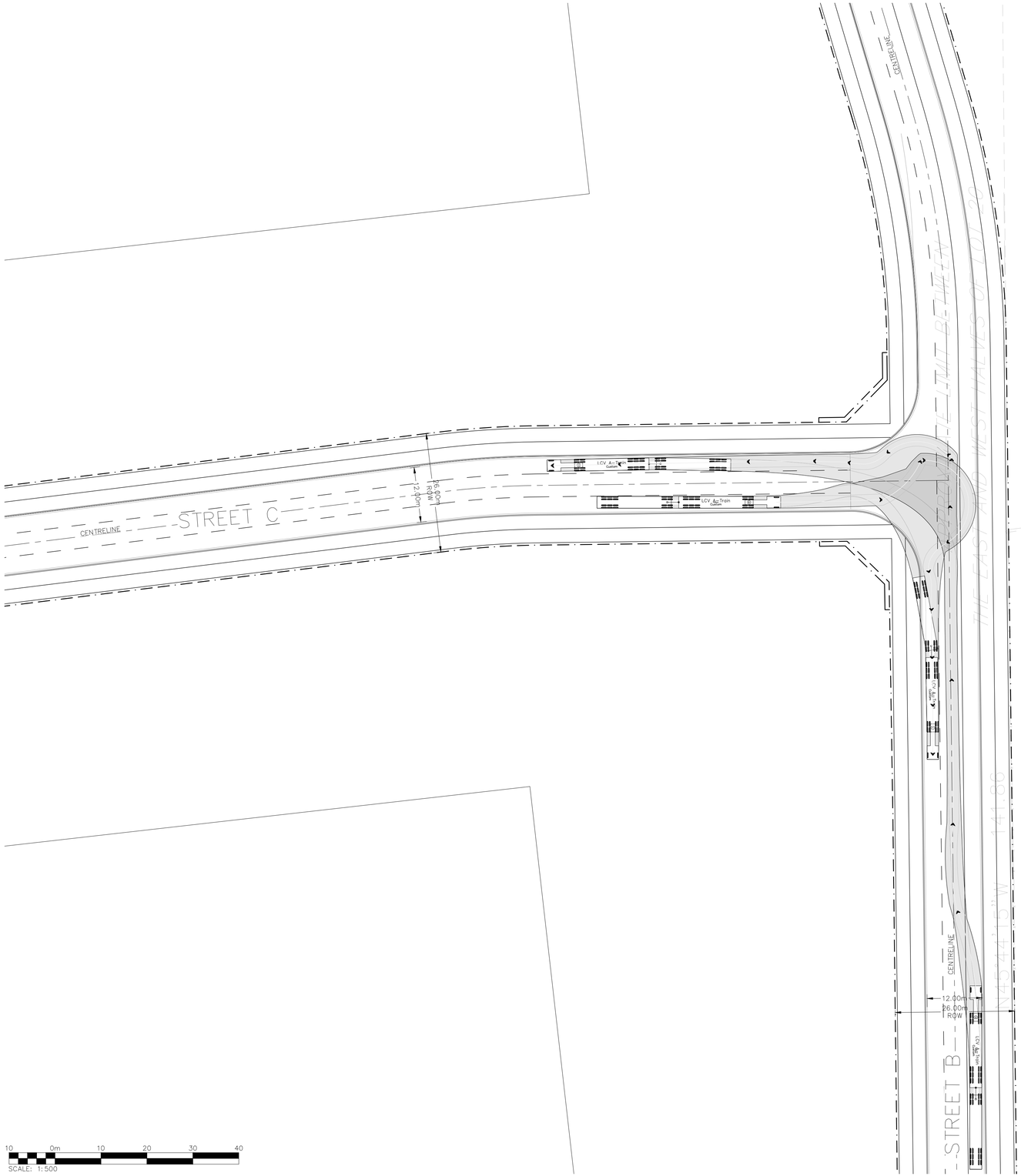
1	ISSUED FOR SUBMISSION	10/27/2023

Project
TULLAMORE LANDS
CITY OF BRAMPTON

Drawing
WB–20
VEHICLE MANEUVERING ANALYSIS
STREET B & STREET C INTERSECTION

CROZIER
CONSULTING ENGINEERS
211 Yonge Street
Suite 600
Toronto, ON, M5B 1M4
416-477.3392 T
www.CFCrozier.ca
info@CFCrozier.ca

Drawn By	Design By	Project	
R.L.			2022–5842
Check By	Check By	Scale	Drawing
M.L.		1:500	T303



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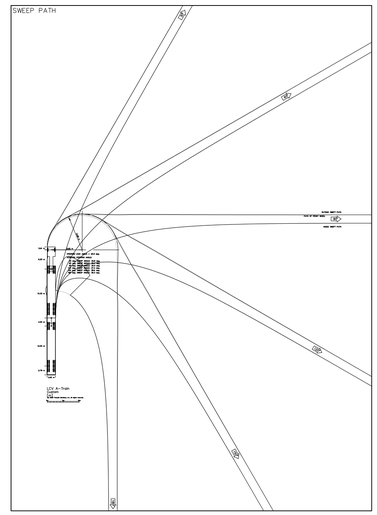

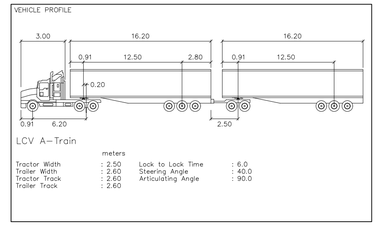

No.	ISSUE	DATE: MM/DD/YYYY
1	ISSUED FOR SUBMISSION	10/27/2023

Project
TULLAMORE LANDS
CITY OF BRAMPTON

Drawing
LCV A-TRAIN
VEHICLE MANEUVERING ANALYSIS
STREET B & STREET C INTERSECTION

CROZIER CONSULTING ENGINEERS
211 YONGE STREET
SUITE 600
TORONTO, ON, M5B 1M4
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WWW.CFCROZIER.CA
INFO@CFCROZIER.CA

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R.L.			2022-5842
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M.L.		1:500	T304

10 0m 10 20 30 40
SCALE: 1:500

CROZIER
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2800 High Point Drive | T. 905.875.0026
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MEMO

DATE October 27, 2023 **PROJECT NO. 2022-5842**

RE Functional Design Brief
Tullamore Lands, 0 & 12245 Torbram Road
Town of Caledon, Region of Peel

TO Catherine Barnes
Specialist, Transportation Development – Region of Peel

Hashim Hamdani
Supervisor, Traffic Development & Permits – Region of Peel

FROM Stephen Shaw, P.Eng.
Project Manager – C.F. Crozier & Associates.

CC Patrick Amaral, MES(PI)
Principal Planner, Planning and Development Services – Region of Peel

Rani Kol
Specialist, Transportation Development – Region of Peel

Dear Catherine and Hashim,

C.F. Crozier & Associates Inc. (Crozier) was retained by Tullamore Industrial GP Limited to undertake the conceptual design and subsequent detailed design of the proposed external road improvements to support the industrial development located in the Tullamore Lands, 0 & 12245 Torbram Road (Site) in the Town of Caledon (Town), Region of Peel (Region).

This memorandum was prepared to highlight the rationale behind the proposed intersection layouts of Airport Road at "Street A" and Mayfield Road at "Street B".

Prior to proceeding with the detailed design, we look forward to achieving preliminary support from the Region on the proposed geometries for the identified improvements. Once the proposed geometries for both intersection improvements are supported, we will advance to produce a complete detailed design package. It is worth noting that conceptual design drawings have been appended to this brief.

The material in this memo 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.

1.0 Background

C.F. Crozier & Associates Inc. (Crozier) was retained by Tullamore Industrial GP Limited to undertake the conceptual design of Airport Road at Street 'A' and Mayfield Road at Street 'B' intersections in adherence to the jurisdictional engineering standards and design guidelines as well as to address the Town and Region's comments dated July 25, 2023.

The development site encompasses a total approximate area of 502 acres (203 ha) and consists primarily of greenfield area. The site is bounded by Airport Road to the east, Mayfield Road to the south, Torbram Road to the west, and vegetated undeveloped land to the north.

2.0 Proposed Intersection Improvements

The following standards and documents were consulted in preparation of the attached functional design:

- Transportation Association of Canada's Geometric Design Guide for Canadian Roads (TAC June 2017).
- Ontario Ministry of Transportation – Ontario Provincial Standard Specifications/Drawings (OPSS/OPSD).
- Region of Peel, Public Works Design Criteria Manual – Roads and Traffic (February 2010) and Standard Drawings.
- Road Characterization Study for the Region of Peel (RCS) (May 2013).
- Town of Caledon, Development Standards Manual (2019) and Standard Drawings.
- Ontario Traffic Manuals (OTM): Book 5 (Regulatory Signs), Book 11 (Pavement, Hazard, and Delineation Markings), and Book 18 (Cycling Facilities).
- Transportation Impact Study (TIS) (Crozier, October 2023).

2.1 Design Criteria

Table 1: Design Criteria

Design Element	Airport Road at Street 'A'		Mayfield Road at Street 'B'	
	Airport Road	**Street 'A'**	**Mayfield Road**	**Street 'B'**
Jurisdiction	Region of Peel[1]	Town of Caledon	Region of Peel[1]	Town of Caledon
Region Code	7[1]	-	14[1]	-
Road Classification	Urban Arterial (Divided)	Industrial Collector	Urban Arterial (Divided)	Industrial Collector
R.O.W. Width	45 m[2]	26 m[3,5]	50 m[2]	26 m[3,5]
Property Line Buffer/Rounding	0.3 m[2]	-	0.3 m[2]	0.3 m[4]
Pavement Width	Exist. 21 m **Prop. 25 m**	**Prop. 15.5 m[5]**	Exist. 28 m **Prop. 31.5 m**	**Prop. 15.5 m[5]**

Design Element	Airport Road at Street 'A'		Mayfield Road at Street 'B'	
	Airport Road	**Street 'A'**	**Mayfield Road**	**Street 'B'**
Maximum Posted Speed	80 km/h (north of Davis Ln.) 60 km/h (south of Davis Ln.)	50 km/h	80 km/h (WB: 460 m west of Airport Rd. & EB: east of Torbram Rd.) 60 km/h (WB: west of Airport Rd. & EB: 460 m west of Airport Rd.)	50 km/h
Design Speed	90 km/h (north of Davis Ln.) 70 km/h (south of Davis Ln.)	60 km/h	90 km/h (WB: 460 m west of Airport Rd. & EB: east of Torbram Rd.) 70 km/h (WB: west of Airport Rd. & EB: 460 m west of Airport Rd.)	60 km/h
Lane Configuration	2 NBT, 1 NBR, **1 NBL**, 2 SBT, 1 SBL, **1 SBR**	**1 EBTR, 1 EBL**	3 EBT, **1 EBL**, **1 EBR**, 3 WBT, **1 WBL**, **1 WBR**	**1 SBTR, 1 SBL**
Lane Widths	NBT: 3.50 m NBR: 3.50 m **NBL: 3.50 m**[6] SBT: 3.50 m SBL: 3.50 m **SBR: 3.50 m**[6]	**EBTR: 3.50 m**[5] **EBL: 5.00 m**[5]	EBT: 3.50 m **EBL: 3.50 m**[6] **EBR: 3.50 m**[6] WBT: 3.50 m **WBL: 3.50 m**[6] **WBR: 3.50 m**[6]	**SBTR: 3.50 m**[5] **SBL: 5.00 m**[5]
Equivalent Minimum "K" Factor	At DS 90 Crest: 39[7] Sag: 15 to 20[8] At DS 70 Crest: 17[7] Sag: 10 to 12[8]	Crest: 25[9] Sag: 25[9]	At DS 90 Crest: 39[7] Sag: 15 to 20[8] At DS 70 Crest: 17[7] Sag: 10 to 12[8]	Crest: 25[9] Sag: 25[9]
Road Grades Range	Rolling: 3%[10] Mountainous: 5%[10]	0.75% to 6.0%[9]	Rolling: 3%[10] Mountainous: 5%[10]	0.75% to 6.0%[9]
Maximum Grade Breaks at Intersection	0.5% to 2%[11]	1.50%[9]	0.5% to 2%[11]	1.50%[9]
Maximum Grade at Intersection	-	2.0%[9]	-	2.0%[9]
Intersection Angle	85 to 90 deg.[12]			
Minimum Tangent Length at Intersection	20 m[13]			
Asphalt Splash Pad	1.0 m wide[14]	-	1.0 m wide[14]	-
Minimum Boulevard Width	-	3.0 m wide[5]	-	3.0 m wide[5]
Intersection Curb Radius	15.0 m[6]	15.0 m[9]	15.0 m[6]	15.0 m[9]

Design Element	Airport Road at Street 'A'		Mayfield Road at Street 'B'	
	Airport Road	Street 'A'	Mayfield Road	Street 'B'
Curb and Gutter Width	500 mm[15,16]	500 mm[9,16]	500 mm[15,16]	500 mm[9,16]
Multi-Use Path Width	-	3.0 m[5]	-	3.0 m[5]
Sidewalk Width	1.50 m[17]	-	1.50 m[17]	-

References:

1. *Region of Peel, Regional Road Map (November 2021)*
2. *Region of Peel Comments (July 2023)*
3. *Transportation Impact Study (Crozier, October 2023)*
4. *Town of Caledon Comments (September 2023)*
5. *Transportation Impact Study (Crozier, April 2023)*
6. *Region of Peel, Public Works Standard Drawing 5-1-6*
7. *TAC GDGCR Table 3.3.2*
8. *TAC GDGCR Table 3.3.5*
9. *Town of Caledon Development Standards Manual (2019)*
10. *TAC GDGCR Table 3.3.1*
11. *TAC GDGCR Section 9.7.3.3*
12. *Town of Caledon Comments (July 2023)*
13. *TAC GDGCR Section 9.7.2*
14. *Region of Peel, Public Works Standard Drawing 5-1-3*
15. *Region of Peel, Public Works Standard Drawing 5-1-1*
16. *OPSD 600.040*
17. *Road Characterization Study for the Region of Peel (RCS) (May 2013)*

2.2 Design Deviations

Currently the posted speed limit along Mayfield Road in the vicinity of the proposed intersection with Street B is 80km/h. The transition from 60km/h to 80km/h occurs approximately 230m east of this intersection. We are proposing that the speed limit along Mayfield Road between Airport Road and Torbram Road be revised to a uniform 60 km/h. The proposed addition of a traffic signal-controlled intersection, pedestrian and cycling facilities, as well as future transit will result in a change in the operations characteristics of this section of Mayfield Road. In keeping with our proposed reduction in the posted speed limit a design speed of 70km/h was considered. Referencing TAC GDGCR Table 9.14.2 for a design speed of 70 km/h the proposed westbound right-turn lane on Mayfield will comprise of 50.0 metre parallel lane and 60.0 metre taper. Similarly, for the westbound left-turn lane a 55.0m taper was proposed (see TAC GDGCR Table 9.17.1) with a parallel o 50.0 metre (see TAC GDGCR Table 2.5.2.).

For the eastbound right turn lane into Block 48-2, a taper length of 85.0 metre and parallel length of 27.75 metre have been proposed. The parallel length is a deviation from the TAC GDGCR guidelines; however, this is being proposed due to the relatively close proximity of the right turning lane to an existing arch culvert. Modifications may be required to this structure to accommodate any road widening due to this eastbound right turn lane.

Our drawings show a 1.5m sidewalk for approximately 170m along the frontage of Mayfield Road. There are physical constraints with the available ROW as well as utilities that will potentially be impacted if the sidewalk is to continue further to the east.

2.3 Specific Geometric Parameters for Intersections

2.3.1 Airport Roat at Street 'A' Intersection

The improvements on Airport Road at the proposed site access (Street 'A') is proposed with the outlined geometry in **Table 2**.

Table 2: Airport Road at Street 'A' Recommended Intersection Improvements

Intersection	Proposed Lane Configurations	Proposed Auxiliary Geometry		
		Storage Length	Parallel Lane Length	Taper Length
Airport Road at Street 'A'	NBL	60.0 m	160.0 m	85.0 m
	SBR	70.0 m	160.0 m	85.0 m
	EBL	Reference TIS (October 2023)		
	EBTR	Reference TIS (October 2023)		

2.3.2 Mayfield Roat at Street 'B' Intersection

The improvements on Mayfield Road at the proposed site access (Street 'B') is proposed with the outlined geometry in **Table 3**.

Table 3: Mayfield Road at Street 'B' Recommended Intersection Improvements

Intersection	Proposed Lane Configurations	Proposed Auxiliary Geometry		
		Storage Length	Parallel Lane Length	Taper Length
Mayfield Road at Street 'B'	EBL	110.0 m	160.0 m	85.0 m
	EBR	27.75 m	-	85.0 m
	WBR	60.0 m	50.0 m	60.0 m
	WBL	45.0 m	50.0 m	55.0 m
	SBL	Reference TIS (October 2023)		
	SBTR	Reference TIS (October 2023)		

3.0 Future Submissions

Upon review and approval of the functional design, a comprehensive detailed design package will be prepared including the following drawings:

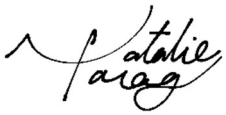
- Removals Plan
- New Construction (Plan and Profile)
- Pavement Elevation and Grading
- Pavement Marking and Signage
- Construction Notes and Details
- Typical Cross Sections
- Cross Sections (20 metre intervals)

4.0 Conclusion

We trust that this design brief has provided enough detail and context to facilitate a review of the functional design. Any questions regarding this submission may be addressed to the undersigned.

Sincerely,

C.F. CROZIER & ASSOCIATES INC.



Natalie Farag, E.I.T
Engineering Intern

C.F. CROZIER & ASSOCIATES INC.



Stephen Shaw, P.Eng.
Manager (Design), Transportation

SS/nf/la

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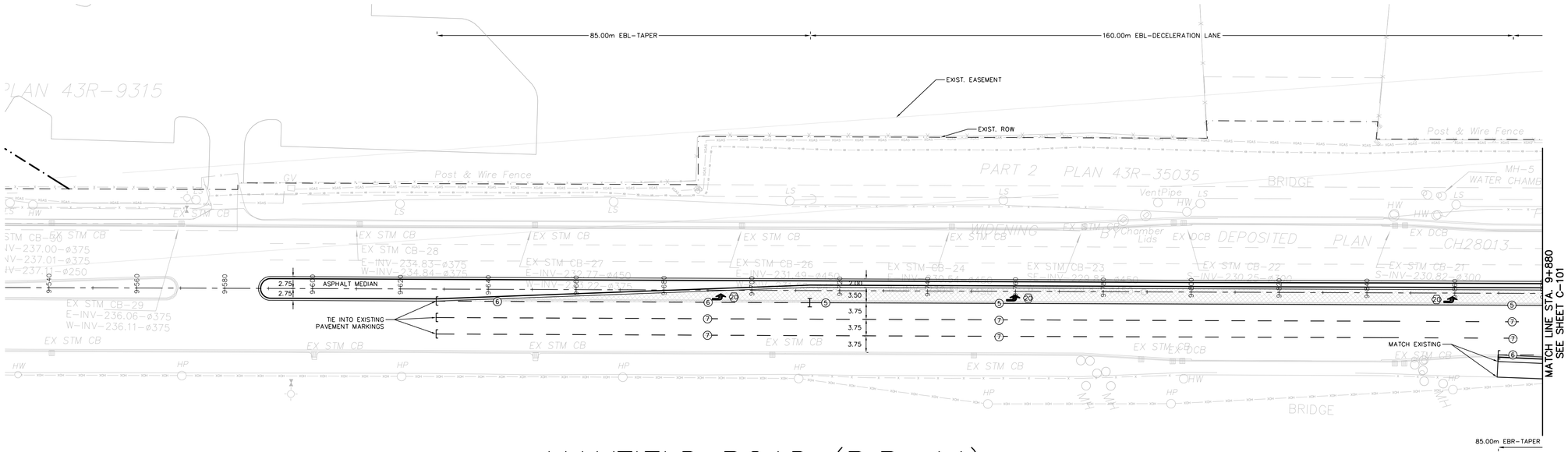
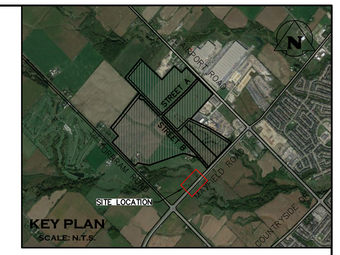


MAYFIELD ROAD (R.R. 14)



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2. PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE ONTARIO TRAFFIC MANUAL (OTM) BOOK 11 (PAVEMENT, HAZARD DELINEATION MARKINGS) BOOK 18 (CYCLING FACILITIES) AND MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR CANADA (MUTCDC).
3. SIGNAGE SHALL BE IN ACCORDANCE WITH THE ONTARIO TRAFFIC MANUAL (OTM); BOOK 5 (REGULATORY SIGNS).
4. PAVEMENT MARKINGS TO ADHERE TO ONTARIO PROVINCIAL STANDARDS SPECIFICATION (OPSS) 710.

LEGEND

- EXISTING ROW
- PROPOSED ROW
- PROPOSED TRAFFIC SIGN
- PROPOSED ISLAND (TYP.)
- PROPOSED ISLAND REMOVAL (TYP.)
- PROPOSED ASPHALT

SIGNAGE LEGEND

SIGN NAME	SIGN NUMBER	SIZE (cm)	OTM BOOK	SECTION
TURNING VEHICLES YIELD TO BICYCLES	Ra-18	60x75	5	5

PAVEMENT MARKINGS LEGEND

1	SOLID YELLOW, 10cm
5	SOLID WHITE, 10cm
6	333 BROKEN WHITE, 10cm
7	363 BROKEN WHITE, 10cm
15	SOLID WHITE, 60cm
20	SYMBOLS
][	LIMITS OF MARKINGS

NOTES:
1. 111, 333, 363, DENOTES PAVEMENT MARKING SPACING. (ie., 3m LINE, 3m GAP, 3m LINE)

1. USE ① TO DENOTE DURABLE PAVEMENT MARKING
2. USE ① TO DENOTE PAVEMENT MARKING

10 0m 10 20 30 40
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TBM#3-

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No.	ISSUE	DATE: YYYY/MM/DD
0	ISSUED FOR 1st SUBMISSION	2023/10/25

Engineer

Engineer

Project: TULLAMORE INDUSTRIAL GP LTD. – TULLAMORE LANDS
MAYFIELD ROAD & AIRPORT ROAD & TORBRAM ROAD
TOWN OF CALEDON

Drawing: MAYFIELD ROAD &
STREET B INTERSECTION
FORM STA. 9+530 TO STA. 9+880

CROZIER CONSULTING ENGINEERS
2800 HIGH POINT DRIVE
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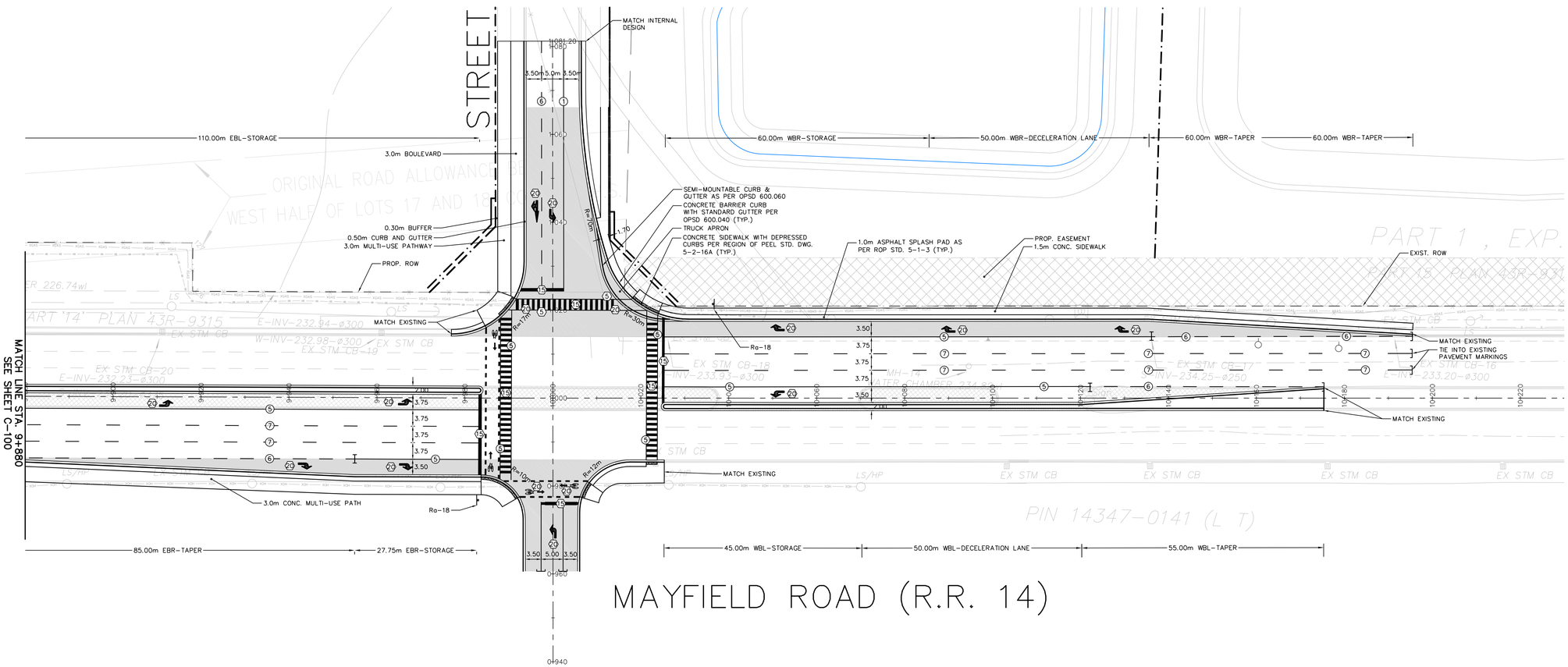
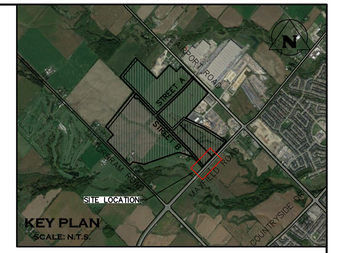
S.S./N.F.	S.S.	C-100





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Engineer

Engineer

Project: TULLAMORE INDUSTRIAL GP LTD. – TULLAMORE LANDS
MAYFIELD ROAD & AIRPORT ROAD & TORBRAM ROAD
TOWN OF CALEDON

Drawing: MAYFIELD ROAD &
STREET B INTERSECTION
FROM STA. 9+880 TO STA. 10+230

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2800 HIGH POINT DRIVE
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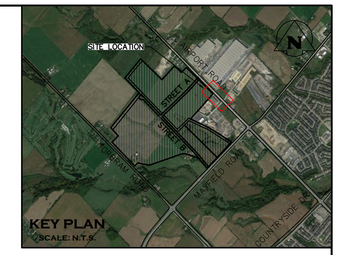
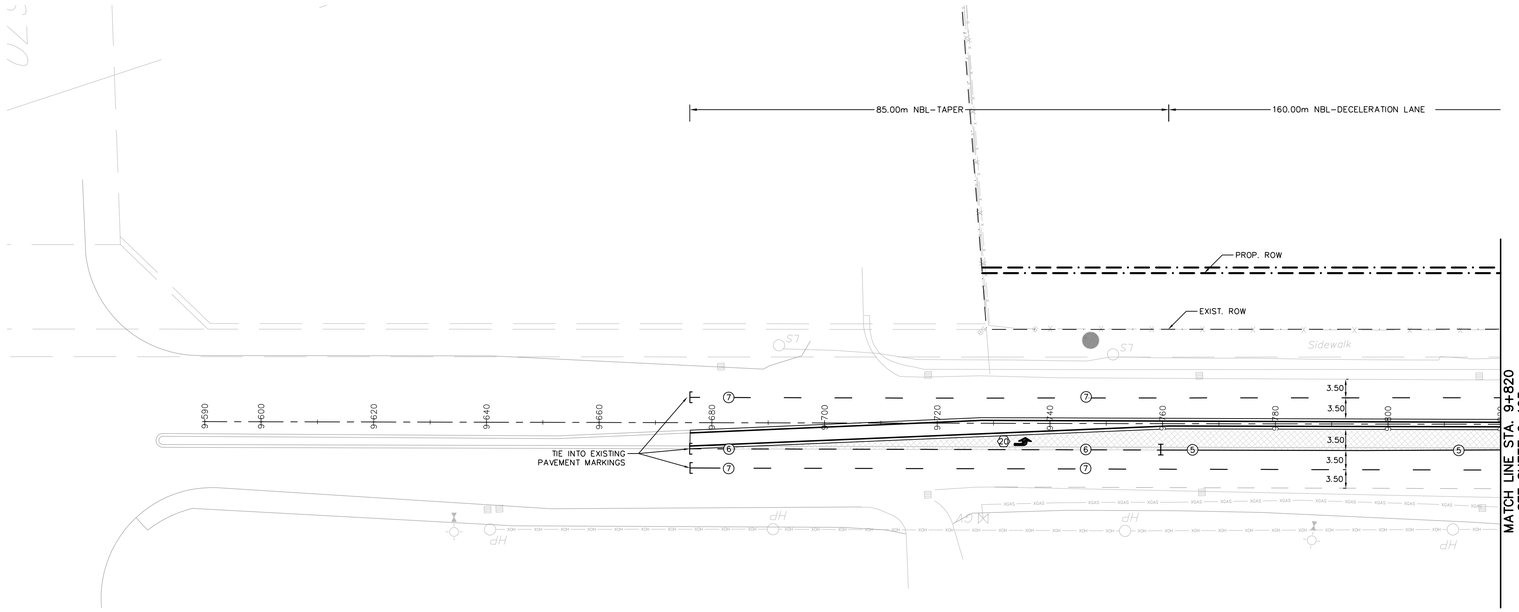
S.S./N.F.	S.S.	C-101





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LEGEND

- EXISTING ROW
- PROPOSED ROW
- PROPOSED TRAFFIC SIGN
- PROPOSED ISLAND (TYP.)
- PROPOSED ISLAND REMOVAL (TYP.)
- PROPOSED ASPHALT

SIGNAGE LEGEND

SIGN NAME	SIGN NUMBER	SIZE (cm)	OTM BOOK	SECTION
TURNING VEHICLES YIELD TO BICYCLES	Ra–18	60x75	5	5

PAVEMENT MARKINGS LEGEND

1	SOLID YELLOW, 10cm
5	SOLID WHITE, 10cm
6	333 BROKEN WHITE, 10cm
7	363 BROKEN WHITE, 10cm
15	SOLID WHITE, 60cm
20	SYMBOLS
][	LIMITS OF MARKINGS

NOTES:
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1. USE ① TO DENOTE DURABLE PAVEMENT MARKING
2. USE ① TO DENOTE PAVEMENT MARKING

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TEMPORARY BENCHMARKS

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Town: Region of Peel working with you

No.	ISSUE	DATE: YYYY/MM/DD
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Engineer

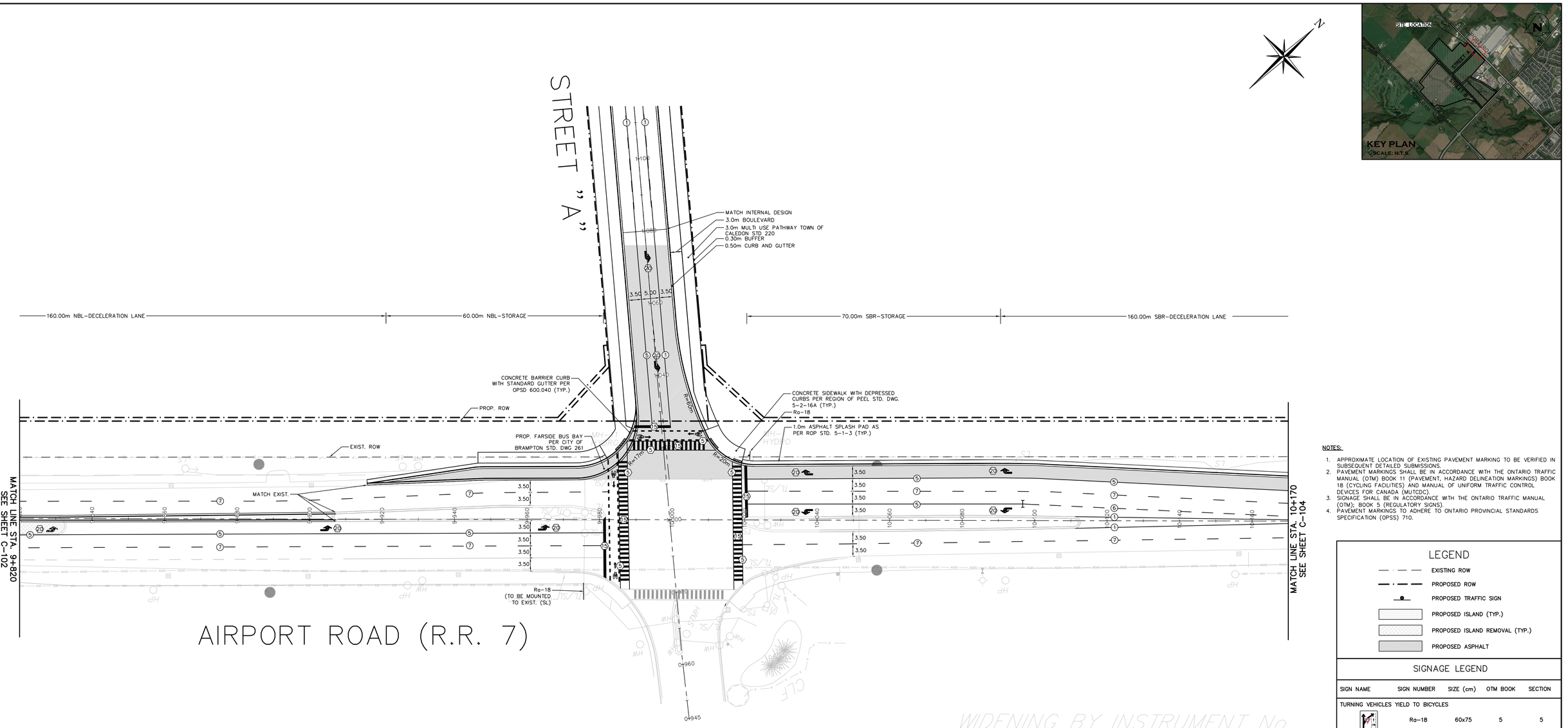
Engineer

Project: TULLAMORE INDUSTRIAL GP LTD. – TULLAMORE LANDS
MAYFIELD ROAD & AIRPORT ROAD & TORBRAM ROAD
TOWN OF CALEDON

Drawing: AIRPORT ROAD AND
STREET A INTERSECTION
FROM STA. 9+590 TO STA. 9+820

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

Drawn By	Design By	Project
J.W./I.M.	J.W.	2022–5842
Check By	Check By	Drawing
S.S./N.F.	S.S.	C–102



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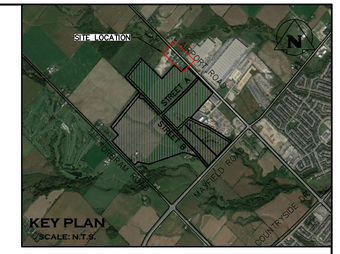

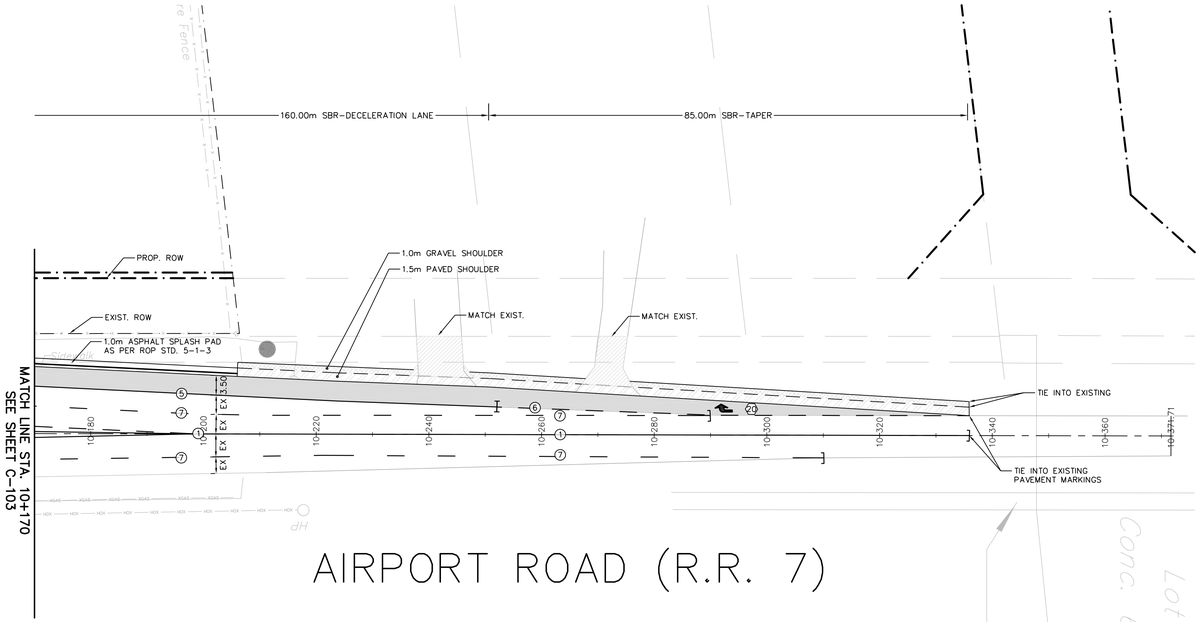

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CONSULTING ENGINEERS

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Suite 100, Milton, ON | F. 905.875.4915
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MEMO

DATE October 27, 2023 **PROJECT NO. 2022-5842**

RE Functional Design Brief
Tullamore Lands, 0 & 12245 Torbram Road
Town of Caledon, Region of Peel

TO Catherine Barnes
Specialist, Transportation Development – Region of Peel

Hashim Hamdani
Supervisor, Traffic Development & Permits – Region of Peel

FROM Stephen Shaw, P.Eng.
Project Manager – C.F. Crozier & Associates.

CC Patrick Amaral, MES(PI)
Principal Planner, Planning and Development Services – Region of Peel

Rani Kol
Specialist, Transportation Development – Region of Peel

Dear Catherine and Hashim,

C.F. Crozier & Associates Inc. (Crozier) was retained by Tullamore Industrial GP Limited to undertake the conceptual design and subsequent detailed design of the proposed external road improvements to support the industrial development located in the Tullamore Lands, 0 & 12245 Torbram Road (Site) in the Town of Caledon (Town), Region of Peel (Region).

This memorandum was prepared to highlight the rationale behind the proposed intersection layouts of Airport Road at "Street A" and Mayfield Road at "Street B".

Prior to proceeding with the detailed design, we look forward to achieving preliminary support from the Region on the proposed geometries for the identified improvements. Once the proposed geometries for both intersection improvements are supported, we will advance to produce a complete detailed design package. It is worth noting that conceptual design drawings have been appended to this brief.

The material in this memo 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.

1.0 Background

C.F. Crozier & Associates Inc. (Crozier) was retained by Tullamore Industrial GP Limited to undertake the conceptual design of Airport Road at Street 'A' and Mayfield Road at Street 'B' intersections in adherence to the jurisdictional engineering standards and design guidelines as well as to address the Town and Region's comments dated July 25, 2023.

The development site encompasses a total approximate area of 502 acres (203 ha) and consists primarily of greenfield area. The site is bounded by Airport Road to the east, Mayfield Road to the south, Torbram Road to the west, and vegetated undeveloped land to the north.

2.0 Proposed Intersection Improvements

The following standards and documents were consulted in preparation of the attached functional design:

- Transportation Association of Canada's Geometric Design Guide for Canadian Roads (TAC June 2017).
- Ontario Ministry of Transportation – Ontario Provincial Standard Specifications/Drawings (OPSS/OPSD).
- Region of Peel, Public Works Design Criteria Manual – Roads and Traffic (February 2010) and Standard Drawings.
- Road Characterization Study for the Region of Peel (RCS) (May 2013).
- Town of Caledon, Development Standards Manual (2019) and Standard Drawings.
- Ontario Traffic Manuals (OTM): Book 5 (Regulatory Signs), Book 11 (Pavement, Hazard, and Delineation Markings), and Book 18 (Cycling Facilities).
- Transportation Impact Study (TIS) (Crozier, October 2023).

2.1 Design Criteria

Table 1: Design Criteria

Design Element	Airport Road at Street 'A'		Mayfield Road at Street 'B'	
	Airport Road	**Street 'A'**	**Mayfield Road**	**Street 'B'**
Jurisdiction	Region of Peel[1]	Town of Caledon	Region of Peel[1]	Town of Caledon
Region Code	7[1]	-	14[1]	-
Road Classification	Urban Arterial (Divided)	Industrial Collector	Urban Arterial (Divided)	Industrial Collector
R.O.W. Width	45 m[2]	26 m[3,5]	50 m[2]	26 m[3,5]
Property Line Buffer/Rounding	0.3 m[2]	-	0.3 m[2]	0.3 m[4]
Pavement Width	Exist. 21 m **Prop. 25 m**	**Prop. 15.5 m[5]**	Exist. 28 m **Prop. 31.5 m**	**Prop. 15.5 m[5]**

Design Element	Airport Road at Street 'A'		Mayfield Road at Street 'B'	
	Airport Road	**Street 'A'**	**Mayfield Road**	**Street 'B'**
Maximum Posted Speed	80 km/h (north of Davis Ln.) 60 km/h (south of Davis Ln.)	50 km/h	80 km/h (WB: 460 m west of Airport Rd. & EB: east of Torbram Rd.) 60 km/h (WB: west of Airport Rd. & EB: 460 m west of Airport Rd.)	50 km/h
Design Speed	90 km/h (north of Davis Ln.) 70 km/h (south of Davis Ln.)	60 km/h	90 km/h (WB: 460 m west of Airport Rd. & EB: east of Torbram Rd.) 70 km/h (WB: west of Airport Rd. & EB: 460 m west of Airport Rd.)	60 km/h
Lane Configuration	2 NBT, 1 NBR, **1 NBL**, 2 SBT, 1 SBL, **1 SBR**	**1 EBTR, 1 EBL**	3 EBT, **1 EBL**, **1 EBR**, 3 WBT, **1 WBL**, **1 WBR**	**1 SBTR, 1 SBL**
Lane Widths	NBT: 3.50 m NBR: 3.50 m **NBL: 3.50 m**[6] SBT: 3.50 m SBL: 3.50 m **SBR: 3.50 m**[6]	**EBTR: 3.50 m**[5] **EBL: 5.00 m**[5]	EBT: 3.50 m **EBL: 3.50 m**[6] **EBR: 3.50 m**[6] WBT: 3.50 m **WBL: 3.50 m**[6] **WBR: 3.50 m**[6]	**SBTR: 3.50 m**[5] **SBL: 5.00 m**[5]
Equivalent Minimum "K" Factor	At DS 90 Crest: 39[7] Sag: 15 to 20[8] At DS 70 Crest: 17[7] Sag: 10 to 12[8]	Crest: 25[9] Sag: 25[9]	At DS 90 Crest: 39[7] Sag: 15 to 20[8] At DS 70 Crest: 17[7] Sag: 10 to 12[8]	Crest: 25[9] Sag: 25[9]
Road Grades Range	Rolling: 3%[10] Mountainous: 5%[10]	0.75% to 6.0%[9]	Rolling: 3%[10] Mountainous: 5%[10]	0.75% to 6.0%[9]
Maximum Grade Breaks at Intersection	0.5% to 2%[11]	1.50%[9]	0.5% to 2%[11]	1.50%[9]
Maximum Grade at Intersection	-	2.0%[9]	-	2.0%[9]
Intersection Angle	85 to 90 deg.[12]			
Minimum Tangent Length at Intersection	20 m[13]			
Asphalt Splash Pad	1.0 m wide[14]	-	1.0 m wide[14]	-
Minimum Boulevard Width	-	3.0 m wide[5]	-	3.0 m wide[5]
Intersection Curb Radius	15.0 m[6]	15.0 m[9]	15.0 m[6]	15.0 m[9]

Design Element	Airport Road at Street 'A'		Mayfield Road at Street 'B'	
	Airport Road	Street 'A'	Mayfield Road	Street 'B'
Curb and Gutter Width	500 mm[15,16]	500 mm[9,16]	500 mm[15,16]	500 mm[9,16]
Multi-Use Path Width	-	3.0 m[5]	-	3.0 m[5]
Sidewalk Width	1.50 m[17]	-	1.50 m[17]	-

References:

1. *Region of Peel, Regional Road Map (November 2021)*
2. *Region of Peel Comments (July 2023)*
3. *Transportation Impact Study (Crozier, October 2023)*
4. *Town of Caledon Comments (September 2023)*
5. *Transportation Impact Study (Crozier, April 2023)*
6. *Region of Peel, Public Works Standard Drawing 5-1-6*
7. *TAC GDGCR Table 3.3.2*
8. *TAC GDGCR Table 3.3.5*
9. *Town of Caledon Development Standards Manual (2019)*
10. *TAC GDGCR Table 3.3.1*
11. *TAC GDGCR Section 9.7.3.3*
12. *Town of Caledon Comments (July 2023)*
13. *TAC GDGCR Section 9.7.2*
14. *Region of Peel, Public Works Standard Drawing 5-1-3*
15. *Region of Peel, Public Works Standard Drawing 5-1-1*
16. *OPSD 600.040*
17. *Road Characterization Study for the Region of Peel (RCS) (May 2013)*

2.2 Design Deviations

Currently the posted speed limit along Mayfield Road in the vicinity of the proposed intersection with Street B is 80km/h. The transition from 60km/h to 80km/h occurs approximately 230m east of this intersection. We are proposing that the speed limit along Mayfield Road between Airport Road and Torbram Road be revised to a uniform 60 km/h. The proposed addition of a traffic signal-controlled intersection, pedestrian and cycling facilities, as well as future transit will result in a change in the operations characteristics of this section of Mayfield Road. In keeping with our proposed reduction in the posted speed limit a design speed of 70km/h was considered. Referencing TAC GDGCR Table 9.14.2 for a design speed of 70 km/h the proposed westbound right-turn lane on Mayfield will comprise of 50.0 metre parallel lane and 60.0 metre taper. Similarly, for the westbound left-turn lane a 55.0m taper was proposed (see TAC GDGCR Table 9.17.1) with a parallel o 50.0 metre (see TAC GDGCR Table 2.5.2.).

For the eastbound right turn lane into Block 48-2, a taper length of 85.0 metre and parallel length of 27.75 metre have been proposed. The parallel length is a deviation from the TAC GDGCR guidelines; however, this is being proposed due to the relatively close proximity of the right turning lane to an existing arch culvert. Modifications may be required to this structure to accommodate any road widening due to this eastbound right turn lane.

Our drawings show a 1.5m sidewalk for approximately 170m along the frontage of Mayfield Road. There are physical constraints with the available ROW as well as utilities that will potentially be impacted if the sidewalk is to continue further to the east.

2.3 Specific Geometric Parameters for Intersections

2.3.1 Airport Roat at Street 'A' Intersection

The improvements on Airport Road at the proposed site access (Street 'A') is proposed with the outlined geometry in **Table 2**.

Table 2: Airport Road at Street 'A' Recommended Intersection Improvements

Intersection	Proposed Lane Configurations	Proposed Auxiliary Geometry		
		Storage Length	Parallel Lane Length	Taper Length
Airport Road at Street 'A'	NBL	60.0 m	160.0 m	85.0 m
	SBR	70.0 m	160.0 m	85.0 m
	EBL	Reference TIS (October 2023)		
	EBTR	Reference TIS (October 2023)		

2.3.2 Mayfield Roat at Street 'B' Intersection

The improvements on Mayfield Road at the proposed site access (Street 'B') is proposed with the outlined geometry in **Table 3**.

Table 3: Mayfield Road at Street 'B' Recommended Intersection Improvements

Intersection	Proposed Lane Configurations	Proposed Auxiliary Geometry		
		Storage Length	Parallel Lane Length	Taper Length
Mayfield Road at Street 'B'	EBL	110.0 m	160.0 m	85.0 m
	EBR	27.75 m	-	85.0 m
	WBR	60.0 m	50.0 m	60.0 m
	WBL	45.0 m	50.0 m	55.0 m
	SBL	Reference TIS (October 2023)		
	SBTR	Reference TIS (October 2023)		

3.0 Future Submissions

Upon review and approval of the functional design, a comprehensive detailed design package will be prepared including the following drawings:

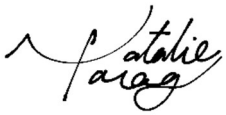
- Removals Plan
- New Construction (Plan and Profile)
- Pavement Elevation and Grading
- Pavement Marking and Signage
- Construction Notes and Details
- Typical Cross Sections
- Cross Sections (20 metre intervals)

4.0 Conclusion

We trust that this design brief has provided enough detail and context to facilitate a review of the functional design. Any questions regarding this submission may be addressed to the undersigned.

Sincerely,

C.F. CROZIER & ASSOCIATES INC.



Natalie Farag, E.I.T
Engineering Intern

C.F. CROZIER & ASSOCIATES INC.



Stephen Shaw, P.Eng.
Manager (Design), Transportation

SS/nf/la

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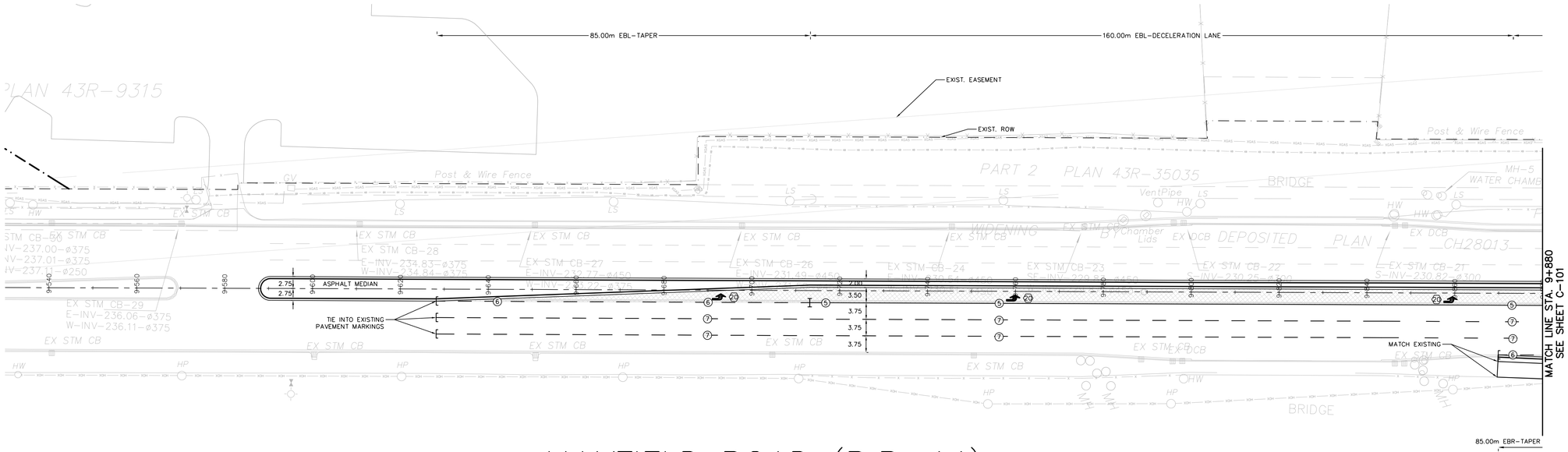
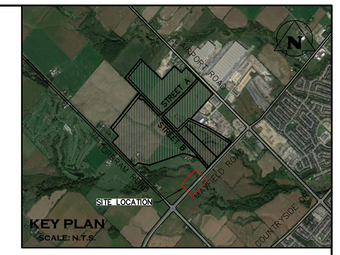


MAYFIELD ROAD (R.R. 14)



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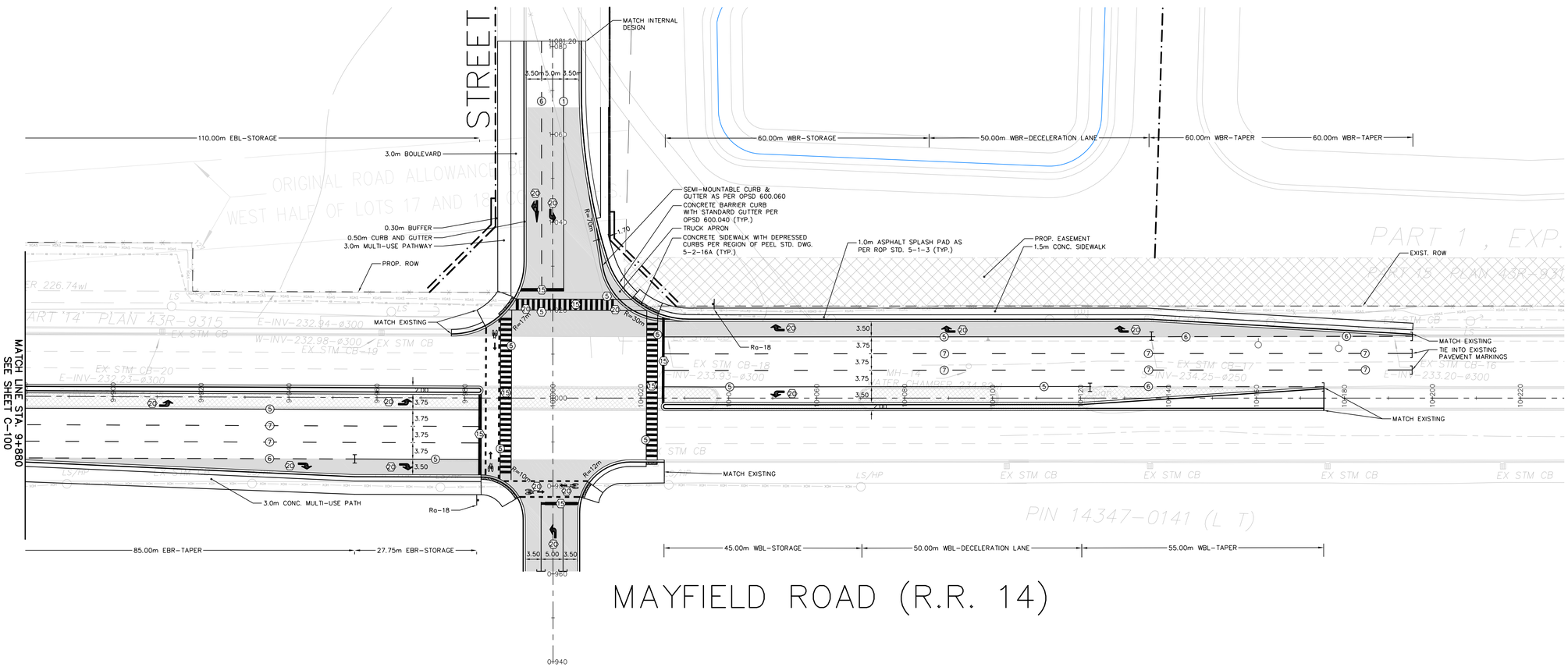
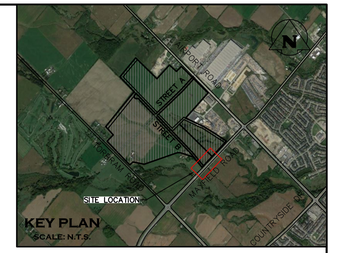
Project: TULLAMORE INDUSTRIAL GP LTD. – TULLAMORE LANDS
MAYFIELD ROAD & AIRPORT ROAD & TORBRAM ROAD
TOWN OF CALEDON

Drawing: MAYFIELD ROAD &
STREET B INTERSECTION
FORM STA. 9+530 TO STA. 9+880

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

Drawn By	Design By	Project
J.W./I.M.	J.W.	2022-5842
Check By	Check By	Drawing
S.S./N.F.	S.S.	C-100





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LEGEND

- EXISTING ROW
- PROPOSED ROW
- PROPOSED TRAFFIC SIGN
- PROPOSED ISLAND (TYP.)
- PROPOSED ISLAND REMOVAL (TYP.)
- PROPOSED ASPHALT

SIGNAGE LEGEND

SIGN NAME	SIGN NUMBER	SIZE (cm)	OTM BOOK	SECTION
TURNING VEHICLES YIELD TO BICYCLES	Ra-18	60x75	5	5

PAVEMENT MARKINGS LEGEND

1	SOLID YELLOW, 10cm
5	SOLID WHITE, 10cm
6	333 BROKEN WHITE, 10cm
7	363 BROKEN WHITE, 10cm
15	SOLID WHITE, 60cm
20	SYMBOLS
] [	LIMITS OF MARKINGS

NOTES:
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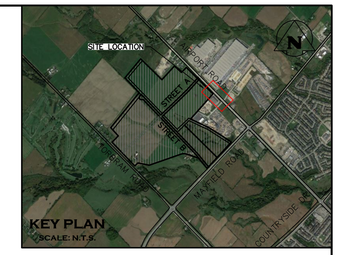
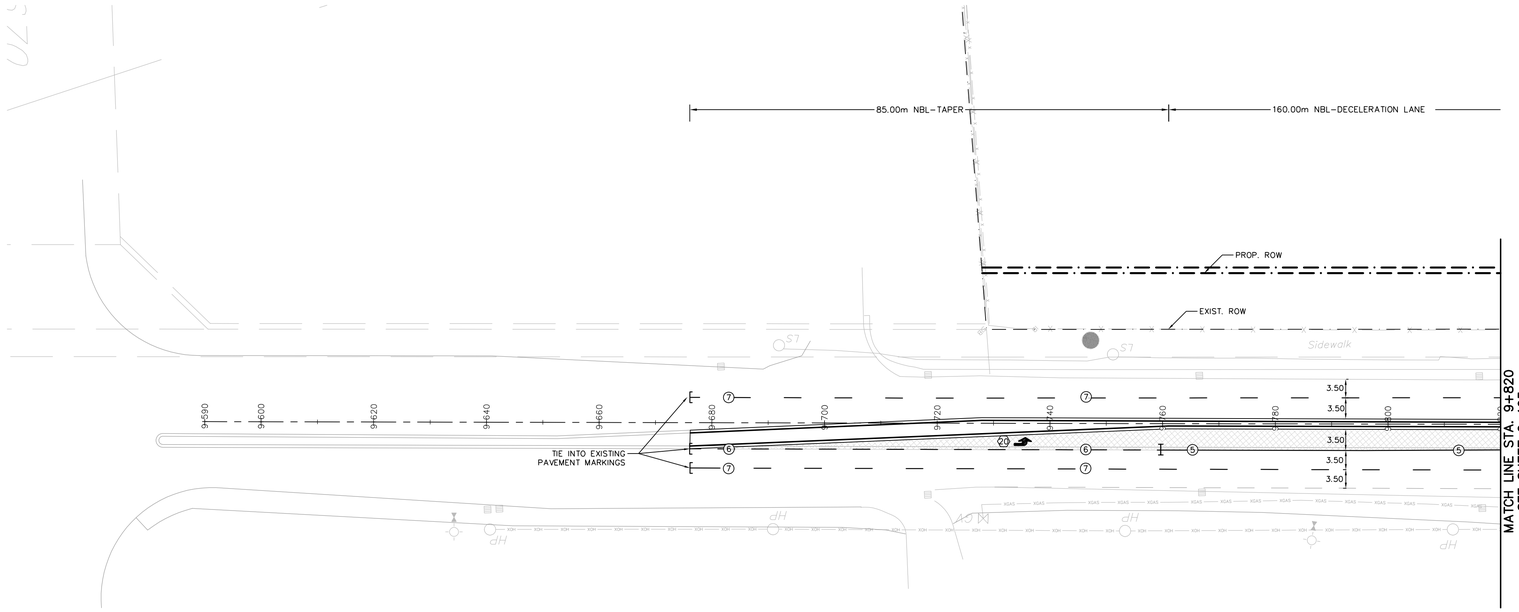
Drawn By	Design By	Project
J.W./I.M.	J.W.	2022-5842
Check By	Check By	Drawing
S.S./N.F.	S.S.	C-101





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LEGEND

- EXISTING ROW
- PROPOSED ROW
- PROPOSED TRAFFIC SIGN
- PROPOSED ISLAND (TYP.)
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SIGNAGE LEGEND

SIGN NAME	SIGN NUMBER	SIZE (cm)	OTM BOOK	SECTION
TURNING VEHICLES YIELD TO BICYCLES	Ra–18	60x75	5	5

PAVEMENT MARKINGS LEGEND

1	SOLID YELLOW, 10cm
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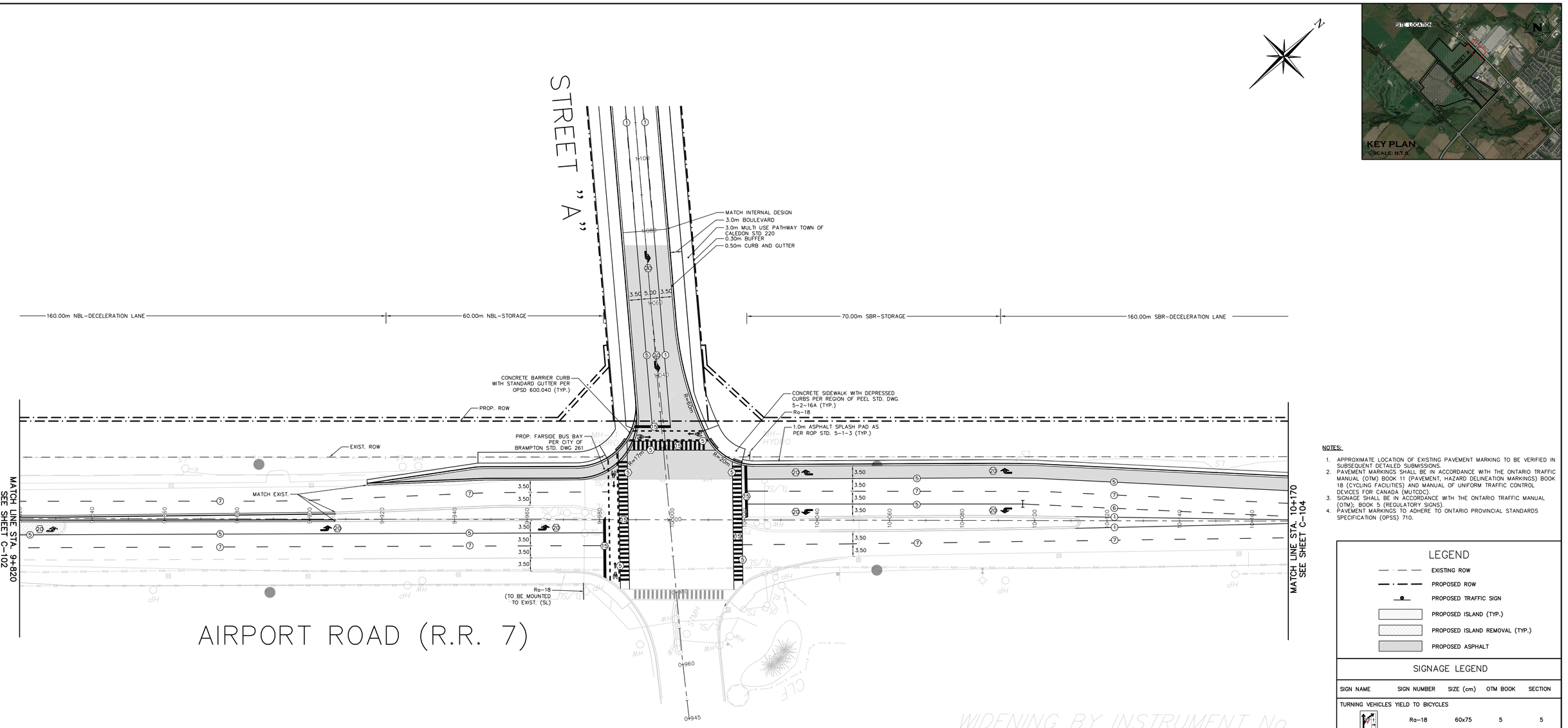
J.W./I.M.	J.W.	2022–5842
Check By	Check By	Drawing
S.S./N.F.	S.S.	C–102



10 0m 10 20 30 40
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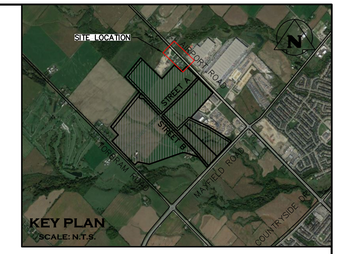
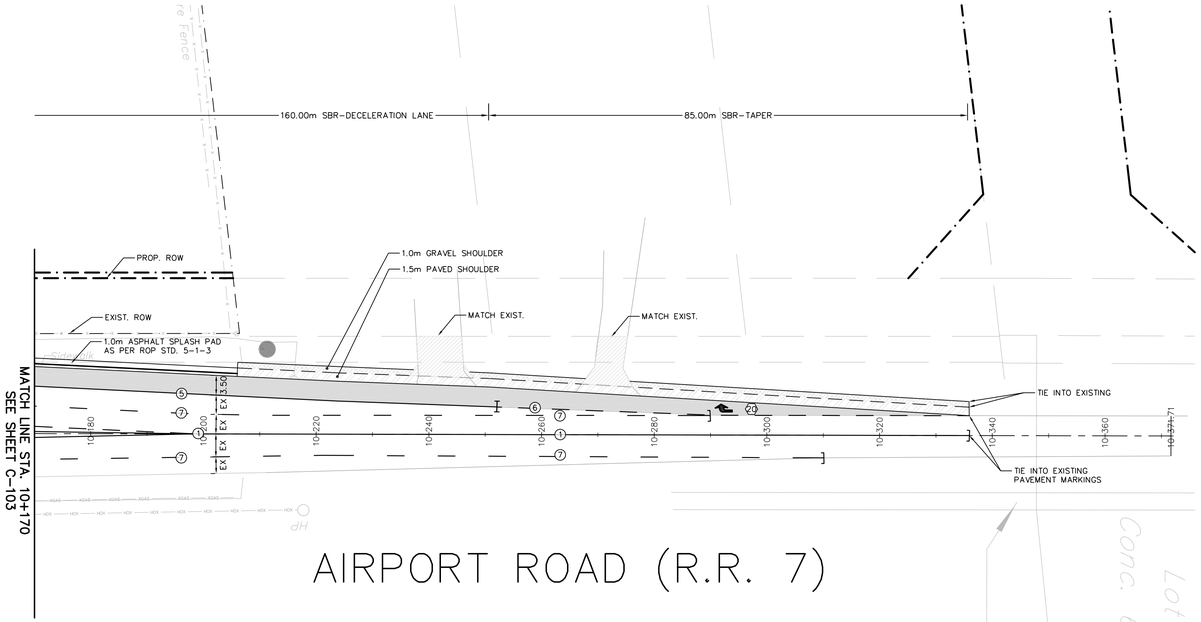
S.S./N.F.	S.S.	C-103





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