



TOWN OF CALEDON  
PLANNING  
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Apr 12, 2024

# Mayfield West Phase 2 Stage 3

## Traffic Impact Study

Brookvalley Project Management Inc.

05 April 2024

# Executive Summary

GHD Limited was retained by Brookvalley Project Management Inc. to prepare a Traffic Impact Study for the proposed Mayfield West Phase 2 Stage 3 subdivision located in the area generally bounded by Old School Road to the north, Hurontario Street to the east, Etobicoke Creek to the south and Chinguacousy Road to the west in the Town of Caledon.

This report determines the site related traffic and subsequent traffic related impacts on the adjacent road network during the weekday a.m. and p.m. peak hours. These impacts are based on the projected future traffic and road network conditions derived for a 2026, 2029, 2031, 2036, and 2041 future planning horizon year.

The proposed draft plan of subdivision prepared by Malone Given Parsons consists of a series of single-family homes, townhouses, commercial uses, and a school block. The residential units, commercial retail space, and elementary school blocks are broken down as follows:

- 1,025 Single Detached dwelling units
- 764 Street/Lane Townhouse dwelling units
- 690 units in Medium Density Blocks
- 4.92 hectares of Commercial Blocks
- 1 Elementary School Block

Access to the proposed subdivision from the regional arterial roads is proposed via Chinguacousy Road, McLaughlin Road, Hurontario Street and Old School Road.

The Mayfield West Phase 2 Stage 3 is further divided into two phases, with Phase 1 consisting of the lands on the east side of McLaughlin Road and Phase 2 consisting of the lands on the west side of McLaughlin.

Furthermore, the subject lands were further divided into subphases to establish the construction schedule for the lands. Phase 1 of the proposed subdivision east of McLaughlin Road is assumed to be completed by 2026 and is expected to generate a total of 185 new two-way trips consisting of 45 inbound and 140 outbound trips during weekday a.m. peak hour and 236 new two-way trips consisting of 148 inbound and 88 outbound trips during the weekday p.m. peak hour.

Under the 2029 horizon year, including Phases 1 through 4 built-out east of McLaughlin Road, the subdivision is expected to generate a total of 758 new two-way trips consisting of 184 inbound and 574 outbound trips during weekday a.m. peak hour and 959 new two-way trips consisting of 602 inbound and 357 outbound trips during the weekday p.m. peak hour.

Under the 2031 horizon year, with all phases of the subdivision built out (Phase 1 east of McLaughlin Road and Phase 2 west of McLaughlin Road), a total of 1,899 new two-way trips are generated consisting of 666 inbound and 1,233 outbound trips during weekday a.m. peak hour and 2,054 new two-way trips consisting of 1,205 inbound and 849 outbound trips during the weekday p.m. peak hour.

To mitigate capacity issues along the study area roads, the following improvements have been recommended in previous studies and are assumed to be constructed in the latest analysis:

- Widening of Mayfield Road from 2 to 6 lanes (Chinguacousy Road to Hurontario Street), Region of Peel currently tendering the project
- Widening of Old School Road from 2 to 4 lanes (Chinguacousy Road to Hurontario Street), due to corridor growth and full build-out of the site in 2031
- Widening of McLaughlin from 2 to 4 lanes (Old School Road to Etobicoke Creek)
- Widening of Hurontario from 4 to 6 lanes (north of Highway 410), due to corridor growth in 2026
  - An auxiliary right-turn lane in the northbound and southbound directions.



- Signalization of the intersection of Old School Road & Chinguacousy Road, Old School Road & McLaughlin Road, McLaughlin & Street A, Hurontario Street & Street A

Despite the recommended road widening along Hurontario Street, capacity issues are still prevalent at intersections along Hurontario Street due to the high through volumes. The GTA West Corridor project proposes to extend Highway 410 to the proposed Highway 413 and would result in less through volume along Hurontario Street. Further studies will be required to evaluate the impact of the proposed Highway 410 extension on the Hurontario Street corridor within the study area.

We trust that this satisfies your requirements, but do not hesitate to contact the undersigned if you have any questions.

Sincerely,

GHD



William Maria, P. Eng.  
Transportation Planning Lead

# Contents

<b>1. Introduction</b>	<b>7</b>
1.1 Retainer and Objective	7
1.2 Study Team	7
<b>2. Site Characteristics</b>	<b>8</b>
2.1 Study Area	8
2.2 Proposed Development Content	9
<b>3. Existing Conditions</b>	<b>9</b>
3.1 Existing Road Network	9
3.2 Pedestrian and Bicycle Routes	11
3.3 Transit Services	11
3.4 Existing Traffic Data	11
<b>4. Future Background Traffic</b>	<b>11</b>
4.1 Study Horizon Year	11
4.2 Future Road Network Improvements	11
4.2.1 GTA West Highway	12
4.2.2 Highway 410/Hurontario Street Interchange	13
4.2.3 Mayfield Road Widening	14
4.2.4 McLaughlin Road Widening	15
4.2.5 Chinguacousy Road Environmental Assessment	16
4.3 Future Transit Improvements	16
4.4 Future Active Transportation Improvement	18
4.5 Corridor Growth	18
4.6 Background Development Traffic	18
4.7 Future Background Traffic Volumes	19
<b>5. Site Generated Traffic</b>	<b>20</b>
5.1 Site Traffic Generation	20
5.2 Site Traffic Distribution and Assignment	22
<b>6. Future Total Traffic</b>	<b>25</b>
<b>7. Capacity Analysis</b>	<b>25</b>
7.1 Old School Road and Chinguacousy Road	25
7.2 Old School Road and McLaughlin Road	28
7.3 Old School Road and Hurontario Street	30
7.4 Mayfield Road and Chinguacousy Road	33
7.5 Mayfield Road and McLaughlin Road	35
7.6 Mayfield Road and Hurontario Street	38
7.7 McLaughlin Road and Street A	42
7.8 Hurontario Street and Street A	43
7.9 Chinguacousy Road and Street C	44

7.10	Old School Road and Street B	44
7.11	Old School Road and Street D	45
7.12	Street A and Street D	45
<b>8.</b>	<b>Sensitivity Analysis with the Highway 413</b>	<b>46</b>
8.1	Old School Road and Chinguacousy Road	46
8.2	Old School Road and McLaughlin Road	48
8.3	Old School Road and Hurontario Street	50
8.4	Mayfield Road and Chinguacousy Road	54
8.5	Mayfield Road and McLaughlin Road	56
8.6	Mayfield Road and Hurontario Street	59
8.7	McLaughlin Road and Street A	62
8.8	Hurontario Street and Street A	63
8.9	Chinguacousy Road and Street C	64
8.10	Old School Road and Street B	65
8.11	Old School Road and Street D	65
8.12	Street A and Street D	66
<b>9.</b>	<b>Proposed Improvements</b>	<b>66</b>
<b>10.</b>	<b>Roadway Elements</b>	<b>67</b>
10.1	Active Transportation Plan	67
<b>11.</b>	<b>Parking</b>	<b>68</b>
<b>12.</b>	<b>Conclusion</b>	<b>68</b>

## Table index

Table 1	Background Development Traffic	19
Table 2	Estimated Site Trips	20
Table 3	Dwelling Unit Count per Horizon Year	22
Table 4	Trips Distribution – Without GTA West Highway	23
Table 5	Trips Distribution – With GTA West Highway	24
Table 6	Capacity analysis of Old School Road and Chinguacousy Road (Without Highway 413)	25
Table 7	Capacity analysis of Old School Road and McLaughlin Road (Without Highway 413)	28
Table 8	Capacity analysis of Old School Road and Hurontario Street (Without Highway 413)	30
Table 9	Capacity analysis of Mayfield Road and Chinguacousy Road (Without Highway 413)	33
Table 10	Capacity analysis of Mayfield Road and McLaughlin Road (Without Highway 413)	36
Table 11	Capacity analysis of Mayfield Road and Hurontario Street (Without Highway 413)	38
Table 12	Capacity analysis of McLaughlin Road and Street A	42
Table 13	Capacity analysis of Hurontario Street and Street A	43
Table 14	Capacity analysis of Chinguacousy Road and Street C	44
Table 15	Capacity analysis of Old School Road and Street B	44
Table 16	Capacity analysis of Old School Road and Street D	45
Table 17	Capacity analysis of Street A and Street D	45
Table 18	Capacity analysis of Old School Road and Chinguacousy Road (With Highway 413)	46



Table 19	Capacity analysis of Old School Road and McLaughlin Road (With Highway 413)	48
Table 20	Capacity analysis of Old School Road and Hurontario Street (With Highway 413)	51
Table 21	Capacity analysis of Mayfield Road and Chinguacousy Road (With Highway 413)	54
Table 22	Capacity analysis of Mayfield Road and McLaughlin Road (With Highway 413)	56
Table 23	Capacity analysis of Mayfield Road and Hurontario Street (With Highway 413)	59
Table 24	Capacity analysis of McLaughlin Road and Street A	62
Table 25	Capacity analysis of Hurontario Street and Street A	63
Table 26	Capacity analysis of Chinguacousy Road and Street C	64
Table 27	Capacity analysis of Old School Road and Street B	65
Table 28	Capacity analysis of Old School Road and Street D	65
Table 29	Capacity analysis of Street A and Street D	66

## Figure index

Figure 1	Boundary of the Mayfield West Phase 2 Stage 3 Development	8
Figure 2	Draft Plan of Subdivision	9
Figure 3	Existing Lane Configurations and Traffic Control	10
Figure 4	Proposed Highway 413 Corridor (highway413.ca)	12
Figure 5	Preferred Alternative Highway 413 Alignment – Section 4	13
Figure 6	Highway 410/Hurontario Street Interchange Reconfiguration (60% Design)	14
Figure 7	Mayfield Road Widening Cross-Section (Region of Peel)	15
Figure 8	McLaughlin Road Widening Cross-Section (Town of Caledon)	16
Figure 9	Mayfield West Planned Major Transit Station Area (Caledon.ca)	17
Figure 10	Phasing Breakdown	22
Figure 11	Proposed Lane Configurations and Intersection Traffic Control	67
Figure 12	Active Transportation Plan	<b>Error! Bookmark not defined.</b>
Figure 13	Baseline 2024 Existing Traffic Volumes	72
Figure 14	Total Background Development Site Traffic – Without GTA West Highway (2026)	73
Figure 15	Total Background Development Site Traffic – With GTA West Highway (2026)	74
Figure 16	Total Background Development Site Traffic – Without GTA West Highway (2029)	75
Figure 17	Total Background Development Site Traffic – With GTA West Highway (2029)	76
Figure 18	Total Background Development Site Traffic – Without GTA West Highway (2031)	77
Figure 19	Total Background Development Site Traffic – With GTA West Highway (2031)	78
Figure 20	2026 Future Background Traffic Volumes – Without GTA West Highway	79
Figure 21	2029 Future Background Traffic Volumes – Without GTA West Highway	80
Figure 22	2031 Future Background Traffic Volumes – Without GTA West Highway	81
Figure 23	2036 Future Background Traffic Volumes – Without GTA West Highway	82
Figure 24	2041 Future Background Traffic Volumes – Without GTA West Highway	83
Figure 25	2026 Future Background Traffic Volumes – With GTA West Highway	84
Figure 26	2029 Future Background Traffic Volumes – With GTA West Highway	85
Figure 27	2031 Future Background Traffic Volumes – With GTA West Highway	86
Figure 28	2036 Future Background Traffic Volumes – With GTA West Highway	87
Figure 29	2041 Future Background Traffic Volumes – With GTA West Highway	88
Figure 30	Total Site Trips – Without GTA West Highway (2026)	89

Figure 31	Total Site Trips – Without GTA West Highway (2029)	90
Figure 32	Total Site Trips – Without GTA West Highway (2031)	91
Figure 33	Total Site Trips – With GTA West Highway (2026)	92
Figure 34	Total Site Trips – With GTA West Highway (2029)	93
Figure 35	Total Site Trips – With GTA West Highway (2031)	94
Figure 36	2026 Future Total Traffic Volumes – Without GTA West Highway	95
Figure 37	2029 Future Total Traffic Volumes – Without GTA West Highway	96
Figure 38	2031 Future Total Traffic Volumes – Without GTA West Highway	97
Figure 39	2036 Future Total Traffic Volumes – Without GTA West Highway	98
Figure 40	2041 Future Total Traffic Volumes – Without GTA West Highway	99
Figure 41	2026 Future Total Traffic Volumes – With GTA West Highway	100
Figure 42	2029 Future Total Traffic Volumes – With GTA West Highway	101
Figure 43	2031 Future Total Traffic Volumes – With GTA West Highway	102
Figure 44	2036 Future Total Traffic Volumes – With GTA West Highway	103
Figure 45	2041 Future Total Traffic Volumes – With GTA West Highway	104
Figure 46	Active Transportation Plan	105

## Appendices

Appendix A	Figures
Appendix B	Terms of Reference
Appendix C	Traffic Data
Appendix D	Synchro Outputs
Appendix E	Background Developments
Appendix F	Active Transportation Plan
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# 1. Introduction

## 1.1 Retainer and Objective

GHD Limited was retained by Brookvalley Project Management Inc. to prepare a Transportation Impact Study in support of the proposed Mayfield West Stage 2 Phase 3 urban boundary expansion located within the Mayfield West Community Development Plan Study Area. The Mayfield West Stage 2 Phase 3 is generally bounded by Old School Road to the north, Hurontario Street to the east, Etobicoke Creek to the south and Chinguacousy Road to the west with the Town of Caledon.

The development boundaries are illustrated in **Figure 1**.

The purpose of this study is to:

- Establish baseline traffic conditions for the study area in 2024 and determine future background operating conditions for a future planning horizon in 2026, 2029, 2031, 2036, and 2041.
- Utilize Institute of Transportation Engineer's (ITE) Trip Generation data and first principles to estimate the site trips generated by the proposed development and distribute the traffic to the adjacent road network.
- Determine future operating traffic conditions during the weekday peak periods through intersection capacity analysis.
- Identify improvements to the transportation infrastructure to accommodate the proposed urban boundary expansion.

## 1.2 Study Team

The GHD team involved in the preparation of the study are:

- William Maria, P. Eng., Transportation Planning Lead
- Rafael Andrenacci, B.Eng., Transportation Planner



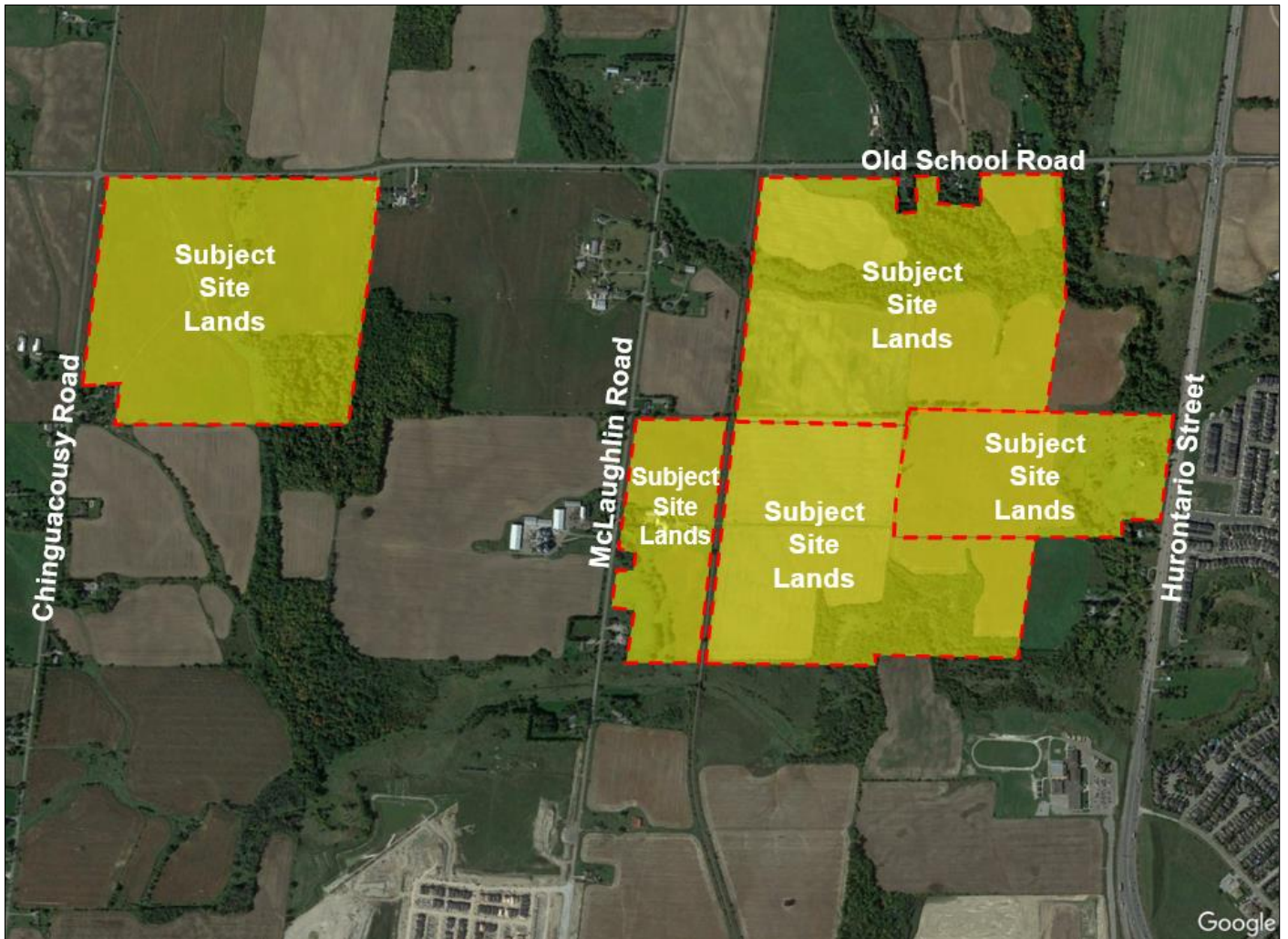


Figure 1 Boundary of the Mayfield West Phase 2 Stage 3 Development

## 2. Site Characteristics

### 2.1 Study Area

The following intersections were included in the study area:

#### Existing

- Old School Road and Chinguacousy Road
- Old School Road and McLaughlin Road
- Old School Road and Hurontario Street
- Mayfield Road and Chinguacousy Road
- Mayfield Road and McLaughlin Road
- Mayfield Road and Hurontario Street

#### Proposed

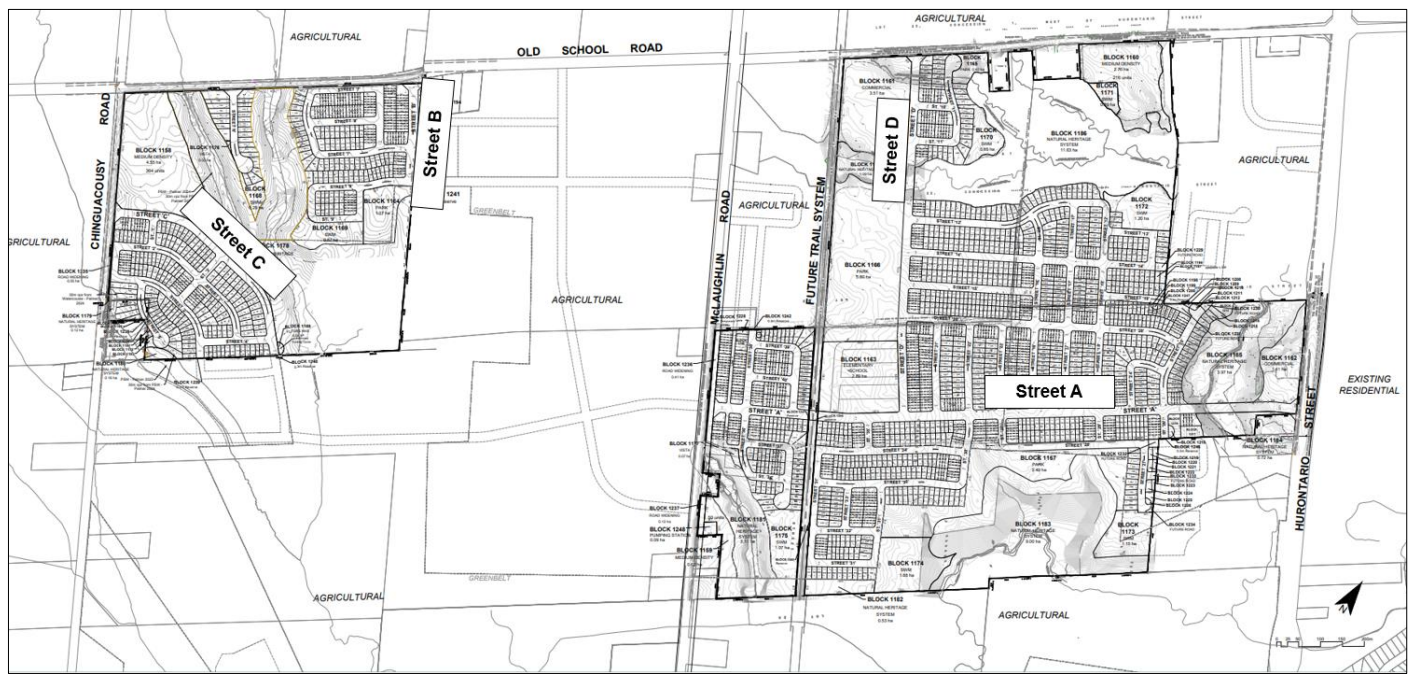
- Chinguacousy Road and Street 'C'

- Old School Road and Street 'B'
- McLaughlin and Street 'A'
- Hurontario Street and Street 'A'
- Old School Road and Street 'D'
- Street 'A' and Street 'C'

## 2.2 Proposed Development Content

A draft plan of subdivision was prepared by Malone Given Parsons is shown in **Figure 2**. The proposed subdivision consists of the following:

- 1,025 Single Detached dwelling units
- 764 Street/Lane Townhouse dwelling units
- 690 units in Medium Density Blocks
- 4.92 hectares of commercial blocks
- 1 Elementary School Block



**Figure 2** Draft Plan of Subdivision

Access to the proposed subdivision from the regional arterial roads is proposed via intersections along Chinguacousy Road, McLaughlin Road, Hurontario Street and Old School Road.

## 3. Existing Conditions

### 3.1 Existing Road Network

**Hurontario Street/Highway 10** is a north-south Class III – Special Controlled Highway under the jurisdiction of the MTO generally north of its interchange with Highway 410 and is a major arterial road under the jurisdiction of the City

of Brampton south of the interchange. In the study area it has a five-lane cross section with a two-way left-turn lane in the median lane. The intersections of Hurontario Street and Mayfield Road is signalized with auxiliary left-turn and right-turn lanes in both the northbound and southbound directions. The intersection with Old School Road is also signalized, with an auxiliary left-turn lane in both the northbound and southbound directions. The posted speed limit on Hurontario Street is 70 km/h south of the interchange with Highway 410 and increases to 80 km/h north of it.

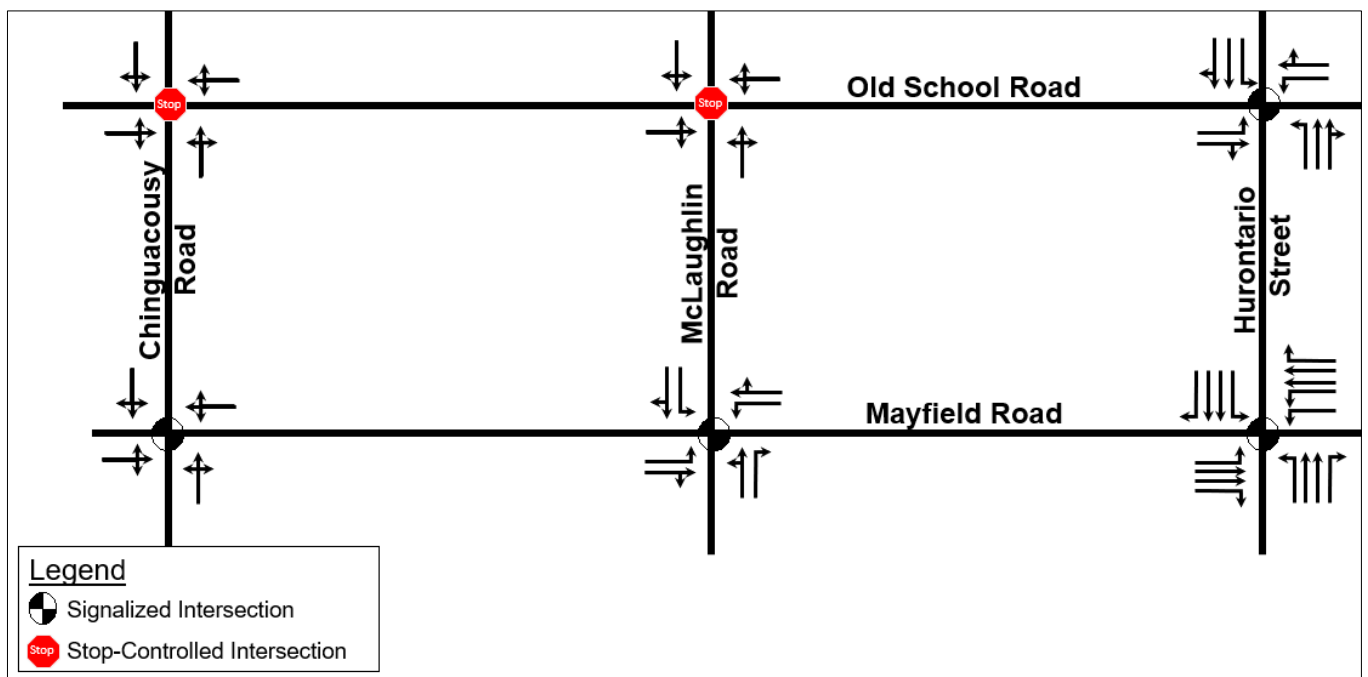
**Chinguacousy Road** is a north-south collector road under the jurisdiction of the Town of Caledon. In the study area it has a two-lane rural cross-section. The intersections of Chinguacousy Road and Mayfield Road is signalized, while the intersection with Old School Road is an all-way stop-controlled intersections. The posted speed limit on Chinguacousy Road is 80 km/h.

**McLaughlin Road** is a north-south collector road under the jurisdiction of the Town of Caledon. In the study area it has a two-lane cross-section generally north of Tim Manley Drive and widened to a four-lane cross-section south of Tim Manley through the Mayfield West Phase 2 Stage 2 lands. The intersections of McLaughlin Road and Mayfield Road is signalized, with an auxiliary left-turn lane in the southbound direction and a right-turn lane in the northbound direction. The intersection with Old School Road is an all-way stop-controlled intersection. The posted speed limit on McLaughlin Road is 80 km/h.

**Mayfield Road** is an east-west arterial road under the jurisdiction of the Region of Peel. In the study area it has a two-lane cross-section and increases to a four-lane cross-section east of Hurontario Street. All three intersections along Mayfield Road (Chinguacousy Road, McLaughlin Road and Hurontario Street) are signalized. Auxiliary left-turn lanes are provided in both the eastbound and westbound directions at the intersection with McLaughlin Road. At the intersection with Hurontario Street, auxiliary right-turn lanes are provided in both directions, an auxiliary left-turn lane in the eastbound direction and a dual left-turn lane is provided in the westbound direction. The posted speed limit on Mayfield Road is 70 km/h.

**Old School Road** is an east-west collector road under the jurisdiction of the Town of Caledon. In the study area it has a two-lane cross-section. The intersection of Old School Road with Hurontario Street is signalized, with an auxiliary left-turn lane provided in both the eastbound and westbound directions. The intersections with Chinguacousy Road and McLaughlin Road are both all-way stop-controlled intersections. The posted speed limit on Old School Road is 70 km/h.

The existing lane configurations and traffic controls are illustrated in **Figure 3** below.



**Figure 3 Existing Lane Configurations and Traffic Control**



## 3.2 Pedestrian and Bicycle Routes

Within the study area, pedestrian sidewalks are only provided at the intersection of Hurontario Street and Mayfield Road. Sidewalks are provided on both sides of the road along Hurontario south of Mayfield Road, with a sidewalk only provided on the east side of Hurontario Street north of the intersection and end in close proximity to the interchange of Highway 410 and Hurontario Street. Sidewalks are also provided along both sides of Mayfield Road east of Hurontario Street.

The Town of Caledon's Trails and Cycling Routes Map has identified Old School Road as a Cycling Route.

## 3.3 Transit Services

Brampton Transit currently offers the following routes within or near the study area:

**Route 7 (Kennedy)** operates mostly in the north/south direction along Kennedy Road between the intersections of Courtney Park Drive & Hurontario Street and Mayfield Road & Hurontario Street. It currently operates with a headway of 10 minutes or better during the morning and afternoon peak hours.

**Route 24 (Van Kirk)** operates mostly in the north/south direction along Van Kirk Drive and Royal Orchard Drive between the intersections of Hurontario Street & Mayfield Road and the Peel Memorial Hospital. Courtney Park Drive & Hurontario Street and Mayfield Road & Hurontario Street. It currently operates with a headway of 30-minutes during the morning and afternoon peak hours.

**Route 81 (Mayfield West)** operates along Kennedy Road, Mayfield Road and Hurontario Street between the intersection of Kennedy Road & Learmont Avenue and the Sandalwood Loop at Sandalwood Loop along Hurontario Street. It currently operates with a headway of 45-minutes during the morning and afternoon peak hours.

**GO Transit also operates Route 37 (Orangeville/Brampton)** north/south direction along Hurontario Street between the Brampton GO Station and the Orangeville Mall with an hour headway.

## 3.4 Existing Traffic Data

GHD contracted Ontario Traffic Inc. to collect turning movement counts in February 2024 during the a.m. and p.m. peak hours at the existing study intersections.

The baseline 2024 traffic volumes are provided in **Figure 12** within **Appendix A** with the full turning movement counts provided in **Appendix C**.

# 4. Future Background Traffic

## 4.1 Study Horizon Year

The horizon years selected for analysis includes the year of build-out for the first phase in 2026, halfway through the build-out in 2029, full build-out in 2031, and 5-years post build-out in 2036 and 10-years post build-out in 2041.

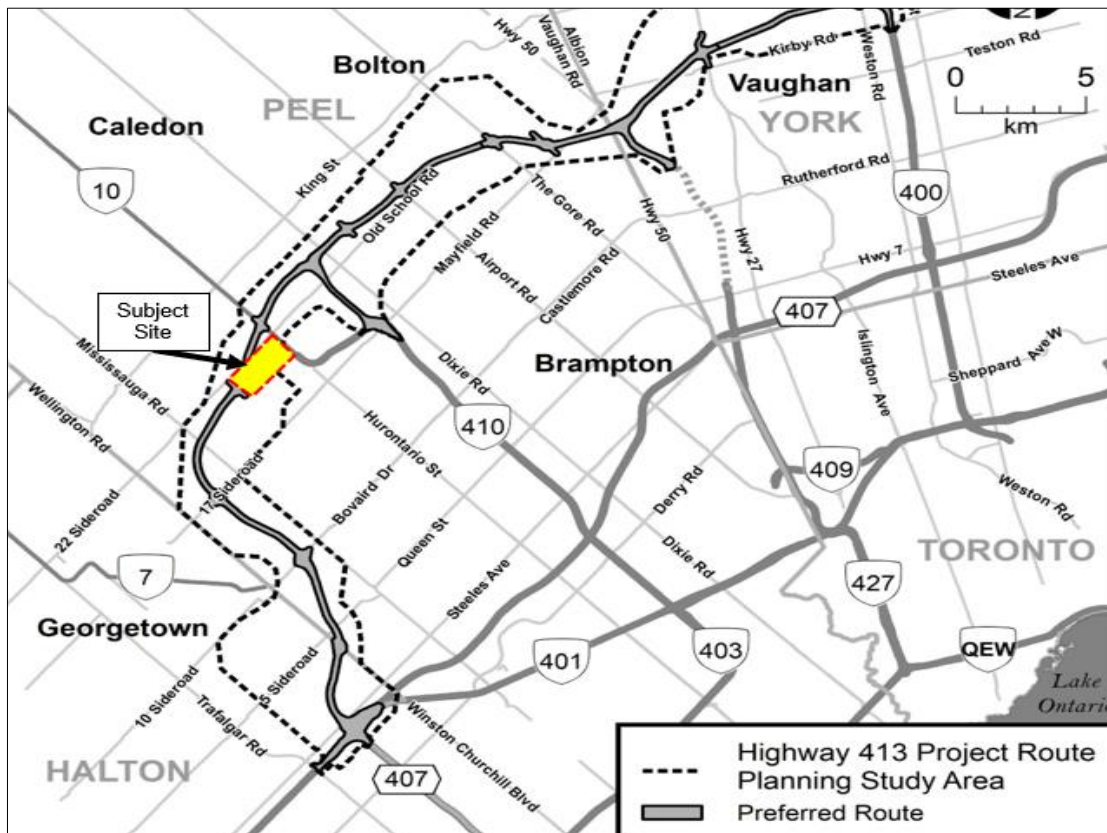
## 4.2 Future Road Network Improvements

The January 2018 TMP update estimated that the Hurontario Street Corridor would be significantly over capacity by 2031 as a four-lane road and recommended a monitoring program to review traffic volumes on Hurontario as development proceeds to confirm the need for additional lanes.

## 4.2.1 GTA West Highway

The GTA West Highway Corridor (Highway 413) is a proposed 52-kilometre Highway that would extend from Highway 400 in the east and to the Highway 401 and 407 interchange to the west. Included within the proposed project is a 4 kilometre extension of Highway 410 to the north to Highway 413, diverting from its current terminus at Hurontario Street that is located between the two study intersections along Hurontario Street.

Two interchanges are proposed in close proximity to the subject site, one along Chinguacousy south of Old School Road and the other located along Hurontario Street north of Old School Road. Due to the proximity to the study area, background traffic and site generated traffic will be impacted by the proposed highway project, resulting in scenarios with and without the highway being evaluated. The location of the study area within the GTA West corridor is provided in **Figure 4**.



**Figure 4** Proposed Highway 413 Corridor ([highway413.ca](http://highway413.ca))

Currently the preferred alignment has the proposed highway cutting through the northwest parcel of the subject lands southeast of Chinguacousy Road and Old School Road and includes an interchange at Chinguacousy Road. However, the final alignment of the highway has not yet been determined and a revised alignment to avoid constraining development of the Mayfield West Study Area would be preferred.

The subject site is located within the vicinity of Section 4 of the proposed Highway's corridor with Alternative S4-1 currently proposed to cut through the lands of Mayfield West Phase 2 Stage 3. The preferred alignment would be similar to the Alternative S4-2 design, with the Highway 413 route located just to the north of the subject site. The preferred alternative is shown on **Figure 5**.

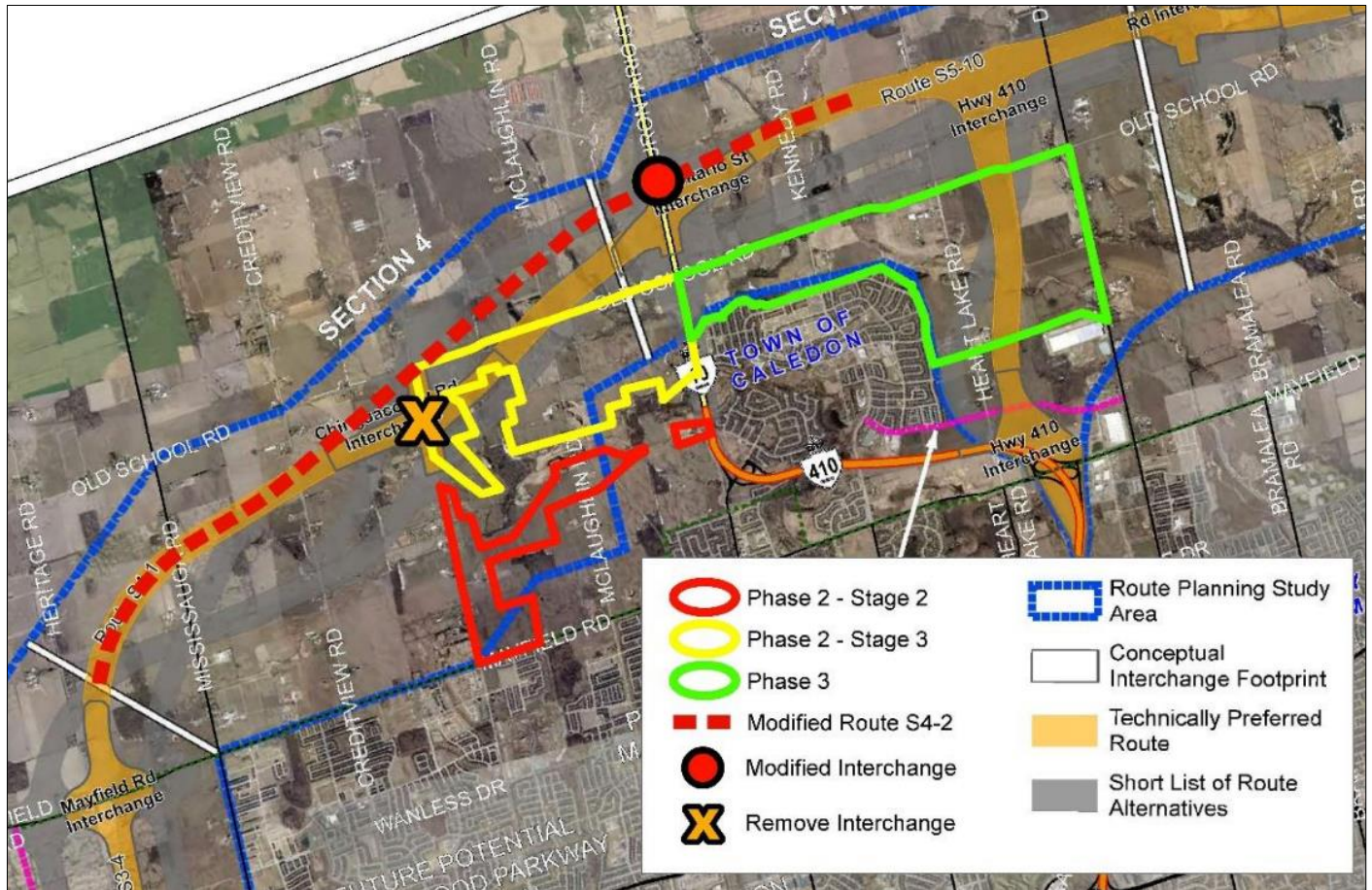


Figure 5 Preferred Alternative Highway 413 Alignment – Section 4

## 4.2.2 Highway 410/Hurontario Street Interchange

Currently, Highway 410 terminates at Hurontario between Old School Road and Mayfield Road. In 2016, the Town of Caledon initiated a Class Environmental Assessment for the widening of McLaughlin Road from Mayfield Road northerly approximately 1700 metres, the construction of the new east-west Spine Road (Tim Manley Road) from Hurontario Street to Chinguacousy and later extended the study area to include the Highway 410 interchange at Hurontario Street/Valleywood Boulevard.

The modifications to the Highway 410 interchange are necessary to maintain and accommodate the operation of the proposed intersection of the proposed Spine Road (Tim Manley Avenue) with the 410 interchange and the resulting traffic volumes from the proposed road. The interchange also serves to improve the traffic issues on the east side of Hurontario Street along Valleywood Boulevard through the subdivision, The configuration of the proposed interchange is shown in **Figure 6**.

Further discussion is provided in **Section 5.2** regarding the impact of the future Highway 410/Hurontario and Tim Manley interchange on the trip distribution.



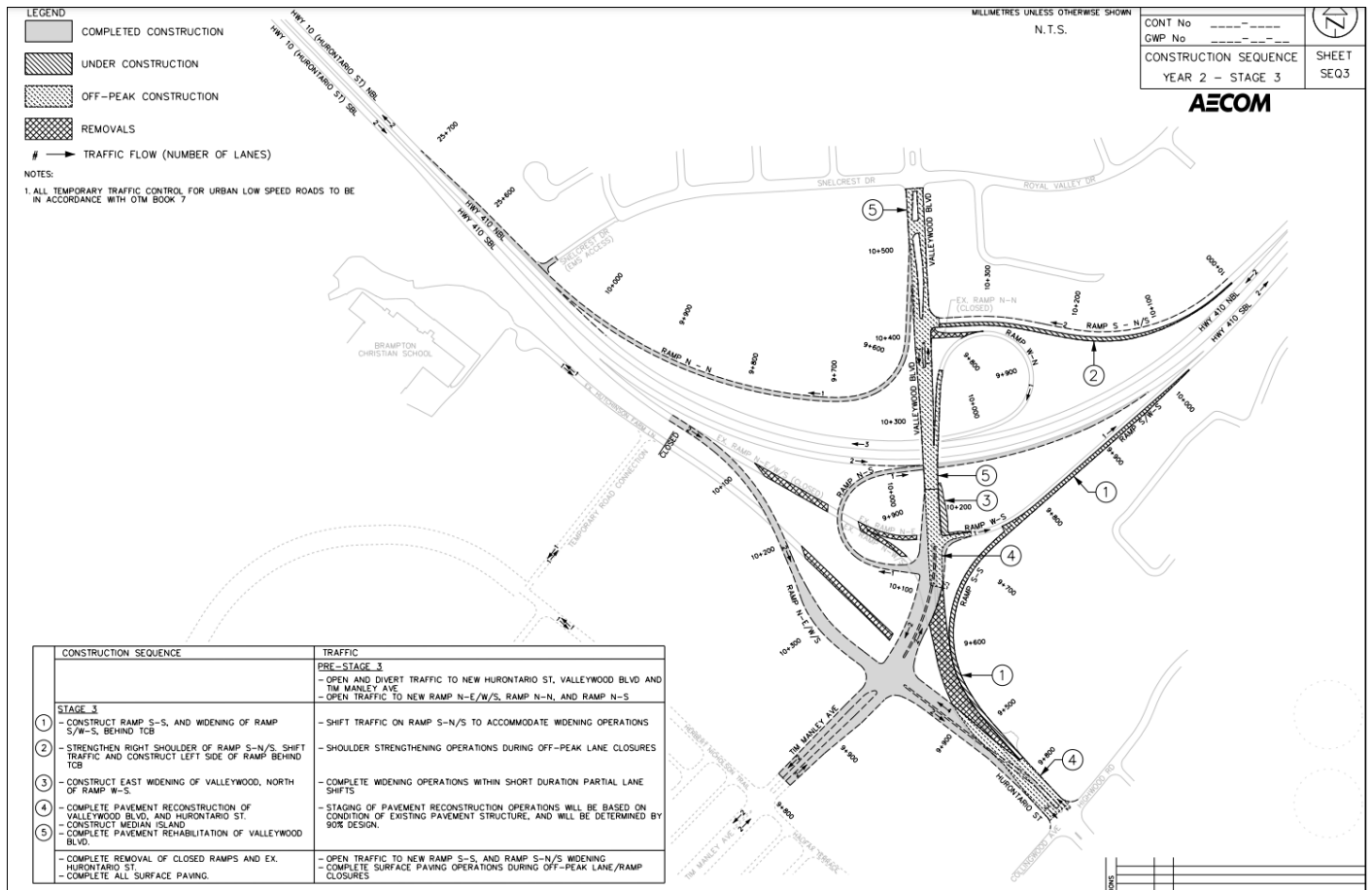


Figure 6 Highway 410/Hurontario Street Interchange Reconfiguration (60% Design)

### 4.2.3 Mayfield Road Widening

The Region of Peel completed an Environmental Assessment for improvements along Mayfield Road from Chinguacousy Road to Heart Lake Road, dated July 2014.

The EA identified the following alternatives to address the needs of the surrounding area to address future projected growth:

- Do Nothing
- Improve Transportation Systems Management
- Improve Travel Demand Management
- Increase capacity to parallel roadways
- Increase capacity to Mayfield Road

The following design concepts were considered for road widening within several areas along Mayfield Road:

- Do Nothing
- Widen to the North Side only
- Widen to the South Side only
- Widen to both the North Side and South Side

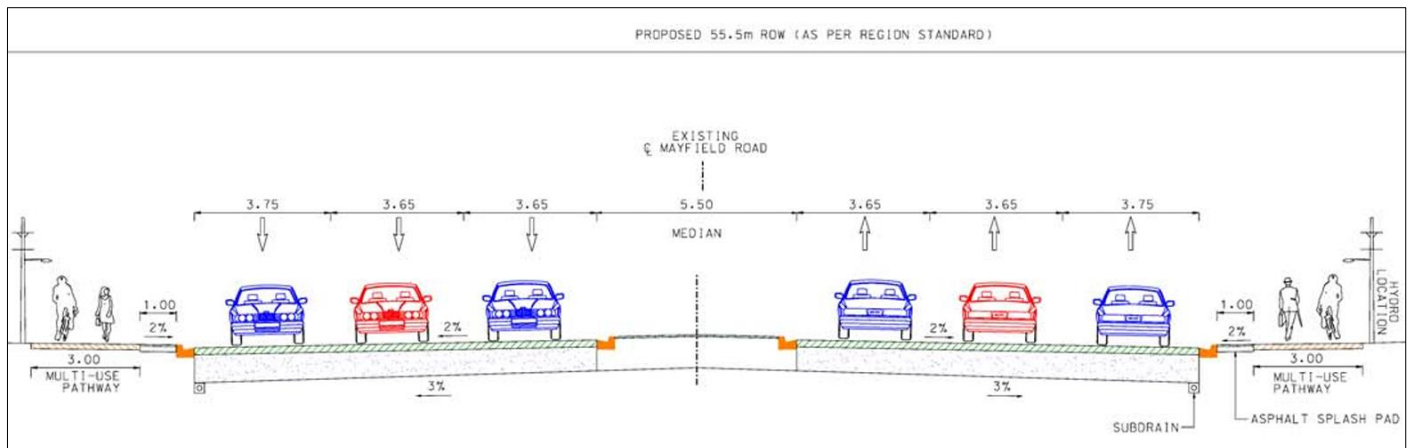
The environmental assessment identified that the preferred option included a widening of Mayfield Road throughout the subject site's study area (not the EA's study area) on both the north and south sides.

The Region's Capital Roads Construction Program (2013) identified the following schedule for roadway improvements:

- From a two-lane to a four-lane cross-section by 2018
- From a four-lane to a six-lane cross-section by 2029

Despite the Region's Capital Roads Construction Program from 2013, the 2023 Region of Peel budget has allocated funds to widen Mayfield Road between Chinguacousy Road and Hurontario Street from a two-lane to a six-lane cross-section. Peel Region is tendering works in 2024 for the approved widening to a six-lane cross-section between Chinguacousy Road and Hurontario Street and construction is anticipated to begin in 2024-2025. As a result, GHD has assumed Mayfield Road to be widened to its ultimate six-lane cross-section under the 2026 horizon year.

The typical cross-section for the six-lane configuration is provided in Figure 6-5 of the EA. The typical cross-section includes six through lanes and a multi-use pathway on each side of the road. Figure 6-5 of the EA is also provided in **Figure 7**.



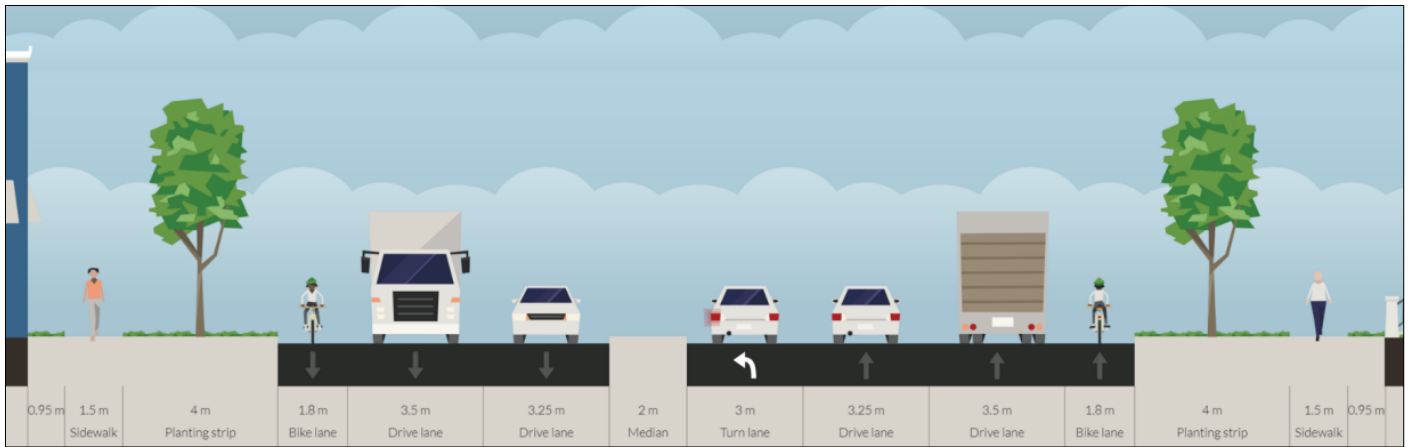
**Figure 7** Mayfield Road Widening Cross-Section (Region of Peel)

## 4.2.4 McLaughlin Road Widening

The Town of Caledon completed an Environmental Assessment for the widening of McLaughlin Road within Mayfield West Phase 2, which also included the construction of a new east/west Spine Road. The environmental assessment confirmed that the preferred option included a widening of McLaughlin Road in addition to improved transit services and active transportation, travel demand management, and the construction of a Spine Road and interchange improvements.

Section 5.1.1 of the EA outlined the various alternatives considered for the widening of McLaughlin, which proposed to widen to a four-lane cross-section, widening to a four-lane cross-section while the shifting the road to the east or the west, or a hybrid of the three alternatives.

The typical cross-section for the widened McLaughlin Road was then discussed in Section 6.1.3 and illustrated in Figure 6-1 of the EA. The typical cross-section includes four through lanes, a left-turn lane as required at all intersections, and a bike lane on each side of the road. Figure 6-1 of the EA is also provided in **Figure 8**.



**Figure 8** McLaughlin Road Widening Cross-Section (Town of Caledon)

Based on the findings of the EA, GHD will assume that the Town of Caledon will proceed with the widening of the McLaughlin Road through the subdivision. The widening of McLaughlin Road has been completed from the south up to Lippa Drive as part of the Stage 1B / Stage 2 of the subdivision. However, no timeline has been provided for construction to start through the Stage 3 lands and as a result the four-lane cross-section is assumed to be constructed once the traffic volumes along McLaughlin Road warrant it.

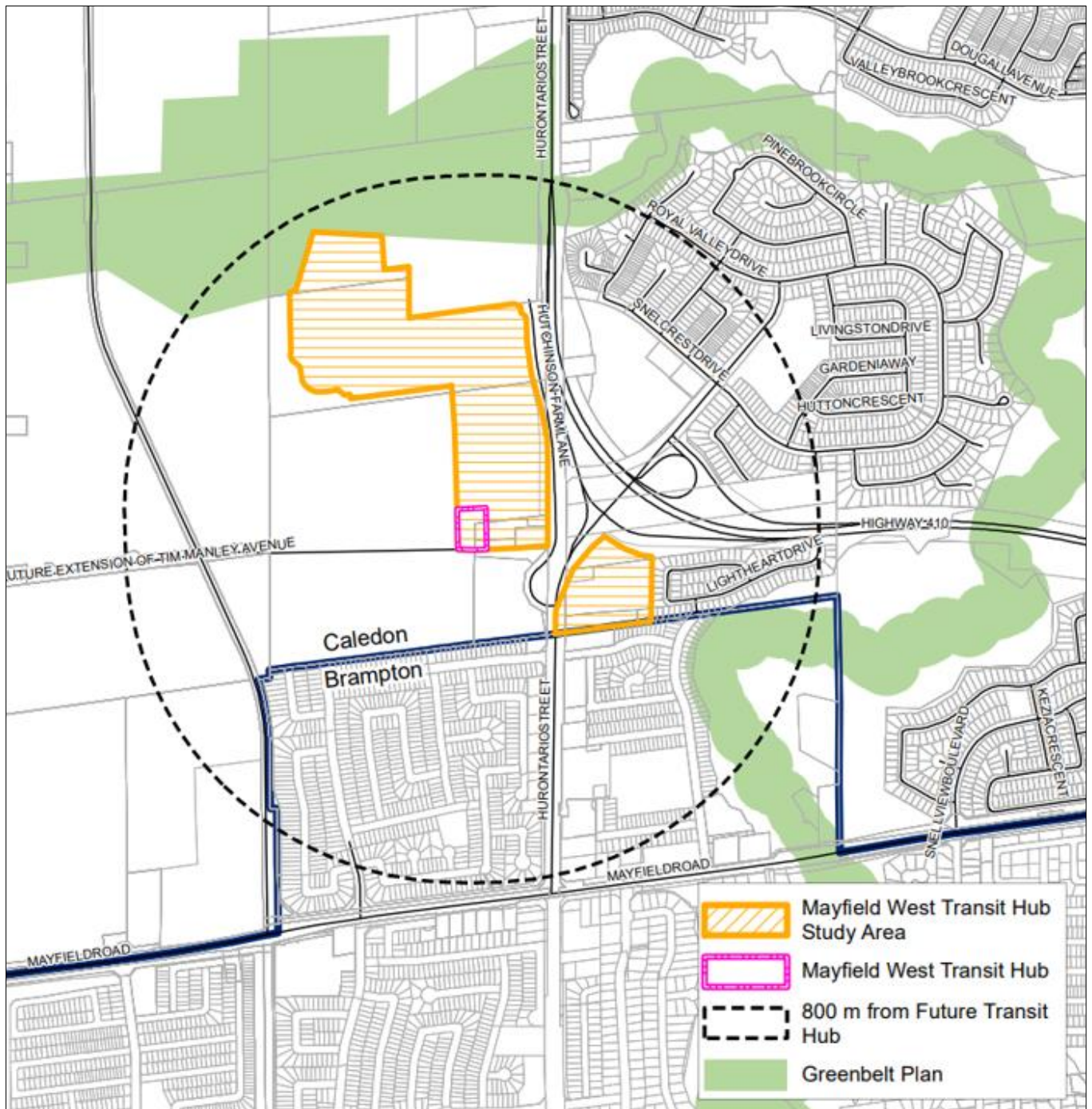
## 4.2.5 Chinguacousy Road Environmental Assessment

The Town of Caledon has initiated a Schedule 'C' Municipal Class Environmental Assessment along Chinguacousy Road, however the Class EA has not been completed. The Class EA is currently contemplating either a two-lane or a four-lane cross-section, and the Phase 2 Stage 1 & 2 Draft Plans have agreed to improve intersections and provide the necessary widenings as part of their Draft Plan Applications. Similarly, GHD will confirm if a widening is warranted along Chinguacousy based on future volumes.

## 4.3 Future Transit Improvements

The Town of Caledon is currently studying two Major Transit Station Areas within the Town, including the Mayfield West Planned Major Transit Station Area just south of the subject site at Hurontario and Tim Manly Avenue. The location of the planned transit hub is shown in **Figure 9**, retrieved from the Town's website, and is currently proposed to be a bus rapid transit station/stop.

The area allocated to the future transit hub has been included in the approved plan of subdivision for the property known as 12290 Hutchinson Farm Lane located in the Mayfield West Phase 2 Secondary Plan area.



**Figure 9** Mayfield West Planned Major Transit Station Area (Caledon.ca)

Although the MTSA is currently at a planning stage, it is important to note that one of two major transit station areas that the Town is currently studying is located a short distance from the subject site. The MTSA would provide future residents and employees of the study area an opportunity to explore alternative modes of travel and reduce their dependency from single occupant vehicle trips.

A staff report completed by the Town of Caledon noted that the Metrolinx Regional Transportation Plan 2041 had designated the portion of Hurontario Street between north of downtown Brampton to Mayfield West as a Priority Bus Corridor. Once the Hurontario LRT is operational, a future Bus Rapid Transit service can link the northern terminus of the LRT to the Town of Caledon in order to integrate the employment areas within the Region of Peel. It is also noted

that a major north/south transit spine would also have the potential to link many east/west rapid transit routes in order to improve higher order transit within the area.

The provision of this transit hub would provide the Town with a great opportunity to encourage public transit usage within the Mayfield West Phase 2 Stage 3 lands by providing residents and employees with a public transit link between their dwellings/workplaces and the hub and further connecting them with other local and regional transit routes.

## 4.4 Future Active Transportation Improvement

The Region of Peel and its three municipalities (Caledon, Mississauga, and Brampton) purchased the rail line formerly known as the Orangeville Brampton Railway. The line currently runs through the subject lands, just east of McLaughlin Road. The rail line will be converted to a multi-use trail that will provide an active transportation between the three municipalities in addition to connected to the Trans Canada Trail network of trails.

The Town of Caledon has identified the following network recommendations through the Town's Active Transportation Master Plan:

- A signed cycling route and a multi-use path along Old School Road
- A multi-use path along Chinguacousy Road
- A multi-use path along McLaughlin Road
- The Orangeville Brampton Rail multi-use trail

The proposed subdivision includes roads that have 22-metre (Street A and B) and 20-metre (Street C and D) right-of-ways that would require a sidewalk on both sides of the street throughout the subdivision.

As per the Town's Transportation Master Plan, dated October 2017, residential collector roadways are recommended to have a 3-metre off-street multi-use trail or a 1.5 metres striped on-street bike lane. The TMP also states that in the case of new construction, where multi-use paths are proposed, the multi-use path will take the place of the sidewalk.

The active transportation plan for the subdivision and how it will connect to the municipal road network is shown in **Figure 45**, and includes the active transportation network recommended through the Active Transportation Plan, sidewalks along the external road network, a sidewalk on one-side of the road and cycling facilities on the other side on Streets A-D, and a sidewalk on one side of the remaining roads throughout the subdivision.

## 4.5 Corridor Growth

GHD applied a two percent compounded annually growth rate to all roads within the study area, with the exception of a one percent growth rate on Hurontario Street at the intersection with Old School Road. This approach is consistent with the 2018 Transportation Master Plan Study and consistent with other studies completed in the area. The future volumes with only corridor growth applied is provided in **Appendix E**.

## 4.6 Background Development Traffic

GHD reviewed the Town's development application web portal to determine which planned or approved background developments located near the subject site would contribute to traffic volumes at the study intersections. The following sites were included as background traffic, and confirmed with Town staff through the Terms of Reference:

- Mayfield West Phase 1 - Stage 2 (BA Group – September 2021)
- Mayfield West Phase 2 - Stage 2 (Paradigm Transportation Solutions Limited – January 2018)

The proposed trip generation from each background development is summarized in the table below, with the trip distribution for each site provided in **Appendix E**. Only the Traffic Impact Study prepared for the Mayfield West Phase 1 lands provided separate trip assignments for scenarios with and without the Highway 413.



**Table 1 Background Development Traffic**

Background Development	Peak Hour Trips					
	Weekday AM			Weekday PM		
	In	Out	Total	In	Out	Total
Mayfield West Phase 1 - Stage 2	205	625	830	685	400	1,085
Mayfield West Phase 2 - Stage 2	2,687	3,648	6,351	4,216	3,650	7,868

The three developments (the subject site and the two background developments) all have varying timelines for full build-out of their respective subject sites. The follow methodology was provided to Town staff and confirmed to be acceptable to project the background development traffic under the future horizon years, and is based on the assumed build-out years provided in their respective TIS. It is understood that the background developments are at various stages of development and as a result the assumed timelines in each study may have earlier build-out dates than what is currently occurring:

- For Mayfield West Phase 1 Stage 2, the TIS assumed a full build-out in 2028. Based on the most recent Google Earth information, the land had not been graded in 2022, so to be consistent we would like to assume that the first units would be occupied by 2024. To attain full build-out by 2028, this would result in 20% being built per year resulting in 60% of the site to be built in 2026 followed by 100% in 2028. For this background development, we would like to assume 60% of the site traffic will be included under the 2026 Future Background traffic with 100% of it added for the remaining horizon years.
- Similarly for Mayfield West Phase 2 Stage 2, the TIS had assumed their traffic to be 100% assigned under the 2031 horizon year. Based on Google Earth images again, it seems like the first units were occupied by 2021. To attain 100% build-out by 2031, this would result in 9% being built per year. As a result, we proposed to include 55% of the site traffic under the 2026 Future Background scenario, 80% under the 2029 Future Background scenario, and 100% for the remaining years.

The total site trips from the two background developments are provided (without and with the GTA West) in **Figure 13** and **Figure 14** for the 2026 horizon year, **Figure 15** and **Figure 16** for the 2029 horizon year, and **Figure 17** and **Figure 18** for the 2031 horizon year and beyond within **Appendix A**.

## 4.7 Future Background Traffic Volumes

The background traffic volumes for the 2028, 2033, and 2038 horizon years were derived by applying the respective growth rate to the projected 2024 traffic volumes and adding the total background development site traffic provided in their corresponding figure (**Figure 13** through **Figure 18**).

The resulting 2027 and 2032 future background traffic volumes are summarized in **Figure 19**, **Figure 20**, and **Figure 21** for the scenario without the GTA West Highway and in **Figure 24**, **Figure 25**, and **Figure 26** for the scenario with the GTA West Highway.

# 5. Site Generated Traffic

## 5.1 Site Traffic Generation

Mayfield Phase 2 Stage 3 consists of 1,025 Single Detached dwelling units, 764 Street/Lane Townhouse dwelling units, 690 dwelling units within Medium Density Blocks, 4.92 hectares in commercial blocks, and 1 Elementary School Block.

The trip generation for the residential uses was calculated using rates provided in the Institute of Transportation Engineer's (ITE) Trip Generation Manual, 11<sup>th</sup> Edition using Land Use Code (LUC) 210 (Single-Family Detached Housing), LUC 220 (Multifamily Housing – Low-Rise), LUC 222 (Multifamily Housing – Mid-Rise) for the residential components, LUC 820 (Shopping Center - >150k) for the commercial component, and LUC 520 (Elementary School) for the elementary school.

Consistent with previously completed studies, in order to estimate the trip generation for the commercial blocks it is assumed that the total GFA of the commercial blocks would correspond to 25% of the 4.92 hectares, resulting in approximately 132,396.1 ft<sup>2</sup> of GFA.

As the elementary school block is at a very early stage in planning, the anticipated student population is currently unknown. In order to estimate the trip generation for the block, student populations were estimated based on information found in the DPCDSB Education DC Background Study, 2019 and Peel District School Board Education DC Background Study, 2019. The PDSB currently has an average of 606 students per school while the DPCDSB school while the DPCDSB currently has an average of 431 students. It is currently unknown which school board the proposed school will belong to, and in order to provide a conservative estimate, the PDSB school capacity of 606 students was used to estimate the trip generation.

A 5% modal split was applied to both the residential and commercial component, and a 35% pass-by rate during the p.m. peak for the commercial component, consistent with the rates used in the 2018 Transportation Master Plan and previously completed studies within the surrounding area.

In order to establish the trip generation for each phase, GHD considered the phasing of each block and how many units would be constructed in each phase. For the detached and townhouse units, it was assumed that each phase consists of 1/6 of the trip generation assuming a total of six equal phases. For the mid-rise blocks, the trip generation for each block was separated based on the percentage of units in each block. For the commercial blocks and elementary school block, it was assumed that they would both be built out and operational only by the 2031 horizon year.

**Table 2** below summarizes the estimated trip generation for the proposed subdivision.

**Table 2** *Estimated Site Trips*

Land Use (LUC)	Dwelling Units/GFA/ School Capacity	Parameters	Peak Hour					
			Weekday AM			Weekday PM		
			In	Out	Total	In	Out	Total
Single/Semi-Detached, (LUC 210)	1,025 units	Trip Ratio	25%	75%	100%	63%	37%	100%
		Gross Trips	180	538	718	607	357	964
		Total Mode Split Reduction	-9	-27	-36	-30	-18	-48
		<b>Total New Trips</b>	<u>171</u>	<u>511</u>	<u>682</u>	<u>577</u>	<u>339</u>	<u>916</u>
	764 units	Trip Ratio	24%	76%	100%	63%	37%	100%

Street/Lane Townhouse (LUC 220)		Gross Trips	72	234	306	246	144	390
		Total Mode Split Reduction	-4	-12	-116	-12	-7	-20
		<b>Total New Trips</b>	<u>68</u>	<u>222</u>	290	234	137	370
Medium Density Blocks (LUC 221)	690 units	Trip Ratio	23%	77%	100%	61%	39%	100%
		Gross Trips	66	226	292	163	106	269
		Total Mode Split Reduction	-3	-11	-15	-8	-5	-13
		<b>Total New Trips</b>	<u>63</u>	<u>215</u>	<u>278</u>	<u>155</u>	<u>101</u>	<u>256</u>
Commercial (LUC 820)	20,800 m <sup>2</sup>	Trip Ratio	62%	38%	100%	48%	52%	100%
		Gross Trips	130	82	212	332	359	691
		Total Mode Split Reduction	-7	-4	-11	-17	-18	-35
		Pass By (35%)	N/A	N/A	N/A	-121	-121	-242
		<b>Total New Trips</b>	<u>123</u>	<u>78</u>	<u>201</u>	<u>194</u>	<u>220</u>	<u>414</u>
Elementary School (LUC 520)	606 students	Trip Ratio	54%	46%	100%	46%	54%	100%
		Gross Trips	241	207	448	45	52	97
		Total Mode Split Reduction	0	0	0	0	0	0
		<b>Total New Trips</b>	<u>241</u>	<u>207</u>	<u>448</u>	<u>45</u>	<u>52</u>	<u>97</u>
<b>Total Pass-By (Full Build-Out)</b>			N/A	N/A	N/A	121	121	242
<b>Total Primary Trips (Phase 1, 2026)</b>			45	140	185	148	88	236
<b>Total Primary Trips (Phases 1-4, 2029)</b>			184	574	758	602	357	959
<b>Total Primary Trips (Full Build-out, 2031 and Beyond)</b>			666	1233	1899	1205	849	2054

The first subphase of the proposed development east of McLaughlin Road is expected to be constructed by 2026 and includes a total of 185 new two-way trips consisting of 45 inbound and 140 outbound trips during weekday a.m. peak hour and 236 new two-way trips consisting of 148 inbound and 88 outbound trips during the weekday p.m. peak hour.

Under the 2029 horizon year, including Phases 1 through 4 built out, the majority of the subject site on the east side of McLaughlin Road is expected to generate 758 new two-way trips consisting of 184 inbound and 574 outbound trips during weekday a.m. peak hour and 959 new two-way trips consisting of 602 inbound and 357 outbound trips during the weekday p.m. peak hour.

Under the 2031 horizon year, with the subject site assumed to be fully built-out, it is expected to generate 1,899 new two-way trips consisting of 666 inbound and 1,233 outbound trips during weekday a.m. peak hour and 2,054 new two-way trips consisting of 1,205 inbound and 849 outbound trips during the weekday p.m. peak hour.

## 5.2 Site Traffic Distribution and Assignment

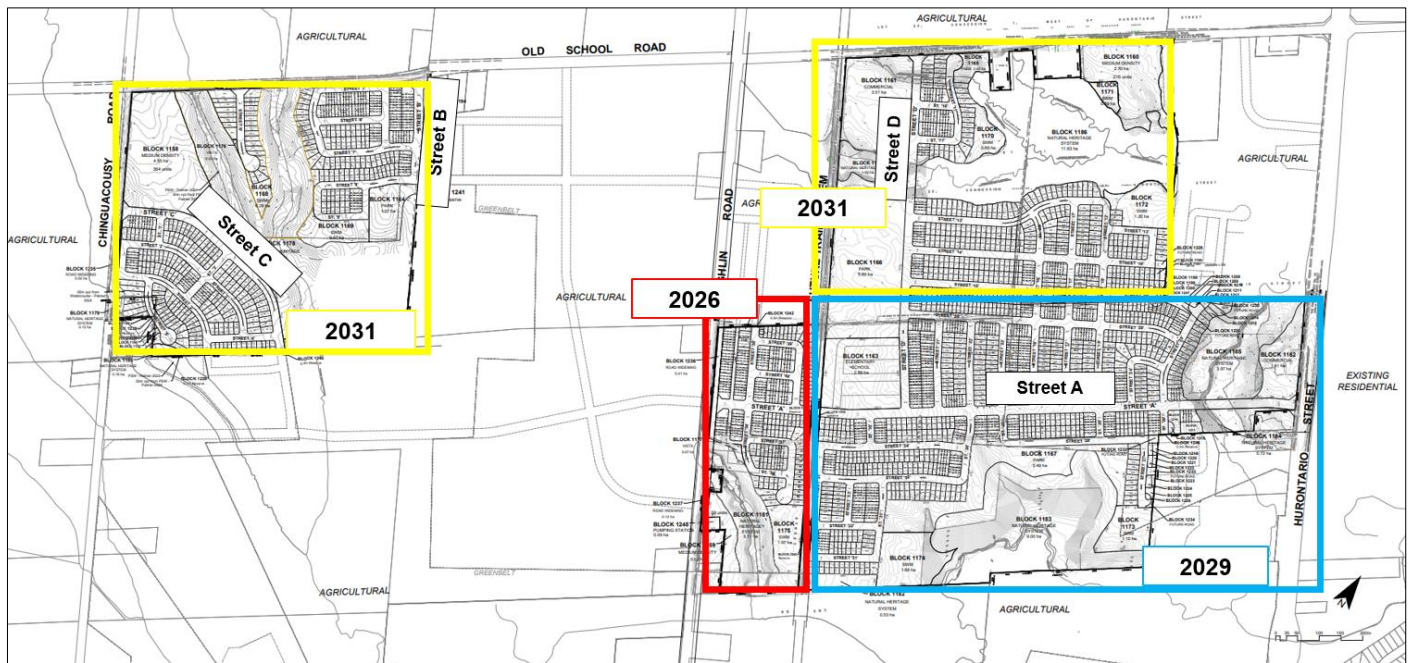
In order to establish the site traffic distribution for the subject site, GHD considered the phasing of the site and the anticipated construction of each roadway and is subject to change.

Under the first horizon year in 2026, only the blocks within the vicinity of Street 'A' between McLaughlin Road and the rail line (formerly known as the Orangeville Brampton Railway) are anticipated to be built out. As a result, all site traffic was assumed to enter and exit the site through the intersection of McLaughlin Road and Street 'A'.

Under the 2029 horizon year, it is anticipated that the phasing continues towards the east up to Hurontario Street. Under this horizon year, it is assumed that the entirety of Street 'A' is built-out in addition to a proposed signalized intersection at Street 'A' and Hurontario Street.

As construction is assumed to be completed by 2031, the remaining units and roadways will be built-out providing a third access onto the external road network with Street 'D' providing a north/south connection between Old School Road and Street 'A'. In addition, the entirety of the western block is assumed to be built-out.

The general phasing of the subject site through the three horizon years is shown in **Figure 10**, with the breakdown of each dwelling type per horizon year provided in **Table 3**. The phasing shown in the figure below is not to scale and is only provided to give a general idea of the phasing for the subject lands.



**Figure 10** Phasing Breakdown

**Table 3** Dwelling Unit Count per Horizon Year

Horizon Year	Build-out	Detached	Townhouse	Medium Density	Commercial	School
2026	Phase 1	171 units	127 units	57 units	N/A	N/A
2029	Phases 1-4	684 units	508 units	273 units	N/A	N/A

Horizon Year	Build-out	Detached	Townhouse	Medium Density	Commercial	School
2031	Full Build-out	1,025 units	764 units	690 units	132,396.1 ft <sup>2</sup>	606 Students

Despite the commercial and elementary school blocks being located within areas identified as being under 2029 phasing, it was assumed that both blocks would only generate site traffic once the entire subdivision is built-out under the 2031 horizon year.

The distribution of the site-generated traffic was based on a review of the 2016 Transportation Tomorrow Survey (TTS) with the trip distribution summarized in **Table 4** (without the GTA West Highway) and **Table 5** (with the GTA West Highway) below.

**Table 4** *Trips Distribution – Without GTA West Highway*

Origin/Destination	AM Peak Hour		PM Peak Hour	
	Percentage of Inbound Trips	Percentage of Outbound Trips	Percentage of Inbound Trips	Percentage of Outbound Trips
South to Highway 410	30%	45%	45%	35%
West on Old School Road	4%	4%	4%	5%
East on Old School Road	1%	0%	0%	1%
North on McLaughlin Road	8%	5%	4%	5%
South on McLaughlin Road	16%	13%	14%	16%
North on Hurontario Street	10%	5%	4%	5%
South on Hurontario Street	15%	15%	15%	16%
South on Chinguacousy Road	16%	13%	14%	16%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**Table 5 Trips Distribution – With GTA West Highway**

Origin/Destination	AM Peak Hour		PM Peak Hour	
	Percentage of Inbound Trips	Percentage of Outbound Trips	Percentage of Inbound Trips	Percentage of Outbound Trips
South to Highway 410	25%	35%	33%	30%
West on Old School Road	5%	5%	3%	5%
East on Old School Road	0%	0%	0%	0%
North on McLaughlin Road	8%	5%	3%	5%
South on McLaughlin Road	15%	10%	14%	15%
North on Hurontario Street	8%	5%	4%	5%
South on Hurontario Street	19%	25%	24%	20%
South on Chinguacousy Road	15%	10%	14%	15%
North on Hurontario to the GTA West Highway	5%	5%	5%	5%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

The estimated site trips generated by the subdivision and distributed to the study area road network for the weekday a.m. and p.m. peak hours are shown in **Figure 29**, **Figure 30**, and **Figure 31** for the 2026, 2029, and 2031 horizon year and beyond for the scenario without the GTA West Highway and **Figure 32**, **Figure 33**, and **Figure 34** for the 2026, 2029, and 2031 horizon year and beyond for the scenario with the proposed GTA West Highway within **Appendix A**.

The portion of the subject lands located to the east of McLaughlin Road has been assumed to have one access onto the external road network under the 2026 horizon year (McLaughlin Road and Street 'A'), a second access under the 2029 horizon year (Hurontario Street and Street 'A'), and a third access under the 2031 horizon year (Old School Road Street 'D'). Once multiple accesses have been constructed for this portion of the subject lands, site traffic was assigned to each access depending on the shortest route between the site and the external road network.

With only one access to the external road network under the 2026 horizon year, the shortest route between the subject site and Highway 410 would be provided through the new Highway 410/Hurontario Street interchange at Tim Manley as discussed in **Section 4.2.2**. Once a connection to Hurontario is established under the 2029 horizon year the site generated traffic would have its shortest route to Highway 410 provided through the new connection.



## 6. Future Total Traffic

The future total traffic conditions in the weekday a.m. and p.m. peak hours for the 2026, 2029, 2031, 2036, and 2041 planning horizons were derived by combining the projected future background traffic with the corresponding estimated site generated traffic. The resulting traffic volumes are presented in **Figure 36, Figure 37, Figure 38, and Figure 39** for the scenario without the GTA West Highway and **Figure 40, Figure 41, Figure 42, Figure 43, and Figure 44** for the scenario with the GTA West Highway within **Appendix A**.

## 7. Capacity Analysis

The capacity analysis identifies how well the intersections and driveways are operating. The analysis contained within this report utilized the Highway Capacity Manual (HCM) 2000 procedure within the Synchro Version 11 Software package. The reported intersection volume-to-capacity ratios (v/c) are a measure of the saturation volume for each turning movement, while the levels-of-service (LOS) are a measure of the average delay for each turning movement. Queuing characteristics are reported as the predicted 95th percentile queue for each turning movement. Both pedestrian crossing volumes and heavy vehicle proportions are included in the analyses. The peak hour factors from the existing traffic counts was used to analyze existing and future traffic conditions.

The analysis includes identification and required modifications and improvements (if any) at intersections where the addition of background growth or background growth plus site-generated traffic volumes causes the following:

'Critical' intersections and movements for a signalized or unsignalized intersection include:

- V/C ratios for overall intersections operations, through movements, or shared through/turning movements increase to 0.90 or above;
- V/C ratios for exclusive movements increase to 1.00 or above; or
- 95<sup>th</sup> percentile queue length for individual movements that are projected to, or exceed, the storage length.

The following tables summarize the HCM capacity results for the study intersections during the weekday a.m. and p.m. peak hours under existing (2024), future background (2026, 2029, 2031, 2036 & 2041) and future total (2026, 2029, 2031, 2036 & 2041) traffic conditions. The detailed calculation sheets are provided in **Appendix D**. The SimTraffic queuing reports are also provided in **Appendix D**.

### 7.1 Old School Road and Chinguacousy Road

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic condition are summarized in the following table.

**Table 6** Capacity analysis of Old School Road and Chinguacousy Road (Without Highway 413)

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Existing 2024	EBTLR = 0.28 (A) 9	EBTLR = 0 m	EBTLR = 0.24 (A) 9	EBTLR = 0 m
	WBTLR = 0.21 (A) 9	WBTLR = 0 m	WBTLR = 0.42 (B) 11	WBTLR = 0 m
	NBTLR = 0.14 (A) 8	NBTLR = 0 m	NBTLR = 0.18 (A) 9	NBTLR = 0 m
	SBTLR = 0.13 (A) 9	SBTLR = 0 m	SBTLR = 0.11 (A) 9	SBTLR = 0 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Background 2026	EBTLR = 0.4 (B) 13 WBL = 0.18 (B) 10 WBTR = 0.31 (A) 11 NBTLR = 0.52 (B) 14 SBTLR = 0.32 (B) 12	EBTLR = 0 m WBL = 0 m WBTR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.45 (C) 17 WBL = 0.41 (C) 15 WBTR = 0.67 (A) 23 NBTLR = 0.85 (E) 36 SBTLR = 0.41 (C) 16	EBTLR = 0 m WBL = 0 m WBTR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Total 2026	EBTLR = 0.4 (B) 13 WBL = 0.18 (B) 10 WBTR = 0.32 (A) 11 NBTLR = 0.52 (B) 14 SBTLR = 0.32 (B) 12	EBTLR = 0 m WBL = 0 m WBTR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.47 (C) 17 WBL = 0.41 (C) 15 WBTR = 0.68 (A) 24 NBTLR = 0.86 (E) 38 SBTLR = 0.42 (C) 16	EBTLR = 0 m WBL = 0 m WBTR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Background 2029	<u>Overall: 0.45 (A) 9</u> EBTLR = 0.57 (B) 14 WBL = 0.46 (B) 13 WBTR = 0.43 (B) 12 NBTLR = 0.4 (A) 6 SBTLR = 0.25 (A) 5	EBTLR = 25 m WBL = 15 m WBTR = 20 m NBTLR = 25 m SBTLR = 20 m	<u>Overall: 0.67 (C) 21</u> EBTLR = 0.36 (C) 20 WBL = 0.63 (C) 28 WBTR = 0.54 (C) 23 NBTLR = 0.7 (C) 21 SBTLR = 0.32 (B) 14	EBTLR = 45 m WBL = 55 m WBTR = 70 m NBTLR = 105 m SBTLR = 40 m
Future Total 2029	<u>Overall: 0.46 (A) 9</u> EBTLR = 0.58 (B) 14 WBL = 0.5 (B) 13 WBTR = 0.5 (B) 12 NBTLR = 0.41 (A) 6 SBTLR = 0.27 (A) 5	EBTLR = 25 m WBL = 15 m WBTR = 20 m NBTLR = 30 m SBTLR = 20 m	<u>Overall: 0.73 (C) 23</u> EBTLR = 0.42 (C) 21 WBL = 0.74 (C) 35 WBTR = 0.61 (C) 25 NBTLR = 0.73 (C) 22 SBTLR = 0.35 (B) 14	EBTLR = 55 m WBL = 75 m WBTR = 80 m NBTLR = 110 m SBTLR = 40 m
Future Background 2031	<u>Overall: 0.57 (C) 22</u> EBTLR = 0.73 (D) 43 WBL = 0.51 (C) 27 WBTR = 0.38 (C) 25 NBTLR = 0.52 (B) 15 SBTLR = 0.29 (B) 12	EBTLR = 75 m WBL = 35 m WBTR = 50 m NBTLR = 90 m SBTLR = 45 m	<u>Overall: 0.85 (C) 32</u> EBTLR = 0.81 (D) 54 WBL = 0.88 (D) 50 WBTR = 0.61 (C) 29 NBTLR = 0.78 (C) 25 SBTLR = 0.36 (B) 14	EBTLR = 85 m WBL = 80 m WBTR = 90 m NBTLR = 160 m SBTLR = 50 m
Future Total 2031	<u>Overall: 0.68 (C) 25</u> EBTLR = 0.76 (D) 44 WBL = 0.7 (C) 33 WBTR = 0.44 (C) 26 NBTLR = 0.63 (B) 18 SBTLR = 0.32 (B) 13	EBTLR = 80 m WBL = 45 m WBTR = 60 m NBTLR = 115 m SBTLR = 50 m	<u>Overall: 1.02 (D) 54</u> EBTLR = 0.91 (E) 69 WBL = 1.21 (F) 148 WBTR = 0.68 (C) 31 NBTLR = 0.86 (C) 30 SBTLR = 0.4 (B) 15	EBTLR = 105 m WBL = 130 m WBTR = 105 m NBTLR = 205 m SBTLR = 55 m
Future Background 2036	<u>Overall: 0.6 (C) 23</u> EBTLR = 0.75 (D) 42 WBL = 0.57 (C) 28 WBTR = 0.39 (C) 25 NBTLR = 0.54 (B) 16 SBTLR = 0.31 (B) 12	EBTLR = 80 m WBL = 35 m WBTR = 50 m NBTLR = 95 m SBTLR = 50 m	<u>Overall: 0.89 (C) 34</u> EBTLR = 0.81 (D) 52 WBL = 0.93 (E) 59 WBTR = 0.65 (C) 29 NBTLR = 0.81 (C) 27 SBTLR = 0.37 (B) 15	EBTLR = 85 m WBL = 80 m WBTR = 100 m NBTLR = 175 m SBTLR = 55 m
Future Total 2036	<u>Overall: 0.72 (C) 26</u> EBTLR = 0.77 (D) 44 WBL = 0.78 (D) 41 WBTR = 0.46 (C) 26	EBTLR = 85 m WBL = 50 m WBTR = 60 m	<u>Overall: 1.02 (D) 45</u> EBTLR = 0.89 (E) 62 WBL = 0.99 (E) 69 WBTR = 0.64 (C) 26	EBTLR = 110 m WBL = 115 m WBTR = 105 m NBTLR = 230 m SBTLR = 65 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
	NBTLR = 0.65 (B) 19 SBTLR = 0.34 (B) 13	NBTLR = 120 m SBTLR = 50 m	NBTLR = <b>0.97</b> (D) 50 SBTLR = 0.49 (B) 18	
Future Background 2041	<u>Overall: 0.57 (B) 10</u> EBTLR = 0.54 (B) 11 WBL = 0.49 (B) 11 WBTR = 0.42 (B) 10 NBTLR = 0.58 (B) 10 SBTLR = 0.38 (A) 8	EBTLR = 30 m WBL = 20 m WBTR = 20 m NBTLR = 60 m SBTLR = 30 m	<u>Overall: <b>0.93</b> (D) 39</u> EBTLR = 0.8 (D) 54 WBL = 0.99 (E) 79 WBTR = 0.71 (C) 34 NBTLR = 0.83 (C) 29 SBTLR = 0.39 (B) 15	EBTLR = 95 m WBL = 85 m WBTR = 110 m NBTLR = 185 m SBTLR = 55 m
Future Total 2041	<u>Overall: 0.67 (B) 12</u> EBTLR = 0.54 (B) 11 WBL = 0.62 (B) 14 WBTR = 0.47 (B) 10 NBTLR = 0.7 (B) 13 SBTLR = 0.41 (A) 8	EBTLR = 30 m WBL = 25 m WBTR = 25 m NBTLR = 75 m SBTLR = 30 m	<u>Overall: <b>0.92</b> (D) 47</u> EBTLR = 0.86 (E) 66 WBL = 0.97 (E) 66 WBTR = 0.7 (D) 36 NBTLR = <b>0.94</b> (D) 48 SBTLR = 0.48 (C) 22	EBTLR = 130 m WBL = 120 m WBTR = 140 m NBTLR = 265 m SBTLR = 75 m

Under existing conditions, the unsignalized intersection of Old School Road and Chinguacousy Road is reported to operate satisfactorily with substantial reserve capacity, low levels of delay and negligible queueing. All approaches are operating with delays of 9 seconds or less during the a.m. peak and 11 seconds or less during the p.m. peak.

With the addition of corridor growth and background traffic under the 2026 future background scenario, the intersection continues to operate at satisfactory levels with only the northbound approach operate at a critical level (v/c ratio of 0.85 LOS E). A westbound left-turn lane was provided in order to mitigate the delays for that movement. With the addition of site traffic from Phase 1 of the development, the intersection continues to operate satisfactory levels with the northbound approach continuing to operate at a critical level, increasing by 0.01 to 0.86 LOS E.

With the addition of corridor growth and background traffic under the 2029 future background scenario, the signalization of the intersection is required to accommodate future growth at the intersection. As a signalized intersection, it operates with an overall v/c ratio of 0.45 LOS A during the a.m. peak hour and 0.67 LOS C during the p.m. peak hour with no critical movements.

Under the 2029 future total scenario, with the addition of site generated traffic, the intersection operates with an overall v/c ratio of 0.46 LOS A during the a.m. peak hour and 0.73 LOS C during the p.m. peak hour. The site continues to have a negligible impact on the operation of the intersection.

Under the 2031 future background condition, with the addition of corridor growth and background development traffic, the intersection operates with an overall v/c ratio of 0.58 LOS C during the a.m. peak hour and 0.85 LOS C during the p.m. peak hour. The overall intersection operates at a critical level during the p.m. peak hour.

With the addition of site generated traffic under the future total 2031 condition, the intersection is reported to operate with an overall v/c ratio of 0.68 LOS C during the a.m. peak hour and 1.02 LOS D during the p.m. peak hour, including a v/c ratio of 1.21 for the westbound left-turn movement during the p.m. peak hour. Despite the critical movements during the p.m. peak hour, further signal improvements are provided under the future horizon years to mitigate the delays.

Under the ultimate horizon year, the intersection operates with an overall v/c ratio of 0.67 LOS B during the a.m. peak hour and 0.92 LOS D during the p.m. peak hour. Despite the critical operations during the p.m. peak hour, all movements as well as the overall intersection operates below a critical level during both peak hours. As previously discussed, the Town is currently completing a Class EA along Chinguacousy and a widening to a four-lane cross-section is planned along Chinguacousy Road.

## 7.2 Old School Road and McLaughlin Road

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions out are summarized in the following table.

**Table 7 Capacity analysis of Old School Road and McLaughlin Road (Without Highway 413)**

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Existing 2024	EBTLR = 0.41 (B) 12 WBTLR = 0.35 (B) 11 NBTLR = 0.22 (A) 10 SBTLR = 0.24 (B) 10	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.36 (B) 12 WBTLR = 0.61 (C) 16 NBTLR = 0.35 (B) 12 SBTLR = 0.14 (B) 10	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Background 2026	EBTLR = <b>0.91</b> (E) 48 WBL = 0.37 (C) 14 WBTR = 0.55 (A) 18 NBTL = 0.18 (C) 12 NBR = 0.56 (A) 18 SBTLR = 0.39 (C) 17	EBTLR = 0 m WBL = 0 m WBTR = 0 m NBTL = 0 m NBR = 0 m SBTLR = 0 m	EBTLR = <b>0.94</b> (F) 55 WBL = 0.65 (F) 24 WBTR = <b>1.04</b> (A) 78 NBTL = 0.37 (C) 15 NBR = 0.62 (A) 20 SBTLR = 0.21 (B) 15	EBTLR = 0 m WBL = 0 m WBTR = 0 m NBTL = 0 m NBR = 0 m SBTLR = 0 m
Future Total 2026	EBTLR = <b>0.92</b> (F) 52 WBL = 0.38 (C) 15 WBTR = 0.57 (A) 19 NBTL = 0.22 (C) 12 NBR = 0.58 (A) 19 SBTLR = 0.4 (C) 17	EBTLR = 0 m WBL = 0 m WBTR = 0 m NBTL = 0 m NBR = 0 m SBTLR = 0 m	EBTLR = <b>0.97</b> (F) 62 WBL = 0.68 (F) 26 WBTR = <b>1.06</b> (A) 85 NBTL = 0.39 (C) 15 NBR = 0.63 (A) 21 SBTLR = 0.23 (C) 15	EBTLR = 0 m WBL = 0 m WBTR = 0 m NBTL = 0 m NBR = 0 m SBTLR = 0 m
Future Background 2029	<u>Overall: 0.55 (C) 21</u> EBTLR = 0.84 (C) 33 WBL = 0.59 (B) 17 WBTR = 0.36 (B) 13 NBTL = 0.16 (B) 16 NBR = 0.23 (B) 17 SBTLR = 0.27 (B) 18	EBTLR = 105 m WBL = 30 m WBTR = 45 m NBTL = 20 m NBR = 20 m SBTLR = 35 m	<u>Overall: 0.65 (B) 20</u> EBTLR = 0.64 (C) 21 WBL = 0.62 (A) 10 WBTR = 0.45 (A) 7 NBTL = 0.63 (D) 39 NBR = 0.26 (C) 33 SBTLR = 0.3 (C) 34	EBTLR = 125 m WBL = 45 m WBTR = 75 m NBTL = 50 m NBR = 25 m SBTLR = 25 m
Future Total 2029	<u>Overall: 0.6 (C) 22</u> EBTLR = 0.87 (C) 34 WBL = 0.65 (B) 18 WBTR = 0.38 (B) 13 NBTL = 0.27 (B) 19 NBR = 0.3 (B) 19 SBTLR = 0.32 (B) 19	EBTLR = 125 m WBL = 30 m WBTR = 50 m NBTL = 30 m NBR = 25 m SBTLR = 40 m	<u>Overall: 0.78 (C) 24</u> EBTLR = 0.77 (C) 28 WBL = 0.77 (B) 17 WBTR = 0.52 (A) 9 NBTL = 0.71 (D) 42 NBR = 0.4 (C) 34 SBTLR = 0.44 (C) 34	EBTLR = 175 m WBL = 70 m WBTR = 105 m NBTL = 60 m NBR = 35 m SBTLR = 35 m
Future Background 2031	<u>Overall: 0.53 (B) 17</u> EBTLR = 0.27 (A) 6 WBL = 0.48 (B) 10 WBTR = 0.15 (A) 6 NBTL = 0.35 (C) 28 NBR = 0.69 (D) 35 SBTLR = 0.51 (C) 29	EBTLR = 40 m WBL = 50 m WBTR = 25 m NBTL = 30 m NBR = 60 m SBTLR = 40 m	<u>Overall: 0.72 (B) 18</u> EBTLR = 0.65 (C) 26 WBL = 0.66 (A) 9 WBTR = 0.28 (A) 5 NBTL = 0.6 (C) 30 NBR = 0.31 (C) 26 SBTLR = 0.27 (C) 25	EBTLR = 65 m WBL = 70 m WBTR = 35 m NBTL = 45 m NBR = 25 m SBTLR = 25 m



Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Total 2031	Overall: <u>0.79 (C) 21</u> EBTLR = 0.42 (B) 10 WBL = 0.79 (C) 30 WBTR = 0.21 (A) 9 NBTL = 0.53 (C) 28 NBR = 0.8 (D) 40 SBTLR = 0.47 (C) 27	EBTLR = 70 m WBL = 100 m WBTR = 35 m NBTL = 50 m NBR = 85 m SBTLR = 50 m	Overall: <u>0.89 (C) 24</u> EBTLR = 0.69 (C) 29 WBL = 0.85 (C) 26 WBTR = 0.35 (A) 7 NBTL = 0.75 (D) 42 NBR = 0.39 (C) 31 SBTLR = 0.52 (C) 33	EBTLR = 95 m WBL = 120 m WBTR = 50 m NBTL = 70 m NBR = 35 m SBTLR = 40 m
Future Background 2036	Overall: <u>0.49 (C) 22</u> EBTLR = 0.73 (C) 33 WBL = 0.66 (C) 20 WBTR = 0.23 (B) 15 NBTL = 0.17 (B) 17 NBR = 0.28 (B) 18 SBTLR = 0.28 (B) 18	EBTLR = 70 m WBL = 40 m WBTR = 30 m NBTL = 30 m NBR = 20 m SBTLR = 45 m	Overall: <u>0.55 (C) 20</u> EBTLR = 0.42 (B) 19 WBL = 0.72 (B) 11 WBTR = 0.28 (A) 6 NBTL = 0.69 (D) 45 NBR = 0.31 (D) 37 SBTLR = 0.36 (D) 37	EBTLR = 85 m WBL = 65 m WBTR = 45 m NBTL = 65 m NBR = 30 m SBTLR = 35 m
Future Total 2036	Overall: <u>0.62 (C) 27</u> EBTLR = 0.86 (D) 39 WBL = 0.76 (C) 30 WBTR = 0.26 (B) 14 NBTL = 0.38 (C) 23 NBR = 0.33 (C) 22 SBTLR = 0.37 (C) 23	EBTLR = 115 m WBL = 60 m WBTR = 35 m NBTL = 50 m NBR = 30 m SBTLR = 55 m	Overall: <u>0.75 (C) 28</u> EBTLR = 0.68 (C) 32 WBL = 0.84 (C) 29 WBTR = 0.38 (A) 9 NBTL = 0.79 (D) 51 NBR = 0.36 (D) 36 SBTLR = 0.59 (D) 41	EBTLR = 120 m WBL = 135 m WBTR = 70 m NBTL = 85 m NBR = 30 m SBTLR = 50 m
Future Background 2041	Overall: <u>0.67 (B) 13</u> EBTLR = 0.38 (A) 9 WBL = 0.71 (B) 17 WBTR = 0.22 (A) 8 NBTL = 0.27 (B) 16 NBR = 0.59 (B) 20 SBTLR = 0.46 (B) 18	EBTLR = 45 m WBL = 60 m WBTR = 25 m NBTL = 35 m NBR = 70 m SBTLR = 55 m	Overall: <u>0.8 (C) 20</u> EBTLR = 0.72 (C) 26 WBL = 0.82 (C) 22 WBTR = 0.34 (A) 7 NBTL = 0.61 (C) 28 NBR = 0.32 (C) 24 SBTLR = 0.3 (C) 24	EBTLR = 85 m WBL = 105 m WBTR = 45 m NBTL = 65 m NBR = 25 m SBTLR = 30 m
Future Total 2041	Overall: <u>0.88 (C) 24</u> EBTLR = 0.44 (B) 10 WBL = 0.9 (D) 43 WBTR = 0.23 (A) 8 NBTL = 0.61 (C) 33 NBR = 0.85 (D) 46 SBTLR = 0.61 (C) 32	EBTLR = 65 m WBL = 105 m WBTR = 30 m NBTL = 60 m NBR = 115 m SBTLR = 65 m	Overall: <u>0.92 (C) 30</u> EBTLR = 0.87 (D) 39 WBL = 0.93 (D) 45 WBTR = 0.41 (A) 9 NBTL = 0.8 (D) 45 NBR = 0.36 (C) 30 SBTLR = 0.6 (C) 35	EBTLR = 120 m WBL = 150 m WBTR = 60 m NBTL = 85 m NBR = 30 m SBTLR = 50 m

Under existing conditions, the unsignalized intersection of Old School Road and McLaughlin Road is reported to operate satisfactorily with substantial reserve capacity, low levels of delay and negligible queueing. All approaches are operating with delays of 12 seconds or less during the a.m. peak and 16 seconds or less during the p.m. peak.

With the continued operation of the intersection with an all-way stop-control under the 2026 future background condition, the intersection operates at satisfactory levels with a v/c ratio of 1.04 in the westbound through/right movement during the p.m. peak hour. In order to mitigate some of the delays, an auxiliary left-turn lane has been provided the westbound approach and a right-turn lane in the northbound approach in order to accommodate future volumes generated by corridor growth and background developments.

With the addition of Phase 1 site generated traffic under the 2026 horizon year, the intersection continues to operate at a similar level under the future total scenario as it did under the future background condition.

In order to accommodate future traffic levels, the intersection was converted to a signalized intersection under the 2029 future background scenario. As a signalized intersection, it operates with an overall v/c ratio of 0.55 LOS C during the a.m. peak hour and 0.65 LOS B during the p.m. peak hour without any critical movements.

With the addition of site generated traffic from Phases 1-4, the intersection continues to operate at satisfactory levels with an overall v/c ratio of 0.60 LOS C during the a.m. peak hour and 0.78 LOS C during the p.m. peak hour.

Under the remaining horizon years, with the addition of corridor growth and background development traffic under the future background scenarios and the site generated under the future total scenarios, the intersection continues to operate at satisfactory levels. Under the ultimate future total scenario, the intersection operates at critical levels during both peak hours with v/c ratios of 0.88 LOS C and 0.92 LOS C respectively, however they remain below the theoretical capacity levels during both peak hours.

## 7.3 Old School Road and Hurontario Street

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.

**Table 8 Capacity analysis of Old School Road and Hurontario Street (Without Highway 413)**

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Existing 2024	<u>Overall: 0.87 (C) 31</u> EBL = 0.21 (D) 36 EBTR = <b>0.91</b> (E) 74 WBL = 0.35 (D) 39 WBTR = 0.47 (D) 43 NBL = 0.52 (C) 26 NBTR = 0.61 (B) 18 SBL = 0.15 (B) 12 SBTR = <b>0.9</b> (C) 30	EBL = 20 m EBTR = 125 m WBL = 15 m WBTR = 55 m NBL = 15 m NBTR = 115 m SBL = 10 m SBTR = 260 m	<u>Overall: 0.77 (C) 25</u> EBL = 0.45 (D) 41 EBTR = 0.73 (D) 53 WBL = 0.33 (D) 40 WBTR = 0.72 (D) 52 NBL = 0.46 (B) 11 NBTR = 0.81 (C) 21 SBL = 0.23 (B) 17 SBTR = 0.56 (B) 19	EBL = 25 m EBTR = 75 m WBL = 20 m WBTR = 80 m NBL = 25 m NBTR = 215 m SBL = 5 m SBTR = 110 m
Future Background 2026	<u>Overall: <b>0.97</b> (C) 34</u> EBL = 0.86 (D) 52 EBTR = 0.59 (C) 32 WBL = <b>1.02</b> (F) 98 WBTR = 0.3 (C) 27 NBL = 0.95 (F) 131 NBT = 0.68 (C) 24 NBR = 0.1 (B) 16 SBL = 0.36 (C) 28 SBT = 0.88 (C) 31 SBR = 0.16 (B) 17	EBL = 130 m EBTR = 105 m WBL = 120 m WBTR = 55 m NBL = 40 m NBT = 115 m NBR = 10 m SBL = 15 m SBT = 190 m SBR = 20 m	<u>Overall: <b>1.1</b> (D) 40</u> EBL = <b>1.09</b> (F) 105 EBTR = 0.68 (D) 46 WBL = 0.62 (D) 38 WBTR = 0.85 (E) 65 NBL = 0.78 (D) 42 NBT = <b>0.95</b> (D) 35 NBR = 0.26 (B) 16 SBL = 0.51 (D) 54 SBT = 0.81 (D) 37 SBR = 0.3 (B) 15	EBL = 145 m EBTR = 90 m WBL = 55 m WBTR = 105 m NBL = 60 m NBT = 245 m NBR = 35 m SBL = 25 m SBT = 135 m SBR = 35 m
Future Total 2026	<u>Overall: <b>0.97</b> (C) 34</u> EBL = 0.88 (D) 54 EBTR = 0.59 (C) 32 WBL = <b>1.02</b> (F) 98 WBTR = 0.3 (C) 27 NBL = 0.95 (F) 131 NBT = 0.68 (C) 24	EBL = 135 m EBTR = 105 m WBL = 120 m WBTR = 55 m NBL = 40 m NBT = 115 m	<u>Overall: <b>1.1</b> (D) 41</u> EBL = <b>1.06</b> (F) 93 EBTR = 0.65 (D) 44 WBL = 0.6 (D) 37 WBTR = 0.85 (E) 65 NBL = 0.8 (D) 46 NBT = <b>0.96</b> (D) 38	EBL = 145 m EBTR = 90 m WBL = 50 m WBTR = 105 m NBL = 65 m NBT = 250 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
	NBR = 0.1 (B) 16 SBL = 0.36 (C) 28 SBT = 0.88 (C) 31 SBR = 0.16 (B) 17	NBR = 10 m SBL = 15 m SBT = 190 m SBR = 20 m	NBR = 0.26 (B) 17 SBL = 0.51 (D) 54 SBT = 0.82 (D) 37 SBR = 0.31 (B) 15	NBR = 35 m SBL = 25 m SBT = 135 m SBR = 35 m
Future Background 2029	<u>Overall: 1.1 (E) 63</u> EBL = 1.05 (F) 86 EBTR = 1.14 (F) 140 WBL = 1.2 (F) 151 WBTR = 0.85 (E) 72 NBL = 0.97 (F) 138 NBT = 0.83 (C) 31 NBR = 0.16 (B) 18 SBL = 0.62 (E) 66 SBT = 1.03 (E) 58 SBR = 0.24 (B) 19	EBL = 155 m EBTR = 170 m WBL = 155 m WBTR = 95 m NBL = 45 m NBT = 150 m NBR = 20 m SBL = 25 m SBT = 260 m SBR = 35 m	<u>Overall: 1.38 (F) 104</u> EBL = 1.57 (F) 306 EBTR = 0.83 (E) 60 WBL = 0.95 (E) 71 WBTR = 0.86 (E) 66 NBL = 0.89 (E) 66 NBT = 1.24 (F) 145 NBR = 0.47 (C) 25 SBL = 0.28 (C) 29 SBT = 0.85 (D) 36 SBR = 0.46 (C) 29	EBL = 240 m EBTR = 115 m WBL = 105 m WBTR = 115 m NBL = 75 m NBT = 355 m NBR = 75 m SBL = 10 m SBT = 160 m SBR = 60 m
Future Total 2029	<u>Overall: 1.11 (E) 65</u> EBL = 1.06 (F) 90 EBTR = 1.15 (F) 144 WBL = 1.2 (F) 153 WBTR = 0.88 (E) 76 NBL = 0.97 (F) 138 NBT = 0.85 (C) 32 NBR = 0.16 (B) 18 SBL = 0.62 (E) 66 SBT = 1.04 (E) 62 SBR = 0.24 (B) 19	EBL = 160 m EBTR = 175 m WBL = 155 m WBTR = 100 m NBL = 45 m NBT = 155 m NBR = 20 m SBL = 25 m SBT = 260 m SBR = 35 m	<u>Overall: 1.39 (F) 107</u> EBL = 1.57 (F) 306 EBTR = 0.86 (E) 63 WBL = 0.95 (E) 71 WBTR = 0.88 (E) 69 NBL = 0.89 (E) 66 NBT = 1.26 (F) 152 NBR = 0.47 (C) 25 SBL = 0.28 (C) 29 SBT = 0.87 (D) 37 SBR = 0.47 (C) 29	EBL = 240 m EBTR = 120 m WBL = 105 m WBTR = 125 m NBL = 75 m NBT = 365 m NBR = 80 m SBL = 10 m SBT = 165 m SBR = 65 m
Future Background 2031	<u>Overall: 1.14 (E) 61</u> EBL = 1.21 (F) 149 EBTR = 0.85 (E) 62 WBL = 1.06 (F) 99 WBTR = 0.52 (D) 50 NBL = 0.98 (F) 141 NBT = 0.87 (C) 31 NBR = 0.17 (B) 17 SBL = 0.66 (E) 70 SBT = 1.05 (E) 64 SBR = 0.28 (B) 18	EBL = 185 m EBTR = 75 m WBL = 140 m WBTR = 40 m NBL = 45 m NBT = 170 m NBR = 20 m SBL = 30 m SBT = 280 m SBR = 40 m	<u>Overall: 1.28 (F) 106</u> EBL = 1.63 (F) 332 EBTR = 0.59 (D) 50 WBL = 0.91 (E) 64 WBTR = 0.66 (D) 53 NBL = 0.85 (E) 58 NBT = 1.25 (F) 147 NBR = 0.45 (C) 21 SBL = 0.29 (C) 28 SBT = 0.86 (C) 33 SBR = 0.55 (C) 28	EBL = 285 m EBTR = 50 m WBL = 100 m WBTR = 55 m NBL = 70 m NBT = 395 m NBR = 75 m SBL = 10 m SBT = 175 m SBR = 80 m
Future Total 2031	<u>Overall: 1.29 (E) 70</u> EBL = 1.23 (F) 157 EBTR = 1.02 (F) 97 WBL = 1.12 (F) 119 WBTR = 0.53 (D) 50 NBL = 1.3 (F) 246 NBT = 0.9 (C) 34 NBR = 0.17 (B) 17	EBL = 195 m EBTR = 100 m WBL = 155 m WBTR = 45 m NBL = 45 m NBT = 180 m NBR = 20 m	<u>Overall: 1.31 (F) 115</u> EBL = 1.61 (F) 318 EBTR = 0.63 (D) 50 WBL = 0.91 (E) 65 WBTR = 0.68 (D) 54 NBL = 1.07 (F) 116 NBT = 1.29 (F) 164 NBR = 0.46 (C) 22	EBL = 290 m EBTR = 55 m WBL = 105 m WBTR = 55 m NBL = 110 m NBT = 405 m NBR = 75 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que.
	SBL = 0.66 (E) 70 SBT = <b>1.07</b> (E) 70 SBR = 0.3 (B) 19	SBL = 30 m SBT = 285 m SBR = 40 m	SBL = 0.29 (C) 28 SBT = <b>0.92</b> (D) 40 SBR = 0.61 (C) 31	SBL = 10 m SBT = 200 m SBR = 95 m
Future Background 2036	<u>Overall: <b>1.16</b> (E) 71</u> EBL = <b>1.23</b> (F) 159 EBTR = <b>0.96</b> (F) 82 WBL = <b>1.09</b> (F) 107 WBTR = 0.55 (D) 50 NBL = <b>1.03</b> (F) 156 NBT = <b>0.9</b> (C) 34 NBR = 0.17 (B) 17 SBL = 0.7 (E) 76 SBT = <b>1.1</b> (F) 81 SBR = 0.29 (B) 18	EBL = 195 m EBTR = 90 m WBL = 155 m WBTR = 45 m NBL = 45 m NBT = 180 m NBR = 20 m SBL = 30 m SBT = 300 m SBR = 40 m	<u>Overall: <b>1.34</b> (F) 120</u> EBL = <b>1.73</b> (F) 370 EBTR = 0.55 (D) 45 WBL = <b>0.98</b> (F) 81 WBTR = 0.63 (D) 48 NBL = <b>0.99</b> (F) 92 NBT = <b>1.31</b> (F) 173 NBR = 0.47 (C) 21 SBL = 0.28 (C) 27 SBT = 0.87 (C) 33 SBR = 0.57 (C) 27	EBL = 280 m EBTR = 50 m WBL = 95 m WBTR = 55 m NBL = 85 m NBT = 415 m NBR = 80 m SBL = 10 m SBT = 185 m SBR = 85 m
Future Total 2036	<u>Overall: <b>1.33</b> (F) 80</u> EBL = <b>1.27</b> (F) 172 EBTR = <b>1.16</b> (F) 146 WBL = <b>1.09</b> (F) 108 WBTR = 0.57 (D) 50 NBL = <b>1.37</b> (F) 271 NBT = <b>0.93</b> (D) 36 NBR = 0.17 (B) 17 SBL = 0.7 (E) 76 SBT = <b>1.11</b> (F) 85 SBR = 0.3 (B) 19	EBL = 200 m EBTR = 115 m WBL = 155 m WBTR = 45 m NBL = 45 m NBT = 185 m NBR = 20 m SBL = 30 m SBT = 305 m SBR = 40 m	<u>Overall: <b>1.43</b> (F) 130</u> EBL = <b>1.75</b> (F) 382 EBTR = 0.6 (D) 46 WBL = <b>1.04</b> (F) 98 WBTR = 0.64 (D) 48 NBL = <b>1.4</b> (F) 239 NBT = <b>1.33</b> (F) 182 NBR = 0.47 (C) 22 SBL = 0.28 (C) 27 SBT = 0.89 (C) 34 SBR = 0.59 (C) 28	EBL = 285 m EBTR = 55 m WBL = 110 m WBTR = 55 m NBL = 130 m NBT = 425 m NBR = 80 m SBL = 10 m SBT = 200 m SBR = 90 m
Future Background 2041	<u>Overall: <b>1.21</b> (E) 80</u> EBL = <b>1.32</b> (F) 195 EBTR = <b>1.06</b> (F) 110 WBL = <b>1.14</b> (F) 128 WBTR = 0.6 (D) 51 NBL = <b>1.1</b> (F) 176 NBT = 0.91 (C) 33 NBR = 0.17 (B) 16 SBL = 0.71 (E) 58 SBT = <b>1.12</b> (F) 89 SBR = 0.29 (B) 17	EBL = 210 m EBTR = 105 m WBL = 160 m WBTR = 50 m NBL = 35 m NBT = 185 m NBR = 20 m SBL = 30 m SBT = 310 m SBR = 40 m	<u>Overall: <b>1.38</b> (F) 132</u> EBL = <b>1.78</b> (F) 395 EBTR = 0.63 (D) 48 WBL = <b>0.99</b> (F) 81 WBTR = 0.65 (D) 48 NBL = <b>1.04</b> (F) 110 NBT = <b>1.36</b> (F) 195 NBR = 0.48 (C) 22 SBL = 0.3 (C) 27 SBT = <b>0.91</b> (D) 36 SBR = 0.58 (C) 28	EBL = 290 m EBTR = 55 m WBL = 110 m WBTR = 60 m NBL = 90 m NBT = 440 m NBR = 85 m SBL = 10 m SBT = 210 m SBR = 90 m
Future Total 2041	<u>Overall: <b>1.4</b> (F) 91</u> EBL = <b>1.35</b> (F) 208 EBTR = <b>1.27</b> (F) 188 WBL = <b>1.14</b> (F) 129 WBTR = 0.62 (D) 52 NBL = <b>1.42</b> (F) 290 NBT = <b>0.94</b> (D) 36 NBR = 0.18 (B) 16 SBL = 0.71 (E) 58	EBL = 215 m EBTR = 130 m WBL = 160 m WBTR = 50 m NBL = 45 m NBT = 195 m NBR = 20 m SBL = 30 m	<u>Overall: <b>1.47</b> (F) 142</u> EBL = <b>1.8</b> (F) 406 EBTR = 0.69 (D) 49 WBL = <b>1.01</b> (F) 87 WBTR = 0.66 (D) 48 NBL = <b>1.47</b> (F) 269 NBT = <b>1.39</b> (F) 205 NBR = 0.48 (C) 22 SBL = 0.3 (C) 27	EBL = 295 m EBTR = 60 m WBL = 115 m WBTR = 60 m NBL = 140 m NBT = 450 m NBR = 85 m SBL = 10 m



Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
	SBT = <b>1.13</b> (F) 93 SBR = 0.3 (B) 17	SBT = 315 m SBR = 40 m	SBT = <b>0.93</b> (D) 38 SBR = 0.61 (C) 29	SBT = 215 m SBR = 95 m

Under existing conditions, the intersection of Old School Road and Hurontario Street is reported to operate with an overall v/c ratio of 0.87 LOS C during the a.m. peak hour and 0.77 LOS C during the p.m. peak hour. The intersection operates without any critical movements during either the a.m. or p.m. peak hours.

Under the 2026 future background scenario, with the addition of corridor growth and some background development traffic, the intersection operates with an overall v/c ratio of 0.97 LOS C during the a.m. peak hour and 1.10 LOS D during the p.m. peak hour. In order to accommodate the future traffic volumes along Hurontario Street, a widening of Hurontario to a 6-lane cross-section was assumed and is consistent with previously submitted traffic studies from neighbour developments. With the widening, the westbound left-turn lane during the a.m. peak hour and eastbound left-turn lane during the p.m. peak hour are reported to continue to operate above capacity.

With the addition of site generated traffic from Phase 1 of the development, the intersection is reported to operate at a similar level as reported under the future background scenario with an overall v/c ratio of 0.97 LOS C and 1.10 LOS D during the a.m. and p.m. peak hours respectively. Both movements that were reported to operate above capacity continue to operate above capacity with no additional movements above capacity reported.

With continued corridor growth and background development traffic, the intersection is reported to operate with an overall v/c ratio of 1.10 LOS E during the a.m. peak hour and 1.38 LOS F during the p.m. peak hour with numerous movements reported to operate above capacity. With the addition of site generated traffic from Phases 1 through 4, the intersection continues to operate at similar levels under the 2029 future total scenario.

In order to accommodate further growth and background development traffic, a widening along Old School Road to a four-lane cross-section has been assumed to mitigate some of the delays in the east/west direction under the 2029 horizon year. The proposed development continues to have a marginal impact on the operation of the intersection.

With all background traffic and further corridor growth applied under the remaining horizon years, in addition to site generated traffic from the full build-out of the subject site, the intersection continues to operate above capacity. It is recommended that the MTO continues to monitor the intersection as development proceeds to identify where capacity is required.

## 7.4 Mayfield Road and Chinguacousy Road

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions out are summarized in the following table.

**Table 9** Capacity analysis of Mayfield Road and Chinguacousy Road (Without Highway 413)

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Existing 2024	<u>Overall: 0.6 (C) 24</u> EBTLR = 0.51 (A) 8 WBTLR = 0.57 (C) 22 NBTLR = 0.7 (E) 58 SBTLR = 0.43 (D) 48	EBTLR = 75 m WBTLR = 170 m NBTLR = 80 m SBTLR = 50 m	<u>Overall: 0.78 (C) 27</u> EBTLR = 0.56 (A) 8 WBTLR = 0.79 (C) 29 NBTLR = 0.77 (E) 64 SBTLR = 0.48 (D) 49	EBTLR = 90 m WBTLR = 230 m NBTLR = 90 m SBTLR = 55 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Background 2026	Overall: <u>0.41 (C) 24</u> EBTLR = 0.25 (A) 9 WBTLR = 0.3 (C) 24 NBTLR = 0.57 (D) 41 SBTLR = 0.65 (D) 45	EBTLR = 30 m WBTLR = 55 m NBTLR = 85 m SBTLR = 85 m	Overall: <u>0.52 (C) 31</u> EBTLR = 0.38 (C) 21 WBTLR = 0.54 (D) 45 NBTLR = 0.5 (C) 25 SBTLR = 0.26 (C) 21	EBTLR = 55 m WBTLR = 90 m NBTLR = 90 m SBTLR = 45 m
Future Total 2026	Overall: <u>0.42 (C) 24</u> EBTLR = 0.25 (A) 9 WBTLR = 0.31 (C) 24 NBTLR = 0.58 (D) 41 SBTLR = 0.66 (D) 45	EBTLR = 30 m WBTLR = 55 m NBTLR = 85 m SBTLR = 85 m	Overall: <u>0.54 (C) 31</u> EBTLR = 0.38 (C) 21 WBTLR = 0.55 (D) 45 NBTLR = 0.52 (C) 26 SBTLR = 0.26 (C) 21	EBTLR = 55 m WBTLR = 90 m NBTLR = 95 m SBTLR = 45 m
Future Background 2029	Overall: <u>0.47 (C) 30</u> EBTLR = 0.41 (C) 24 WBTLR = 0.5 (D) 44 NBTLR = 0.38 (B) 20 SBTLR = 0.44 (C) 21	EBTLR = 55 m WBTLR = 80 m NBTLR = 65 m SBTLR = 75 m	Overall: <u>0.59 (C) 29</u> EBTLR = 0.43 (C) 23 WBTLR = 0.61 (D) 38 NBTLR = 0.57 (C) 26 SBTLR = 0.3 (C) 20	EBTLR = 60 m WBTLR = 100 m NBTLR = 110 m SBTLR = 50 m
Future Total 2029	Overall: <u>0.51 (C) 30</u> EBTLR = 0.41 (C) 24 WBTLR = 0.95dl (D) 42 NBTLR = 0.42 (C) 20 SBTLR = 0.45 (C) 21	EBTLR = 55 m WBTLR = 85 m NBTLR = 75 m SBTLR = 75 m	Overall: <u>0.66 (C) 25</u> EBTLR = 0.43 (C) 23 WBTLR = 0.62 (C) 26 NBTLR = 0.7 (C) 30 SBTLR = 0.32 (C) 20	EBTLR = 60 m WBTLR = 75 m NBTLR = 145 m SBTLR = 55 m
Future Background 2031	Overall: <u>0.57 (C) 27</u> EBTLR = 0.59 (D) 37 WBL = 0.52 (C) 24 WBTR = 0.28 (C) 22 NBTLR = 0.43 (C) 21 SBTLR = 0.55 (C) 24	EBTLR = 75 m WBL = 35 m WBTR = 45 m NBTLR = 75 m SBTLR = 95 m	Overall: <u>0.74 (C) 27</u> EBTLR = 0.37 (B) 16 WBL = 0.7 (D) 44 WBTR = 0.29 (C) 23 NBTLR = 0.79 (D) 41 SBTLR = 0.43 (C) 29	EBTLR = 50 m WBL = 80 m WBTR = 70 m NBTLR = 155 m SBTLR = 70 m
Future Total 2031	Overall: <u>0.76 (C) 32</u> EBTLR = 0.7 (D) 44 WBL = 0.8 (D) 36 WBTR = 0.28 (C) 21 NBTLR = 0.5 (C) 23 SBTLR = 0.69 (C) 30	EBTLR = 80 m WBL = 75 m WBTR = 45 m NBTLR = 90 m SBTLR = 120 m	Overall: <u>0.86 (D) 35</u> EBTLR = 0.8 (D) 48 WBL = 0.9 (D) 54 WBTR = 0.39 (C) 24 NBTLR = 0.8 (C) 32 SBTLR = 0.41 (C) 20	EBTLR = 90 m WBL = 95 m WBTR = 60 m NBTLR = 185 m SBTLR = 65 m
Future Background 2036	Overall: <u>0.71 (C) 27</u> EBTLR = 0.48 (C) 26 WBL = 0.88 (E) 79 WBTR = 0.32 (C) 22 NBTLR = 0.45 (C) 20 SBTLR = 0.56 (C) 23	EBTLR = 65 m WBL = 75 m WBTR = 40 m NBTLR = 80 m SBTLR = 95 m	Overall: <u>0.85 (C) 26</u> EBTLR = 0.4 (B) 15 WBL = 0.82 (D) 44 WBTR = 0.31 (B) 14 NBTLR = 0.89 (D) 53 SBTLR = 0.51 (C) 33	EBTLR = 55 m WBL = 95 m WBTR = 45 m NBTLR = 190 m SBTLR = 80 m
Future Total 2036	Overall: <u>0.87 (C) 32</u> EBTLR = 0.61 (C) 31 WBL = 0.75 (C) 24 WBTR = 0.26 (B) 14 NBTLR = 0.65 (C) 28 SBTLR = <b>0.99</b> (E) 69	EBTLR = 85 m WBL = 80 m WBTR = 45 m NBTLR = 100 m SBTLR = 150 m	Overall: <u><b>0.94</b> (C) 35</u> EBTLR = 0.77 (D) 40 WBL = 0.91 (D) 53 WBTR = 0.38 (B) 19 NBTLR = <b>0.93</b> (D) 46 SBTLR = 0.51 (C) 22	EBTLR = 95 m WBL = 110 m WBTR = 65 m NBTLR = 220 m SBTLR = 75 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Background 2041	<u>Overall: 0.8 (C) 27</u> EBTLR = 0.43 (B) 18 WBL = 0.77 (E) 56 WBTR = 0.28 (B) 18 NBTLR = 0.62 (C) 33 SBTLR = 0.84 (D) 48	EBTLR = 60 m WBL = 70 m WBTR = 45 m NBTLR = 110 m SBTLR = 145 m	<u>Overall: 0.82 (C) 32</u> EBTLR = 0.78 (D) 41 WBL = 0.83 (D) 41 WBTR = 0.4 (C) 21 NBTLR = 0.77 (C) 34 SBTLR = 0.41 (C) 24	EBTLR = 100 m WBL = 75 m WBTR = 65 m NBTLR = 160 m SBTLR = 70 m
Future Total 2041	<u>Overall: <b>0.93</b> (C) 34</u> EBTLR = 0.73 (D) 36 WBL = 0.84 (D) 36 WBTR = 0.3 (B) 15 NBTLR = 0.67 (C) 28 SBTLR = <b>0.98</b> (E) 66	EBTLR = 95 m WBL = 105 m WBTR = 55 m NBTLR = 105 m SBTLR = 155 m	<u>Overall: <b>1.0</b> (D) 44</u> EBTLR = 0.89 (D) 50 WBL = 0.97 (E) 75 WBTR = 0.41 (C) 21 NBTLR = <b>0.98</b> (E) 59 SBTLR = 0.57 (C) 25	EBTLR = 115 m WBL = 120 m WBTR = 65 m NBTLR = 255 m SBTLR = 90 m

Under existing conditions, the intersection of Mayfield Road and Chinguacousy Road is reported to operate with an overall v/c ratio of 0.60 LOS B during the a.m. peak hour and 0.78 LOS C during the p.m. peak hour with no critical movements.

With the proposed widening along Mayfield Road, along with the addition of corridor growth and background traffic under the 2026 future background scenario, the v/c ratio has been reduced to 0.41 LOS C during the a.m. peak hour and 0.52 LOS C during the p.m. peak hour. With the addition of site generated traffic from Phase 1 of the development, the overall v/c ratio is reported to slightly increase to 0.42 LOS C and 0.54 LOS C during the a.m. and p.m. peak hour, respectively.

A similar trend is observed under the 2029 horizon year, where the overall v/c ratio is reported at 0.47 LOS C during the a.m. peak hour and 0.59 LOS C during the p.m. peak hour. With the addition of site traffic from Phases 1-4, the overall v/c ratio is reported to increase to 0.51 LOS C during the a.m. peak hour and 0.66 LOS C during the p.m. peak hour.

With further growth along Mayfield Road due to corridor growth and background traffic, as well as additional volume added to the westbound left-turn movement from the full build-out of the site, it is projected that a westbound left-turn lane is included in the widening of Mayfield Road to accommodate future traffic at the intersection.

Under the ultimate horizon year, the overall v/c ratio of the intersection is reported 0.80 LOS C and 0.82 LOS C during the a.m. and p.m. peak hour under the 2041 future background scenario and is anticipated to increase to 0.93 LOS C and 1.00 LOS D during the a.m. and p.m. peak hour under the 2041 future total scenario.

## 7.5 Mayfield Road and McLaughlin Road

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions out are summarized in the following table.

**Table 10 Capacity analysis of Mayfield Road and McLaughlin Road (Without Highway 413)**

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Existing 2024	<u>Overall: 0.6 (C) 22</u> EBL = 0.03 (B) 11 EBTR = 0.67 (B) 17 WBL = 0.4 (B) 16 WBTR = 0.6 (B) 16 NBTL = 0.3 (D) 36 NBR = 0.05 (C) 32 SBL = 0.37 (D) 38 SBTR = 0.45 (D) 39	EBL = 5 m EBTR = 145 m WBL = 30 m WBTR = 125 m NBTL = 45 m NBR = 15 m SBL = 40 m SBTR = 70 m	<u>Overall: 0.69 (C) 24</u> EBL = 0.1 (B) 12 EBTR = 0.64 (B) 18 WBL = 0.34 (B) 14 WBTR = 0.75 (C) 20 NBTL = 0.55 (D) 42 NBR = 0.09 (C) 33 SBL = 0.46 (D) 43 SBTR = 0.32 (D) 36	EBL = 5 m EBTR = 145 m WBL = 25 m WBTR = 185 m NBTL = 80 m NBR = 20 m SBL = 40 m SBTR = 50 m
Future Background 2026	<u>Overall: 0.52 (C) 26</u> EBL = 0.04 (B) 17 EBTR = 0.3 (B) 19 WBL = 0.38 (B) 16 WBTR = 0.26 (B) 12 NBTL = 0.59 (D) 42 NBR = 0.06 (C) 30 SBL = 0.78 (E) 58 SBTR = 0.66 (D) 43	EBL = 5 m EBTR = 55 m WBL = 30 m WBTR = 35 m NBTL = 75 m NBR = 15 m SBL = 90 m SBTR = 110 m	<u>Overall: 0.6 (C) 28</u> EBL = 0.27 (C) 31 EBTR = 0.4 (C) 28 WBL = 0.52 (D) 35 WBTR = 0.53 (C) 27 NBTL = 0.68 (D) 37 NBR = 0.11 (C) 24 SBL = 0.48 (C) 25 SBTR = 0.29 (B) 20	EBL = 20 m EBTR = 75 m WBL = 40 m WBTR = 85 m NBTL = 120 m NBR = 20 m SBL = 35 m SBTR = 55 m
Future Total 2026	<u>Overall: 0.52 (C) 27</u> EBL = 0.05 (B) 17 EBTR = 0.3 (B) 19 WBL = 0.38 (B) 16 WBTR = 0.26 (B) 12 NBTL = 0.68 (D) 48 NBR = 0.06 (C) 30 SBL = 0.8 (E) 60 SBTR = 0.73 (D) 46	EBL = 10 m EBTR = 55 m WBL = 30 m WBTR = 35 m NBTL = 80 m NBR = 15 m SBL = 90 m SBTR = 120 m	<u>Overall: 0.61 (C) 29</u> EBL = 0.44 (D) 38 EBTR = 0.4 (C) 28 WBL = 0.52 (D) 35 WBTR = 0.53 (C) 27 NBTL = 0.72 (D) 39 NBR = 0.11 (C) 24 SBL = 0.5 (C) 26 SBTR = 0.32 (B) 20	EBL = 25 m EBTR = 75 m WBL = 40 m WBTR = 85 m NBTL = 130 m NBR = 20 m SBL = 35 m SBTR = 60 m
Future Background 2029	<u>Overall: 0.65 (C) 25</u> EBL = 0.06 (C) 21 EBTR = 0.42 (C) 27 WBL = 0.64 (D) 38 WBTR = 0.35 (B) 20 NBL = 0.14 (C) 23 NBTR = 0.19 (C) 22 SBL = 0.66 (D) 36 SBTR = 0.3 (C) 24	EBL = 10 m EBTR = 85 m WBL = 55 m WBTR = 50 m NBL = 15 m NBTR = 30 m SBL = 85 m SBTR = 45 m	<u>Overall: 0.58 (C) 28</u> EBL = 0.43 (D) 47 EBTR = 0.44 (D) 36 WBL = 0.64 (D) 44 WBTR = 0.61 (C) 29 NBL = 0.22 (B) 19 NBTR = 0.29 (B) 19 SBL = 0.53 (C) 27 SBTR = 0.18 (B) 18	EBL = 25 m EBTR = 85 m WBL = 50 m WBTR = 95 m NBL = 30 m NBTR = 45 m SBL = 55 m SBTR = 30 m
Future Total 2029	<u>Overall: 0.67 (C) 26</u> EBL = 0.19 (C) 24 EBTR = 0.42 (C) 26 WBL = 0.64 (D) 38 WBTR = 0.35 (B) 20 NBL = 0.19 (C) 24 NBTR = 0.23 (C) 23	EBL = 20 m EBTR = 80 m WBL = 55 m WBTR = 50 m NBL = 15 m NBTR = 35 m	<u>Overall: 0.7 (C) 30</u> EBL = 0.67 (C) 29 EBTR = 0.37 (B) 19 WBL = 0.55 (D) 38 WBTR = 0.65 (C) 32 NBL = 0.47 (D) 43 NBTR = 0.65 (D) 43	EBL = 35 m EBTR = 60 m WBL = 45 m WBTR = 105 m NBL = 45 m NBTR = 90 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
	SBL = 0.7 (D) 39 SBTR = 0.41 (C) 26	SBL = 85 m SBTR = 65 m	SBL = 0.64 (C) 30 SBTR = 0.3 (C) 25	SBL = 50 m SBTR = 45 m
Future Background 2031	<u>Overall: 0.78 (C) 27</u> EBL = 0.07 (C) 21 EBTR = 0.47 (C) 28 WBL = 0.79 (E) 58 WBTR = 0.38 (C) 21 NBL = 0.17 (C) 22 NBTR = 0.21 (C) 22 SBL = 0.76 (D) 42 SBTR = 0.33 (C) 23	EBL = 10 m EBTR = 90 m WBL = 65 m WBTR = 60 m NBL = 20 m NBTR = 35 m SBL = 110 m SBTR = 50 m	<u>Overall: 0.69 (C) 28</u> EBL = 0.51 (D) 49 EBTR = 0.44 (C) 32 WBL = 0.65 (D) 43 WBTR = 0.62 (C) 26 NBL = 0.29 (C) 22 NBTR = 0.36 (C) 22 SBL = 0.72 (D) 40 SBTR = 0.21 (C) 20	EBL = 25 m EBTR = 90 m WBL = 50 m WBTR = 100 m NBL = 35 m NBTR = 60 m SBL = 85 m SBTR = 35 m
Future Total 2031	<u>Overall: 0.83 (C) 28</u> EBL = 0.27 (C) 26 EBTR = 0.48 (C) 27 WBL = 0.82 (E) 63 WBTR = 0.39 (C) 21 NBL = 0.28 (C) 26 NBTR = 0.26 (C) 22 SBL = 0.84 (D) 51 SBTR = 0.51 (C) 26	EBL = 25 m EBTR = 90 m WBL = 65 m WBTR = 60 m NBL = 20 m NBTR = 40 m SBL = 120 m SBTR = 85 m	<u>Overall: 0.9 (D) 38</u> EBL = 0.94 (F) 80 EBTR = 0.47 (C) 28 WBL = 0.77 (E) 70 WBTR = 0.9 (D) 51 NBL = 0.39 (C) 24 NBTR = 0.42 (C) 22 SBL = 0.83 (D) 54 SBTR = 0.31 (C) 21	EBL = 75 m EBTR = 80 m WBL = 60 m WBTR = 140 m NBL = 40 m NBTR = 75 m SBL = 95 m SBTR = 50 m
Future Background 2036	<u>Overall: 0.71 (C) 28</u> EBL = 0.1 (C) 24 EBTR = 0.71 (C) 32 WBL = 0.63 (C) 28 WBTR = 0.43 (C) 22 NBL = 0.29 (D) 42 NBTR = 0.41 (D) 40 SBL = 0.68 (C) 28 SBTR = 0.34 (C) 23	EBL = 10 m EBTR = 115 m WBL = 35 m WBTR = 65 m NBL = 25 m NBTR = 55 m SBL = 75 m SBTR = 55 m	<u>Overall: 0.7 (C) 30</u> EBL = 0.52 (D) 45 EBTR = 0.53 (C) 28 WBL = 0.55 (C) 27 WBTR = 0.6 (C) 22 NBL = 0.58 (D) 51 NBTR = 0.73 (D) 48 SBL = 0.73 (C) 35 SBTR = 0.25 (C) 24	EBL = 30 m EBTR = 85 m WBL = 30 m WBTR = 100 m NBL = 50 m NBTR = 90 m SBL = 60 m SBTR = 40 m
Future Total 2036	<u>Overall: 0.74 (C) 30</u> EBL = 0.37 (C) 34 EBTR = 0.75 (D) 36 WBL = 0.68 (C) 33 WBTR = 0.45 (C) 24 NBL = 0.38 (D) 43 NBTR = 0.46 (D) 39 SBL = 0.71 (C) 28 SBTR = 0.5 (C) 24	EBL = 30 m EBTR = 115 m WBL = 40 m WBTR = 70 m NBL = 30 m NBTR = 65 m SBL = 70 m SBTR = 80 m	<u>Overall: 0.86 (D) 40</u> EBL = 0.79 (D) 42 EBTR = 0.65 (D) 36 WBL = 0.5 (C) 29 WBTR = 0.9 (D) 47 NBL = 0.65 (D) 52 NBTR = 0.78 (D) 46 SBL = 0.8 (D) 40 SBTR = 0.36 (C) 23	EBL = 60 m EBTR = 95 m WBL = 30 m WBTR = 150 m NBL = 60 m NBTR = 110 m SBL = 70 m SBTR = 55 m
Future Background 2041	<u>Overall: 0.75 (C) 32</u> EBL = 0.13 (C) 26 EBTR = 0.83 (D) 38 WBL = 0.62 (C) 34 WBTR = 0.47 (C) 23 NBL = 0.4 (D) 50 NBTR = 0.54 (D) 47	EBL = 10 m EBTR = 125 m WBL = 45 m WBTR = 70 m NBL = 30 m NBTR = 55 m	<u>Overall: 0.77 (C) 31</u> EBL = 0.68 (E) 69 EBTR = 0.64 (C) 31 WBL = 0.57 (C) 22 WBTR = 0.65 (C) 23 NBL = 0.64 (D) 45 NBTR = 0.79 (D) 46	EBL = 40 m EBTR = 110 m WBL = 35 m WBTR = 125 m NBL = 55 m NBTR = 90 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
	SBL = 0.69 (C) 32 SBTR = 0.36 (C) 23	SBL = 80 m SBTR = 60 m	SBL = 0.8 (D) 39 SBTR = 0.28 (C) 23	SBL = 65 m SBTR = 40 m
Future Total 2041	<u>Overall: 0.78 (C) 34</u> EBL = 0.43 (D) 37 EBTR = 0.85 (D) 40 WBL = 0.62 (C) 34 WBTR = 0.47 (C) 23 NBL = 0.56 (E) 63 NBTR = 0.66 (D) 50 SBL = 0.73 (C) 34 SBTR = 0.54 (C) 26	EBL = 30 m EBTR = 125 m WBL = 45 m WBTR = 75 m NBL = 35 m NBTR = 70 m SBL = 80 m SBTR = 90 m	<u>Overall: 0.91 (D) 42</u> EBL = 0.85 (D) 52 EBTR = 0.68 (C) 34 WBL = 0.6 (C) 26 WBTR = 0.92 (D) 46 NBL = 0.49 (C) 29 NBTR = 0.88 (D) 52 SBL = 0.86 (D) 52 SBTR = 0.54 (C) 34	EBL = 70 m EBTR = 110 m WBL = 35 m WBTR = 165 m NBL = 35 m NBTR = 120 m SBL = 85 m SBTR = 75 m

Under existing conditions, the intersection of Mayfield Road and McLaughlin Road is reported to operate with an overall v/c ratio of 0.60 LOS C during the a.m. peak hour and 0.69 LOS C during the p.m. peak hour with no critical movements.

With the proposed widening along Mayfield Road assumed to occur under the 2026 horizon year, the intersection operates with an overall v/c ratio of 0.52 LOS C during the a.m. peak hours and 0.60 LOS C during the p.m. peak hour. With the addition of Phase 1 site traffic, the intersection continues to operate at a satisfactory level with a marginal increase to the v/c ratios, delay, and queuing.

With the continued addition of background traffic and corridor growth under the remaining horizon years, the intersection continues to operate at satisfactory levels. With the addition of site traffic from Phases 1-4 under the 2029 horizon year and full build-out of the site under the remaining horizon years, the intersection continues to operate at satisfactory levels.

With the funded widening of Mayfield Road and the preferred alternative from the Class EA of a widening along McLaughlin Road, no additional geometric changes are recommended for the intersection as a result of the subject site.

## 7.6 Mayfield Road and Hurontario Street

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.

**Table 11 Capacity analysis of Mayfield Road and Hurontario Street (Without Highway 413)**

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Existing 2024	<u>Overall: 0.52 (D) 37</u> EBL = 0.59 (D) 41 EBT = 0.57 (D) 50 EBR = 0.06 (D) 40 WBL = 0.62 (E) 78 WBT = 0.45 (D) 47 WBR = 0.04 (D) 40 NBL = 0.3 (C) 28 NBT = 0.2 (C) 24 NBR = 0.13 (C) 23	EBL = 65 m EBT = 105 m EBR = 15 m WBL = 45 m WBT = 80 m WBR = 10 m NBL = 30 m NBT = 45 m NBR = 15 m	<u>Overall: 0.6 (D) 36</u> EBL = 0.7 (D) 36 EBT = 0.46 (D) 39 EBR = 0.04 (C) 33 WBL = 0.58 (E) 61 WBT = 0.53 (D) 40 WBR = 0.04 (C) 33 NBL = 0.38 (D) 40 NBT = 0.47 (D) 38 NBR = 0.16 (C) 33	EBL = 65 m EBT = 75 m EBR = 5 m WBL = 50 m WBT = 85 m WBR = 5 m NBL = 35 m NBT = 80 m NBR = 20 m



Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
	SBL = 0.19 (C) 24 SBT = 0.46 (C) 28 SBR = 0.19 (C) 24	SBL = 30 m SBT = 105 m SBR = 15 m	SBL = 0.4 (C) 29 SBT = 0.44 (C) 29 SBR = 0.27 (C) 26	SBL = 35 m SBT = 85 m SBR = 25 m
Future Background 2026	<u>Overall: 0.58 (D) 38</u> EBL = 0.54 (C) 34 EBT = 0.51 (D) 46 EBR = 0.06 (D) 38 WBL = 0.64 (E) 80 WBT = 0.4 (D) 49 WBR = 0.09 (D) 44 NBL = 0.35 (C) 31 NBT = 0.21 (C) 25 NBR = 0.14 (C) 25 SBL = 0.58 (D) 37 SBT = 0.49 (C) 30 SBR = 0.2 (C) 26	EBL = 70 m EBT = 90 m EBR = 15 m WBL = 50 m WBT = 65 m WBR = 20 m NBL = 30 m NBT = 45 m NBR = 15 m SBL = 90 m SBT = 115 m SBR = 20 m	<u>Overall: 0.81 (D) 44</u> EBL = 0.89 (E) 55 EBT = 0.36 (D) 37 EBR = 0.06 (C) 33 WBL = 0.64 (E) 64 WBT = 0.92 (E) 74 WBR = 0.08 (D) 50 NBL = 0.69 (D) 52 NBT = 0.49 (D) 35 NBR = 0.17 (C) 30 SBL = 0.65 (D) 41 SBT = 0.48 (C) 29 SBR = 0.46 (C) 30	EBL = 170 m EBT = 55 m EBR = 10 m WBL = 50 m WBT = 90 m WBR = 15 m NBL = 70 m NBT = 85 m NBR = 20 m SBL = 50 m SBT = 90 m SBR = 30 m
Future Total 2026	<u>Overall: 0.58 (D) 38</u> EBL = 0.54 (C) 34 EBT = 0.51 (D) 46 EBR = 0.06 (D) 38 WBL = 0.64 (E) 80 WBT = 0.4 (D) 49 WBR = 0.09 (D) 44 NBL = 0.36 (C) 32 NBT = 0.22 (C) 26 NBR = 0.14 (C) 25 SBL = 0.59 (D) 37 SBT = 0.51 (C) 31 SBR = 0.2 (C) 26	EBL = 70 m EBT = 90 m EBR = 15 m WBL = 50 m WBT = 65 m WBR = 20 m NBL = 30 m NBT = 45 m NBR = 15 m SBL = 90 m SBT = 115 m SBR = 20 m	<u>Overall: 0.83 (D) 44</u> EBL = 0.89 (E) 55 EBT = 0.36 (D) 37 EBR = 0.06 (C) 33 WBL = 0.64 (E) 64 WBT = <b>0.92</b> (E) 74 WBR = 0.08 (D) 50 NBL = 0.7 (D) 54 NBT = 0.5 (D) 36 NBR = 0.17 (C) 30 SBL = 0.67 (D) 43 SBT = 0.49 (C) 29 SBR = 0.46 (C) 30	EBL = 170 m EBT = 55 m EBR = 10 m WBL = 50 m WBT = 90 m WBR = 15 m NBL = 70 m NBT = 90 m NBR = 20 m SBL = 50 m SBT = 95 m SBR = 30 m
Future Background 2029	<u>Overall: 0.71 (D) 43</u> EBL = 0.71 (D) 52 EBT = 0.81 (E) 65 EBR = 0.07 (D) 48 WBL = 0.68 (F) 81 WBT = 0.74 (E) 70 WBR = 0.11 (E) 58 NBL = 0.3 (C) 22 NBT = 0.19 (B) 18 NBR = 0.15 (B) 18 SBL = 0.65 (C) 31 SBT = 0.44 (C) 22 SBR = 0.22 (B) 18	EBL = 85 m EBT = 120 m EBR = 15 m WBL = 50 m WBT = 85 m WBR = 25 m NBL = 30 m NBT = 40 m NBR = 15 m SBL = 110 m SBT = 100 m SBR = 15 m	<u>Overall: <b>1.01</b> (D) 51</u> EBL = <b>1.04</b> (F) 87 EBT = 0.36 (D) 35 EBR = 0.07 (C) 31 WBL = 0.7 (E) 63 WBT = <b>1.02</b> (F) 95 WBR = 0.13 (D) 51 NBL = 0.88 (E) 70 NBT = 0.51 (C) 33 NBR = 0.18 (C) 29 SBL = 0.76 (D) 42 SBT = 0.52 (C) 30 SBR = 0.68 (D) 37	EBL = 225 m EBT = 55 m EBR = 15 m WBL = 55 m WBT = 110 m WBR = 25 m NBL = 95 m NBT = 95 m NBR = 20 m SBL = 55 m SBT = 100 m SBR = 100 m
Future Total 2029	<u>Overall: 0.73 (D) 43</u> EBL = 0.71 (D) 52 EBT = 0.81 (E) 65	EBL = 85 m EBT = 120 m EBR = 15 m	<u>Overall: <b>1.08</b> (D) 54</u> EBL = <b>1.04</b> (F) 87 EBT = 0.36 (D) 35	EBL = 225 m EBT = 55 m EBR = 15 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que.
	EBR = 0.07 (D) 48 WBL = 0.68 (F) 81 WBT = 0.74 (E) 70 WBR = 0.11 (E) 58 NBL = 0.35 (C) 24 NBT = 0.21 (B) 18 NBR = 0.15 (B) 18 SBL = 0.69 (C) 33 SBT = 0.49 (C) 22 SBR = 0.22 (B) 18	WBL = 50 m WBT = 85 m WBR = 25 m NBL = 30 m NBT = 45 m NBR = 15 m SBL = 115 m SBT = 115 m SBR = 15 m	EBR = 0.07 (C) 31 WBL = 0.7 (E) 63 WBT = <b>1.02</b> (F) 95 WBR = 0.13 (D) 51 NBL = <b>1.03</b> (F) 116 NBT = 0.59 (D) 35 NBR = 0.22 (C) 29 SBL = 0.89 (E) 65 SBT = 0.57 (C) 31 SBR = 0.68 (D) 37	WBL = 55 m WBT = 110 m WBR = 25 m NBL = 105 m NBT = 110 m NBR = 30 m SBL = 70 m SBT = 110 m SBR = 100 m
Future Background 2031	<u>Overall: 0.82 (D) 46</u> EBL = 0.81 (E) 60 EBT = 0.87 (E) 68 EBR = 0.07 (D) 48 WBL = 0.81 (F) 95 WBT = 0.76 (E) 70 WBR = 0.16 (E) 58 NBL = 0.32 (C) 22 NBT = 0.2 (B) 18 NBR = 0.15 (B) 17 SBL = 0.78 (D) 39 SBT = 0.45 (C) 21 SBR = 0.23 (B) 18	EBL = 100 m EBT = 135 m EBR = 15 m WBL = 60 m WBT = 90 m WBR = 25 m NBL = 30 m NBT = 40 m NBR = 15 m SBL = 150 m SBT = 105 m SBR = 15 m	<u>Overall: <b>1.17</b> (E) 68</u> EBL = <b>1.19</b> (F) 139 EBT = 0.4 (D) 37 EBR = 0.08 (C) 33 WBL = 0.69 (E) 62 WBT = <b>1.15</b> (F) 142 WBR = 0.24 (D) 54 NBL = <b>1.06</b> (F) 121 NBT = 0.53 (C) 33 NBR = 0.21 (C) 28 SBL = 0.87 (E) 58 SBT = 0.54 (C) 29 SBR = 0.84 (D) 46	EBL = 275 m EBT = 60 m EBR = 15 m WBL = 55 m WBT = 125 m WBR = 30 m NBL = 115 m NBT = 100 m NBR = 25 m SBL = 75 m SBT = 105 m SBR = 205 m
Future Total 2031	<u>Overall: 0.87 (D) 46</u> EBL = 0.81 (E) 60 EBT = 0.87 (E) 68 EBR = 0.15 (D) 49 WBL = 0.81 (F) 95 WBT = 0.76 (E) 70 WBR = 0.16 (E) 58 NBL = 0.43 (C) 26 NBT = 0.23 (B) 18 NBR = 0.15 (B) 17 SBL = 0.85 (D) 47 SBT = 0.53 (C) 23 SBR = 0.23 (B) 18	EBL = 100 m EBT = 135 m EBR = 30 m WBL = 60 m WBT = 90 m WBR = 25 m NBL = 35 m NBT = 50 m NBR = 15 m SBL = 175 m SBT = 130 m SBR = 15 m	<u>Overall: <b>1.34</b> (E) 75</u> EBL = <b>1.19</b> (F) 139 EBT = 0.4 (D) 37 EBR = 0.1 (C) 33 WBL = 0.69 (E) 62 WBT = <b>1.15</b> (F) 142 WBR = 0.24 (D) 54 NBL = <b>1.4</b> (F) 252 NBT = 0.65 (D) 36 NBR = 0.26 (C) 29 SBL = <b>1.1</b> (F) 127 SBT = 0.61 (C) 31 SBR = 0.84 (D) 46	EBL = 275 m EBT = 60 m EBR = 20 m WBL = 55 m WBT = 125 m WBR = 30 m NBL = 135 m NBT = 125 m NBR = 35 m SBL = 95 m SBT = 125 m SBR = 205 m
Future Background 2036	<u>Overall: 0.82 (D) 48</u> EBL = 0.76 (D) 51 EBT = 0.84 (E) 63 EBR = 0.13 (D) 46 WBL = 0.73 (F) 83 WBT = 0.77 (E) 68 WBR = 0.2 (E) 57 NBL = 0.54 (E) 56 NBT = 0.38 (D) 42	EBL = 100 m EBT = 140 m EBR = 25 m WBL = 55 m WBT = 95 m WBR = 30 m NBL = 50 m NBT = 70 m	<u>Overall: <b>1.3</b> (F) 93</u> EBL = <b>1.28</b> (F) 178 EBT = 0.47 (D) 39 EBR = 0.08 (C) 34 WBL = 0.67 (E) 60 WBT = <b>1.2</b> (F) 159 WBR = 0.12 (D) 49 NBL = <b>1.34</b> (F) 230 NBT = 0.77 (D) 48	EBL = 290 m EBT = 65 m EBR = 10 m WBL = 55 m WBT = 130 m WBR = 20 m NBL = 100 m NBT = 125 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que.
	NBR = 0.17 (D) 39 SBL = 0.77 (D) 36 SBT = 0.54 (C) 27 SBR = 0.25 (C) 22	NBR = 20 m SBL = 105 m SBT = 130 m SBR = 15 m	NBR = 0.32 (D) 39 SBL = 0.93 (E) 68 SBT = 0.73 (D) 40 SBR = <b>1.1</b> (F) 110	NBR = 40 m SBL = 95 m SBT = 130 m SBR = 255 m
Future Total 2036	<u>Overall: 0.85 (D) 49</u> EBL = 0.76 (D) 51 EBT = 0.84 (E) 63 EBR = 0.16 (D) 46 WBL = 0.73 (F) 83 WBT = 0.77 (E) 68 WBR = 0.2 (E) 57 NBL = 0.68 (E) 69 NBT = 0.44 (D) 44 NBR = 0.17 (D) 39 SBL = 0.82 (D) 40 SBT = 0.63 (C) 29 SBR = 0.27 (C) 22	EBL = 100 m EBT = 140 m EBR = 30 m WBL = 55 m WBT = 95 m WBR = 30 m NBL = 60 m NBT = 85 m NBR = 20 m SBL = 105 m SBT = 160 m SBR = 25 m	<u>Overall: <b>1.46</b> (F) 101</u> EBL = <b>1.28</b> (F) 178 EBT = 0.47 (D) 39 EBR = 0.08 (C) 34 WBL = 0.67 (E) 60 WBT = <b>1.2</b> (F) 159 WBR = 0.12 (D) 49 NBL = <b>1.74</b> (F) 400 NBT = <b>0.92</b> (E) 60 NBR = 0.38 (D) 40 SBL = <b>1.02</b> (F) 101 SBT = 0.82 (D) 44 SBR = <b>1.1</b> (F) 111	EBL = 290 m EBT = 65 m EBR = 15 m WBL = 55 m WBT = 130 m WBR = 20 m NBL = 120 m NBT = 165 m NBR = 50 m SBL = 110 m SBT = 150 m SBR = 255 m
Future Background 2041	<u>Overall: <b>0.9</b> (D) 50</u> EBL = 0.85 (E) 60 EBT = <b>0.9</b> (E) 68 EBR = 0.16 (D) 46 WBL = 0.86 (F) 97 WBT = 0.78 (E) 68 WBR = 0.24 (E) 57 NBL = 0.62 (E) 59 NBT = 0.39 (D) 40 NBR = 0.19 (D) 37 SBL = 0.83 (D) 40 SBT = 0.59 (C) 28 SBR = 0.29 (C) 22	EBL = 125 m EBT = 155 m EBR = 30 m WBL = 70 m WBT = 100 m WBR = 35 m NBL = 55 m NBT = 75 m NBR = 20 m SBL = 110 m SBT = 145 m SBR = 20 m	<u>Overall: <b>1.41</b> (F) 103</u> EBL = <b>1.37</b> (F) 218 EBT = 0.54 (D) 43 EBR = 0.08 (D) 36 WBL = 0.69 (E) 62 WBT = <b>1.17</b> (F) 146 WBR = 0.18 (D) 50 NBL = <b>1.31</b> (F) 213 NBT = 0.79 (D) 49 NBR = 0.38 (D) 39 SBL = 0.97 (E) 77 SBT = 0.78 (D) 43 SBR = <b>1.22</b> (F) 158	EBL = 325 m EBT = 80 m EBR = 15 m WBL = 65 m WBT = 145 m WBR = 25 m NBL = 105 m NBT = 135 m NBR = 50 m SBL = 105 m SBT = 150 m SBR = 305 m
Future Total 2041	<u>Overall: <b>0.93</b> (D) 52</u> EBL = 0.85 (E) 60 EBT = <b>0.9</b> (E) 68 EBR = 0.19 (D) 47 WBL = 0.86 (F) 97 WBT = 0.78 (E) 68 WBR = 0.24 (E) 57 NBL = 0.89 (F) 106 NBT = 0.44 (D) 41 NBR = 0.2 (D) 37 SBL = 0.88 (D) 47 SBT = 0.68 (C) 30 SBR = 0.32 (C) 23	EBL = 125 m EBT = 155 m EBR = 35 m WBL = 70 m WBT = 100 m WBR = 35 m NBL = 75 m NBT = 90 m NBR = 25 m SBL = 125 m SBT = 180 m SBR = 35 m	<u>Overall: <b>1.57</b> (F) 110</u> EBL = <b>1.37</b> (F) 218 EBT = 0.54 (D) 43 EBR = 0.09 (D) 36 WBL = 0.69 (E) 62 WBT = <b>1.17</b> (F) 146 WBR = 0.18 (D) 50 NBL = <b>1.66</b> (F) 361 NBT = <b>0.93</b> (E) 61 NBR = 0.44 (D) 41 SBL = <b>1.07</b> (F) 118 SBT = 0.87 (D) 48 SBR = <b>1.22</b> (F) 159	EBL = 325 m EBT = 80 m EBR = 15 m WBL = 65 m WBT = 145 m WBR = 25 m NBL = 135 m NBT = 180 m NBR = 60 m SBL = 120 m SBT = 175 m SBR = 305 m

Under existing conditions, the intersection of Mayfield Road and Hurontario Street is reported to operate with an overall v/c ratio of 0.52 LOS C during the a.m. peak hour and 0.60 LOS C during the p.m. peak hour. Only the eastbound left movement is reported to operate at a critical level and above capacity during the p.m. peak hour.

With the proposed widening along Mayfield Road, along with the addition of corridor growth and background traffic under future background scenarios, the intersection is reported to operate satisfactorily only under the 2026 horizon year.

As the traffic levels continue to increase at the intersection, the overall intersection begins to operate over capacity during the p.m. peak hour under the 2029 horizon year while remaining below capacity despite being at a critical level during the a.m. peak hour. Similar to the intersection of Hurontario Street and Old School Road, it is recommended that the Region of Peel continue to monitor the operation of the intersection as development in the area proceeds to identify where capacity is needed and possible improvements to the intersection to provide the necessary capacity.

## 7.7 McLaughlin Road and Street A

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the future total traffic condition are summarized in the following table.

**Table 12 Capacity analysis of McLaughlin Road and Street A**

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Total 2026	WBTLR = 0.35 (C) 18 NBTL = 0 (A) 0 NBTR = 0.13 (A) 0 SBTL = 0.01 (A) 1 SBTR = 0.09 (A) 0	WBTLR = 15 m NBTL = 0 m NBTR = 0 m SBTL = 5 m SBTR = 0 m	WBTLR = 0.3 (C) 21 NBTL = 0 (A) 0 NBTR = 0.22 (A) 0 SBTL = 0.02 (A) 1 SBTR = 0.11 (A) 0	WBTLR = 10 m NBTL = 0 m NBTR = 0 m SBTL = 5 m SBTR = 0 m
Future Total 2029	WBL = 0.58 (D) 34 WBTR = 0.09 (A) 10 NBTL = 0 (A) 0 NBTR = 0.18 (A) 0 SBTL = 0.03 (A) 1 SBTR = 0.11 (A) 0	WBL = 25 m WBTR = 5 m NBTL = 0 m NBTR = 0 m SBTL = 5 m SBTR = 0 m	WBL = 0.8 (F) 86 WBTR = 0.08 (A) 12 NBTL = 0 (A) 0 NBTR = 0.29 (A) 0 SBTL = 0.08 (A) 3 SBTR = 0.16 (A) 0	WBL = 40 m WBTR = 5 m NBTL = 0 m NBTR = 0 m SBTL = 5 m SBTR = 0 m
Future Total 2031	<u>Overall: 0.43 (B) 12</u> WBL = 0.69 (C) 27 WBTR = 0.03 (B) 18 NBTLR = 0.31 (A) 8 SBTLR = 0.23 (A) 7	WBL = 45 m WBTR = 0 m NBTLR = 35 m SBTLR = 25 m	<u>Overall: 0.43 (A) 9</u> WBL = 0.62 (C) 33 WBTR = 0.02 (C) 26 NBTLR = 0.39 (A) 6 SBTLR = 0.31 (A) 6	WBL = 35 m WBTR = 0 m NBTLR = 45 m SBTLR = 35 m
Future Total 2036	<u>Overall: 0.39 (B) 10</u> WBL = 0.64 (C) 27 WBTR = 0.03 (B) 19 NBTLR = 0.3 (A) 7 SBTLR = 0.23 (A) 6	WBL = 40 m WBTR = 0 m NBTLR = 30 m SBTLR = 25 m	<u>Overall: 0.43 (A) 9</u> WBL = 0.64 (D) 41 WBTR = 0.02 (C) 31 NBTLR = 0.38 (A) 6 SBTLR = 0.29 (A) 5	EBTLR = 0 m WBL = 40 m WBTR = 0 m NBTLR = 45 m SBTLR = 35 m
Future Total 2041	<u>Overall: 0.42 (B) 10</u> WBTLR = 0.65 (C) 25 NBTLR = 0.33 (A) 7 SBTLR = 0.25 (A) 7	WBTLR = 40 m NBTLR = 35 m SBTLR = 25 m	<u>Overall: 0.44 (A) 9</u> WBTLR = 0.66 (D) 40 NBTLR = 0.39 (A) 6 SBTLR = 0.3 (A) 6	EBTLR = 0 m WBTLR = 45 m NBTLR = 50 m SBTLR = 35 m

Under the future total traffic conditions in 2026 and 2029, the intersection of McLaughlin Road and Street A operates satisfactorily as an unsignalized intersection. With the addition of corridor growth, background development traffic and

the site generated traffic under the 2031, 2036, and 2041 horizon years, it is recommended to have the intersection be converted to a signalized intersection in order to mitigate delays.

## 7.8 Hurontario Street and Street A

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the future total traffic condition are summarized in the following table.

**Table 13 Capacity analysis of Hurontario Street and Street A**

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Total 2029	Overall: <b>0.89 (B) 19</b> EBL = 0.44 (D) 55 EBR = 0.85 (E) 69 NBL = 0.3 (C) 24 NBT = 0.47 (A) 2 SBTR = 0.93 (C) 23	EBL = 20 m EBR = 100 m NBL = 20 m NBT = 50 m SBTR = 290 m	Overall: <b>0.92 (B) 16</b> EBL = 0.46 (D) 55 EBR = 0.53 (D) 36 NBL = 0.92 (E) 58 NBT = 0.87 (A) 8 SBTR = 0.75 (B) 18	EBL = 20 m EBR = 55 m NBL = 120 m NBT = 215 m SBTR = 180 m
Future Total 2031	Overall: <b>1.07 (D) 37</b> EBL = 0.9 (F) 138 EBR = <b>1.04 (F) 91</b> NBL = 0.29 (C) 27 NBT = 0.46 (A) 2 SBTR = <b>1.04 (D) 50</b>	EBL = 40 m EBR = 200 m NBL = 30 m NBT = 25 m SBTR = 315 m	Overall: <b>0.96 (C) 20</b> EBL = 0.48 (E) 55 EBR = 0.45 (C) 30 NBL = 0.91 (D) 53 NBT = <b>0.9 (A) 9</b> SBTR = <b>0.9 (C) 30</b>	EBL = 20 m EBR = 65 m NBL = 165 m NBT = 245 m SBTR = 210 m
Future Total 2036	Overall: <b>1.1 (D) 42</b> EBL = 0.27 (D) 40 EBR = <b>1.03 (F) 90</b> NBL = 0.97 (F) 101 NBT = 0.6 (B) 11 SBTR = <b>1.04 (D) 51</b>	EBL = 40 m EBR = 205 m NBL = 60 m NBT = 100 m SBTR = 325 m	Overall: <b>0.94 (B) 19</b> EBL = 0.43 (D) 54 EBR = 0.55 (C) 34 NBL = 0.93 (E) 58 NBT = <b>0.91 (A) 9</b> SBTR = 0.88 (C) 25	EBL = 20 m EBR = 65 m NBL = 150 m NBT = 245 m SBTR = 230 m
Future Total 2041	Overall: <b>1.15 (E) 55</b> EBL = 0.57 (D) 54 EBR = <b>1.29 (F) 193</b> NBL = 0.44 (C) 32 NBT = 0.53 (A) 5 SBTR = <b>1.08 (E) 68</b>	EBL = 40 m EBR = 195 m NBL = 35 m NBT = 75 m SBTR = 360 m	Overall: <b>0.95 (C) 20</b> EBL = 0.44 (E) 56 EBR = 0.55 (C) 34 NBL = 0.92 (E) 57 NBT = <b>0.93 (B) 11</b> SBTR = <b>0.9 (C) 27</b>	EBL = 20 m EBR = 70 m NBL = 155 m NBT = 275 m SBTR = 245 m

As per the memorandum provided by the Town of Caledon's Transportation Engineering Public Works & Transportation Department, dated February 2024, Town Transportation Staff are engaging with MTO staff in discussions on the proposed connection of Dougal Avenue to Highway 10 at the Council's direction and the residents' request. Street A at Hurontario Street is proposed to line up with Dougal Avenue and as a result, GHD modelled the intersection of Street A at Hurontario as a signalized intersection.

Under the 2029 horizon year, the signalized intersection of Street A and Hurontario Street is reported to operate at satisfactory levels with an overall v/c ratio of 0.89 LOS B and 0.92 LOS B during the a.m. and p.m. peak hours. Under the 2031, 2036, and 2041 horizon year, the intersection is reported to operate over capacity with the overall intersection, eastbound right-turn and southbound approach operate over capacity.

With the construction of the new Highway 410/Hurontario Street interchange with Tim Manley, some of the site generated traffic may choose to use an alternate route to access the interchange in order to avoid the 277 second delay reported during the a.m. peak hour under the 2041 future total scenario.

## 7.9 Chinguacousy Road and Street C

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the future total traffic condition are summarized in the following table.

**Table 14 Capacity analysis of Chinguacousy Road and Street C**

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Total 2031	WBLR = 0.28 (C) 17 NBTR = 0.31 (A) 0 SBTL = 0.03 (A) 1	WBLR = 10 m NBTR = 0 m SBTL = 5 m	WBLR = 0.31 (D) 32 NBTR = 0.45 (A) 0 SBTL = 0.06 (A) 2	WBLR = 10 m NBTR = 0 m SBTL = 5 m
Future Total 2036	WBLR = 0.29 (C) 17 NBTR = 0.32 (A) 0 SBTL = 0.03 (A) 1	WBLR = 10 m NBTR = 0 m SBTL = 5 m	WBLR = 0.31 (D) 31 NBTR = 0.46 (A) 0 SBTL = 0.06 (A) 2	WBLR = 10 m NBTR = 0 m SBTL = 5 m
Future Total 2041	WBLR = 0.29 (C) 17 NBTR = 0.33 (A) 0 SBTL = 0.03 (A) 1	WBLR = 10 m NBTR = 0 m SBTL = 5 m	WBLR = 0.32 (D) 33 NBTR = 0.47 (A) 0 SBTL = 0.06 (A) 2	WBLR = 10 m NBTR = 0 m SBTL = 5 m

Under all future total traffic conditions (2031, 2036, and 2041), the intersection of Chinguacousy Road and Street C is reported to operate satisfactorily with substantial reserve capacity, low levels of delay and negligible queueing during the a.m. peak hour.

## 7.10 Old School Road and Street B

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the future total traffic condition are summarized in the following table.

**Table 15 Capacity analysis of Old School Road and Street B**

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Total 2031	EBT = 0.26 (A) 0 EBTR = 0.13 (A) 0 WBTL = 0.04 (A) 2 WBT = 0.16 (A) 0 NBLR = 0.21 (B) 13	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBLR = 10 m	EBT = 0.26 (A) 0 EBTR = 0.14 (A) 0 WBTL = 0.09 (A) 3 WBT = 0.3 (A) 0 NBLR = 0.14 (B) 15	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBLR = 5 m
Future Total 2036	EBT = 0.27 (A) 0 EBTR = 0.14 (A) 0 WBTL = 0.04 (A) 2 WBT = 0.17 (A) 0 NBLR = 0.23 (B) 13	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBLR = 10 m	EBT = 0.27 (A) 0 EBTR = 0.14 (A) 0 WBTL = 0.1 (A) 3 WBT = 0.31 (A) 0 NBLR = 0.14 (C) 15	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBLR = 5 m
Future Total 2041	EBT = 0.29 (A) 0 EBTR = 0.15 (A) 0 WBTL = 0.05 (A) 2 WBT = 0.18 (A) 0 NBLR = 0.23 (B) 14	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBLR = 10 m	EBT = 0.28 (A) 0 EBTR = 0.15 (A) 0 WBTL = 0.1 (A) 3 WBT = 0.33 (A) 0 NBLR = 0.15 (C) 16	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBLR = 5 m



Under all future total traffic conditions (2031, 2036, and 2041), the intersection of Old School Road and Street B is reported to operate satisfactorily with substantial reserve capacity, low levels of delay and negligible queueing during the a.m. peak hour.

## 7.11 Old School Road and Street D

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the future total traffic condition are summarized in the following table.

**Table 16** Capacity analysis of Old School Road and Street D

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Total 2031	EBT = 0.41 (A) 0 EBTR = 0.26 (A) 0 WBTL = 0.02 (A) 1 WBT = 0.22 (A) 0 NBLR = 0.62 (F) 63	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBLR = 25 m	EBT = 0.41 (A) 0 EBTR = 0.25 (A) 0 WBTL = 0.03 (A) 1 WBT = 0.45 (A) 0 NBLR = 0.57 (F) 87	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBLR = 20 m
Future Total 2036	EBT = 0.43 (A) 0 EBTR = 0.27 (A) 0 WBTL = 0.02 (A) 1 WBT = 0.23 (A) 0 NBLR = 0.55 (F) 51	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBLR = 25 m	EBT = 0.43 (A) 0 EBTR = 0.25 (A) 0 WBTL = 0.04 (A) 1 WBT = 0.47 (A) 0 NBLR = 0.63 (F) 103	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBLR = 25 m
Future Total 2041	EBT = 0.45 (A) 0 EBTR = 0.28 (A) 0 WBTL = 0.02 (A) 1 WBT = 0.25 (A) 0 NBL = 0.73 (F) 90 NBR = 0 (A) 0	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBL = 35 m NBR = 0 m	EBT = 0.45 (A) 0 EBTR = 0.26 (A) 0 WBTL = 0.04 (A) 1 WBT = 0.49 (A) 0 NBL = 0.68 (F) 119 NBR = 0 (A) 0	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBL = 25 m NBR = 0 m

Under all future total traffic conditions (2031, 2036, and 2041), the intersection of Old School Road and Street D is reported to operate satisfactorily with substantial reserve capacity, low levels of delay and negligible queueing during the a.m. peak hour. During the p.m. peak hour, the northbound approach is operating below capacity however the delay under the 2041 horizon year has increased to nearly 2 minutes. With a signalized intersection to the west, drivers may opt to travel in the westbound direction via McLaughlin Road to then turn left at Old School Road.

## 7.12 Street A and Street D

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the future total traffic condition are summarized in the following table.

**Table 17** Capacity analysis of Street A and Street D

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Total 2031	EBTL = 0.06 (A) 3 WBTR = 0.13 (A) 0 SBLR = 0.3 (B) 12	EBTL = 5 m WBTR = 0 m SBLR = 10 m	EBTL = 0.1 (A) 4 WBTR = 0.17 (A) 0 SBLR = 0.22 (B) 12	EBTL = 5 m WBTR = 0 m SBLR = 10 m
Future Total 2036	EBTL = 0.06 (A) 3 WBTR = 0.13 (A) 0 SBLR = 0.3 (B) 12	EBTL = 5 m WBTR = 0 m SBLR = 10 m	EBTL = 0.1 (A) 4 WBTR = 0.17 (A) 0 SBLR = 0.22 (B) 12	EBTL = 5 m WBTR = 0 m SBLR = 10 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que.
Future Total 2041	EBTL = 0.06 (A) 3 WBTR = 0.13 (A) 0 SBLR = 0.3 (B) 12	EBTL = 5 m WBTR = 0 m SBLR = 10 m	EBTL = 0.1 (A) 4 WBTR = 0.17 (A) 0 SBLR = 0.22 (B) 12	EBTL = 5 m WBTR = 0 m SBLR = 10 m

Under all future total traffic conditions (2031, 2036, and 2041), the intersection of Street A and Street D is reported to operate satisfactorily with substantial reserve capacity, low levels of delay and negligible queueing during both peak hours.

## 8. Sensitivity Analysis with the Highway 413

GHD also completed a sensitivity analysis for the capacity analysis of the study intersections assuming construction of the planned Highway 413 is completed. Based on the trip distribution in **Table 4** (without Highway 413) and **Table 5** (with Highway 413), the provision of the highway would result in a slight change in the distribution for the site generated traffic as well as for the traffic generated by the Mayfield West Phase 1 Stage 2 background development. The sensitivity analysis did not consider the reduction in traffic along Hurontario Street at Old School Road that is likely to occur should the northerly extension of Highway 410 towards Highway 413 be completed to the east of Hurontario Street.

### 8.1 Old School Road and Chinguacousy Road

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic condition are summarized in the following table.

**Table 18 Capacity analysis of Old School Road and Chinguacousy Road (With Highway 413)**

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que.
Existing 2024	EBTLR = 0.28 (A) 9 WBTLR = 0.21 (A) 9 NBTLR = 0.14 (A) 8 SBTLR = 0.13 (A) 9	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.24 (A) 9 WBTLR = 0.42 (B) 11 NBTLR = 0.18 (A) 9 SBTLR = 0.11 (A) 9	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Background 2026	EBTLR = 0.38 (B) 13 WBL = 0.18 (B) 10 WBTR = 0.29 (A) 11 NBTLR = 0.51 (B) 14 SBTLR = 0.31 (B) 12	EBTLR = 0 m WBL = 0 m WBTR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.43 (C) 16 WBL = 0.4 (C) 15 WBTR = 0.66 (A) 22 NBTLR = 0.84 (E) 35 SBTLR = 0.41 (C) 16	EBTLR = 0 m WBL = 0 m WBTR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Total 2026	EBTLR = 0.39 (B) 13 WBL = 0.18 (B) 10 WBTR = 0.32 (A) 11 NBTLR = 0.52 (B) 14 SBTLR = 0.32 (B) 12	EBTLR = 0 m WBL = 0 m WBTR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.44 (C) 17 WBL = 0.41 (C) 15 WBTR = 0.69 (A) 24 NBTLR = 0.86 (E) 37 SBTLR = 0.43 (C) 16	EBTLR = 0 m WBL = 0 m WBTR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Background 2029	<u>Overall: 0.44 (A) 9</u> EBTLR = 0.55 (B) 13 WBL = 0.45 (B) 13 WBTR = 0.39 (B) 12	EBTLR = 25 m WBL = 15 m WBTR = 15 m	<u>Overall: 0.66 (C) 21</u> EBTLR = 0.34 (B) 20 WBL = 0.61 (C) 27 WBTR = 0.54 (C) 23	EBTLR = 45 m WBL = 55 m WBTR = 70 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
	NBTLR = 0.4 (A) 6 SBTLR = 0.25 (A) 5	NBTLR = 25 m SBTLR = 20 m	NBTLR = 0.7 (C) 21 SBTLR = 0.32 (B) 14	NBTLR = 105 m SBTLR = 40 m
Future Total 2029	<u>Overall: 0.45 (A) 9</u> EBTLR = 0.56 (B) 14 WBL = 0.46 (B) 13 WBTR = 0.47 (B) 12 NBTLR = 0.4 (A) 6 SBTLR = 0.25 (A) 5	EBTLR = 25 m WBL = 15 m WBTR = 20 m NBTLR = 25 m SBTLR = 20 m	<u>Overall: 0.67 (C) 22</u> EBTLR = 0.37 (C) 20 WBL = 0.63 (C) 29 WBTR = 0.57 (C) 24 NBTLR = 0.7 (C) 21 SBTLR = 0.32 (B) 14	EBTLR = 45 m WBL = 55 m WBTR = 75 m NBTLR = 105 m SBTLR = 40 m
Future Background 2031	<u>Overall: 0.56 (C) 22</u> EBTLR = 0.72 (D) 42 WBL = 0.51 (C) 27 WBTR = 0.35 (C) 25 NBTLR = 0.52 (B) 15 SBTLR = 0.29 (B) 12	EBTLR = 70 m WBL = 35 m WBTR = 45 m NBTLR = 90 m SBTLR = 45 m	<u>Overall: 0.84 (C) 30</u> EBTLR = 0.78 (D) 51 WBL = 0.87 (D) 47 WBTR = 0.62 (C) 29 NBTLR = 0.78 (C) 24 SBTLR = 0.36 (B) 14	EBTLR = 75 m WBL = 75 m WBTR = 90 m NBTLR = 160 m SBTLR = 50 m
Future Total 2031	<u>Overall: 0.66 (C) 24</u> EBTLR = 0.75 (D) 44 WBL = 0.68 (C) 32 WBTR = 0.44 (C) 26 NBTLR = 0.62 (B) 18 SBTLR = 0.32 (B) 12	EBTLR = 75 m WBL = 40 m WBTR = 60 m NBTLR = 110 m SBTLR = 50 m	<u>Overall: 0.99 (D) 47</u> EBTLR = 0.86 (E) 60 WBL = 1.14 (F) 121 WBTR = 0.69 (C) 31 NBTLR = 0.85 (C) 30 SBTLR = 0.4 (B) 15	EBTLR = 95 m WBL = 120 m WBTR = 105 m NBTLR = 200 m SBTLR = 55 m
Future Background 2036	<u>Overall: 0.59 (C) 22</u> EBTLR = 0.73 (D) 42 WBL = 0.57 (C) 28 WBTR = 0.37 (C) 25 NBTLR = 0.54 (B) 16 SBTLR = 0.31 (B) 12	EBTLR = 75 m WBL = 35 m WBTR = 50 m NBTLR = 95 m SBTLR = 50 m	<u>Overall: 0.88 (C) 32</u> EBTLR = 0.78 (D) 50 WBL = 0.91 (E) 56 WBTR = 0.66 (C) 30 NBTLR = 0.81 (C) 26 SBTLR = 0.37 (B) 14	EBTLR = 75 m WBL = 80 m WBTR = 100 m NBTLR = 175 m SBTLR = 55 m
Future Total 2036	<u>Overall: 0.71 (C) 25</u> EBTLR = 0.76 (D) 43 WBL = 0.75 (D) 38 WBTR = 0.46 (C) 26 NBTLR = 0.65 (B) 18 SBTLR = 0.33 (B) 13	EBTLR = 80 m WBL = 45 m WBTR = 60 m NBTLR = 120 m SBTLR = 50 m	<u>Overall: 0.99 (D) 41</u> EBTLR = 0.84 (D) 55 WBL = 0.94 (D) 55 WBTR = 0.64 (C) 26 NBTLR = 0.97 (D) 48 SBTLR = 0.48 (B) 18	EBTLR = 100 m WBL = 105 m WBTR = 105 m NBTLR = 225 m SBTLR = 65 m
Future Background 2041	<u>Overall: 0.57 (B) 10</u> EBTLR = 0.63 (B) 14 WBL = 0.61 (B) 16 WBTR = 0.46 (B) 12 NBTLR = 0.54 (A) 8 SBTLR = 0.34 (A) 6	EBTLR = 30 m WBL = 20 m WBTR = 20 m NBTLR = 60 m SBTLR = 30 m	<u>Overall: 0.91 (D) 37</u> EBTLR = 0.76 (D) 51 WBL = 0.96 (E) 69 WBTR = 0.71 (C) 34 NBTLR = 0.83 (C) 29 SBTLR = 0.39 (B) 15	EBTLR = 90 m WBL = 85 m WBTR = 110 m NBTLR = 185 m SBTLR = 55 m
Future Total 2041	<u>Overall: 0.66 (B) 11</u> EBTLR = 0.54 (B) 11 WBL = 0.61 (B) 13 WBTR = 0.46 (B) 10 NBTLR = 0.7 (B) 13 SBTLR = 0.41 (A) 8	EBTLR = 30 m WBL = 25 m WBTR = 25 m NBTLR = 75 m SBTLR = 30 m	<u>Overall: 0.9 (D) 44</u> EBTLR = 0.8 (E) 60 WBL = 0.92 (D) 53 WBTR = 0.7 (D) 36 NBTLR = 0.94 (D) 48 SBTLR = 0.47 (C) 21	EBTLR = 115 m WBL = 110 m WBTR = 140 m NBTLR = 265 m SBTLR = 75 m

Under existing conditions, the unsignalized intersection of Old School Road and Chinguacousy Road is reported to operate satisfactorily with substantial reserve capacity, low levels of delay and negligible queueing. All approaches are operating with delays of 9 seconds or less during the a.m. peak and 11 seconds or less during the p.m. peak.

With the addition of corridor growth and background traffic under the 2026 future background scenario, the intersection continues to operate at satisfactory levels. With the addition of site traffic from Phase 1 of the development.

With the addition of corridor growth and background traffic under the 2029 future background scenario, the signalization of the intersection is required to accommodate future growth at the intersection. As a signalized intersection, it operates with an overall v/c ratio of 0.44 LOS A during the a.m. peak hour and 0.66 LOS C during the p.m. peak hour with no critical movements.

Under the 2029 future total scenario, with the addition of site generated traffic, the intersection operates with an overall v/c ratio of 0.45 LOS A during the a.m. peak hour and 0.67 LOS C during the p.m. peak hour. The site continues to have a negligible impact on the operation of the intersection.

Under the 2031 future background condition, with the addition of corridor growth and background development traffic, the intersection operates with an overall v/c ratio of 0.56 LOS C during the a.m. peak hour and 0.84 LOS C during the p.m. peak hour.

With the addition of site generated traffic under the future total 2031 condition, the intersection is reported to operate with an overall v/c ratio of 0.66 LOS C during the a.m. peak hour and 0.99 LOS D during the p.m. peak hour, including a v/c ratio of 1.14 for the westbound left-turn movement during the p.m. peak hour. Despite the critical movements during the p.m. peak hour, further signal improvements are provided under the future horizon years to mitigate the delays.

Under the ultimate horizon year, the intersection operates with an overall v/c ratio of 0.66 LOS B during the a.m. peak hour and 0.90 LOS D during the p.m. peak hour. Despite the critical operations during the p.m. peak hour, all movements as well as the overall intersection operates below a critical level during both peak hours. As previously discussed, the Town is currently completing a Class EA along Chinguacousy and a widening to a four-lane cross-section may be undertaken along Chinguacousy Road.

## 8.2 Old School Road and McLaughlin Road

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions out are summarized in the following table.

**Table 19 Capacity analysis of Old School Road and McLaughlin Road (With Highway 413)**

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Existing 2024	EBTLR = 0.41 (B) 12 WBTLR = 0.35 (B) 11 NBTLR = 0.22 (A) 10 SBTLR = 0.24 (B) 10	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.36 (B) 12 WBTLR = 0.61 (C) 16 NBTLR = 0.35 (B) 12 SBTLR = 0.14 (B) 10	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Background 2026	EBTLR = 0.89 (E) 45 WBL = 0.36 (C) 14 WBTR = 0.53 (A) 18 NBTL = 0.18 (C) 12 NBR = 0.56 (A) 18 SBTLR = 0.38 (C) 17	EBTLR = 0 m WBL = 0 m WBTR = 0 m NBTL = 0 m NBR = 0 m SBTLR = 0 m	EBTLR = <b>0.92</b> (F) 51 WBL = 0.65 (F) 24 WBTR = <b>1.04</b> (A) 77 NBTL = 0.37 (C) 15 NBR = 0.61 (A) 20 SBTLR = 0.21 (B) 15	EBTLR = 0 m WBL = 0 m WBTR = 0 m NBTL = 0 m NBR = 0 m SBTLR = 0 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Total 2026	EBTLR = 0.92 (F) 51 WBL = 0.38 (C) 15 WBTR = 0.54 (A) 18 NBTL = 0.24 (C) 12 NBR = 0.58 (A) 19 SBTLR = 0.4 (C) 17	EBTLR = 0 m WBL = 0 m WBTR = 0 m NBTL = 0 m NBR = 0 m SBTLR = 0 m	EBTLR = <b>0.96</b> (F) 59 WBL = 0.68 (F) 26 WBTR = <b>1.06</b> (A) 84 NBTL = 0.4 (C) 16 NBR = 0.63 (A) 21 SBTLR = 0.23 (C) 15	EBTLR = 0 m WBL = 0 m WBTR = 0 m NBTL = 0 m NBR = 0 m SBTLR = 0 m
Future Background 2029	<u>Overall: 0.54 (C) 21</u> EBTLR = 0.83 (C) 32 WBL = 0.59 (B) 17 WBTR = 0.35 (B) 13 NBTL = 0.16 (B) 16 NBR = 0.23 (B) 17 SBTLR = 0.26 (B) 17	EBTLR = 100 m WBL = 30 m WBTR = 40 m NBTL = 20 m NBR = 20 m SBTLR = 35 m	<u>Overall: 0.64 (B) 19</u> EBTLR = 0.62 (C) 20 WBL = 0.61 (A) 10 WBTR = 0.45 (A) 7 NBTL = 0.63 (D) 39 NBR = 0.26 (C) 33 SBTLR = 0.3 (C) 34	EBTLR = 120 m WBL = 45 m WBTR = 75 m NBTL = 50 m NBR = 25 m SBTLR = 25 m
Future Total 2029	<u>Overall: 0.56 (C) 21</u> EBTLR = 0.84 (C) 33 WBL = 0.59 (B) 17 WBTR = 0.35 (B) 13 NBTL = 0.28 (B) 18 NBR = 0.23 (B) 17 SBTLR = 0.29 (B) 18	EBTLR = 105 m WBL = 30 m WBTR = 40 m NBTL = 35 m NBR = 20 m SBTLR = 40 m	<u>Overall: 0.68 (C) 21</u> EBTLR = 0.67 (C) 24 WBL = 0.65 (B) 12 WBTR = 0.47 (A) 8 NBTL = 0.7 (D) 41 NBR = 0.26 (C) 32 SBTLR = 0.32 (C) 33	EBTLR = 135 m WBL = 50 m WBTR = 90 m NBTL = 60 m NBR = 25 m SBTLR = 30 m
Future Background 2031	<u>Overall: 0.52 (B) 17</u> EBTLR = 0.26 (A) 6 WBL = 0.47 (B) 10 WBTR = 0.15 (A) 6 NBTL = 0.35 (C) 28 NBR = 0.68 (C) 35 SBTLR = 0.52 (C) 30	EBTLR = 40 m WBL = 50 m WBTR = 20 m NBTL = 30 m NBR = 55 m SBTLR = 40 m	<u>Overall: 0.71 (B) 18</u> EBTLR = 0.63 (C) 26 WBL = 0.65 (A) 8 WBTR = 0.28 (A) 5 NBTL = 0.6 (C) 30 NBR = 0.31 (C) 26 SBTLR = 0.27 (C) 25	EBTLR = 65 m WBL = 65 m WBTR = 35 m NBTL = 45 m NBR = 25 m SBTLR = 25 m
Future Total 2031	<u>Overall: 0.77 (C) 20</u> EBTLR = 0.41 (B) 10 WBL = 0.76 (C) 28 WBTR = 0.2 (A) 8 NBTL = 0.39 (C) 27 NBR = 0.8 (D) 39 SBTLR = 0.47 (C) 27	EBTLR = 65 m WBL = 95 m WBTR = 30 m NBTL = 40 m NBR = 85 m SBTLR = 50 m	<u>Overall: 0.86 (C) 22</u> EBTLR = 0.64 (C) 27 WBL = 0.82 (C) 21 WBTR = 0.34 (A) 7 NBTL = 0.72 (D) 41 NBR = 0.39 (C) 32 SBTLR = 0.5 (C) 33	EBTLR = 90 m WBL = 115 m WBTR = 50 m NBTL = 65 m NBR = 35 m SBTLR = 40 m
Future Background 2036	<u>Overall: 0.49 (C) 22</u> EBTLR = 0.73 (C) 33 WBL = 0.65 (C) 20 WBTR = 0.22 (B) 15 NBTL = 0.17 (B) 16 NBR = 0.28 (B) 18 SBTLR = 0.27 (B) 18	EBTLR = 70 m WBL = 40 m WBTR = 25 m NBTL = 30 m NBR = 20 m SBTLR = 45 m	<u>Overall: 0.54 (C) 20</u> EBTLR = 0.41 (B) 18 WBL = 0.72 (B) 10 WBTR = 0.28 (A) 6 NBTL = 0.69 (D) 45 NBR = 0.31 (D) 37 SBTLR = 0.36 (D) 37	EBTLR = 85 m WBL = 65 m WBTR = 45 m NBTL = 65 m NBR = 30 m SBTLR = 35 m
Future Total 2036	<u>Overall: 0.61 (C) 27</u> EBTLR = 0.85 (D) 38 WBL = 0.77 (C) 29 WBTR = 0.25 (B) 14	EBTLR = 105 m WBL = 55 m WBTR = 30 m	<u>Overall: 0.71 (C) 26</u> EBTLR = 0.63 (C) 29 WBL = 0.82 (C) 24 WBTR = 0.36 (A) 8	EBTLR = 115 m WBL = 125 m WBTR = 65 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
	NBTL = 0.28 (C) 21 NBR = 0.33 (C) 22 SBTLR = 0.37 (C) 22	NBTL = 40 m NBR = 30 m SBTLR = 55 m	NBTL = 0.76 (D) 49 NBR = 0.35 (D) 36 SBTLR = 0.58 (D) 41	NBTL = 80 m NBR = 30 m SBTLR = 50 m
Future Background 2041	<u>Overall: 0.66 (B) 13</u> EBTLR = 0.38 (A) 9 WBL = 0.7 (B) 16 WBTR = 0.21 (A) 8 NBTL = 0.27 (B) 16 NBR = 0.58 (B) 19 SBTLR = 0.46 (B) 18	EBTLR = 45 m WBL = 60 m WBTR = 25 m NBTL = 35 m NBR = 65 m SBTLR = 55 m	<u>Overall: 0.8 (B) 20</u> EBTLR = 0.71 (C) 26 WBL = 0.82 (C) 21 WBTR = 0.34 (A) 7 NBTL = 0.6 (C) 28 NBR = 0.32 (C) 24 SBTLR = 0.3 (C) 24	EBTLR = 80 m WBL = 95 m WBTR = 45 m NBTL = 65 m NBR = 25 m SBTLR = 30 m
Future Total 2041	<u>Overall: 0.87 (C) 23</u> EBTLR = 0.44 (A) 10 WBL = 0.88 (D) 39 WBTR = 0.22 (A) 8 NBTL = 0.45 (C) 28 NBR = 0.83 (D) 44 SBTLR = 0.57 (C) 30	EBTLR = 65 m WBL = 100 m WBTR = 30 m NBTL = 45 m NBR = 110 m SBTLR = 65 m	<u>Overall: 0.89 (C) 28</u> EBTLR = 0.85 (D) 37 WBL = 0.9 (D) 39 WBTR = 0.41 (A) 8 NBTL = 0.74 (D) 40 NBR = 0.35 (C) 29 SBTLR = 0.55 (C) 32	EBTLR = 110 m WBL = 145 m WBTR = 60 m NBTL = 75 m NBR = 30 m SBTLR = 45 m

Under existing conditions, the unsignalized intersection of Old School Road and McLaughlin Road is reported to operate satisfactorily with substantial reserve capacity, low levels of delay and negligible queueing. All approaches are operating with delays of 12 seconds or less during the a.m. peak and 16 seconds or less during the p.m. peak.

With the continued operation of the intersection with an all-way stop-control under the 2026 future background condition, the intersection operates at satisfactory levels with a v/c ratio of 1.04 in the westbound through/right movement during the p.m. peak hour. In order to mitigate some of the delays, an auxiliary left-turn lane has been provided the westbound approach and a right-turn lane in the northbound approach in order to accommodate future volumes generated by corridor growth and background developments.

With the addition of Phase 1 site generated traffic under the 2026 horizon year, the intersection continues to operate at a similar level under the future total scenario as it did under the future background condition.

In order to accommodate future traffic levels, the intersection was converted to a signalized intersection under the 2029 future background scenario. As a signalized intersection, it operates with an overall v/c ratio of 0.54 LOS C during the a.m. peak hour and 0.64 LOS B during the p.m. peak hour without any critical movements.

With the addition of site generated traffic from Phases 1-4, the intersection continues to operate at satisfactory levels with an overall v/c ratio of 0.56 LOS C during the a.m. peak hour and 0.68 LOS C during the p.m. peak hour.

Under the remaining horizon years, with the addition of corridor growth and background development traffic under the future background scenarios and the site generated under the future total scenarios, the intersection continues to operate at satisfactory levels. Under the ultimate future total scenario, the intersection operates just below critical levels during both peak hours with v/c ratios of 0.87 LOS C and 0.89 LOS C respectively, however they remain below the theoretical capacity levels during both peak hours.

### 8.3 Old School Road and Hurontario Street

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.



**Table 20 Capacity analysis of Old School Road and Hurontario Street (With Highway 413)**

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Existing 2024	<u>Overall: 0.87 (C) 31</u> EBL = 0.21 (D) 36 EBTR = <b>0.91</b> (E) 74 WBL = 0.35 (D) 39 WBTR = 0.47 (D) 43 NBL = 0.52 (C) 26 NBTR = 0.61 (B) 18 SBL = 0.15 (B) 12 SBTR = <b>0.9</b> (C) 30	EBL = 20 m EBTR = 125 m WBL = 15 m WBTR = 55 m NBL = 15 m NBTR = 115 m SBL = 10 m SBTR = 260 m	<u>Overall: 0.77 (C) 25</u> EBL = 0.45 (D) 41 EBTR = 0.73 (D) 53 WBL = 0.33 (D) 40 WBTR = 0.72 (D) 52 NBL = 0.46 (B) 11 NBTR = 0.81 (C) 21 SBL = 0.23 (B) 17 SBTR = 0.56 (B) 19	EBL = 25 m EBTR = 75 m WBL = 20 m WBTR = 80 m NBL = 25 m NBTR = 215 m SBL = 5 m SBTR = 110 m
Future Background 2026	<u>Overall: <b>0.97</b> (C) 34</u> EBL = 0.86 (D) 52 EBTR = 0.59 (C) 32 WBL = <b>1.02</b> (F) 98 WBTR = 0.3 (C) 27 NBL = 0.95 (F) 131 NBT = 0.68 (C) 24 NBR = 0.1 (B) 16 SBL = 0.36 (C) 28 SBT = 0.88 (C) 31 SBR = 0.16 (B) 17	EBL = 130 m EBTR = 105 m WBL = 120 m WBTR = 55 m NBL = 40 m NBT = 115 m NBR = 10 m SBL = 15 m SBT = 190 m SBR = 20 m	<u>Overall: <b>0.96</b> (C) 34</u> EBL = 0.99 (F) 82 EBTR = 0.58 (C) 32 WBL = 0.85 (E) 57 WBTR = 0.4 (C) 29 NBL = 0.95 (F) 131 NBT = 0.68 (C) 24 NBR = 0.09 (B) 16 SBL = 0.63 (D) 50 SBT = 0.88 (C) 31 SBR = 0.16 (B) 17	EBL = 145 m EBTR = 100 m WBL = 95 m WBTR = 70 m NBL = 40 m NBT = 115 m NBR = 10 m SBL = 35 m SBT = 190 m SBR = 20 m
Future Total 2026	<u>Overall: <b>0.98</b> (C) 35</u> EBL = <b>1.09</b> (F) 113 EBTR = 0.62 (C) 34 WBL = 0.94 (E) 79 WBTR = 0.42 (C) 30 NBL = 0.92 (F) 119 NBT = 0.65 (C) 22 NBR = 0.09 (B) 14 SBL = 0.58 (D) 41 SBT = 0.85 (C) 28 SBR = 0.16 (B) 15	EBL = 150 m EBTR = 100 m WBL = 95 m WBTR = 70 m NBL = 40 m NBT = 115 m NBR = 10 m SBL = 35 m SBT = 190 m SBR = 20 m	<u>Overall: <b>1.49</b> (E) 55</u> EBL = <b>1.13</b> (F) 121 EBTR = 0.6 (D) 42 WBL = 0.61 (D) 37 WBTR = <b>0.97</b> (F) 89 NBL = 0.81 (D) 48 NBT = 0.98 (D) 42 NBR = 0.23 (B) 17 SBL = <b>1.84</b> (F) 471 SBT = 0.83 (D) 39 SBR = 0.32 (B) 16	EBL = 160 m EBTR = 85 m WBL = 55 m WBTR = 140 m NBL = 65 m NBT = 250 m NBR = 30 m SBL = 65 m SBT = 135 m SBR = 35 m
Future Background 2029	<u>Overall: 1.31 (E) 69</u> EBL = <b>1.15</b> (F) 124 EBTR = <b>1.09</b> (F) 122 WBL = <b>1.00</b> (F) 86 WBTR = <b>1.22</b> (F) 179 NBL = 0.97 (F) 138 NBT = 0.83 (C) 31 NBR = 0.14 (B) 18 SBL = <b>1.39</b> (F) 287 SBT = <b>1.03</b> (E) 58 SBR = 0.24 (B) 19	EBL = 180 m EBTR = 165 m WBL = 120 m WBTR = 150 m NBL = 45 m NBT = 150 m NBR = 20 m SBL = 45 m SBT = 260 m SBR = 35 m	<u>Overall: <b>1.41</b> (F) 123</u> EBL = <b>1.55</b> (F) 296 EBTR = 0.76 (D) 52 WBL = 0.95 (E) 69 WBTR = <b>1.11</b> (F) 127 NBL = 0.88 (E) 62 NBT = <b>1.32</b> (F) 182 NBR = 0.41 (C) 26 SBL = <b>1.13</b> (F) 140 SBT = 0.88 (D) 39 SBR = 0.47 (C) 30	EBL = 240 m EBTR = 105 m WBL = 110 m WBTR = 175 m NBL = 70 m NBT = 355 m NBR = 65 m SBL = 80 m SBT = 160 m SBR = 60 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Total 2029	<u>Overall: 1.31 (E) 70</u> EBL = 1.15 (F) 124 EBTR = 1.09 (F) 122 WBL = 1.00 (F) 86 WBTR = 1.22 (F) 180 NBL = 0.97 (F) 138 NBT = 0.86 (C) 33 NBR = 0.14 (B) 18 SBL = 1.39 (F) 287 SBT = 1.04 (E) 62 SBR = 0.24 (B) 19	EBL = 180 m EBTR = 165 m WBL = 120 m WBTR = 150 m NBL = 45 m NBT = 160 m NBR = 20 m SBL = 45 m SBT = 260 m SBR = 35 m	<u>Overall: 1.42 (F) 126</u> EBL = 1.55 (F) 296 EBTR = 0.76 (D) 52 WBL = 0.95 (E) 69 WBTR = 1.11 (F) 127 NBL = 0.88 (E) 62 NBT = 1.34 (F) 190 NBR = 0.41 (C) 26 SBL = 1.13 (F) 140 SBT = 0.91 (D) 41 SBR = 0.48 (C) 30	EBL = 240 m EBTR = 105 m WBL = 110 m WBTR = 175 m NBL = 70 m NBT = 365 m NBR = 65 m SBL = 80 m SBT = 165 m SBR = 65 m
Future Background 2031	<u>Overall: 1.41 (E) 65</u> EBL = 1.33 (F) 198 EBTR = 0.76 (E) 55 WBL = 0.9 (E) 60 WBTR = 0.79 (E) 60 NBL = 0.98 (F) 141 NBT = 0.87 (C) 31 NBR = 0.15 (B) 16 SBL = 1.43 (F) 299 SBT = 1.05 (E) 64 SBR = 0.28 (B) 18	EBL = 220 m EBTR = 65 m WBL = 95 m WBTR = 60 m NBL = 45 m NBT = 170 m NBR = 20 m SBL = 45 m SBT = 280 m SBR = 40 m	<u>Overall: 1.32 (F) 122</u> EBL = 1.68 (F) 351 EBTR = 0.54 (D) 48 WBL = 0.93 (E) 67 WBTR = 0.79 (E) 57 NBL = 0.84 (D) 55 NBT = 1.32 (F) 179 NBR = 0.39 (C) 22 SBL = 1.14 (F) 143 SBT = 0.89 (D) 36 SBR = 0.56 (C) 29	EBL = 295 m EBTR = 50 m WBL = 110 m WBTR = 70 m NBL = 70 m NBT = 395 m NBR = 60 m SBL = 80 m SBT = 175 m SBR = 80 m
Future Total 2031	<u>Overall: 1.42 (E) 72</u> EBL = 1.35 (F) 208 EBTR = 0.96 (E) 80 WBL = 0.96 (E) 73 WBTR = 0.8 (E) 60 NBL = 1.28 (F) 240 NBT = 0.92 (D) 36 NBR = 0.15 (B) 16 SBL = 1.43 (F) 299 SBT = 1.07 (E) 69 SBR = 0.3 (B) 18	EBL = 225 m EBTR = 95 m WBL = 120 m WBTR = 65 m NBL = 40 m NBT = 185 m NBR = 20 m SBL = 45 m SBT = 285 m SBR = 40 m	<u>Overall: 1.35 (F) 130</u> EBL = 1.63 (F) 330 EBTR = 0.56 (D) 48 WBL = 0.94 (E) 68 WBTR = 0.8 (E) 58 NBL = 1.02 (F) 99 NBT = 1.36 (F) 196 NBR = 0.4 (C) 22 SBL = 1.14 (F) 142 SBT = 0.97 (D) 48 SBR = 0.65 (C) 34	EBL = 295 m EBTR = 50 m WBL = 115 m WBTR = 75 m NBL = 105 m NBT = 405 m NBR = 60 m SBL = 80 m SBT = 205 m SBR = 100 m
Future Background 2036	<u>Overall: 1.44 (E) 74</u> EBL = 1.37 (F) 214 EBTR = 0.88 (E) 67 WBL = 0.93 (E) 64 WBTR = 0.83 (E) 64 NBL = 1.03 (F) 156 NBT = 0.9 (C) 33 NBR = 0.15 (B) 16 SBL = 1.46 (F) 313 SBT = 1.09 (E) 79 SBR = 0.29 (B) 18	EBL = 230 m EBTR = 85 m WBL = 110 m WBTR = 65 m NBL = 45 m NBT = 180 m NBR = 20 m SBL = 45 m SBT = 300 m SBR = 40 m	<u>Overall: 1.4 (F) 143</u> EBL = 1.81 (F) 406 EBTR = 0.46 (D) 42 WBL = 0.98 (E) 78 WBTR = 0.68 (D) 48 NBL = 0.99 (F) 91 NBT = 1.41 (F) 220 NBR = 0.42 (C) 23 SBL = 1.11 (F) 131 SBT = 0.92 (D) 38 SBR = 0.59 (C) 29	EBL = 300 m EBTR = 45 m WBL = 100 m WBTR = 65 m NBL = 85 m NBT = 425 m NBR = 70 m SBL = 80 m SBT = 200 m SBR = 85 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Total 2036	<u>Overall: 1.45 (F) 83</u> EBL = 1.39 (F) 225 EBTR = 1.07 (F) 112 WBL = 0.95 (E) 68 WBTR = 0.84 (E) 65 NBL = 1.35 (F) 265 NBT = 0.95 (D) 39 NBR = 0.16 (B) 17 SBL = 1.46 (F) 313 SBT = 1.11 (F) 84 SBR = 0.31 (B) 18	EBL = 235 m EBTR = 110 m WBL = 115 m WBTR = 70 m NBL = 45 m NBT = 210 m NBR = 20 m SBL = 45 m SBT = 305 m SBR = 40 m	<u>Overall: 1.45 (F) 151</u> EBL = 1.84 (F) 418 EBTR = 0.51 (D) 42 WBL = 1.03 (F) 93 WBTR = 0.69 (D) 48 NBL = 1.34 (F) 217 NBT = 1.43 (F) 228 NBR = 0.42 (C) 23 SBL = 1.11 (F) 132 SBT = 0.95 (D) 42 SBR = 0.64 (C) 31	EBL = 305 m EBTR = 50 m WBL = 110 m WBTR = 70 m NBL = 125 m NBT = 430 m NBR = 70 m SBL = 80 m SBT = 210 m SBR = 100 m
Future Background 2041	<u>Overall: 1.48 (F) 84</u> EBL = 1.45 (F) 253 EBTR = 1.02 (F) 98 WBL = 0.98 (E) 77 WBTR = 0.86 (E) 67 NBL = 1.1 (F) 176 NBT = 0.91 (C) 33 NBR = 0.16 (B) 16 SBL = 1.48 (F) 320 SBT = 1.12 (F) 88 SBR = 0.29 (B) 17	EBL = 240 m EBTR = 100 m WBL = 125 m WBTR = 75 m NBL = 35 m NBT = 185 m NBR = 20 m SBL = 50 m SBT = 310 m SBR = 40 m	<u>Overall: 1.44 (F) 155</u> EBL = 1.88 (F) 436 EBTR = 0.54 (D) 44 WBL = 0.99 (E) 80 WBTR = 0.72 (D) 48 NBL = 1.04 (F) 108 NBT = 1.46 (F) 242 NBR = 0.43 (C) 24 SBL = 1.13 (F) 138 SBT = 0.95 (D) 42 SBR = 0.6 (C) 30	EBL = 310 m EBTR = 50 m WBL = 115 m WBTR = 70 m NBL = 90 m NBT = 440 m NBR = 70 m SBL = 80 m SBT = 210 m SBR = 90 m
Future Total 2041	<u>Overall: 1.49 (F) 95</u> EBL = 1.48 (F) 266 EBTR = 1.2 (F) 161 WBL = 0.98 (E) 77 WBTR = 0.88 (E) 70 NBL = 1.4 (F) 284 NBT = 0.96 (D) 40 NBR = 0.16 (B) 16 SBL = 1.48 (F) 320 SBT = 1.13 (F) 93 SBR = 0.31 (B) 17	EBL = 245 m EBTR = 120 m WBL = 125 m WBTR = 75 m NBL = 45 m NBT = 215 m NBR = 20 m SBL = 50 m SBT = 320 m SBR = 45 m	<u>Overall: 1.5 (F) 164</u> EBL = 1.9 (F) 448 EBTR = 0.6 (D) 45 WBL = 1.04 (F) 93 WBTR = 0.73 (D) 49 NBL = 1.4 (F) 243 NBT = 1.48 (F) 250 NBR = 0.43 (C) 24 SBL = 1.13 (F) 138 SBT = 0.98 (D) 48 SBR = 0.65 (C) 32	EBL = 315 m EBTR = 60 m WBL = 125 m WBTR = 75 m NBL = 130 m NBT = 445 m NBR = 70 m SBL = 80 m SBT = 220 m SBR = 105 m

Under existing conditions, the intersection of Old School Road and Hurontario Street is reported to operate with an overall v/c ratio of 0.87 LOS C during the a.m. peak hour and 0.77 LOS C during the p.m. peak hour. The intersection operates without any critical movements during either the a.m. or p.m. peak hours.

Under the 2026 future background scenario, with the addition of corridor growth and some background development traffic, the intersection operates with an overall v/c ratio of 0.97 LOS C during the a.m. peak hour and 0.96 LOS D during the p.m. peak hour. In order to accommodate the future traffic volumes along Hurontario Street, a widening of Hurontario to a 6-lane cross-section was assumed and is consistent with previously submitted traffic studies from neighbour developments. With the widening, the westbound left-turn lane during the a.m. peak hour and eastbound left-turn lane during the p.m. peak hour are reported to continue to operate above capacity.

With the addition of site generated traffic from Phase 1 of the development, the intersection is reported to operate at a similar level as reported under the future background scenario with an overall v/c ratio of 0.98 LOS C and 1.49 LOS D

during the a.m. and p.m. peak hours respectively. Both movements that were reported to operate above capacity continue to operate above capacity with no additional movements above capacity reported.

With continued corridor growth and background development traffic, the intersection is reported to operate with an overall v/c ratio of 1.31 LOS E during the a.m. peak hour and 1.41 LOS F during the p.m. peak hour with numerous movements reported to operate above capacity. With the addition of site generated traffic from Phases 1 through 4, the intersection continues to operate at similar levels under the 2029 future total scenario.

In order to accommodate further growth and background development traffic, a widening along Old School Road to a four-lane cross-section has been assumed to mitigate some of the delays in the east/west direction under the 2029 horizon year. The proposed development continues to have a marginal impact on the operation of the intersection.

With all background traffic and further corridor growth applied under the remaining horizon years, in addition to site generated traffic from the full build-out of the subject site, the intersection continues to operate above capacity. It is recommended that the MTO continues to monitor the operation of the intersection and provide mitigations once the intersection begins to operate above capacity.

Included within the proposed Highway 413 construction project (GTA West Corridor), Highway 410 is proposed to be extended north to the proposed Highway and will no longer terminate at Hurontario Street. As a result, through volumes and the north/south direction should reduce if this new alignment is constructed. Further study will be required to evaluate the impact of the Highway 413 project along Hurontario Street corridor within the study area.

## 8.4 Mayfield Road and Chinguacousy Road

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions out are summarized in the following table.

**Table 21 Capacity analysis of Mayfield Road and Chinguacousy Road (With Highway 413)**

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Existing 2024	Overall: 0.6 (C) 24 EBTLR = 0.51 (A) 8 WBTLR = 0.57 (C) 22 NBTLR = 0.7 (E) 58 SBTLR = 0.43 (D) 48	EBTLR = 75 m WBTLR = 170 m NBTLR = 80 m SBTLR = 50 m	Overall: 0.78 (C) 27 EBTLR = 0.56 (A) 8 WBTLR = 0.79 (C) 29 NBTLR = 0.77 (E) 64 SBTLR = 0.48 (D) 49	EBTLR = 90 m WBTLR = 230 m NBTLR = 90 m SBTLR = 55 m
Future Background 2026	Overall: 0.41 (C) 24 EBTLR = 0.25 (A) 9 WBTLR = 0.3 (C) 24 NBTLR = 0.57 (D) 41 SBTLR = 0.65 (D) 45	EBTLR = 30 m WBTLR = 55 m NBTLR = 85 m SBTLR = 85 m	Overall: 0.41 (C) 24 EBTLR = 0.25 (A) 9 WBTLR = 0.3 (C) 24 NBTLR = 0.57 (D) 41 SBTLR = 0.65 (D) 45	EBTLR = 30 m WBTLR = 55 m NBTLR = 85 m SBTLR = 85 m
Future Total 2026	Overall: 0.42 (C) 24 EBTLR = 0.25 (A) 9 WBTLR = 0.31 (C) 24 NBTLR = 0.58 (D) 41 SBTLR = 0.66 (D) 45	EBTLR = 30 m WBTLR = 55 m NBTLR = 85 m SBTLR = 85 m	Overall: 0.54 (C) 31 EBTLR = 0.38 (C) 21 WBTLR = 0.55 (D) 45 NBTLR = 0.52 (C) 26 SBTLR = 0.26 (C) 21	EBTLR = 55 m WBTLR = 90 m NBTLR = 95 m SBTLR = 45 m
Future Background 2029	Overall: 0.47 (C) 30 EBTLR = 0.41 (C) 24 WBTLR = 0.5 (D) 44 NBTLR = 0.38 (B) 20 SBTLR = 0.44 (C) 21	EBTLR = 55 m WBTLR = 80 m NBTLR = 65 m SBTLR = 75 m	Overall: 0.59 (C) 29 EBTLR = 0.43 (C) 23 WBTLR = 0.61 (D) 38 NBTLR = 0.57 (C) 26 SBTLR = 0.3 (C) 20	EBTLR = 60 m WBTLR = 100 m NBTLR = 110 m SBTLR = 50 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Total 2029	Overall: <u>0.5 (C) 30</u> EBTLR = 0.41 (C) 24 WBTLR = 0.86dl (D) 43 NBTLR = 0.41 (C) 20 SBTLR = 0.45 (C) 21	EBTLR = 55 m WBTLR = 85 m NBTLR = 70 m SBTLR = 75 m	Overall: <u>0.67 (C) 26</u> EBTLR = 0.43 (C) 23 WBTLR = 1.02dl (C) 27 NBTLR = 0.69 (C) 29 SBTLR = 0.3 (C) 20	EBTLR = 60 m WBTLR = 85 m NBTLR = 140 m SBTLR = 50 m
Future Background 2031	Overall: <u>0.57 (C) 27</u> EBTLR = 0.59 (D) 37 WBL = 0.52 (C) 24 WBTR = 0.28 (C) 22 NBTLR = 0.43 (C) 21 SBTLR = 0.55 (C) 24	EBTLR = 75 m WBL = 35 m WBTR = 45 m NBTLR = 75 m SBTLR = 95 m	Overall: <u>0.74 (C) 27</u> EBTLR = 0.37 (B) 16 WBL = 0.7 (D) 44 WBTR = 0.29 (C) 23 NBTLR = 0.79 (D) 41 SBTLR = 0.43 (C) 29	EBTLR = 50 m WBL = 80 m WBTR = 70 m NBTLR = 155 m SBTLR = 70 m
Future Total 2031	Overall: <u>0.75 (C) 31</u> EBTLR = 0.68 (D) 42 WBL = 0.75 (C) 32 WBTR = 0.28 (C) 21 NBTLR = 0.5 (C) 23 SBTLR = 0.71 (C) 31	EBTLR = 80 m WBL = 60 m WBTR = 45 m NBTLR = 90 m SBTLR = 120 m	Overall: <u>0.85 (C) 35</u> EBTLR = 0.8 (D) 47 WBL = 0.88 (D) 51 WBTR = 0.39 (C) 24 NBTLR = 0.8 (C) 32 SBTLR = 0.41 (C) 20	EBTLR = 90 m WBL = 95 m WBTR = 60 m NBTLR = 185 m SBTLR = 65 m
Future Background 2036	Overall: <u>0.71 (C) 27</u> EBTLR = 0.48 (C) 26 WBL = 0.88 (E) 79 WBTR = 0.32 (C) 22 NBTLR = 0.45 (C) 20 SBTLR = 0.56 (C) 23	EBTLR = 65 m WBL = 75 m WBTR = 40 m NBTLR = 80 m SBTLR = 95 m	Overall: <u>0.85 (C) 26</u> EBTLR = 0.4 (B) 15 WBL = 0.82 (D) 44 WBTR = 0.31 (B) 14 NBTLR = 0.89 (D) 53 SBTLR = 0.51 (C) 33	EBTLR = 55 m WBL = 95 m WBTR = 45 m NBTLR = 190 m SBTLR = 80 m
Future Total 2036	Overall: <u>0.85 (C) 32</u> EBTLR = 0.6 (C) 31 WBL = 0.71 (C) 22 WBTR = 0.27 (B) 14 NBTLR = 0.64 (C) 28 SBTLR = <b>0.98</b> (E) 68	EBTLR = 85 m WBL = 65 m WBTR = 45 m NBTLR = 100 m SBTLR = 150 m	Overall: <u>0.93 (C) 34</u> EBTLR = 0.77 (D) 40 WBL = 0.89 (D) 49 WBTR = 0.38 (B) 19 NBTLR = <b>0.93</b> (D) 46 SBTLR = 0.52 (C) 22	EBTLR = 95 m WBL = 105 m WBTR = 65 m NBTLR = 220 m SBTLR = 75 m
Future Background 2041	Overall: <u>0.8 (C) 27</u> EBTLR = 0.43 (B) 18 WBL = 0.77 (E) 56 WBTR = 0.28 (B) 18 NBTLR = 0.62 (C) 33 SBTLR = 0.84 (D) 48	EBTLR = 60 m WBL = 70 m WBTR = 45 m NBTLR = 110 m SBTLR = 145 m	Overall: <u>0.82 (C) 32</u> EBTLR = 0.78 (D) 41 WBL = 0.83 (D) 41 WBTR = 0.4 (C) 21 NBTLR = 0.77 (C) 34 SBTLR = 0.41 (C) 24	EBTLR = 100 m WBL = 75 m WBTR = 65 m NBTLR = 160 m SBTLR = 70 m
Future Total 2041	Overall: <u>0.91 (C) 34</u> EBTLR = 0.72 (D) 36 WBL = 0.8 (C) 32 WBTR = 0.3 (B) 16 NBTLR = 0.66 (C) 27 SBTLR = 0.97 (E) 65	EBTLR = 95 m WBL = 95 m WBTR = 55 m NBTLR = 105 m SBTLR = 160 m	Overall: <b>0.99</b> (D) 43 EBTLR = 0.88 (D) 50 WBL = 0.96 (E) 72 WBTR = 0.42 (C) 21 NBTLR = <b>0.98</b> (E) 59 SBTLR = 0.57 (C) 25	EBTLR = 115 m WBL = 120 m WBTR = 65 m NBTLR = 255 m SBTLR = 90 m

Under existing conditions, the intersection of Mayfield Road and Chinguacousy Road is reported to operate with an overall v/c ratio of 0.60 LOS B during the a.m. peak hour and 0.78 LOS C during the p.m. peak hour with no critical movements.

With the proposed widening along Mayfield Road, along with the addition of corridor growth and background traffic under the 2026 future background scenario, the v/c ratio has been reduced to 0.41 LOS C during the a.m. peak hour and 0.41 LOS C during the p.m. peak hour. With the addition of site generated traffic from Phase 1 of the development, the overall v/c ratio is reported to slightly increase to 0.42 LOS C and 0.54 LOS C during the a.m. and p.m. peak hour, respectively.

A similar trend is observed under the 2029 horizon year, where the overall v/c ratio is reported at 0.47 LOS C during the a.m. peak hour and 0.59 LOS C during the p.m. peak hour under the 2029 future background condition. With the addition of site traffic from Phases 1-4, the overall v/c ratio is reported to increase to 0.50 LOS C during the a.m. peak hour and 0.67 LOS C during the p.m. peak hour.

With further growth along Mayfield Road due to corridor growth and background traffic, as well as additional volume added to the westbound left-turn movement from the full build-out of the site, it is projected that a westbound left-turn lane is included in the widening of Mayfield Road to accommodate future traffic at the intersection.

Under the ultimate horizon year, the overall v/c ratio of the intersection is reported 0.80 LOS C and 0.82 LOS C during the a.m. and p.m. peak hour under the 2041 future background scenario and is anticipated to increase to 0.91 LOS C and 0.99 LOS D during the a.m. and p.m. peak hour under the 2041 future total scenario.

## 8.5 Mayfield Road and McLaughlin Road

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions out are summarized in the following table.

**Table 22 Capacity analysis of Mayfield Road and McLaughlin Road (With Highway 413)**

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Existing 2024	<u>Overall: 0.6 (C) 22</u> EBL = 0.03 (B) 11 EBTR = 0.67 (B) 17 WBL = 0.4 (B) 16 WBTR = 0.6 (B) 16 NBTL = 0.3 (D) 36 NBR = 0.05 (C) 32 SBL = 0.37 (D) 38 SBTR = 0.45 (D) 39	EBL = 5 m EBTR = 145 m WBL = 30 m WBTR = 125 m NBTL = 45 m NBR = 15 m SBL = 40 m SBTR = 70 m	<u>Overall: 0.69 (C) 24</u> EBL = 0.1 (B) 12 EBTR = 0.64 (B) 18 WBL = 0.34 (B) 14 WBTR = 0.75 (C) 20 NBTL = 0.55 (D) 42 NBR = 0.09 (C) 33 SBL = 0.46 (D) 43 SBTR = 0.32 (D) 36	EBL = 5 m EBTR = 145 m WBL = 25 m WBTR = 185 m NBTL = 80 m NBR = 20 m SBL = 40 m SBTR = 50 m
Future Background 2026	<u>Overall: 0.52 (C) 26</u> EBL = 0.04 (B) 17 EBTR = 0.3 (B) 19 WBL = 0.38 (B) 16 WBTR = 0.26 (B) 12 NBTL = 0.59 (D) 42 NBR = 0.06 (C) 30 SBL = 0.78 (E) 58 SBTR = 0.66 (D) 43	EBL = 5 m EBTR = 55 m WBL = 30 m WBTR = 35 m NBTL = 75 m NBR = 15 m SBL = 90 m SBTR = 110 m	<u>Overall: 0.52 (C) 26</u> EBL = 0.04 (B) 17 EBTR = 0.3 (B) 19 WBL = 0.38 (B) 16 WBTR = 0.26 (B) 12 NBTL = 0.59 (D) 42 NBR = 0.06 (C) 30 SBL = 0.78 (E) 58 SBTR = 0.66 (D) 43	EBL = 5 m EBTR = 55 m WBL = 30 m WBTR = 35 m NBTL = 75 m NBR = 15 m SBL = 90 m SBTR = 110 m
Future Total 2026	<u>Overall: 0.6 (C) 28</u> EBL = 0.27 (C) 31 EBTR = 0.4 (C) 28 WBL = 0.52 (D) 35 WBTR = 0.53 (C) 27 NBTL = 0.68 (D) 37	EBL = 20 m EBTR = 75 m WBL = 40 m WBTR = 85 m NBTL = 120 m	<u>Overall: 0.61 (C) 29</u> EBL = 0.44 (D) 38 EBTR = 0.4 (C) 28 WBL = 0.52 (D) 35 WBTR = 0.53 (C) 27 NBTL = 0.72 (D) 39	EBL = 25 m EBTR = 75 m WBL = 40 m WBTR = 85 m NBTL = 130 m



Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que.
	NBR = 0.11 (C) 24 SBL = 0.48 (C) 25 SBTR = 0.29 (B) 20	NBR = 20 m SBL = 35 m SBTR = 55 m	NBR = 0.11 (C) 24 SBL = 0.5 (C) 26 SBTR = 0.32 (B) 20	NBR = 20 m SBL = 35 m SBTR = 60 m
Future Background 2029	<u>Overall: 0.65 (C) 25</u> EBL = 0.06 (C) 21 EBTR = 0.42 (C) 27 WBL = 0.64 (D) 38 WBTR = 0.35 (B) 20 NBL = 0.14 (C) 23 NBTR = 0.19 (C) 22 SBL = 0.66 (D) 36 SBTR = 0.3 (C) 24	EBL = 10 m EBTR = 85 m WBL = 55 m WBTR = 50 m NBL = 15 m NBTR = 30 m SBL = 85 m SBTR = 45 m	<u>Overall: 0.58 (C) 28</u> EBL = 0.43 (D) 47 EBTR = 0.44 (D) 36 WBL = 0.64 (D) 44 WBTR = 0.61 (C) 29 NBL = 0.22 (B) 19 NBTR = 0.29 (B) 19 SBL = 0.53 (C) 27 SBTR = 0.18 (B) 18	EBL = 25 m EBTR = 85 m WBL = 50 m WBTR = 95 m NBL = 30 m NBTR = 45 m SBL = 55 m SBTR = 30 m
Future Total 2029	<u>Overall: 0.66 (C) 25</u> EBL = 0.17 (C) 23 EBTR = 0.42 (C) 26 WBL = 0.64 (D) 38 WBTR = 0.35 (B) 20 NBL = 0.17 (C) 23 NBTR = 0.22 (C) 23 SBL = 0.69 (D) 38 SBTR = 0.38 (C) 25	EBL = 20 m EBTR = 80 m WBL = 55 m WBTR = 50 m NBL = 15 m NBTR = 35 m SBL = 85 m SBTR = 60 m	<u>Overall: 0.66 (C) 30</u> EBL = 0.62 (C) 26 EBTR = 0.37 (B) 19 WBL = 0.55 (D) 38 WBTR = 0.65 (C) 32 NBL = 0.45 (D) 42 NBTR = 0.63 (D) 42 SBL = 0.63 (C) 29 SBTR = 0.28 (C) 24	EBL = 30 m EBTR = 60 m WBL = 45 m WBTR = 105 m NBL = 45 m NBTR = 85 m SBL = 50 m SBTR = 40 m
Future Background 2031	<u>Overall: 0.78 (C) 25</u> EBL = 0.07 (B) 18 EBTR = 0.47 (C) 22 WBL = 0.79 (E) 58 WBTR = 0.38 (C) 21 NBL = 0.17 (C) 22 NBTR = 0.21 (C) 22 SBL = 0.76 (D) 42 SBTR = 0.33 (C) 23	EBL = 10 m EBTR = 75 m WBL = 65 m WBTR = 60 m NBL = 20 m NBTR = 35 m SBL = 110 m SBTR = 50 m	<u>Overall: 0.69 (C) 29</u> EBL = 0.51 (D) 52 EBTR = 0.44 (D) 36 WBL = 0.65 (D) 43 WBTR = 0.62 (C) 26 NBL = 0.29 (C) 22 NBTR = 0.36 (C) 22 SBL = 0.72 (D) 40 SBTR = 0.21 (C) 20	EBL = 25 m EBTR = 90 m WBL = 50 m WBTR = 100 m NBL = 35 m NBTR = 60 m SBL = 85 m SBTR = 35 m
Future Total 2031	<u>Overall: 0.83 (C) 27</u> EBL = 0.26 (C) 22 EBTR = 0.48 (C) 23 WBL = 0.83 (E) 65 WBTR = 0.39 (C) 21 NBL = 0.26 (C) 25 NBTR = 0.26 (C) 22 SBL = 0.84 (D) 51 SBTR = 0.48 (C) 25	EBL = 20 m EBTR = 75 m WBL = 65 m WBTR = 60 m NBL = 20 m NBTR = 40 m SBL = 115 m SBTR = 75 m	<u>Overall: 0.9 (D) 38</u> EBL = 0.94 (F) 80 EBTR = 0.48 (C) 28 WBL = 0.77 (E) 70 WBTR = 0.9 (D) 51 NBL = 0.38 (C) 24 NBTR = 0.42 (C) 22 SBL = 0.83 (D) 54 SBTR = 0.31 (C) 20	EBL = 75 m EBTR = 80 m WBL = 60 m WBTR = 145 m NBL = 40 m NBTR = 75 m SBL = 95 m SBTR = 50 m
Future Background 2036	<u>Overall: 0.71 (C) 29</u> EBL = 0.1 (C) 24 EBTR = 0.71 (C) 32 WBL = 0.63 (C) 28 WBTR = 0.43 (C) 22 NBL = 0.29 (D) 42	EBL = 10 m EBTR = 115 m WBL = 35 m WBTR = 65 m NBL = 25 m	<u>Overall: 0.7 (C) 30</u> EBL = 0.52 (D) 45 EBTR = 0.53 (C) 28 WBL = 0.55 (C) 27 WBTR = 0.6 (C) 22 NBL = 0.58 (D) 51	EBL = 30 m EBTR = 85 m WBL = 30 m WBTR = 100 m NBL = 50 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
	NBTR = 0.41 (D) 40 SBL = 0.68 (C) 28 SBTR = 0.34 (C) 23	NBTR = 55 m SBL = 75 m SBTR = 55 m	NBTR = 0.73 (D) 48 SBL = 0.73 (C) 35 SBTR = 0.25 (C) 24	NBTR = 90 m SBL = 60 m SBTR = 40 m
Future Total 2036	<u>Overall: 0.75 (C) 32</u> EBL = 0.36 (D) 37 EBTR = 0.76 (D) 40 WBL = 0.69 (C) 33 WBTR = 0.45 (C) 24 NBL = 0.36 (D) 42 NBTR = 0.46 (D) 39 SBL = 0.71 (C) 28 SBTR = 0.47 (C) 23	EBL = 25 m EBTR = 110 m WBL = 40 m WBTR = 70 m NBL = 25 m NBTR = 60 m SBL = 70 m SBTR = 75 m	<u>Overall: 0.86 (D) 40</u> EBL = 0.79 (D) 42 EBTR = 0.65 (D) 36 WBL = 0.5 (C) 29 WBTR = <b>0.91</b> (D) 47 NBL = 0.64 (D) 51 NBTR = 0.78 (D) 46 SBL = 0.8 (D) 40 SBTR = 0.36 (C) 23	EBL = 60 m EBTR = 95 m WBL = 30 m WBTR = 155 m NBL = 55 m NBTR = 110 m SBL = 70 m SBTR = 55 m
Future Background 2041	<u>Overall: 0.75 (C) 34</u> EBL = 0.13 (C) 32 EBTR = 0.83 (D) 45 WBL = 0.62 (C) 34 WBTR = 0.47 (C) 23 NBL = 0.4 (D) 50 NBTR = 0.54 (D) 47 SBL = 0.69 (C) 32 SBTR = 0.36 (C) 23	EBL = 10 m EBTR = 125 m WBL = 45 m WBTR = 70 m NBL = 30 m NBTR = 55 m SBL = 80 m SBTR = 60 m	<u>Overall: 0.77 (C) 31</u> EBL = 0.68 (E) 69 EBTR = 0.64 (C) 31 WBL = 0.57 (C) 22 WBTR = 0.65 (C) 23 NBL = 0.64 (D) 45 NBTR = 0.79 (D) 46 SBL = 0.8 (D) 39 SBTR = 0.28 (C) 23	EBL = 40 m EBTR = 110 m WBL = 35 m WBTR = 125 m NBL = 55 m NBTR = 90 m SBL = 65 m SBTR = 40 m
Future Total 2041	<u>Overall: 0.78 (D) 35</u> EBL = 0.42 (D) 41 EBTR = 0.85 (D) 45 WBL = 0.62 (C) 34 WBTR = 0.47 (C) 23 NBL = 0.54 (E) 60 NBTR = 0.66 (D) 50 SBL = 0.73 (C) 34 SBTR = 0.51 (C) 25	EBL = 30 m EBTR = 125 m WBL = 45 m WBTR = 75 m NBL = 30 m NBTR = 70 m SBL = 80 m SBTR = 85 m	<u>Overall: 0.91 (D) 42</u> EBL = 0.85 (D) 52 EBTR = 0.68 (C) 35 WBL = 0.6 (C) 26 WBTR = <b>0.93</b> (D) 47 NBL = 0.48 (C) 29 NBTR = 0.88 (D) 52 SBL = 0.86 (D) 52 SBTR = 0.53 (C) 34	EBL = 70 m EBTR = 110 m WBL = 35 m WBTR = 165 m NBL = 35 m NBTR = 120 m SBL = 85 m SBTR = 70 m

Under existing conditions, the intersection of Mayfield Road and McLaughlin Road is reported to operate with an overall v/c ratio of 0.60 LOS C during the a.m. peak hour and 0.69 LOS C during the p.m. peak hour with no critical movements.

With the proposed widening along Mayfield Road assumed to occur under the 2026 horizon year, the intersection operates with an overall v/c ratio of 0.52 LOS C during the a.m. peak hours and 0.60 LOS C during the p.m. peak hour. With the addition of Phase 1 site traffic, the intersection continues to operate at a satisfactory level with a marginal increase to the v/c ratios, delay, and queuing.

With the continued addition of background traffic and corridor growth under the remaining horizon years, the intersection continues to operate at satisfactory levels. With the addition of site traffic from Phases 1-4 under the 2029 horizon year and full build-out of the site under the remaining horizon years, the intersection continues to operate at satisfactory levels.

With the widening of Mayfield Road and the preferred alternative from the Class EA of a widening along McLaughlin Road, no additional geometric changes are recommended for the intersection as a result of the subject site.

## 8.6 Mayfield Road and Hurontario Street

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the existing, future background, and future total traffic conditions are summarized in the following table.

**Table 23 Capacity analysis of Mayfield Road and Hurontario Street (With Highway 413)**

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Existing 2024	<u>Overall: 0.52 (D) 37</u> EBL = 0.59 (D) 41 EBT = 0.57 (D) 50 EBR = 0.06 (D) 40 WBL = 0.62 (E) 78 WBT = 0.45 (D) 47 WBR = 0.04 (D) 40 NBL = 0.3 (C) 28 NBT = 0.2 (C) 24 NBR = 0.13 (C) 23 SBL = 0.19 (C) 24 SBT = 0.46 (C) 28 SBR = 0.19 (C) 24	EBL = 65 m EBT = 105 m EBR = 15 m WBL = 45 m WBT = 80 m WBR = 10 m NBL = 30 m NBT = 45 m NBR = 15 m SBL = 30 m SBT = 105 m SBR = 15 m	<u>Overall: 0.6 (D) 36</u> EBL = 0.7 (D) 36 EBT = 0.46 (D) 39 EBR = 0.04 (C) 33 WBL = 0.58 (E) 61 WBT = 0.53 (D) 40 WBR = 0.04 (C) 33 NBL = 0.38 (D) 40 NBT = 0.47 (D) 38 NBR = 0.16 (C) 33 SBL = 0.4 (C) 29 SBT = 0.44 (C) 29 SBR = 0.27 (C) 26	EBL = 65 m EBT = 75 m EBR = 5 m WBL = 50 m WBT = 85 m WBR = 5 m NBL = 35 m NBT = 80 m NBR = 20 m SBL = 35 m SBT = 85 m SBR = 25 m
Future Background 2026	<u>Overall: 0.58 (D) 38</u> EBL = 0.54 (C) 34 EBT = 0.51 (D) 46 EBR = 0.06 (D) 38 WBL = 0.64 (E) 80 WBT = 0.4 (D) 49 WBR = 0.09 (D) 44 NBL = 0.35 (C) 31 NBT = 0.21 (C) 25 NBR = 0.14 (C) 25 SBL = 0.58 (D) 37 SBT = 0.49 (C) 30 SBR = 0.2 (C) 26	EBL = 70 m EBT = 90 m EBR = 15 m WBL = 50 m WBT = 65 m WBR = 20 m NBL = 30 m NBT = 45 m NBR = 15 m SBL = 90 m SBT = 115 m SBR = 20 m	<u>Overall: 0.58 (D) 38</u> EBL = 0.54 (C) 34 EBT = 0.51 (D) 46 EBR = 0.06 (D) 38 WBL = 0.64 (E) 80 WBT = 0.4 (D) 49 WBR = 0.09 (D) 44 NBL = 0.35 (C) 31 NBT = 0.21 (C) 25 NBR = 0.14 (C) 25 SBL = 0.58 (D) 37 SBT = 0.49 (C) 30 SBR = 0.2 (C) 26	EBL = 70 m EBT = 90 m EBR = 15 m WBL = 50 m WBT = 65 m WBR = 20 m NBL = 30 m NBT = 45 m NBR = 15 m SBL = 90 m SBT = 115 m SBR = 20 m
Future Total 2026	<u>Overall: 0.81 (D) 44</u> EBL = 0.89 (E) 55 EBT = 0.36 (D) 37 EBR = 0.06 (C) 33 WBL = 0.64 (E) 64 WBT = <b>0.92</b> (E) 74 WBR = 0.08 (D) 50 NBL = 0.69 (D) 52 NBT = 0.49 (D) 35 NBR = 0.17 (C) 30 SBL = 0.65 (D) 41 SBT = 0.48 (C) 29 SBR = 0.46 (C) 30	EBL = 170 m EBT = 55 m EBR = 10 m WBL = 50 m WBT = 90 m WBR = 15 m NBL = 70 m NBT = 85 m NBR = 20 m SBL = 50 m SBT = 90 m SBR = 30 m	<u>Overall: 0.83 (D) 44</u> EBL = 0.89 (E) 55 EBT = 0.36 (D) 37 EBR = 0.06 (C) 33 WBL = 0.64 (E) 64 WBT = <b>0.92</b> (E) 74 WBR = 0.08 (D) 50 NBL = 0.7 (D) 54 NBT = 0.5 (D) 36 NBR = 0.17 (C) 30 SBL = 0.67 (D) 43 SBT = 0.49 (C) 29 SBR = 0.46 (C) 30	EBL = 170 m EBT = 55 m EBR = 10 m WBL = 50 m WBT = 90 m WBR = 15 m NBL = 70 m NBT = 90 m NBR = 20 m SBL = 50 m SBT = 95 m SBR = 30 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Background 2029	<u>Overall: 0.71 (D) 43</u> EBL = 0.71 (D) 52 EBT = 0.81 (E) 65 EBR = 0.07 (D) 48 WBL = 0.68 (F) 81 WBT = 0.74 (E) 70 WBR = 0.11 (E) 58 NBL = 0.3 (C) 22 NBT = 0.19 (B) 18 NBR = 0.15 (B) 18 SBL = 0.65 (C) 31 SBT = 0.44 (C) 22 SBR = 0.22 (B) 18	EBL = 85 m EBT = 120 m EBR = 15 m WBL = 50 m WBT = 85 m WBR = 25 m NBL = 30 m NBT = 40 m NBR = 15 m SBL = 110 m SBT = 100 m SBR = 15 m	<u>Overall: 1.01 (D) 51</u> EBL = 1.04 (F) 87 EBT = 0.36 (D) 35 EBR = 0.07 (C) 31 WBL = 0.7 (E) 63 WBT = 1.02 (F) 95 WBR = 0.13 (D) 51 NBL = 0.88 (E) 70 NBT = 0.51 (C) 33 NBR = 0.18 (C) 29 SBL = 0.76 (D) 42 SBT = 0.52 (C) 30 SBR = 0.68 (D) 37	EBL = 225 m EBT = 55 m EBR = 15 m WBL = 55 m WBT = 110 m WBR = 25 m NBL = 95 m NBT = 95 m NBR = 20 m SBL = 55 m SBT = 100 m SBR = 100 m
Future Total 2029	<u>Overall: 0.73 (D) 43</u> EBL = 0.71 (D) 52 EBT = 0.81 (E) 65 EBR = 0.09 (D) 49 WBL = 0.68 (F) 81 WBT = 0.74 (E) 70 WBR = 0.11 (E) 58 NBL = 0.38 (C) 25 NBT = 0.21 (B) 18 NBR = 0.15 (B) 18 SBL = 0.68 (C) 33 SBT = 0.52 (C) 23 SBR = 0.22 (B) 18	EBL = 85 m EBT = 120 m EBR = 20 m WBL = 50 m WBT = 85 m WBR = 25 m NBL = 30 m NBT = 45 m NBR = 15 m SBL = 115 m SBT = 125 m SBR = 15 m	<u>Overall: 1.08 (D) 54</u> EBL = 1.04 (F) 87 EBT = 0.36 (D) 35 EBR = 0.07 (C) 31 WBL = 0.7 (E) 63 WBT = 1.02 (F) 95 WBR = 0.13 (D) 51 NBL = 1.02 (F) 111 NBT = 0.62 (D) 36 NBR = 0.24 (C) 30 SBL = 0.94 (E) 79 SBT = 0.57 (C) 31 SBR = 0.68 (D) 37	EBL = 225 m EBT = 55 m EBR = 15 m WBL = 55 m WBT = 110 m WBR = 25 m NBL = 105 m NBT = 120 m NBR = 30 m SBL = 75 m SBT = 110 m SBR = 100 m
Future Background 2031	<u>Overall: 0.82 (D) 46</u> EBL = 0.81 (E) 60 EBT = 0.87 (E) 68 EBR = 0.07 (D) 48 WBL = 0.81 (F) 95 WBT = 0.76 (E) 70 WBR = 0.16 (E) 58 NBL = 0.32 (C) 22 NBT = 0.2 (B) 18 NBR = 0.15 (B) 17 SBL = 0.78 (D) 39 SBT = 0.45 (C) 21 SBR = 0.23 (B) 18	EBL = 100 m EBT = 135 m EBR = 15 m WBL = 60 m WBT = 90 m WBR = 25 m NBL = 30 m NBT = 40 m NBR = 15 m SBL = 150 m SBT = 105 m SBR = 15 m	<u>Overall: 1.17 (E) 68</u> EBL = 1.19 (F) 139 EBT = 0.4 (D) 37 EBR = 0.08 (C) 33 WBL = 0.69 (E) 62 WBT = 1.15 (F) 142 WBR = 0.24 (D) 54 NBL = 1.06 (F) 121 NBT = 0.53 (C) 33 NBR = 0.21 (C) 28 SBL = 0.87 (E) 58 SBT = 0.54 (C) 29 SBR = 0.84 (D) 46	EBL = 275 m EBT = 60 m EBR = 15 m WBL = 55 m WBT = 125 m WBR = 30 m NBL = 115 m NBT = 100 m NBR = 25 m SBL = 75 m SBT = 105 m SBR = 205 m
Future Total 2031	<u>Overall: 0.87 (D) 46</u> EBL = 0.81 (E) 60 EBT = 0.87 (E) 68 EBR = 0.21 (D) 50 WBL = 0.81 (F) 95 WBT = 0.76 (E) 70	EBL = 100 m EBT = 135 m EBR = 35 m WBL = 60 m WBT = 90 m	<u>Overall: 1.4 (E) 79</u> EBL = 1.19 (F) 139 EBT = 0.4 (D) 37 EBR = 0.11 (C) 33 WBL = 0.69 (E) 62 WBT = 1.15 (F) 142	EBL = 275 m EBT = 60 m EBR = 20 m WBL = 55 m WBT = 125 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que.
	WBR = 0.16 (E) 58 NBL = 0.51 (C) 31 NBT = 0.24 (B) 18 NBR = 0.15 (B) 17 SBL = 0.86 (D) 49 SBT = 0.58 (C) 24 SBR = 0.23 (B) 18	WBR = 25 m NBL = 40 m NBT = 50 m NBR = 15 m SBL = 180 m SBT = 145 m SBR = 15 m	WBR = 0.24 (D) 54 NBL = <b>1.5</b> (F) 297 NBT = 0.71 (D) 37 NBR = 0.28 (C) 29 SBL = <b>1.26</b> (F) 186 SBT = 0.63 (C) 31 SBR = 0.84 (D) 46	WBR = 30 m NBL = 140 m NBT = 140 m NBR = 40 m SBL = 105 m SBT = 125 m SBR = 205 m
Future Background 2036	<u>Overall: 0.82 (D) 48</u> EBL = 0.76 (D) 51 EBT = 0.84 (E) 63 EBR = 0.13 (D) 46 WBL = 0.73 (F) 83 WBT = 0.77 (E) 68 WBR = 0.2 (E) 57 NBL = 0.54 (E) 56 NBT = 0.38 (D) 42 NBR = 0.17 (D) 39 SBL = 0.77 (D) 36 SBT = 0.54 (C) 27 SBR = 0.25 (C) 22	EBL = 100 m EBT = 140 m EBR = 25 m WBL = 55 m WBT = 95 m WBR = 30 m NBL = 50 m NBT = 70 m NBR = 20 m SBL = 105 m SBT = 130 m SBR = 15 m	<u>Overall: <b>1.3</b> (F) 93</u> EBL = <b>1.28</b> (F) 178 EBT = 0.47 (D) 39 EBR = 0.08 (C) 34 WBL = 0.67 (E) 60 WBT = <b>1.2</b> (F) 159 WBR = 0.12 (D) 49 NBL = <b>1.34</b> (F) 230 NBT = 0.77 (D) 48 NBR = 0.32 (D) 39 SBL = 0.93 (E) 68 SBT = 0.73 (D) 40 SBR = <b>1.1</b> (F) 110	EBL = 290 m EBT = 65 m EBR = 10 m WBL = 55 m WBT = 130 m WBR = 20 m NBL = 100 m NBT = 125 m NBR = 40 m SBL = 95 m SBT = 130 m SBR = 255 m
Future Total 2036	<u>Overall: 0.85 (D) 49</u> EBL = 0.76 (D) 51 EBT = 0.84 (E) 63 EBR = 0.18 (D) 47 WBL = 0.73 (F) 83 WBT = 0.77 (E) 68 WBR = 0.2 (E) 57 NBL = 0.83 (F) 96 NBT = 0.45 (D) 44 NBR = 0.17 (D) 39 SBL = 0.82 (D) 40 SBT = 0.68 (C) 31 SBR = 0.29 (C) 23	EBL = 100 m EBT = 140 m EBR = 30 m WBL = 55 m WBT = 95 m WBR = 30 m NBL = 70 m NBT = 85 m NBR = 20 m SBL = 105 m SBT = 180 m SBR = 30 m	<u>Overall: <b>1.52</b> (F) 106</u> EBL = <b>1.28</b> (F) 178 EBT = 0.47 (D) 39 EBR = 0.09 (C) 34 WBL = 0.67 (E) 60 WBT = <b>1.2</b> (F) 159 WBR = 0.12 (D) 49 NBL = <b>1.89</b> (F) 467 NBT = <b>1.00</b> (E) 75 NBR = 0.4 (D) 40 SBL = 1.02 (F) 101 SBT = 0.84 (D) 45 SBR = <b>1.1</b> (F) 111	EBL = 290 m EBT = 65 m EBR = 15 m WBL = 55 m WBT = 130 m WBR = 20 m NBL = 125 m NBT = 185 m NBR = 55 m SBL = 110 m SBT = 155 m SBR = 255 m
Future Background 2041	<u>Overall: <b>0.9</b> (D) 50</u> EBL = 0.85 (E) 60 EBT = <b>0.9</b> (E) 68 EBR = 0.16 (D) 46 WBL = 0.86 (F) 97 WBT = 0.78 (E) 68 WBR = 0.24 (E) 57 NBL = 0.62 (E) 59 NBT = 0.39 (D) 40 NBR = 0.19 (D) 37 SBL = 0.83 (D) 40	EBL = 125 m EBT = 155 m EBR = 30 m WBL = 70 m WBT = 100 m WBR = 35 m NBL = 55 m NBT = 75 m NBR = 20 m SBL = 110 m	<u>Overall: <b>1.41</b> (F) 103</u> EBL = <b>1.37</b> (F) 218 EBT = 0.54 (D) 43 EBR = 0.08 (D) 36 WBL = 0.69 (E) 62 WBT = <b>1.17</b> (F) 146 WBR = 0.18 (D) 50 NBL = <b>1.31</b> (F) 213 NBT = 0.79 (D) 49 NBR = 0.38 (D) 39 SBL = 0.97 (E) 77	EBL = 325 m EBT = 80 m EBR = 15 m WBL = 65 m WBT = 145 m WBR = 25 m NBL = 105 m NBT = 135 m NBR = 50 m SBL = 105 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
	SBT = 0.59 (C) 28 SBR = 0.29 (C) 22	SBT = 145 m SBR = 20 m	SBT = 0.78 (D) 43 SBR = <b>1.22</b> (F) 158	SBT = 150 m SBR = 305 m
Future Total 2041	<u>Overall: <b>1.01</b> (D) 53</u> EBL = 0.85 (E) 60 EBT = <b>0.9</b> (E) 68 EBR = 0.21 (D) 47 WBL = 0.86 (F) 97 WBT = 0.78 (E) 68 WBR = 0.24 (E) 57 NBL = <b>1.12</b> (F) 179 NBT = 0.45 (D) 41 NBR = 0.2 (D) 37 SBL = 0.89 (D) 48 SBT = 0.73 (C) 32 SBR = 0.33 (C) 23	EBL = 125 m EBT = 155 m EBR = 35 m WBL = 70 m WBT = 100 m WBR = 35 m NBL = 85 m NBT = 90 m NBR = 25 m SBL = 125 m SBT = 200 m SBR = 40 m	<u>Overall: <b>1.62</b> (F) 114</u> EBL = <b>1.37</b> (F) 218 EBT = 0.54 (D) 43 EBR = 0.1 (D) 36 WBL = 0.69 (E) 62 WBT = <b>1.17</b> (F) 146 WBR = 0.18 (D) 50 NBL = <b>1.78</b> (F) 411 NBT = <b>1.01</b> (E) 76 NBR = 0.46 (D) 41 SBL = <b>1.07</b> (F) 118 SBT = 0.88 (D) 50 SBR = <b>1.22</b> (F) 159	EBL = 325 m EBT = 80 m EBR = 20 m WBL = 65 m WBT = 145 m WBR = 25 m NBL = 145 m NBT = 205 m NBR = 65 m SBL = 120 m SBT = 180 m SBR = 305 m

Under existing conditions, the intersection of Mayfield Road and Hurontario Street is reported to operate with an overall v/c ratio of 0.52 LOS C during the a.m. peak hour and 0.60 LOS C during the p.m. peak hour. Only the eastbound left movement is reported to operate at a critical level and above capacity during the p.m. peak hour.

With the proposed widening along Mayfield Road, along with the addition of corridor growth and background traffic under future background scenarios, the intersection is reported to operate satisfactorily only under the 2026 horizon year.

As the traffic levels continue to increase at this intersection, the overall intersection begins to operate over capacity during the p.m. peak hour under the 2029 horizon year while remaining below capacity despite being at a critical level during the a.m. peak hour. Similar to the intersection of Hurontario Street and Old School Road, it is recommended that the Region of Peel continue to monitor the operation of the intersection as development proceeds to identify where capacity constraints are introduced and potential mitigation measures.

## 8.7 McLaughlin Road and Street A

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the future total traffic condition are summarized in the following table.

**Table 24 Capacity analysis of McLaughlin Road and Street A**

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Total 2026	WBTLR = 0.34 (C) 17 NBTL = 0 (A) 0 NBTR = 0.13 (A) 0 SBTL = 0.01 (A) 1 SBTR = 0.09 (A) 0	WBTLR = 15 m NBTL = 0 m NBTR = 0 m SBTL = 5 m SBTR = 0 m	WBTLR = 0.3 (C) 21 NBTL = 0 (A) 0 NBTR = 0.22 (A) 0 SBTL = 0.02 (A) 1 SBTR = 0.11 (A) 0	WBTLR = 10 m NBTL = 0 m NBTR = 0 m SBTL = 5 m SBTR = 0 m
Future Total 2029	WBL = 0.42 (C) 26 WBTR = 0.08 (A) 10 NBTL = 0 (A) 0	WBL = 15 m WBTR = 5 m NBTL = 0 m	WBL = 0.62 (E) 52 WBTR = 0.06 (A) 11 NBTL = 0 (A) 0	WBL = 30 m WBTR = 5 m NBTL = 0 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
	NBTR = 0.18 (A) 0 SBTL = 0.03 (A) 1 SBTR = 0.11 (A) 0	NBTR = 0 m SBTL = 5 m SBTR = 0 m	NBTR = 0.28 (A) 0 SBTL = 0.05 (A) 2 SBTR = 0.14 (A) 0	NBTR = 0 m SBTL = 5 m SBTR = 0 m
Future Total 2031	<u>Overall: 0.39 (B) 10</u> WBL = 0.64 (C) 27 WBTR = 0.03 (B) 19 NBTLR = 0.3 (A) 7 SBTLR = 0.22 (A) 6	WBL = 40 m WBTR = 0 m NBTLR = 30 m SBTLR = 25 m	<u>Overall: 0.43 (A) 8</u> WBL = 0.6 (C) 33 WBTR = 0.02 (C) 26 NBTLR = 0.38 (A) 6 SBTLR = 0.3 (A) 6	WBL = 35 m WBTR = 0 m NBTLR = 40 m SBTLR = 30 m
Future Total 2036	<u>Overall: 0.39 (B) 10</u> WBL = 0.64 (C) 27 WBTR = 0.03 (B) 19 NBTLR = 0.3 (A) 7 SBTLR = 0.23 (A) 6	WBL = 40 m WBTR = 0 m NBTLR = 30 m SBTLR = 25 m	<u>Overall: 0.39 (B) 10</u> WBL = 0.64 (C) 27 WBTR = 0.03 (B) 19 NBTLR = 0.3 (A) 7 SBTLR = 0.23 (A) 6	WBL = 40 m WBTR = 0 m NBTLR = 30 m SBTLR = 25 m
Future Total 2041	<u>Overall: 0.42 (B) 10</u> WBTLR = 0.65 (C) 25 NBTLR = 0.33 (A) 7 SBTLR = 0.25 (A) 7	WBTLR = 40 m NBTLR = 35 m SBTLR = 25 m	<u>Overall: 0.42 (B) 10</u> WBTLR = 0.65 (C) 25 NBTLR = 0.33 (A) 7 SBTLR = 0.25 (A) 7	WBTLR = 40 m NBTLR = 35 m SBTLR = 25 m

Under the future total traffic conditions in 2026 and 2029, the intersection of McLaughlin Road and Street A operates satisfactorily as an unsignalized intersection. With the addition of corridor growth, background development traffic and the site generated traffic under the 2031, 2036, and 2041 horizon years, it is recommended to have the intersection converted to a signalized intersection in order to mitigate delays.

## 8.8 Hurontario Street and Street A

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the future total traffic condition are summarized in the following table.

**Table 25 Capacity analysis of Hurontario Street and Street A**

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Total 2029	<u>Overall: 0.88 (B) 20</u> EBL = 0.5 (D) 53 EBR = 0.86 (E) 72 NBL = 0.27 (C) 23 NBT = 0.47 (A) 3 SBTR = 0.92 (C) 23	EBL = 30 m EBR = 95 m NBL = 20 m NBT = 55 m SBTR = 290 m	<u>Overall: 0.9 (B) 14</u> EBL = 0.46 (D) 55 EBR = 0.5 (D) 37 NBL = 0.89 (E) 56 NBT = 0.86 (A) 7 SBTR = 0.75 (B) 17	EBL = 20 m EBR = 50 m NBL = 100 m NBT = 195 m SBTR = 185 m
Future Total 2031	<u>Overall: 1.07 (D) 40</u> EBL = 1.73 (F) 447 EBR = 1.01 (F) 85 NBL = 0.28 (C) 27 NBT = 0.45 (A) 2 SBTR = 1.01 (D) 44	EBL = 70 m EBR = 195 m NBL = 30 m NBT = 25 m SBTR = 305 m	<u>Overall: 0.97 (B) 19</u> EBL = 0.43 (D) 54 EBR = 0.47 (C) 32 NBL = 0.93 (E) 57 NBT = 0.88 (A) 8 SBTR = 0.88 (C) 27	EBL = 20 m EBR = 65 m NBL = 150 m NBT = 220 m SBTR = 230 m



Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Total 2036	Overall: <b>1.1 (D) 42</b> EBL = 0.27 (D) 40 EBR = <b>1.03 (F) 90</b> NBL = 0.97 (F) 101 NBT = 0.6 (B) 11 SBTR = <b>1.04 (D) 51</b>	EBL = 40 m EBR = 205 m NBL = 60 m NBT = 100 m SBTR = 325 m	Overall: <b>1.1 (D) 42</b> EBL = 0.27 (D) 40 EBR = <b>1.03 (F) 90</b> NBL = 0.97 (F) 101 NBT = 0.6 (B) 11 SBTR = <b>1.04 (D) 51</b>	EBL = 40 m EBR = 205 m NBL = 60 m NBT = 100 m SBTR = 325 m
Future Total 2041	Overall: <b>1.15 (E) 55</b> EBL = 0.57 (D) 54 EBR = <b>1.29 (F) 193</b> NBL = 0.44 (C) 32 NBT = 0.53 (A) 5 SBTR = <b>1.08 (E) 68</b>	EBL = 40 m EBR = 195 m NBL = 35 m NBT = 75 m SBTR = 360 m	Overall: <b>1.15 (E) 55</b> EBL = 0.57 (D) 54 EBR = <b>1.29 (F) 193</b> NBL = 0.44 (C) 32 NBT = 0.53 (A) 5 SBTR = <b>1.08 (E) 68</b>	EBL = 40 m EBR = 195 m NBL = 35 m NBT = 75 m SBTR = 360 m

Under the 2029 horizon year, the signalized intersection of Street A and Hurontario Street is reported to operate at satisfactory levels with an overall v/c ratio of 0.89 LOS B and 0.90 LOS B during the a.m. and p.m. peak hours. Under the 2031, 2036, and 2041 horizon year, the intersection is reported to operate over capacity with the overall intersection, eastbound right-turn and southbound approach operate over capacity.

With the construction of the new Highway 410/Hurontario Street interchange with Tim Manley, some of the site generated traffic may choose to use an alternate route to access the interchange in order to avoid the 277 second delay reported during the a.m. peak hour under the 2041 future total scenario.

## 8.9 Chinguacousy Road and Street C

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the future total traffic condition are summarized in the following table.

**Table 26 Capacity analysis of Chinguacousy Road and Street C**

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Total 2031	WBLR = 0.28 (C) 17 NBTR = 0.31 (A) 0 SBTL = 0.03 (A) 1	WBLR = 10 m NBTR = 0 m SBTL = 5 m	WBLR = 0.31 (D) 32 NBTR = 0.45 (A) 0 SBTL = 0.06 (A) 2	WBLR = 10 m NBTR = 0 m SBTL = 5 m
Future Total 2036	WBLR = 0.29 (C) 17 NBTR = 0.32 (A) 0 SBTL = 0.03 (A) 1	WBLR = 10 m NBTR = 0 m SBTL = 5 m	WBLR = 0.29 (C) 17 NBTR = 0.32 (A) 0 SBTL = 0.03 (A) 1	WBLR = 10 m NBTR = 0 m SBTL = 5 m
Future Total 2041	WBLR = 0.29 (C) 17 NBTR = 0.33 (A) 0 SBTL = 0.03 (A) 1	WBLR = 10 m NBTR = 0 m SBTL = 5 m	WBLR = 0.29 (C) 17 NBTR = 0.33 (A) 0 SBTL = 0.03 (A) 1	WBLR = 10 m NBTR = 0 m SBTL = 5 m

Under all future total traffic conditions (2031, 2036, and 2041), the intersection of Chinguacousy Road and Street C is reported to operate satisfactorily with substantial reserve capacity, low levels of delay and negligible queueing during the a.m. peak hour.

## 8.10 Old School Road and Street B

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the future total traffic condition are summarized in the following table.

**Table 27 Capacity analysis of Old School Road and Street B**

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Total 2031	EBT = 0.26 (A) 0 EBTR = 0.13 (A) 0 WBTL = 0.04 (A) 2 WBT = 0.16 (A) 0 NBLR = 0.21 (B) 13	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBLR = 10 m	EBT = 0.26 (A) 0 EBTR = 0.14 (A) 0 WBTL = 0.09 (A) 3 WBT = 0.3 (A) 0 NBLR = 0.14 (B) 15	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBLR = 5 m
Future Total 2036	EBT = 0.27 (A) 0 EBTR = 0.14 (A) 0 WBTL = 0.04 (A) 2 WBT = 0.17 (A) 0 NBLR = 0.23 (B) 13	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBLR = 10 m	EBT = 0.27 (A) 0 EBTR = 0.14 (A) 0 WBTL = 0.04 (A) 2 WBT = 0.17 (A) 0 NBLR = 0.23 (B) 13	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBLR = 10 m
Future Total 2041	EBT = 0.29 (A) 0 EBTR = 0.15 (A) 0 WBTL = 0.05 (A) 2 WBT = 0.18 (A) 0 NBLR = 0.23 (B) 14	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBLR = 10 m	EBT = 0.29 (A) 0 EBTR = 0.15 (A) 0 WBTL = 0.05 (A) 2 WBT = 0.18 (A) 0 NBLR = 0.23 (B) 14	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBLR = 10 m

Under all future total traffic conditions (2031, 2036, and 2041), the intersection of Old School Road and Street B is reported to operate satisfactorily with substantial reserve capacity, low levels of delay and negligible queueing during the a.m. peak hour.

## 8.11 Old School Road and Street D

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the future total traffic condition are summarized in the following table.

**Table 28 Capacity analysis of Old School Road and Street D**

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Total 2031	EBT = 0.41 (A) 0 EBTR = 0.26 (A) 0 WBTL = 0.02 (A) 1 WBT = 0.22 (A) 0 NBLR = 0.62 (F) 63	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBLR = 25 m	EBT = 0.41 (A) 0 EBTR = 0.25 (A) 0 WBTL = 0.03 (A) 1 WBT = 0.45 (A) 0 NBLR = 0.57 (F) 87	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBLR = 20 m
Future Total 2036	EBT = 0.43 (A) 0 EBTR = 0.27 (A) 0 WBTL = 0.02 (A) 1 WBT = 0.23 (A) 0 NBLR = 0.55 (F) 51	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBLR = 25 m	EBT = 0.43 (A) 0 EBTR = 0.27 (A) 0 WBTL = 0.02 (A) 1 WBT = 0.23 (A) 0 NBLR = 0.55 (F) 51	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBLR = 25 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Total 2041	EBT = 0.45 (A) 0 EBTR = 0.28 (A) 0 WBTL = 0.02 (A) 1 WBT = 0.25 (A) 0 NBL = 0.73 (F) 90 NBR = 0 (A) 0	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBL = 35 m NBR = 0 m	EBT = 0.45 (A) 0 EBTR = 0.28 (A) 0 WBTL = 0.02 (A) 1 WBT = 0.25 (A) 0 NBL = 0.73 (F) 90 NBR = 0 (A) 0	EBT = 0 m EBTR = 0 m WBTL = 5 m WBT = 0 m NBL = 35 m NBR = 0 m

Under all future total traffic conditions (2031, 2036, and 2041), the intersection of Old School Road and Street D is reported to operate satisfactorily with substantial reserve capacity, low levels of delay and negligible queueing during the a.m. peak hour. During the p.m. peak hour, the northbound approach is operating below capacity however the delay under the 2041 horizon year has increased to nearly 2 minutes. With a signalized intersection to the west, drivers may opt to travel in the westbound direction via McLaughlin Road to then turn left at Old School Road.

## 8.12 Street A and Street D

Capacity analysis at this intersection during the weekday a.m. and p.m. peak hours for the future total traffic condition are summarized in the following table.

**Table 29 Capacity analysis of Street A and Street D**

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 <sup>th</sup> % Que.	V/C (LOS) seconds	95 <sup>th</sup> % Que
Future Total 2031	EBTL = 0.06 (A) 3 WBTR = 0.12 (A) 0 SBLR = 0.26 (B) 12	EBTL = 5 m WBTR = 0 m SBLR = 10 m	EBTL = 0.09 (A) 4 WBTR = 0.15 (A) 0 SBLR = 0.15 (B) 12	EBTL = 5 m WBTR = 0 m SBLR = 5 m
Future Total 2036	EBTL = 0.06 (A) 3 WBTR = 0.12 (A) 0 SBLR = 0.26 (B) 12	EBTL = 5 m WBTR = 0 m SBLR = 10 m	EBTL = 0.06 (A) 3 WBTR = 0.12 (A) 0 SBLR = 0.26 (B) 12	EBTL = 5 m WBTR = 0 m SBLR = 10 m
Future Total 2041	EBTL = 0.06 (A) 3 WBTR = 0.12 (A) 0 SBLR = 0.26 (B) 12	EBTL = 5 m WBTR = 0 m SBLR = 10 m	EBTL = 0.06 (A) 3 WBTR = 0.12 (A) 0 SBLR = 0.26 (B) 12	EBTL = 5 m WBTR = 0 m SBLR = 10 m

Under all future total traffic conditions (2031, 2036, and 2041), the intersection of Street A and Street D is reported to operate satisfactorily with substantial reserve capacity, low levels of delay and negligible queueing during both peak hours.

## 9. Proposed Improvements

The proposed improvements along all study area roads is provided in the figure below, and includes the lane configuration at the study intersections as well as the intersections that have been proposed to be signalized.

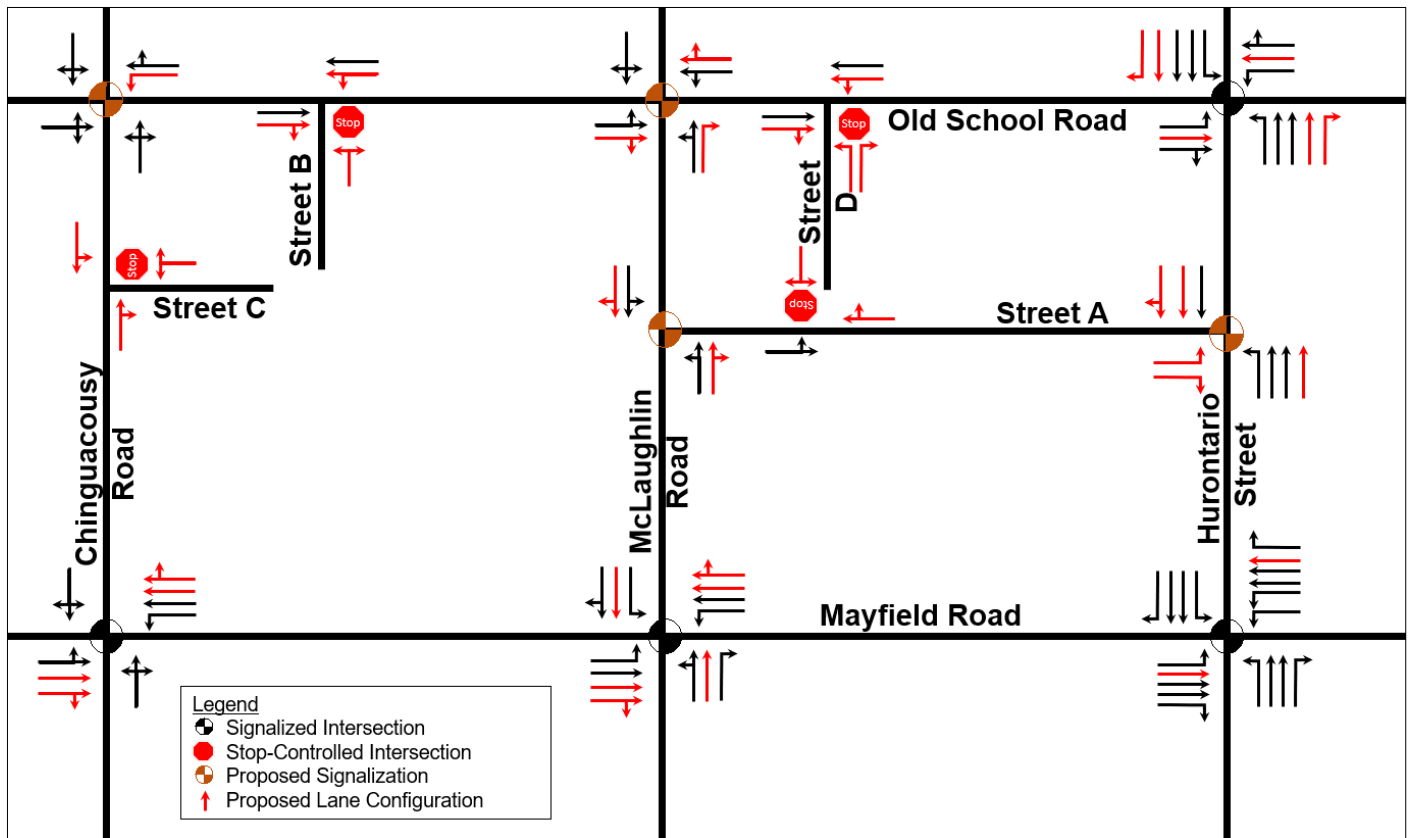


Figure 11 Proposed Lane Configurations and Intersection Traffic Control

## 10. Roadway Elements

The typical intersection spacing along arterial and collector roadways is provided in Section 9.4.2.1 and 9.4.2.2, respectively, of the TAC Manual.

For arterial roadways, the typical minimum spacing between adjacent intersections along an arterial road between signalized intersections is 400 metres, and 200 metres for all other scenarios. The spacing along McLaughlin Road and Hurontario Street between Old School Road and the proposed signalized intersections along Street A exceeds 400 metres in spacing. The spacing between all other existing intersections and proposed intersections along arterial roads exceed 200 metres in spacing.

For collector roadways, the typical minimum spacing between adjacent intersections along a collector road is 60 metres. The spacing between all intersections along the proposed collector roads of Street A, Street B, Street C, and Street D exceed the typical 60-metre spacing.

### 10.1 Active Transportation Plan

An Active Transportation Plan was prepared for the proposed development and includes the proposed sidewalks within the development lands, the planned cycling routes, the recommended multi-use paths and trails, as well as potential cycling facilities within the proposed development.

Sidewalks are proposed to be provided along one side of the road throughout the development, consistent with the surrounding developments. The planned and recommended cycling infrastructure (cycling route, multi-use path, and

multi-use trail) are consistent with the Town of Caledon's Active Transportation Master Plan Network Recommendations map.

The Active Transportation Plan map is provided in **Figure 45** and in **Appendix F**.

## 11. Parking

The minimum parking requirements are found in the Town of Caledon Zoning By-law, Section 5.2.2., Table 5.1 for the residential parking requirements and Section 5.2.3 Table 5.2 for the non-residential uses.

Although a site plan has not been finalized, parking will generally be provided for the residential and non-residential uses to satisfy the zoning by-law requirements.

## 12. Conclusion

The proposed draft plan of subdivision prepared by Malone Given Parsons consists of a series of single-family homes, townhouses, commercial uses, and a school block. The residential units, commercial retail space, and elementary school blocks are broken down as follows:

- 1,025 Single Detached dwelling units
- 764 Street/Lane Townhouse dwelling units
- 690 Medium Density Blocks
- 4.92 hectares in commercial blocks
- 1 elementary school block

Access to the proposed subdivision from the regional arterial roads is proposed via Chinguacousy Road, McLaughlin Road, Hurontario Street and Old School Road.

The proposed subdivision is expected to generate under Phase 1 in 2026 a total of 185 new two-way trips consisting of 45 inbound and 140 outbound trips during weekday a.m. peak hour and 236 new two-way trips consisting of 148 inbound and 88 outbound trips during the weekday p.m. peak hour.

Under the 2029 horizon year, with Phases 1-4 built out, the subdivision is expected to generate 758 new two-way trips consisting of 184 inbound and 574 outbound trips during weekday a.m. peak hour and 959 new two-way trips consisting of 602 inbound and 357 outbound trips during the weekday p.m. peak hour.

Under the 2031 horizon year, with the subdivision fully built out, it is expected to generate 1,899 new two-way trips consisting of 666 inbound and 1,233 outbound trips during weekday a.m. peak hour and 2,054 new two-way trips consisting of 1,205 inbound and 849 outbound trips during the weekday p.m. peak hour.

To alleviate some capacity issues along the study area roads, the following improvements have been recommended in previous studies and confirmed with the latest analysis:

- Widening of Mayfield Road from 2 to 6 lanes (Chinguacousy Road to Hurontario Street)
- Widening of Old School Road from 2 to 4 lanes (Chinguacousy Road to Hurontario Street)
- Widening of McLaughlin from 2 to 4 lanes (Old School Road to Mayfield Road)
- Widening of Hurontario from 4 to 6 lanes (north of Highway 410).
  - An auxiliary right-turn lane in the northbound and southbound directions.

- Signalization of the intersection of Old School Road & Chinguacousy Road, Old School Road & McLaughlin Road, McLaughlin & Street A, Hurontario Street & Street A

Despite the recommended road widening along Hurontario Street, capacity issues are still prevalent at study intersections along Hurontario Street due to the high through volumes. The GTA West Corridor project proposes to extend Highway 410 to the proposed Highway 413 and would result in less through volume along Hurontario Street. Further studies will be required to evaluate the impact of the proposed Highway 410 extension on the Hurontario Street corridor within the study area.

# Appendices

# Appendix A

Figures



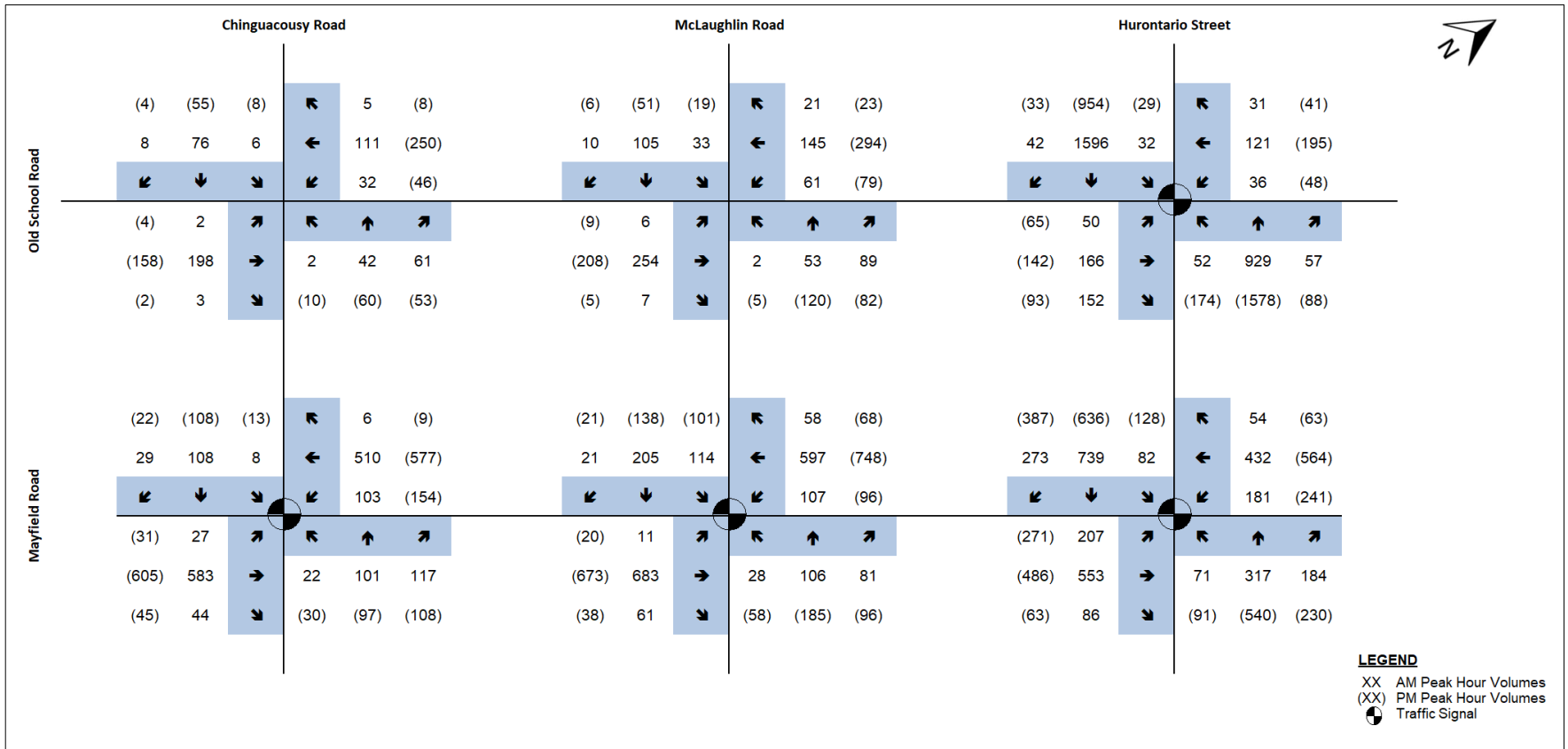


Figure 12 Baseline 2024 Existing Traffic Volumes

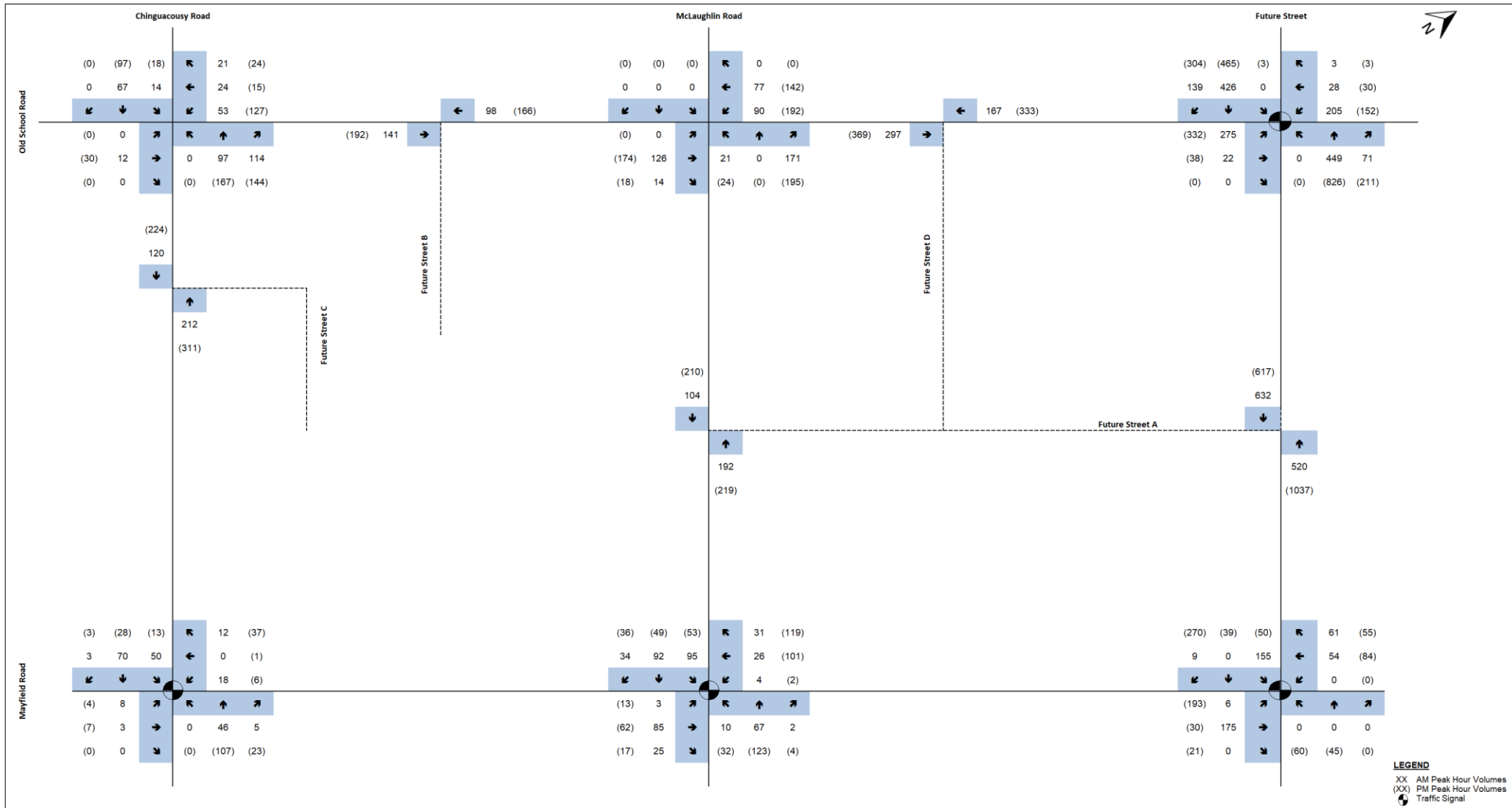


Figure 13 Total Background Development Site Traffic – Without GTA West Highway (2026)

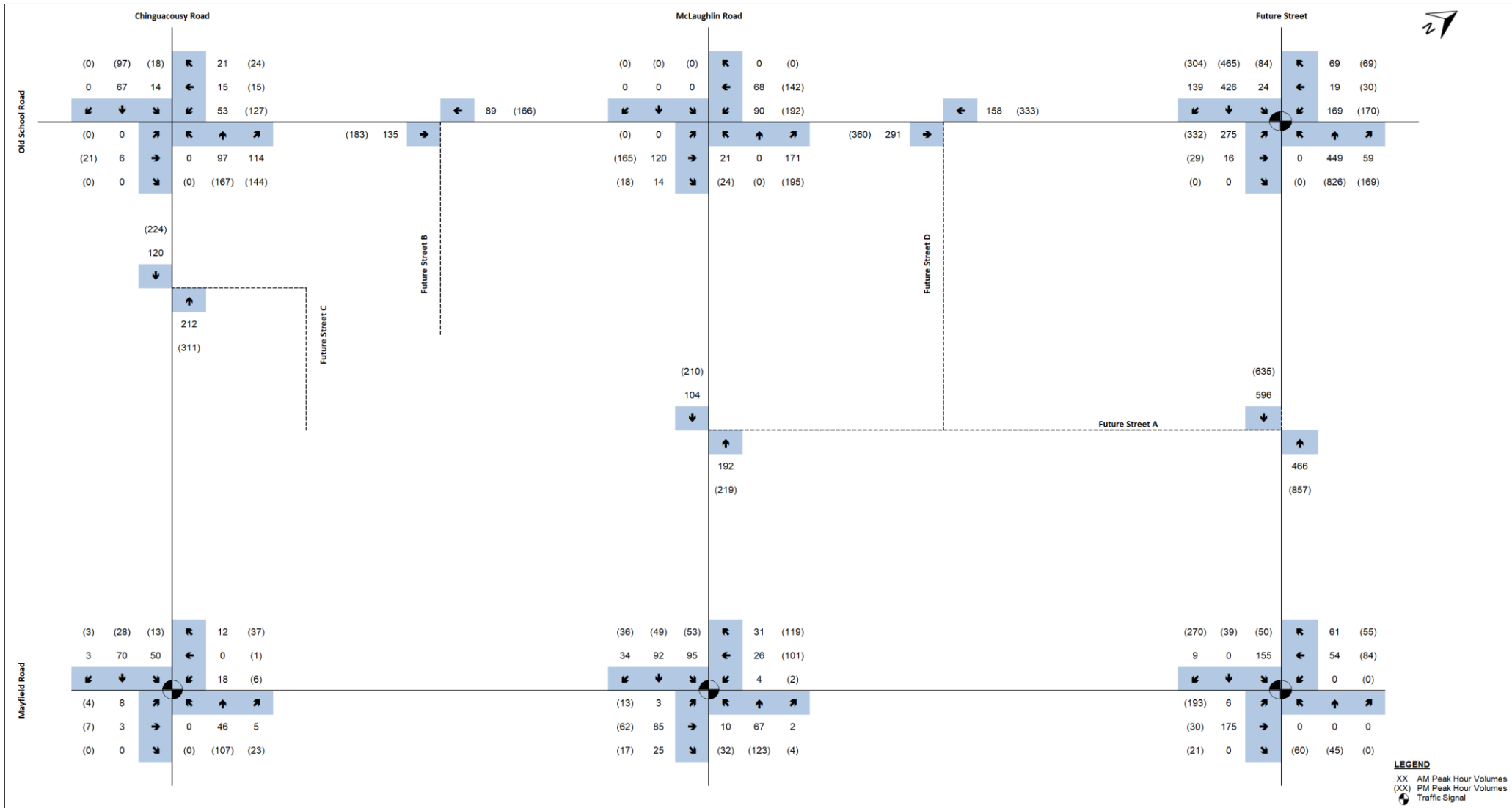


Figure 14 Total Background Development Site Traffic – With GTA West Highway (2026)

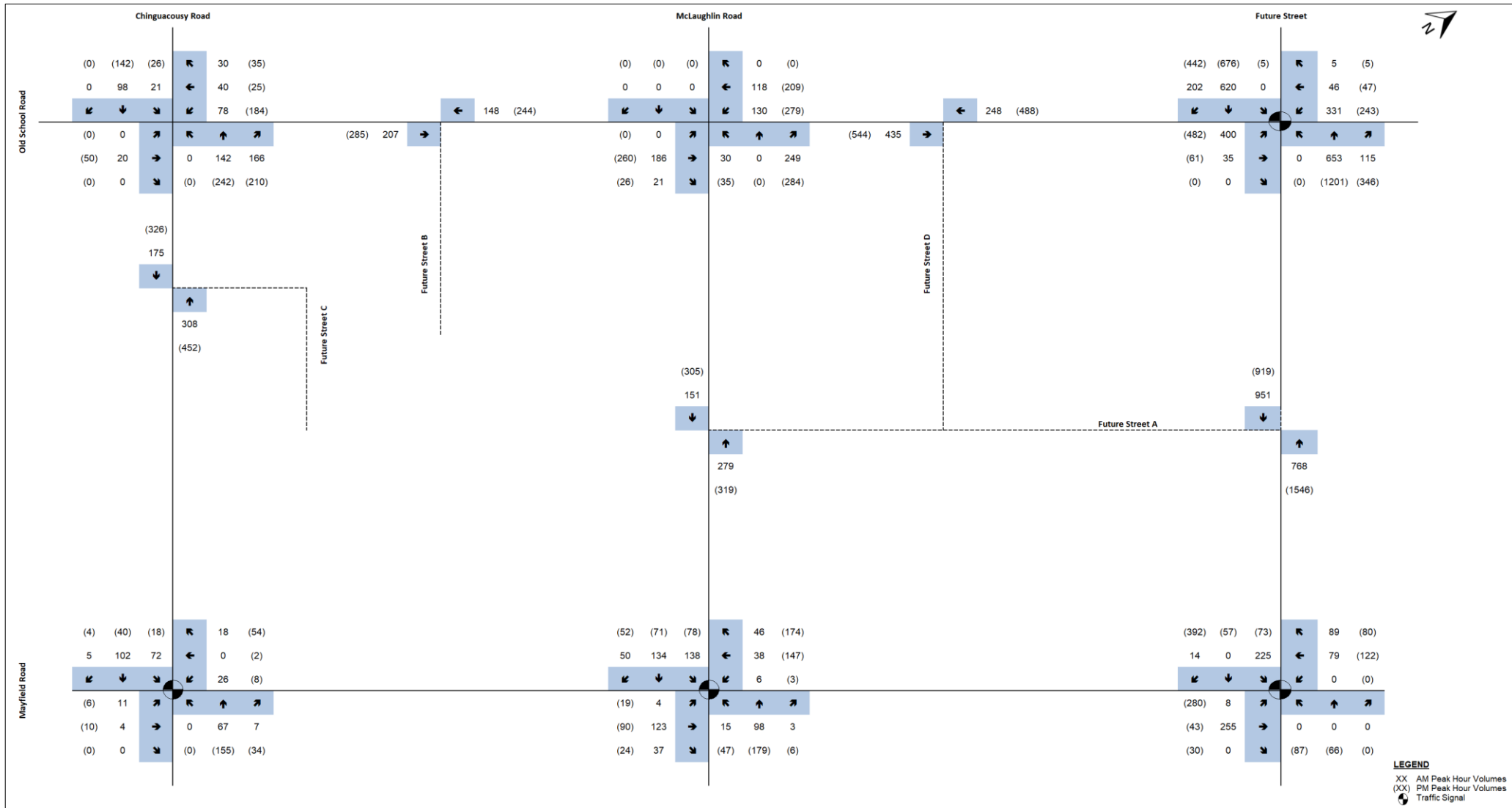


Figure 15 Total Background Development Site Traffic – Without GTA West Highway (2029)

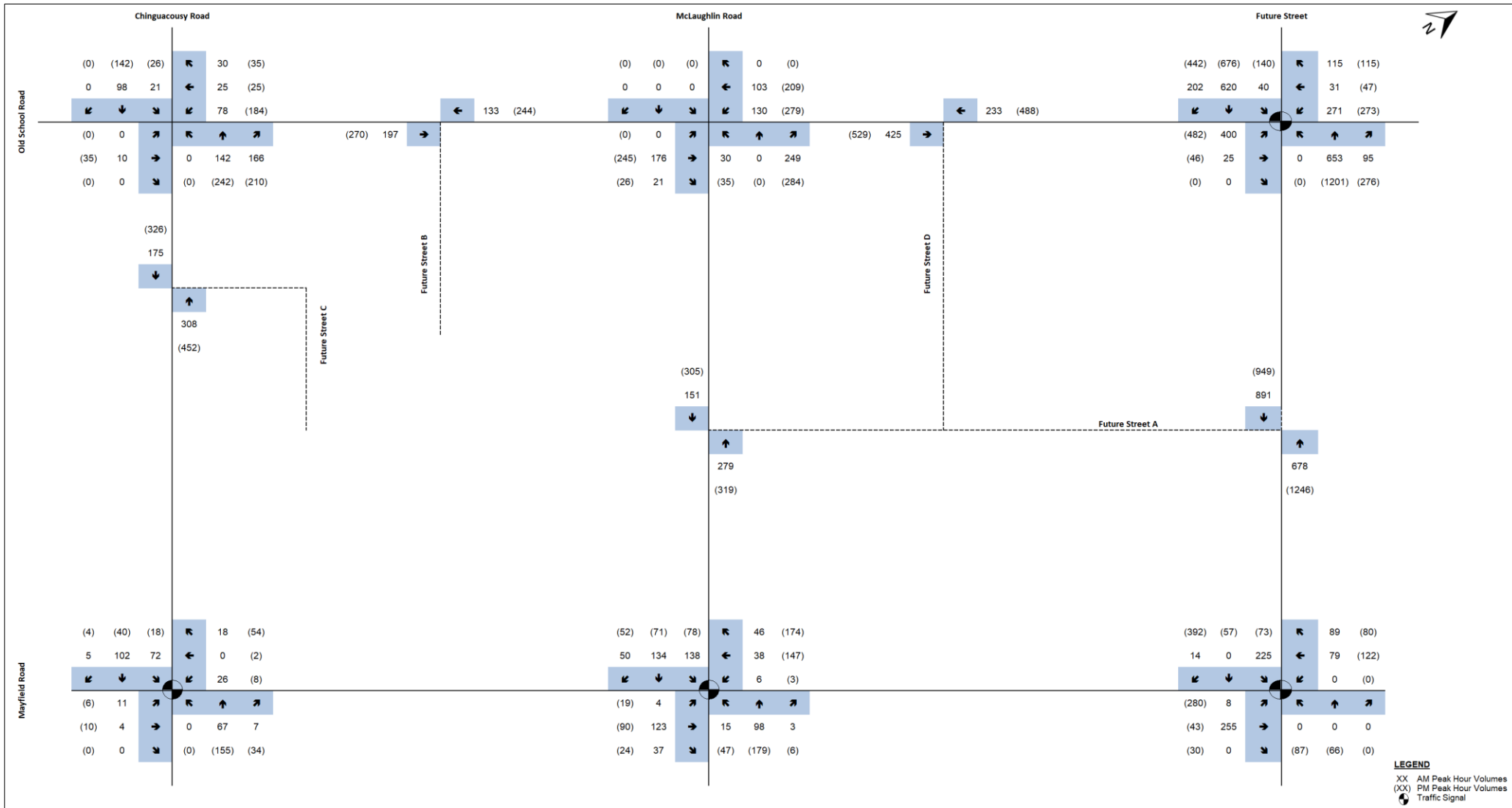


Figure 16 Total Background Development Site Traffic – With GTA West Highway (2029)

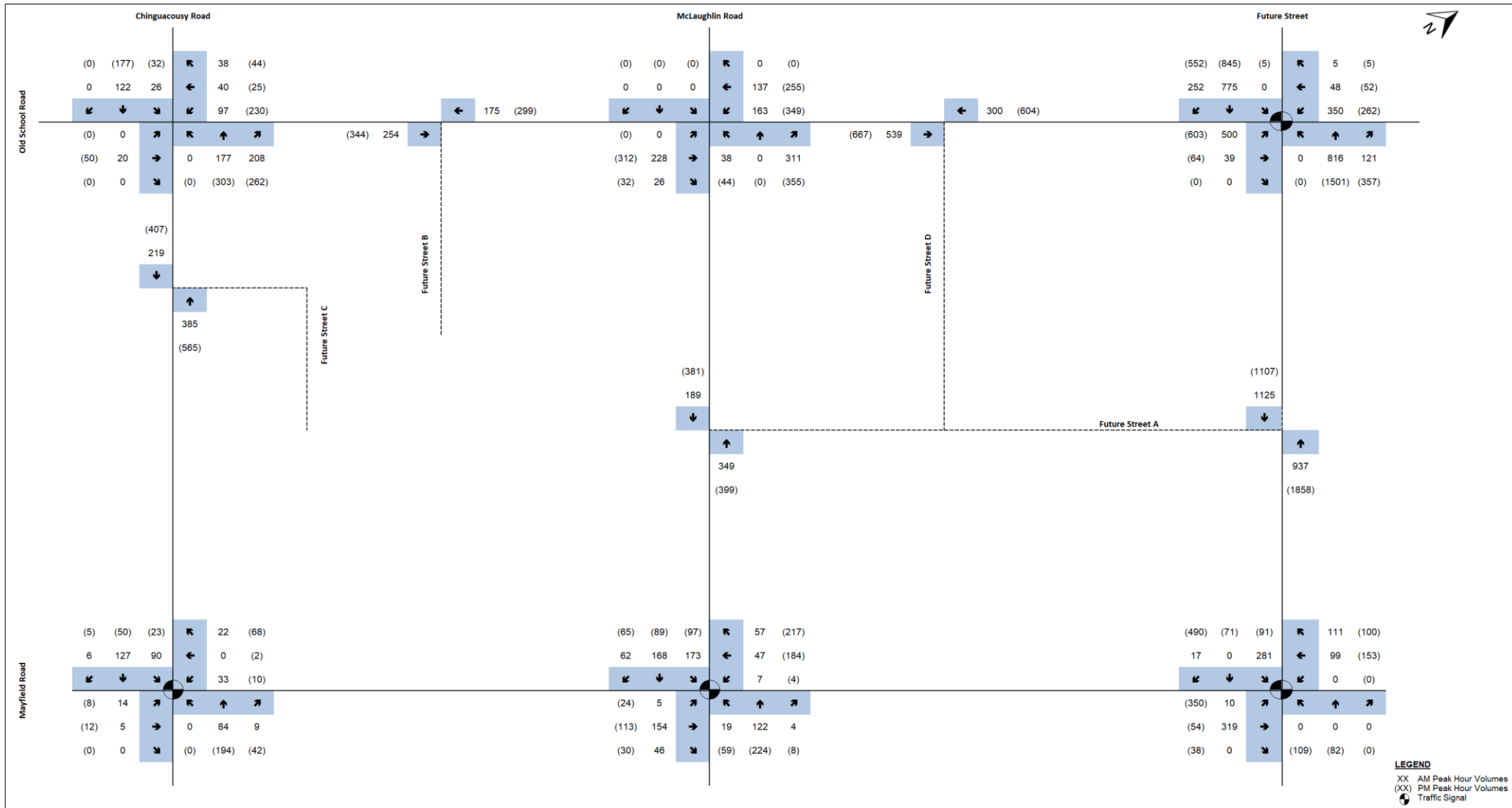


Figure 17 Total Background Development Site Traffic – Without GTA West Highway (2031)

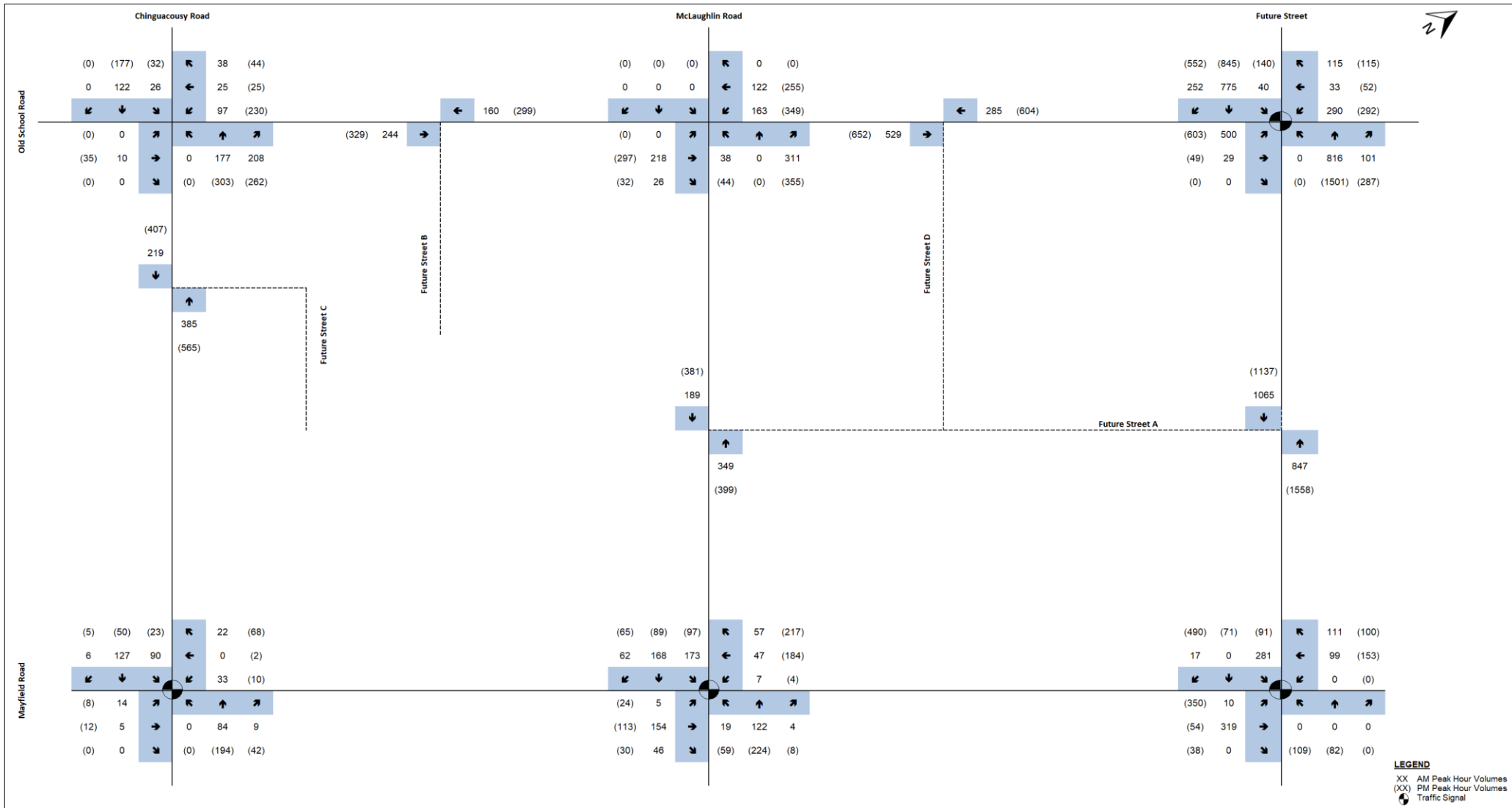


Figure 18 Total Background Development Site Traffic – With GTA West Highway (2031)

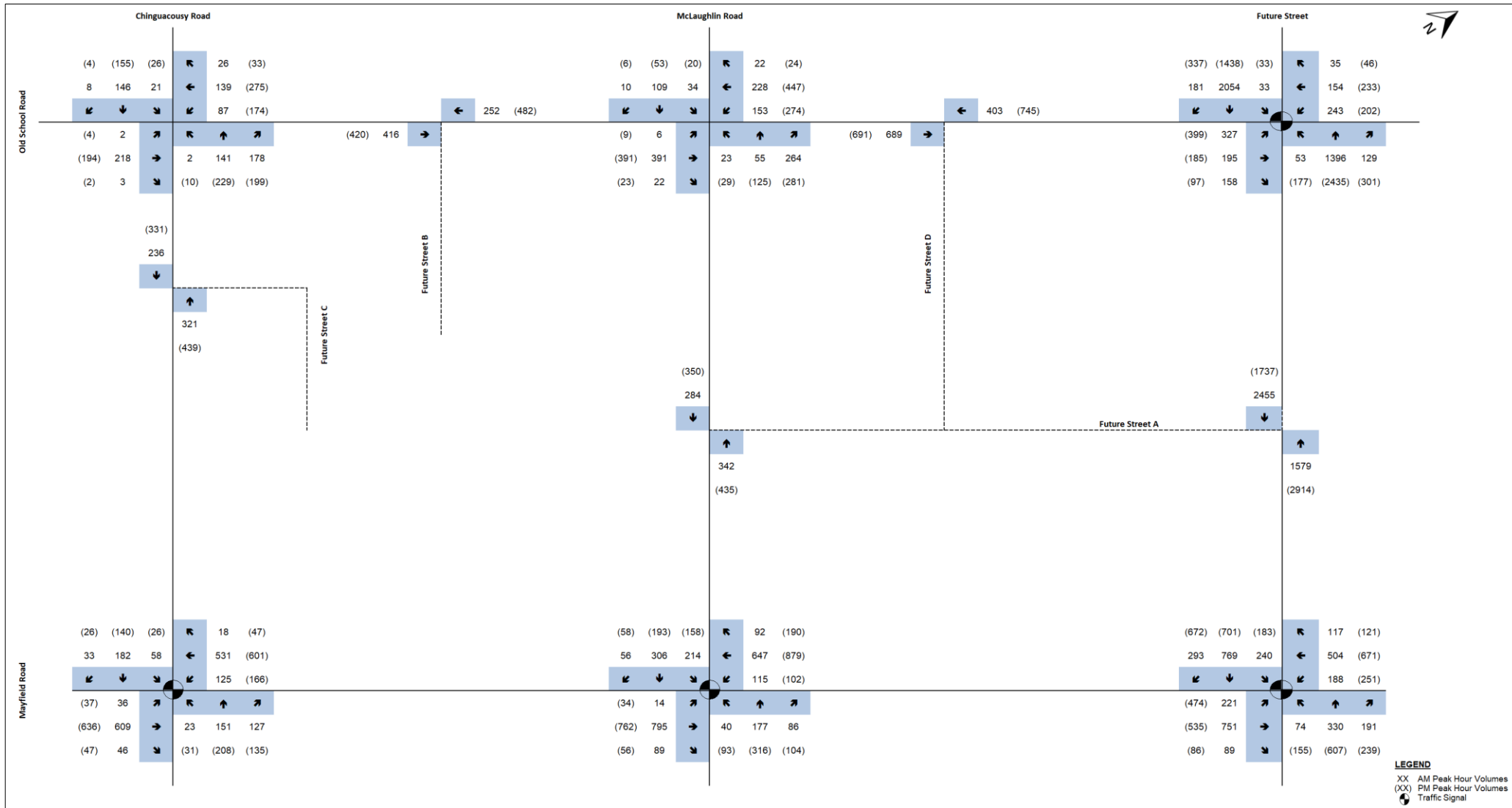


Figure 19 2026 Future Background Traffic Volumes – Without GTA West Highway



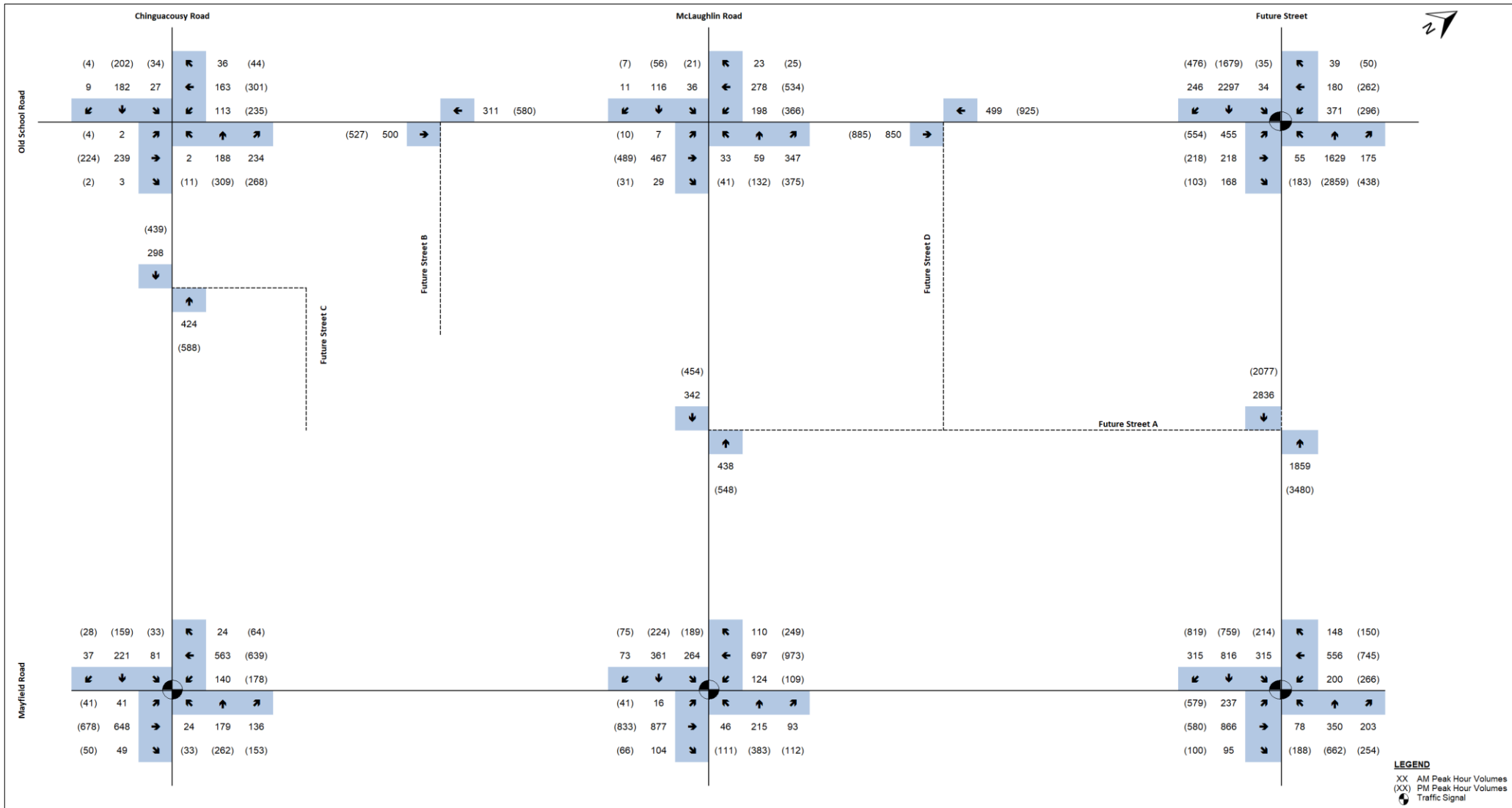


Figure 20 2029 Future Background Traffic Volumes – Without GTA West Highway

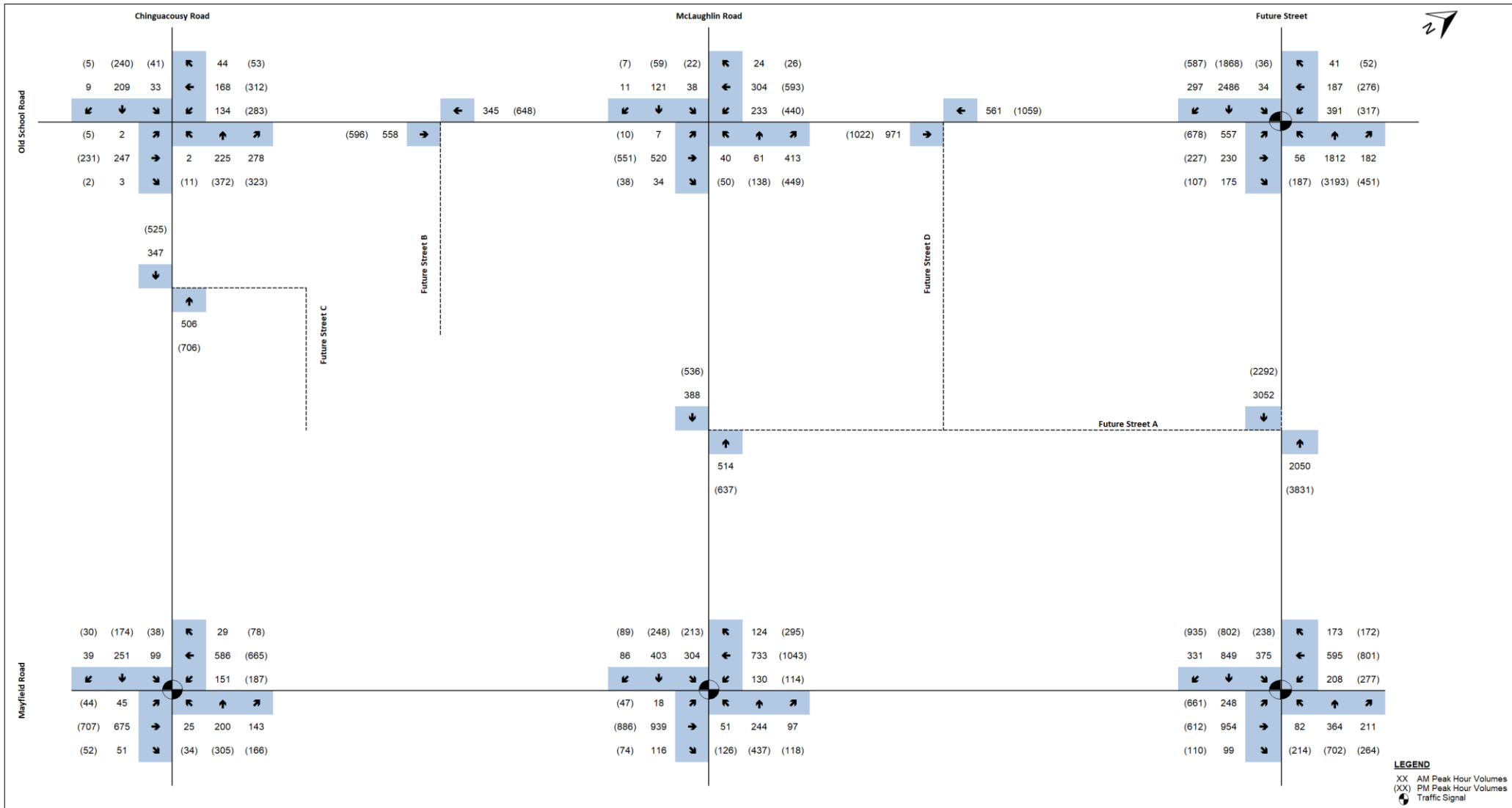


Figure 21 2031 Future Background Traffic Volumes – Without GTA West Highway

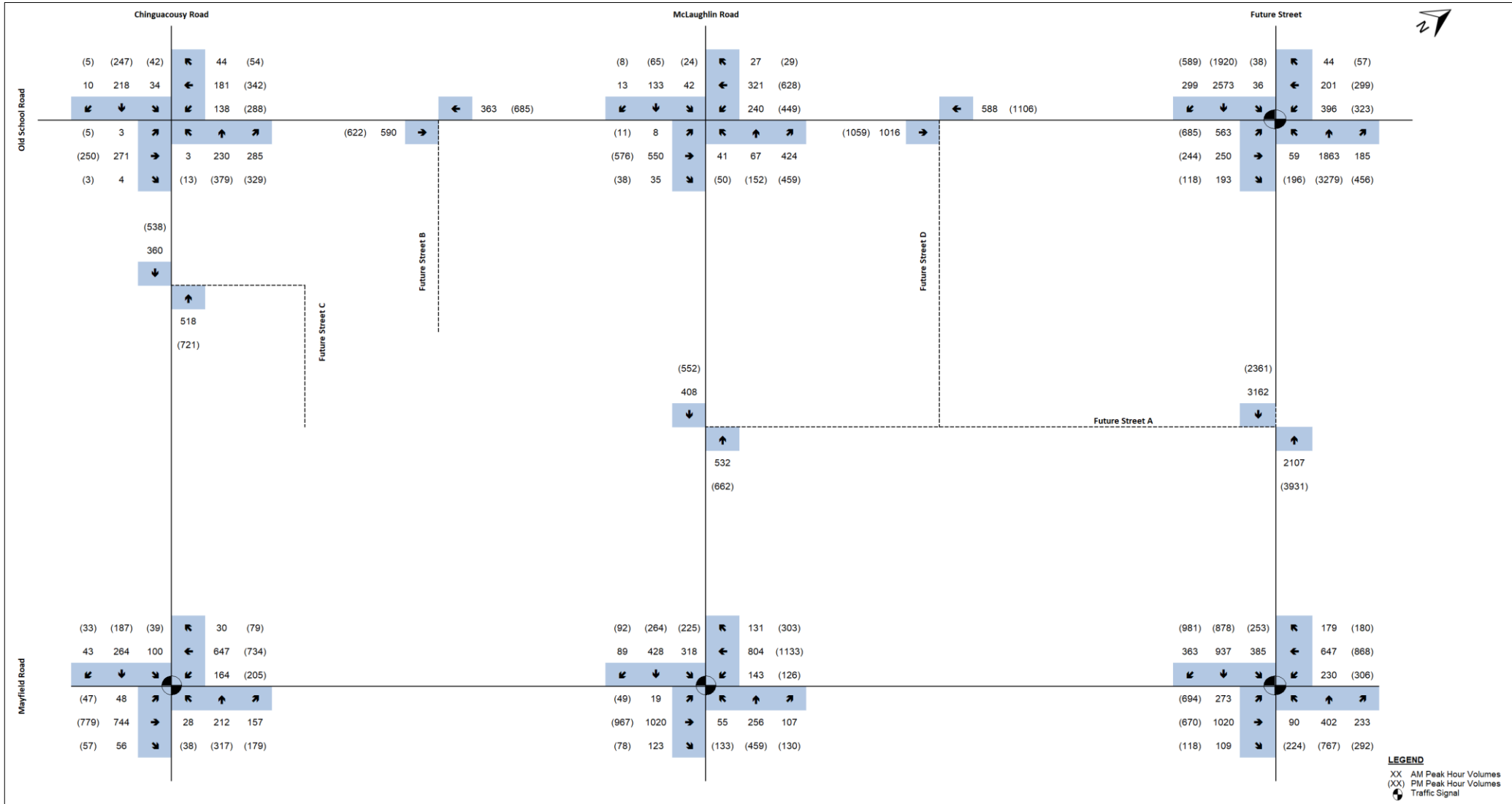


Figure 22 2036 Future Background Traffic Volumes – Without GTA West Highway

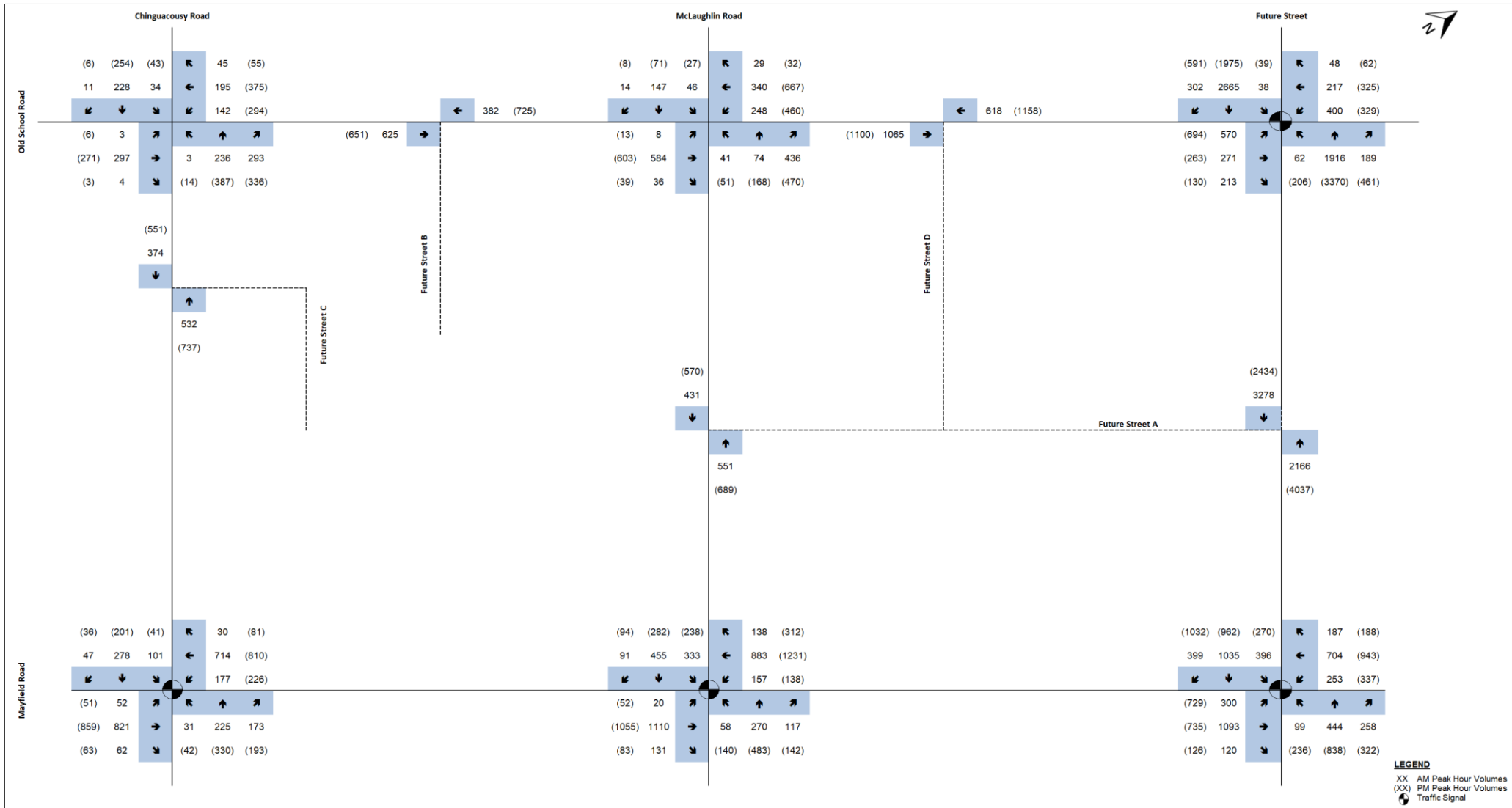


Figure 23 2041 Future Background Traffic Volumes – Without GTA West Highway

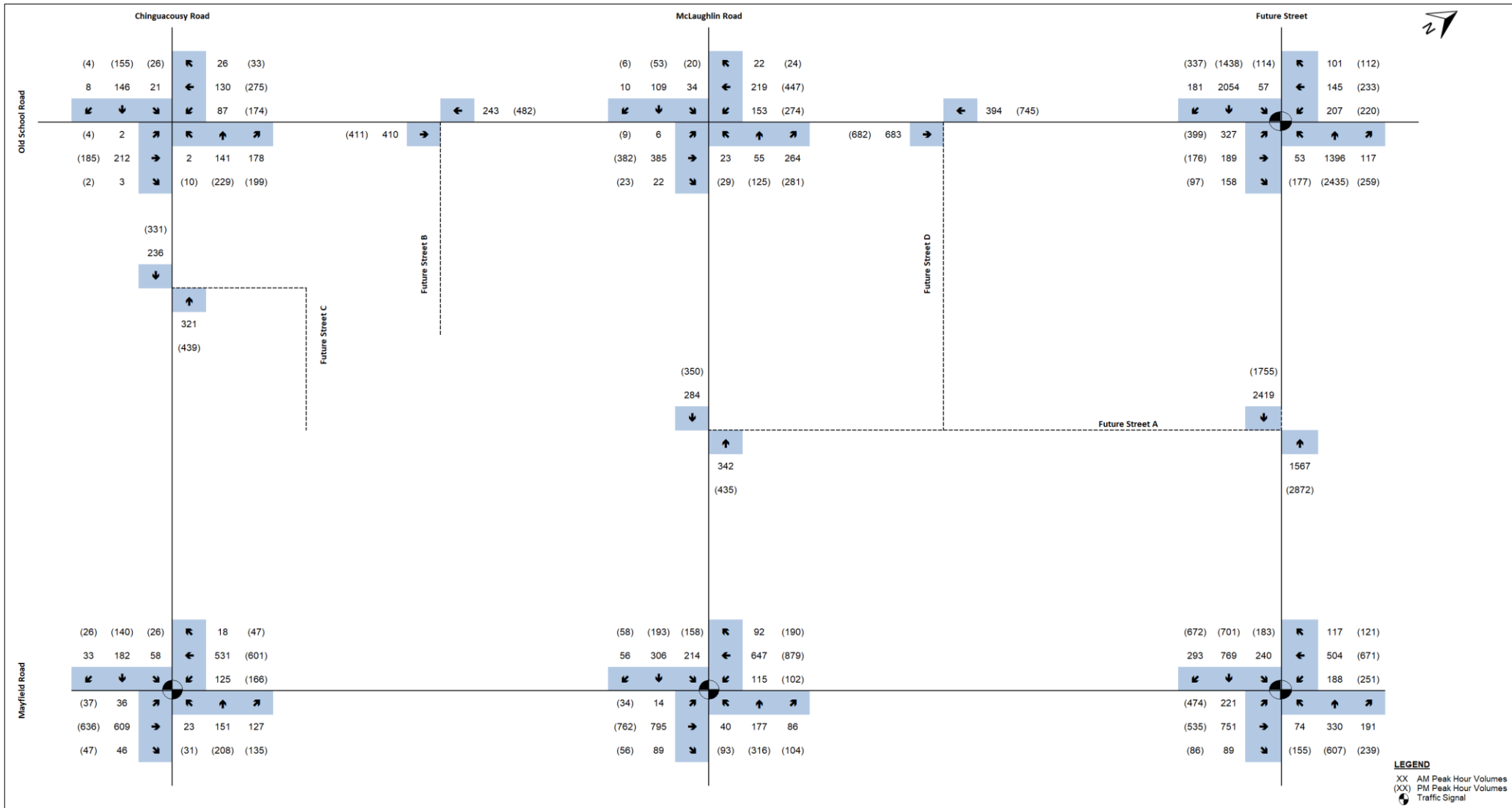


Figure 24 2026 Future Background Traffic Volumes – With GTA West Highway

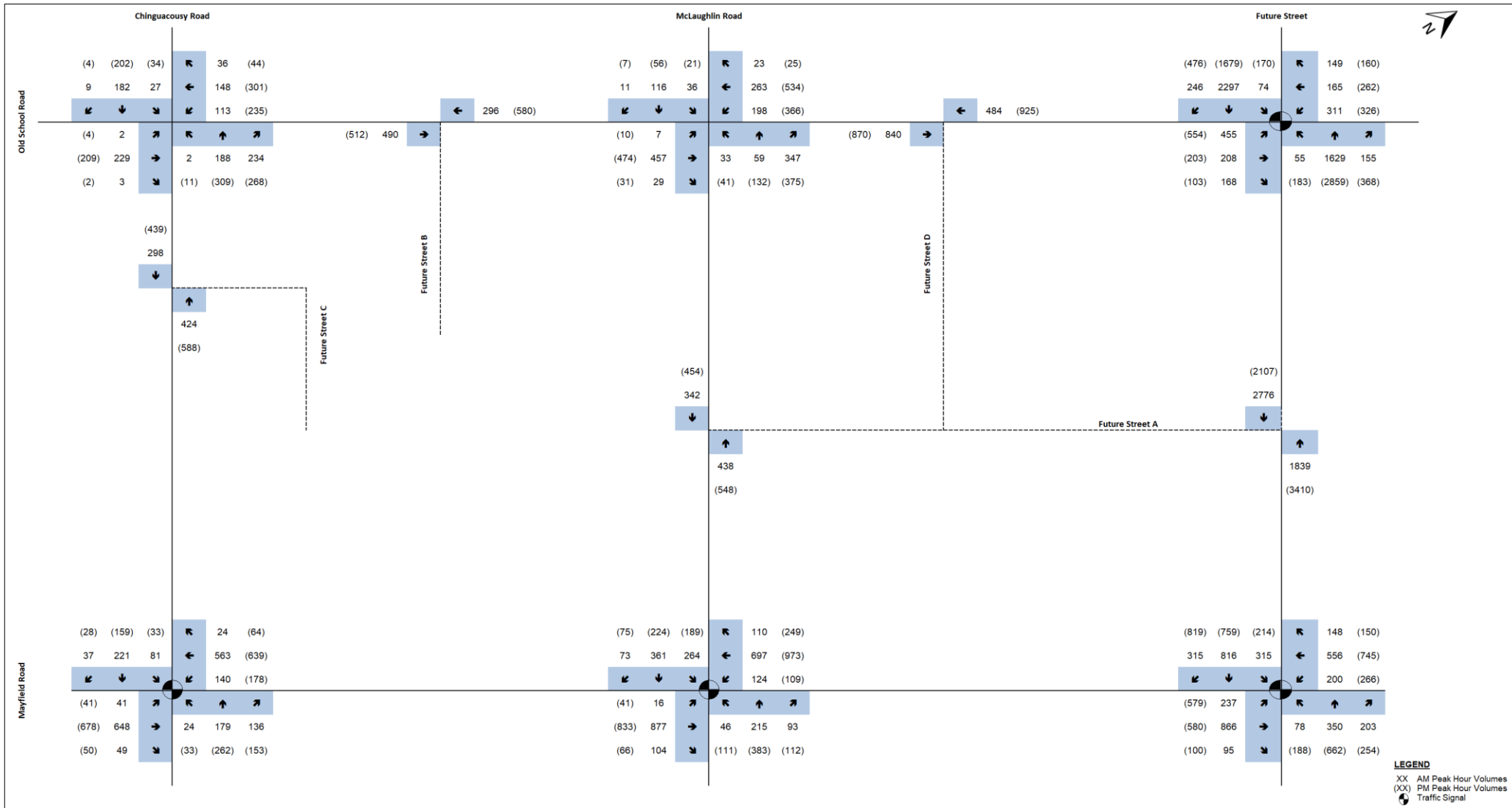


Figure 25 2029 Future Background Traffic Volumes – With GTA West Highway

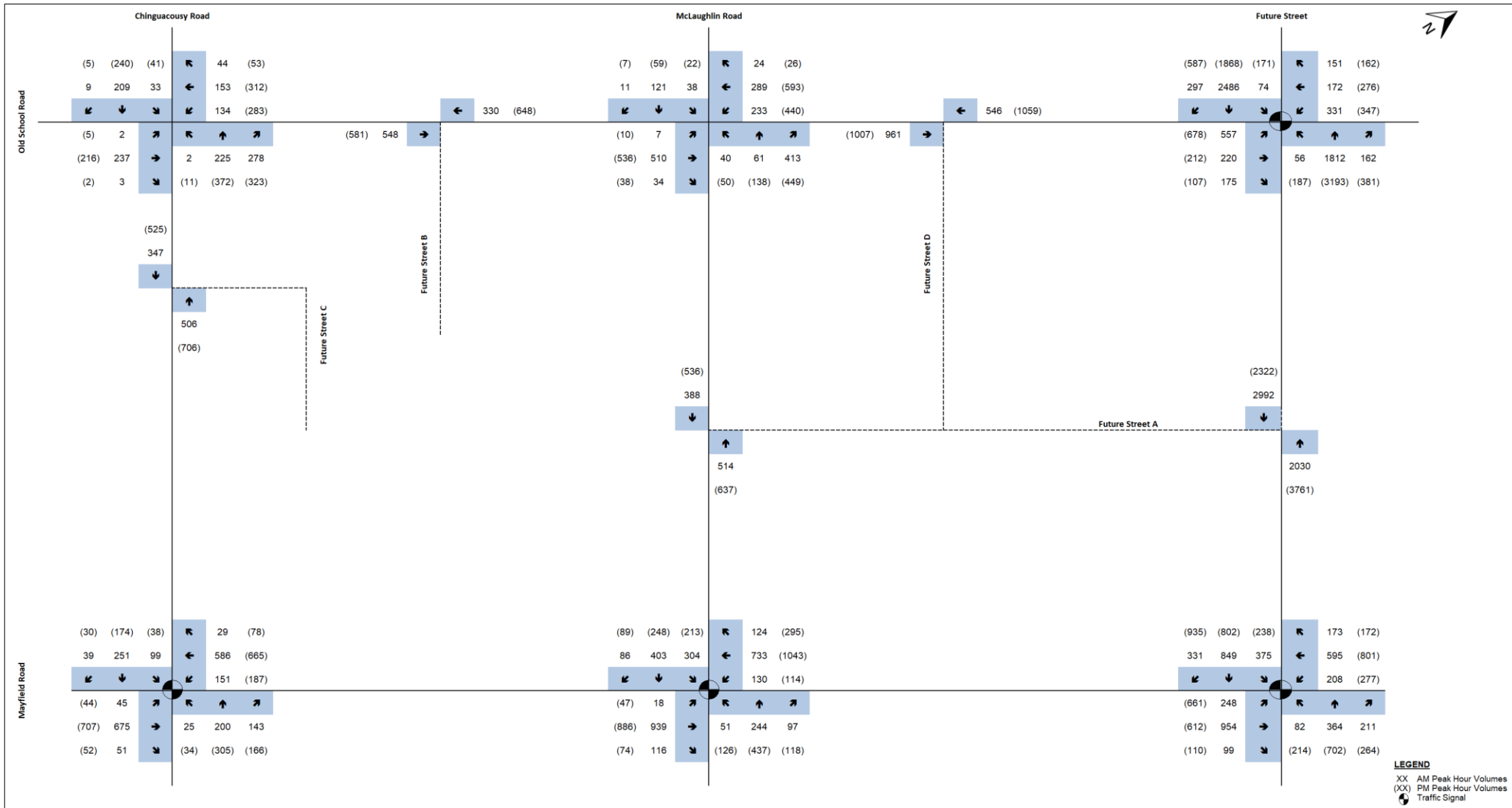


Figure 26 2031 Future Background Traffic Volumes – With GTA West Highway

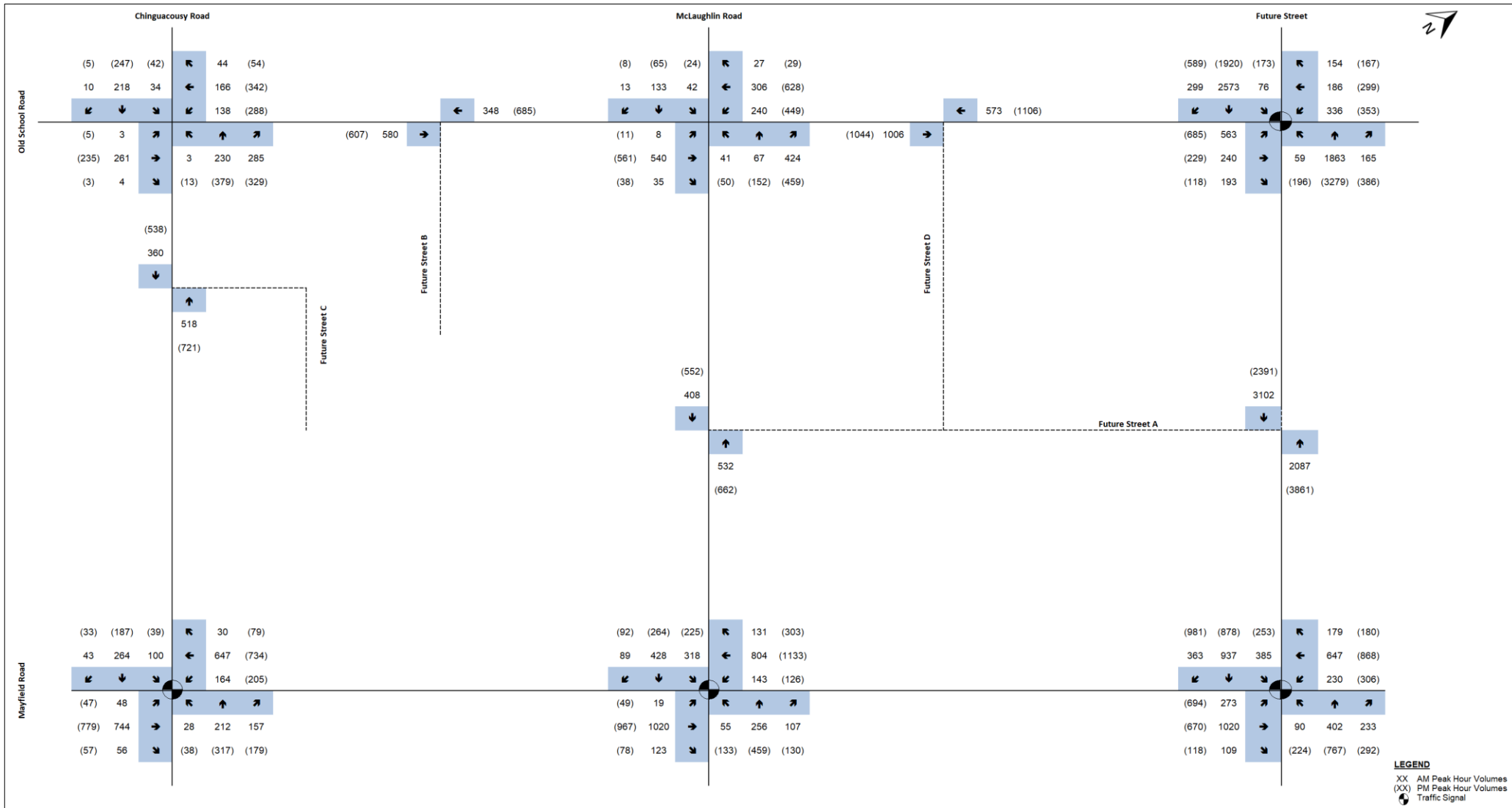


Figure 27 2036 Future Background Traffic Volumes – With GTA West Highway



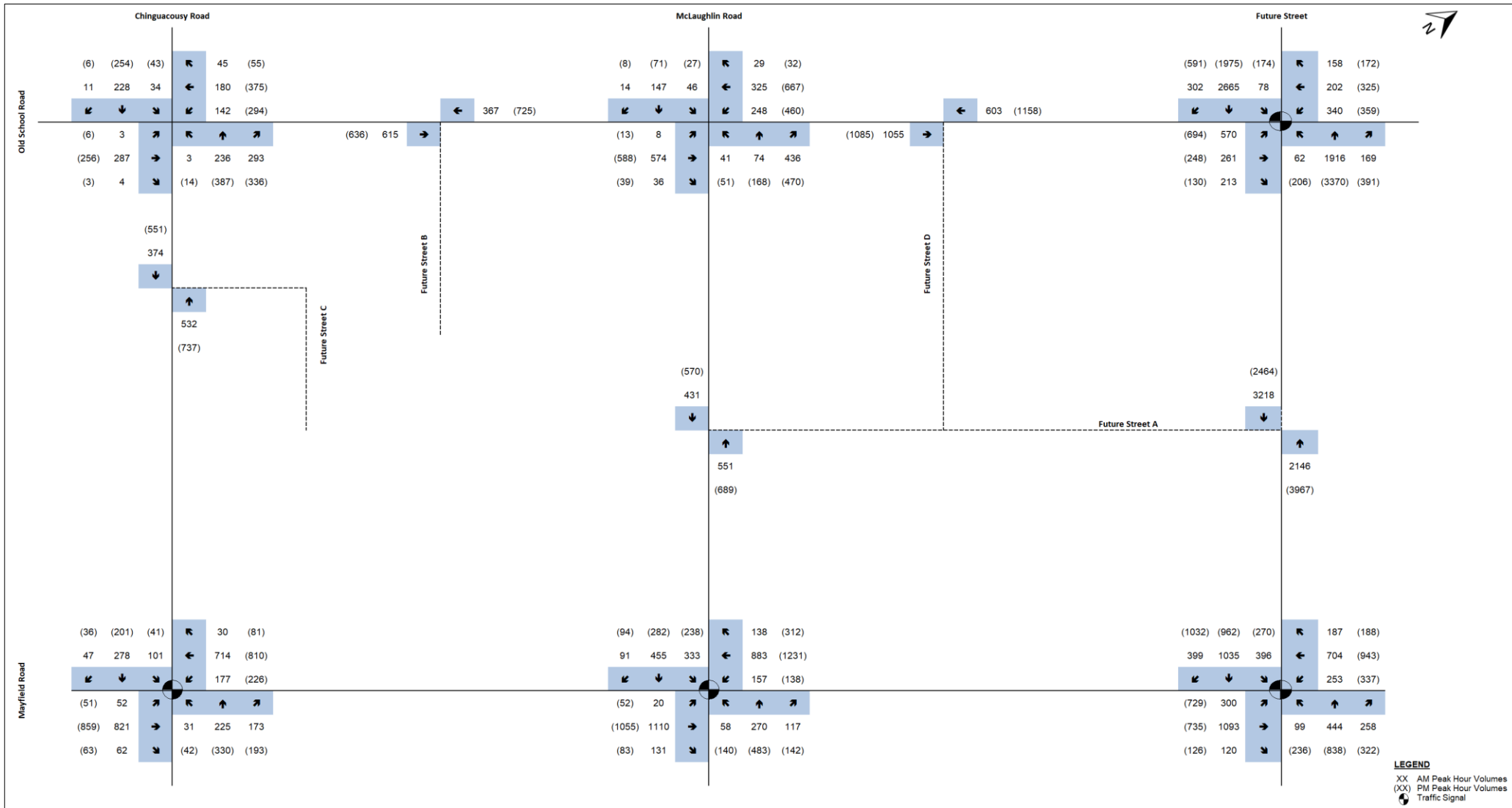


Figure 28 2041 Future Background Traffic Volumes – With GTA West Highway

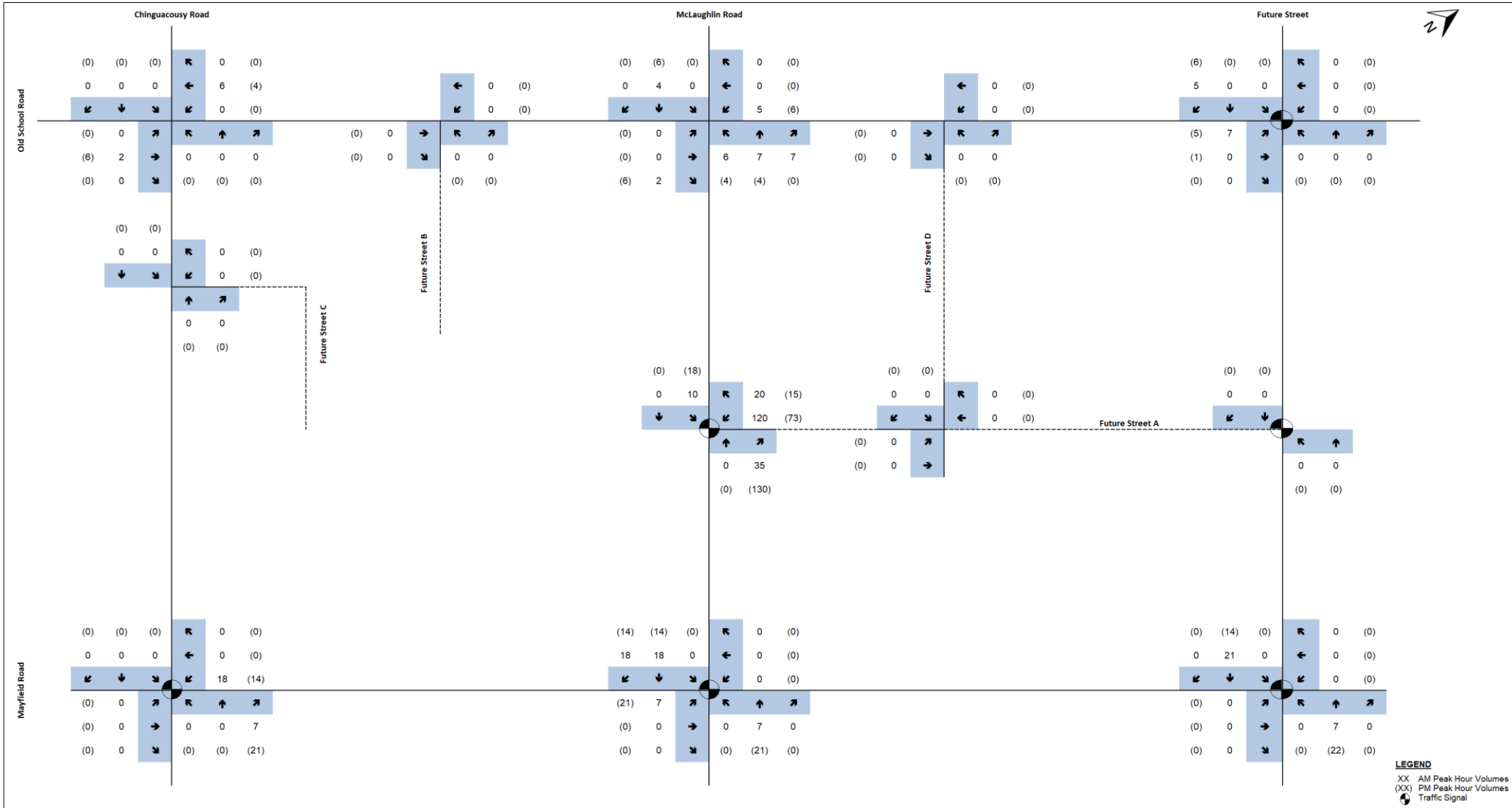


Figure 29 Total Site Trips – Without GTA West Highway (2026)

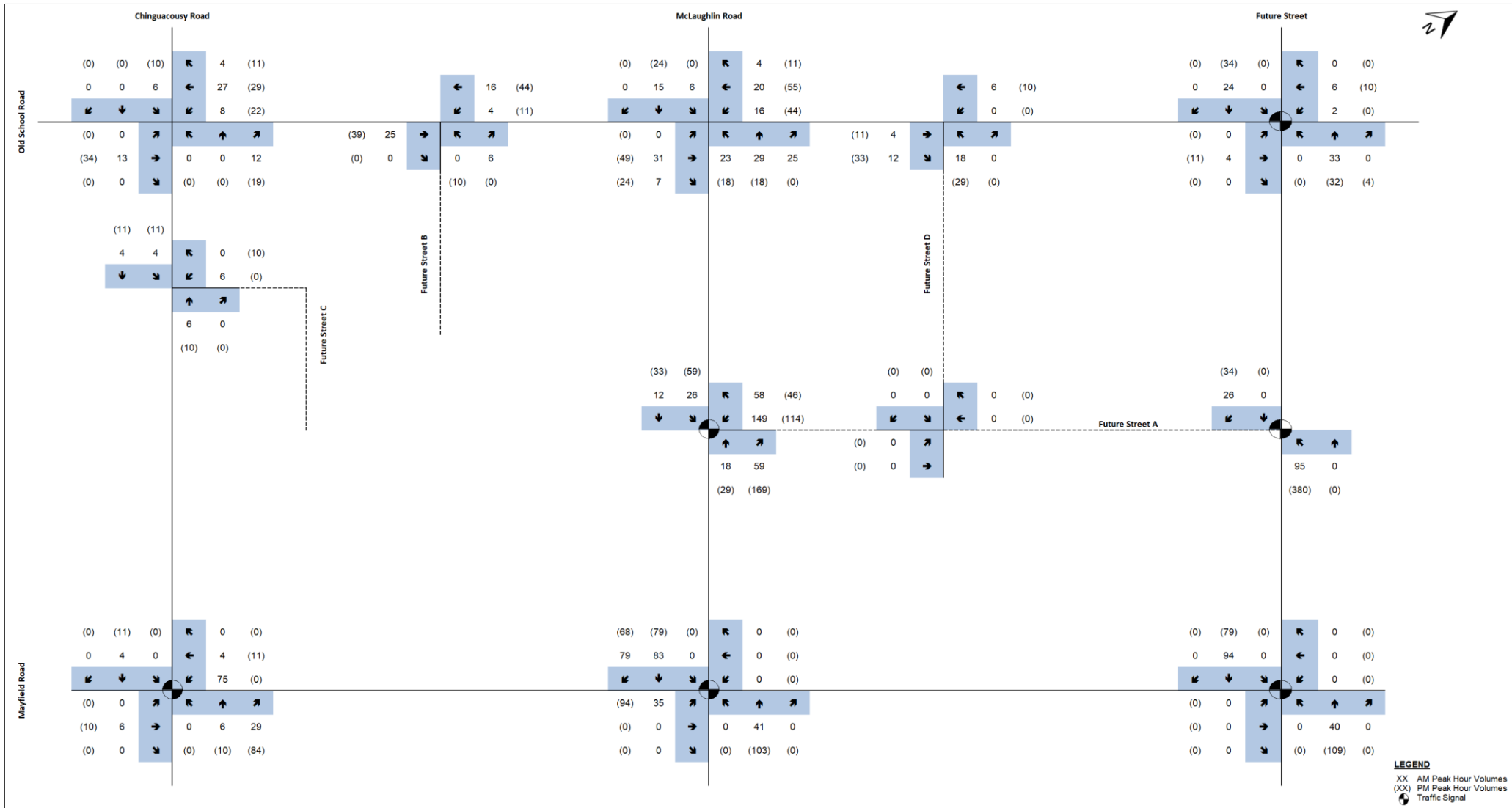


Figure 30 Total Site Trips – Without GTA West Highway (2029)

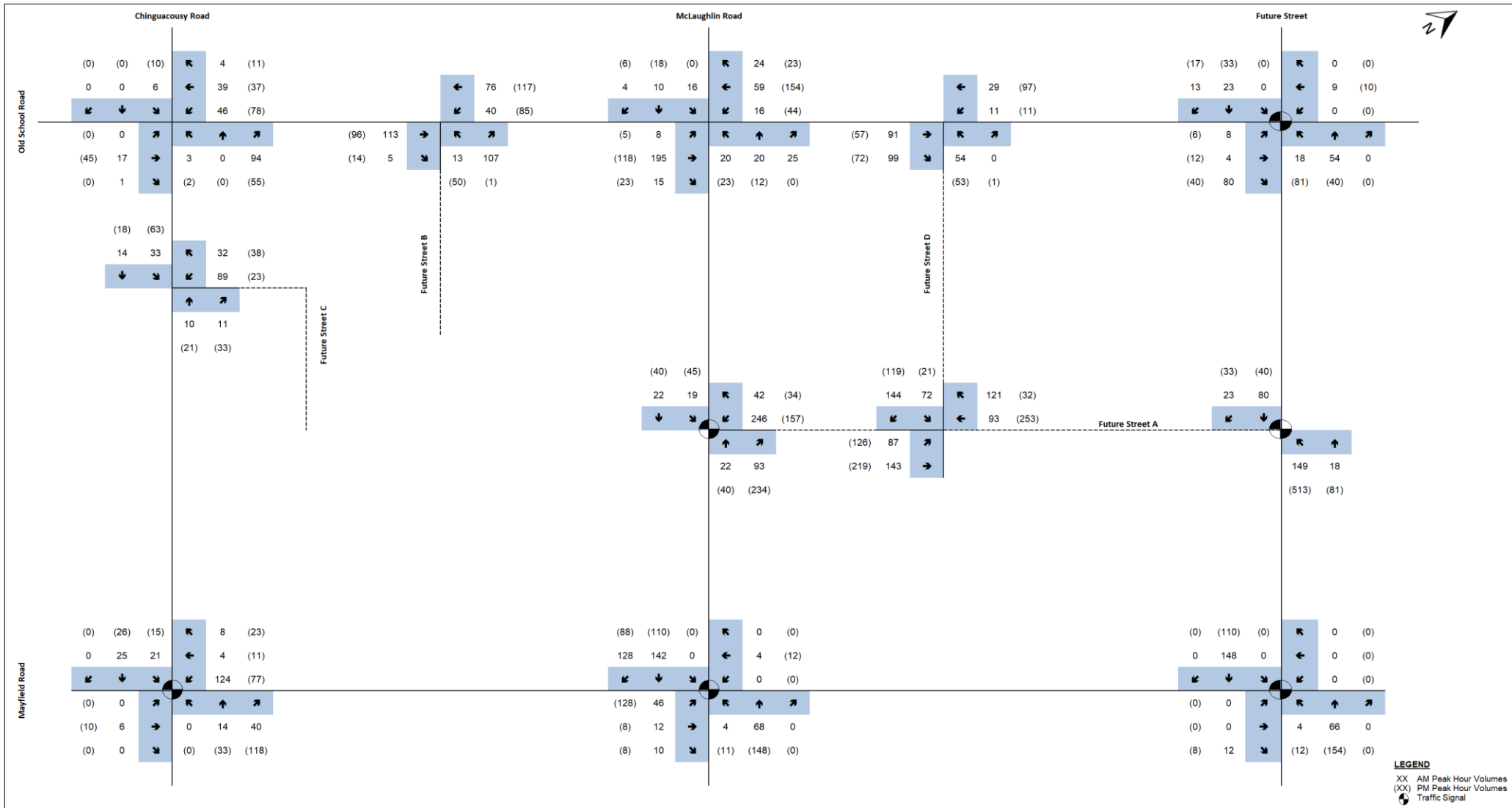


Figure 31 Total Site Trips – Without GTA West Highway (2031)

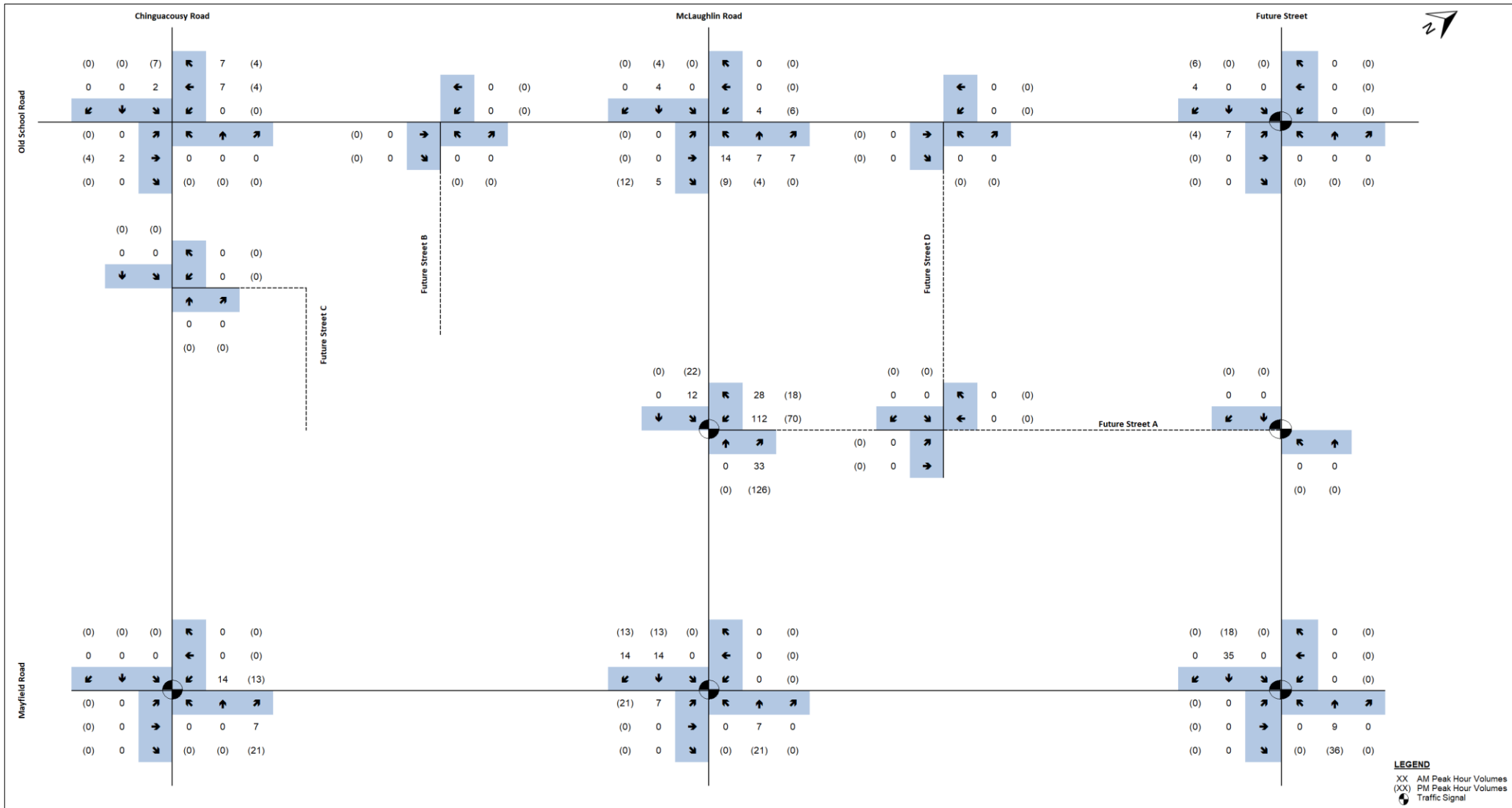


Figure 32 Total Site Trips – With GTA West Highway (2026)

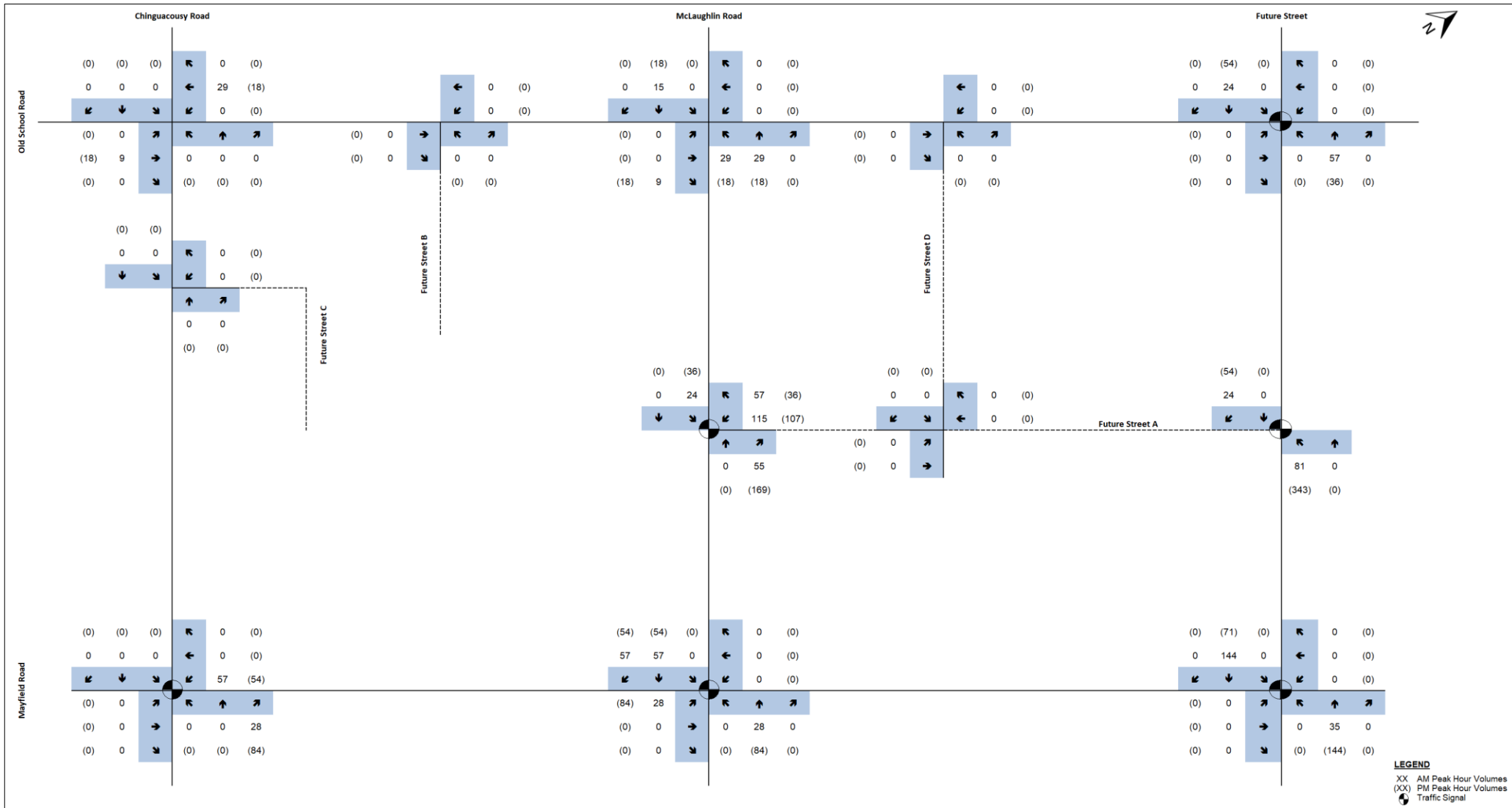


Figure 33 Total Site Trips – With GTA West Highway (2029)

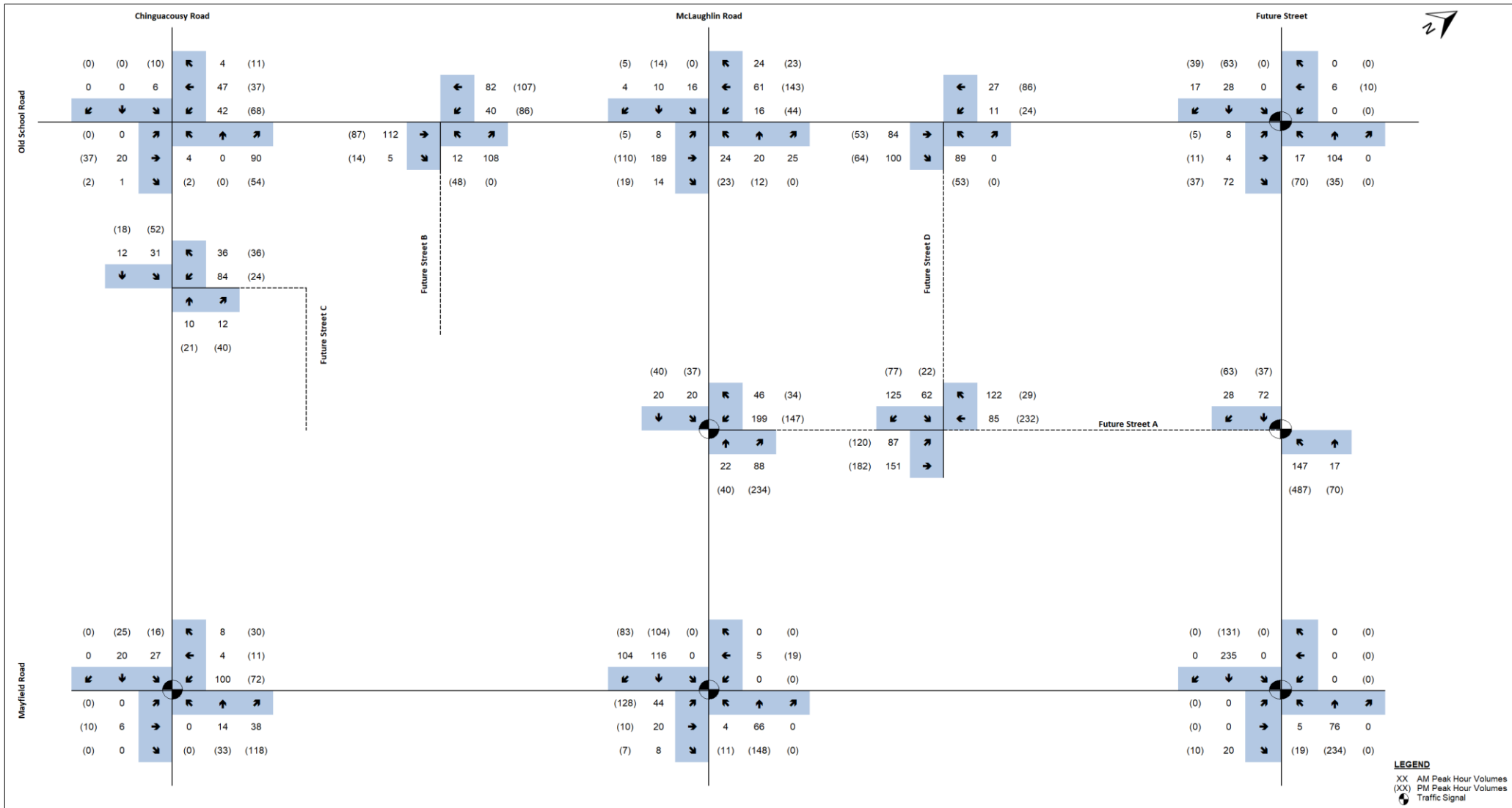


Figure 34 Total Site Trips – With GTA West Highway (2031)

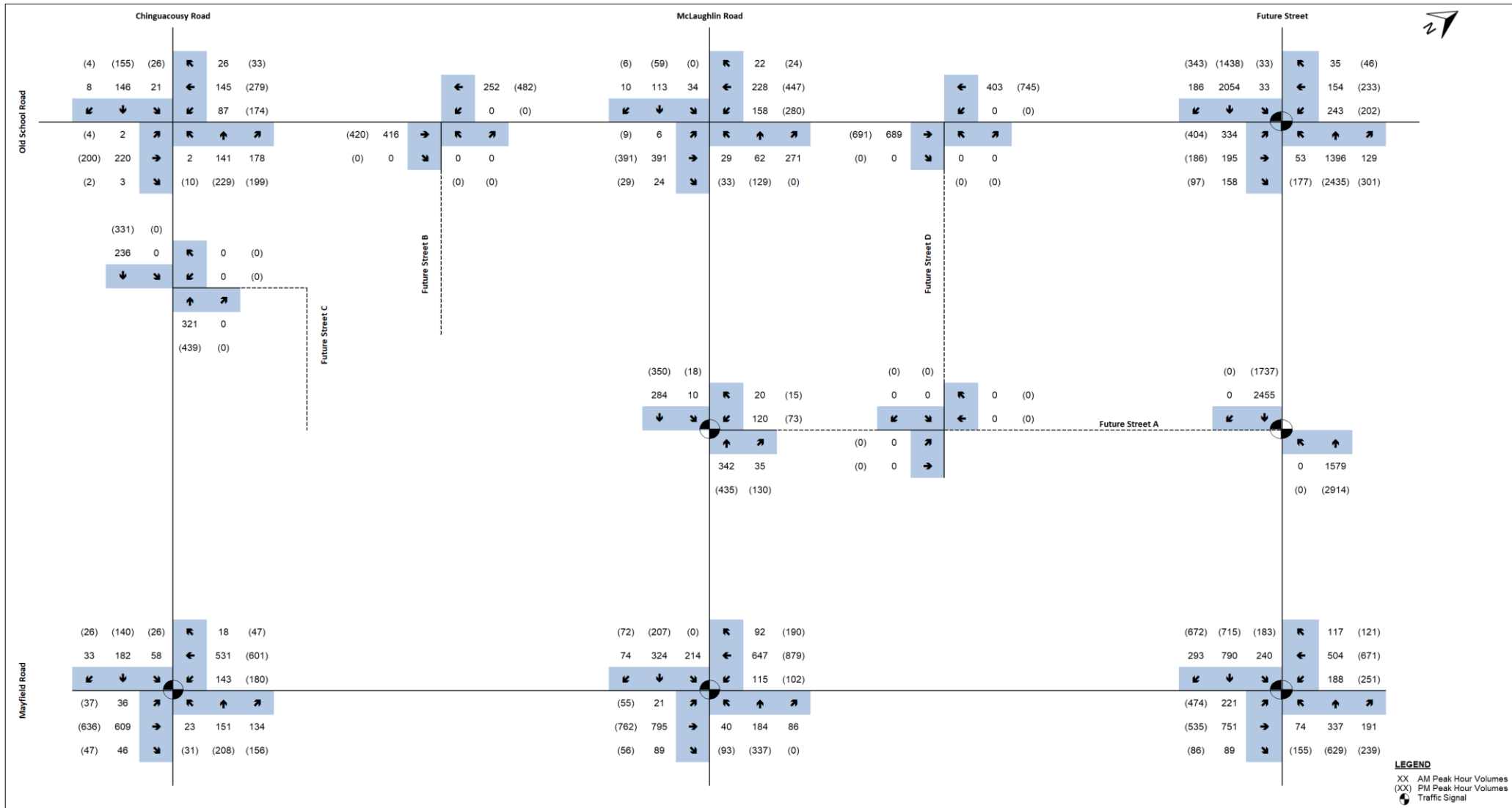


Figure 35 2026 Future Total Traffic Volumes – Without GTA West Highway



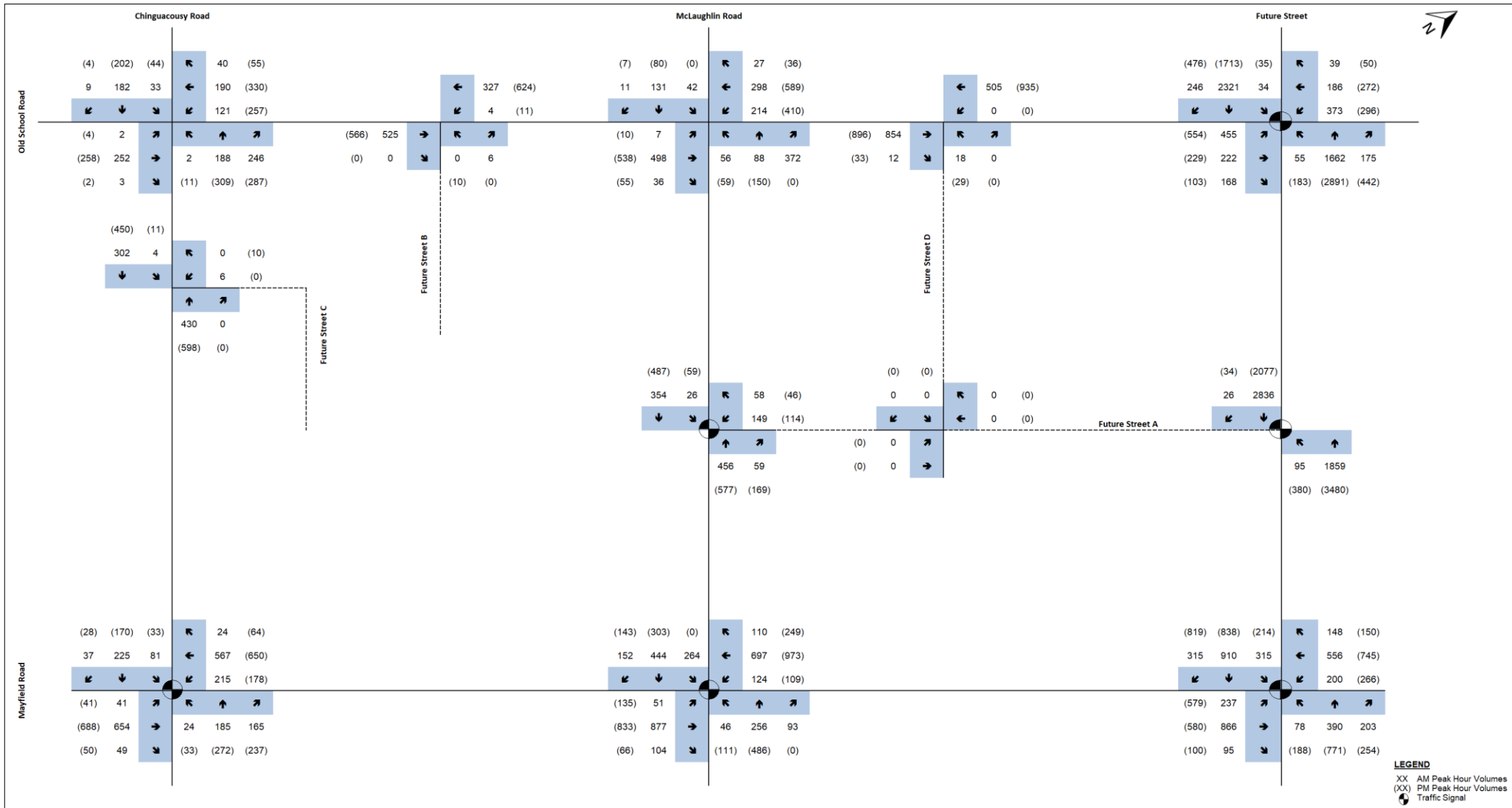


Figure 36 2029 Future Total Traffic Volumes – Without GTA West Highway

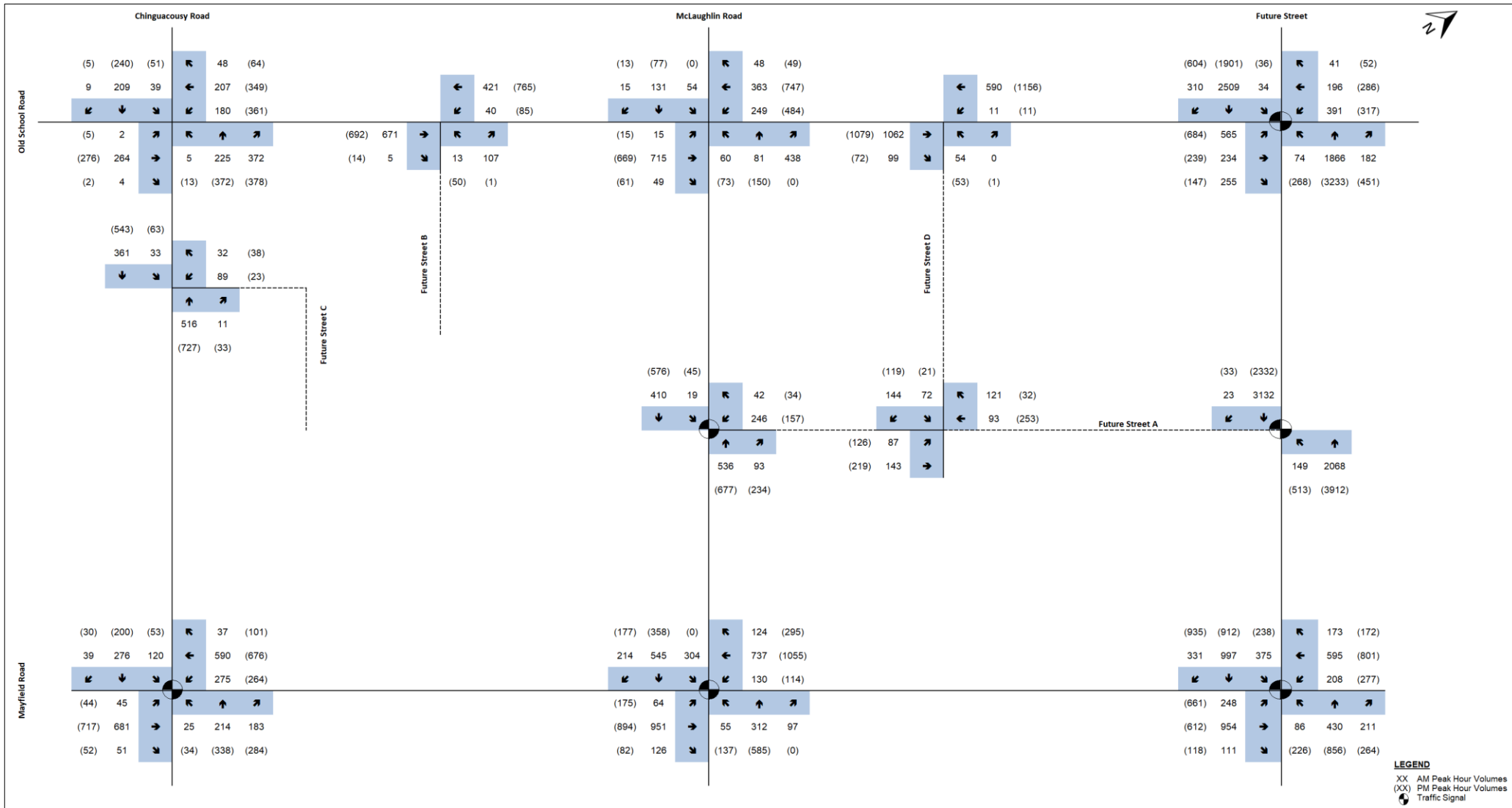


Figure 37 2031 Future Total Traffic Volumes – Without GTA West Highway



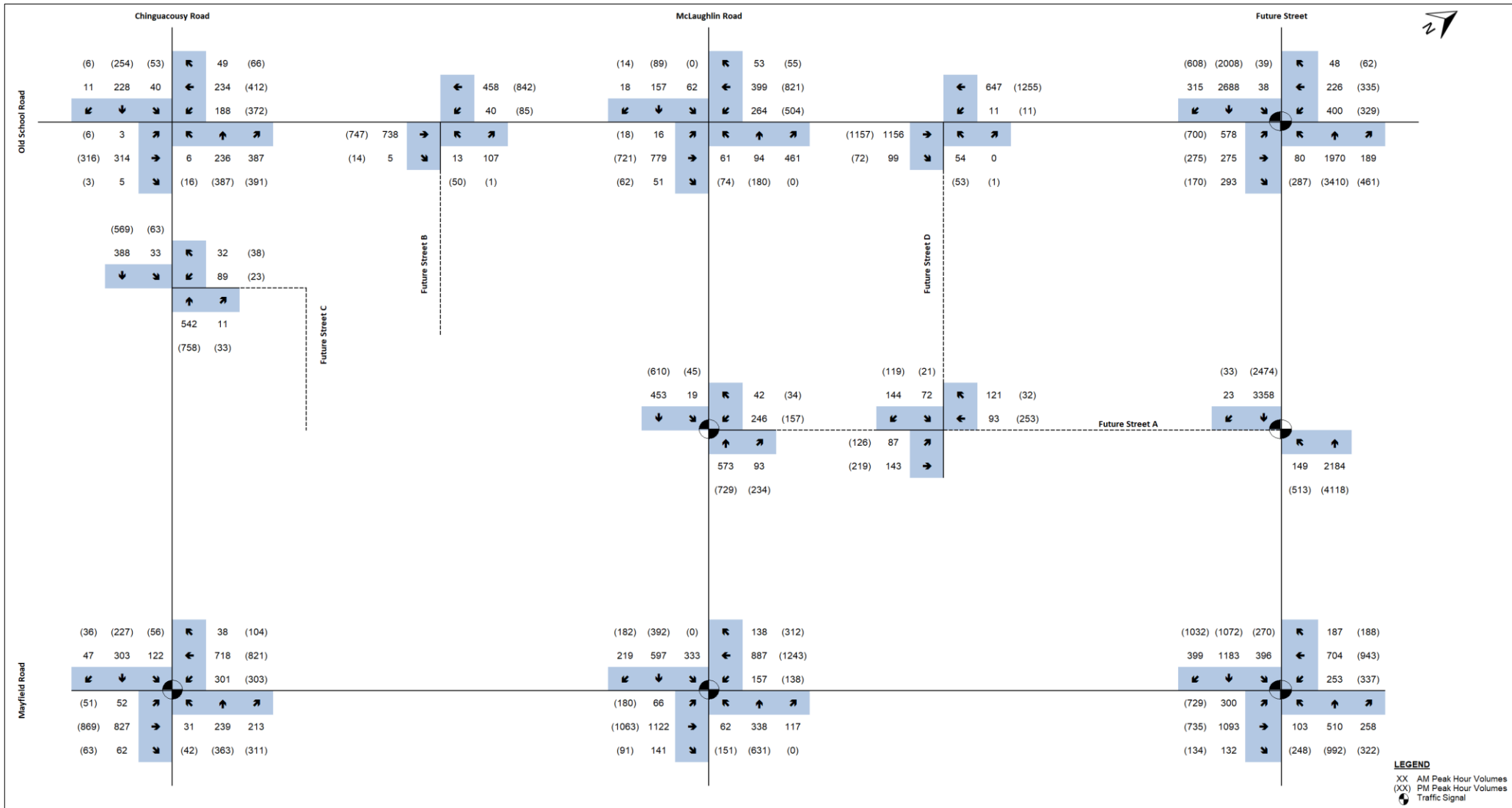


Figure 39 2041 Future Total Traffic Volumes – Without GTA West Highway

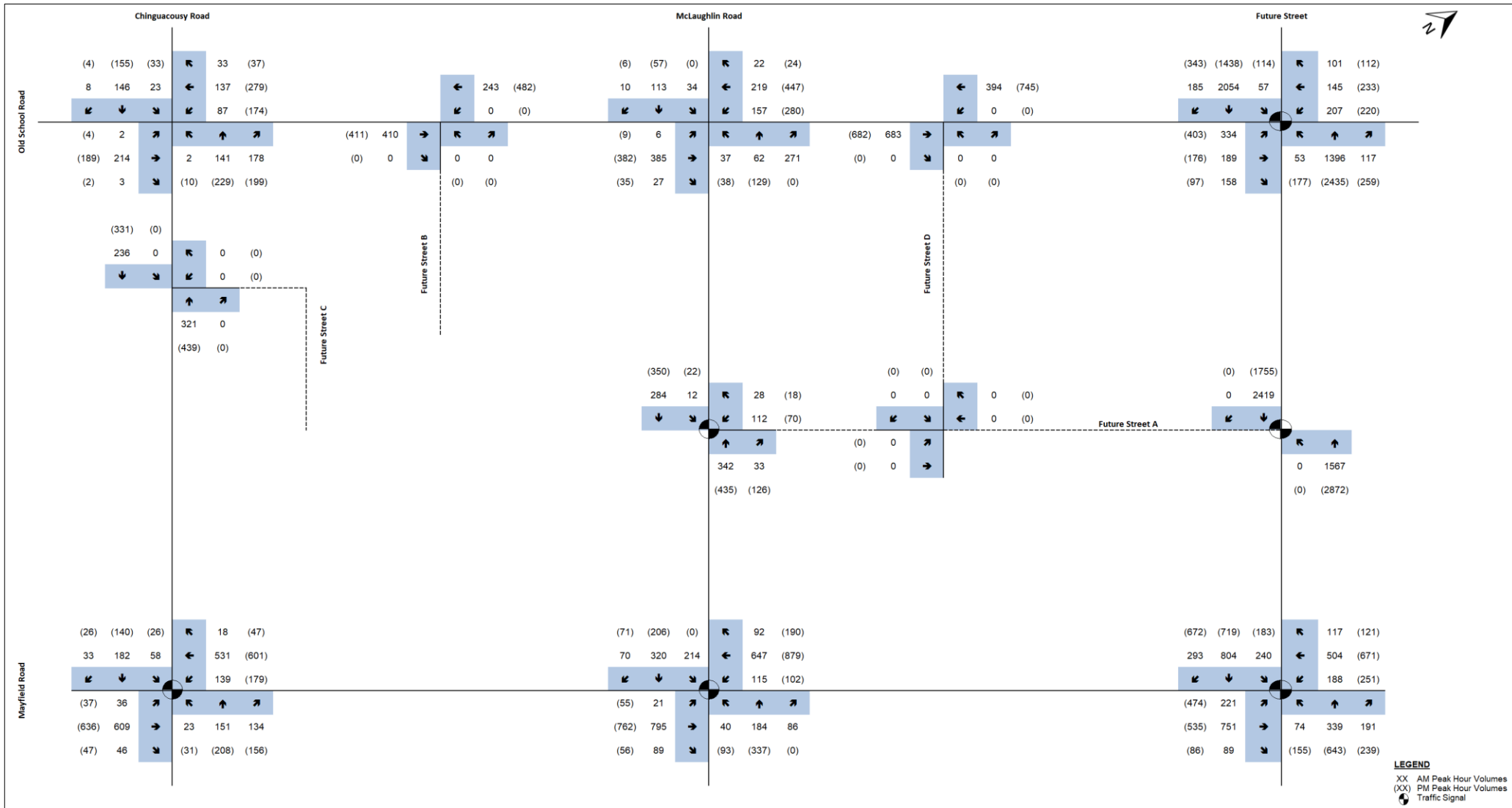


Figure 40 2026 Future Total Traffic Volumes – With GTA West Highway

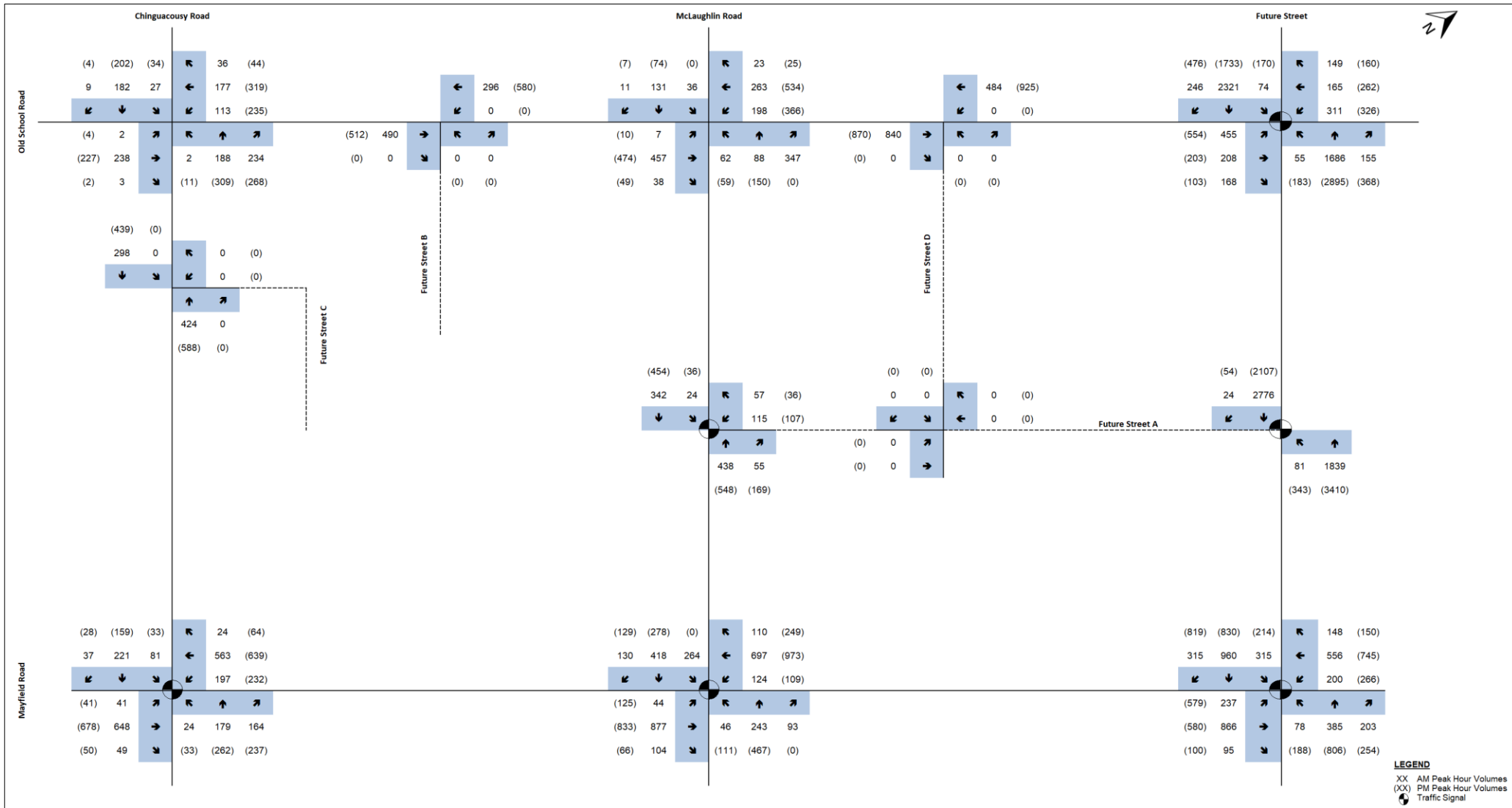


Figure 41 2029 Future Total Traffic Volumes – With GTA West Highway

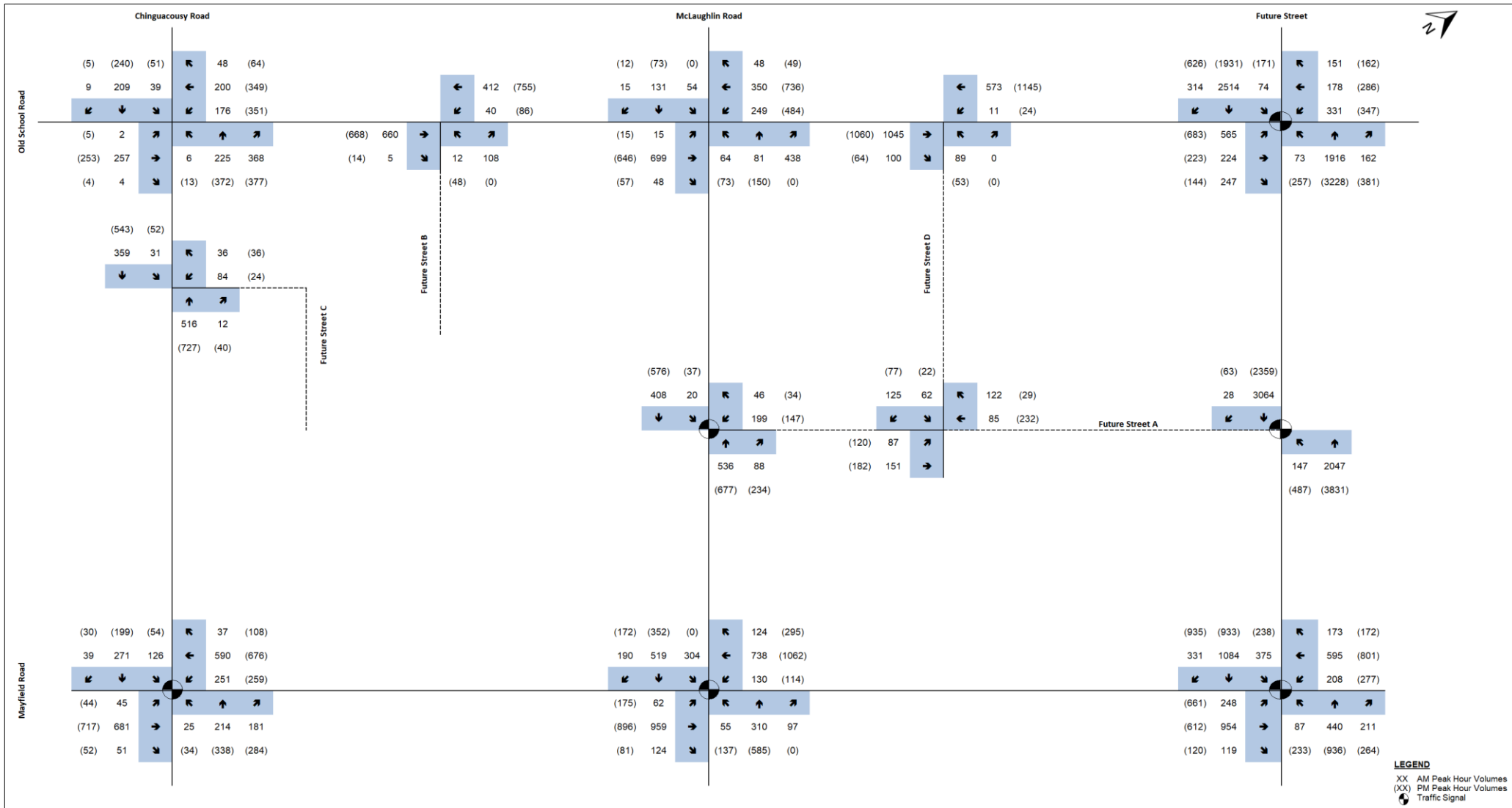
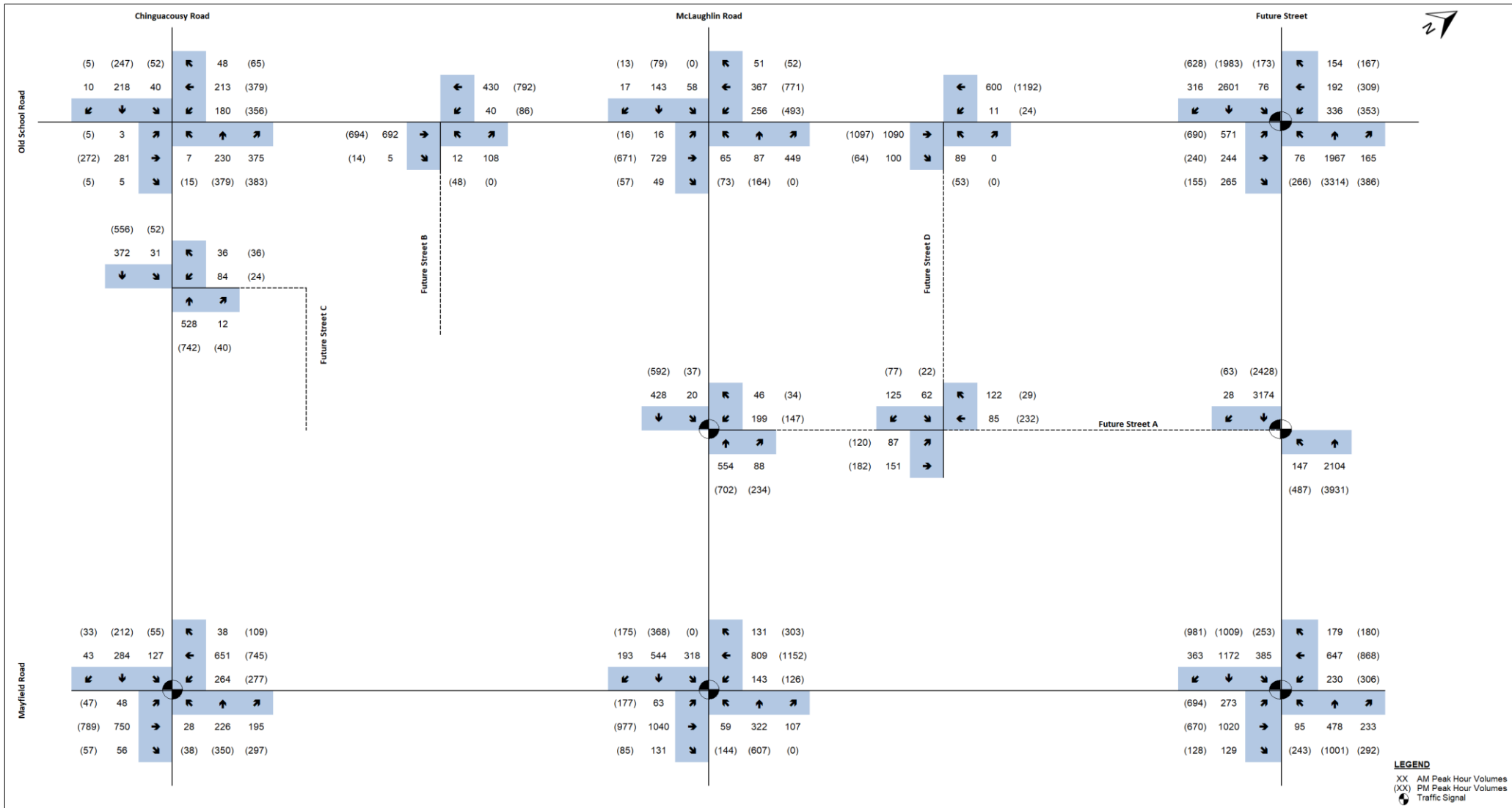


Figure 42 2031 Future Total Traffic Volumes – With GTA West Highway



**Figure 43 2036 Future Total Traffic Volumes – With GTA West Highway**



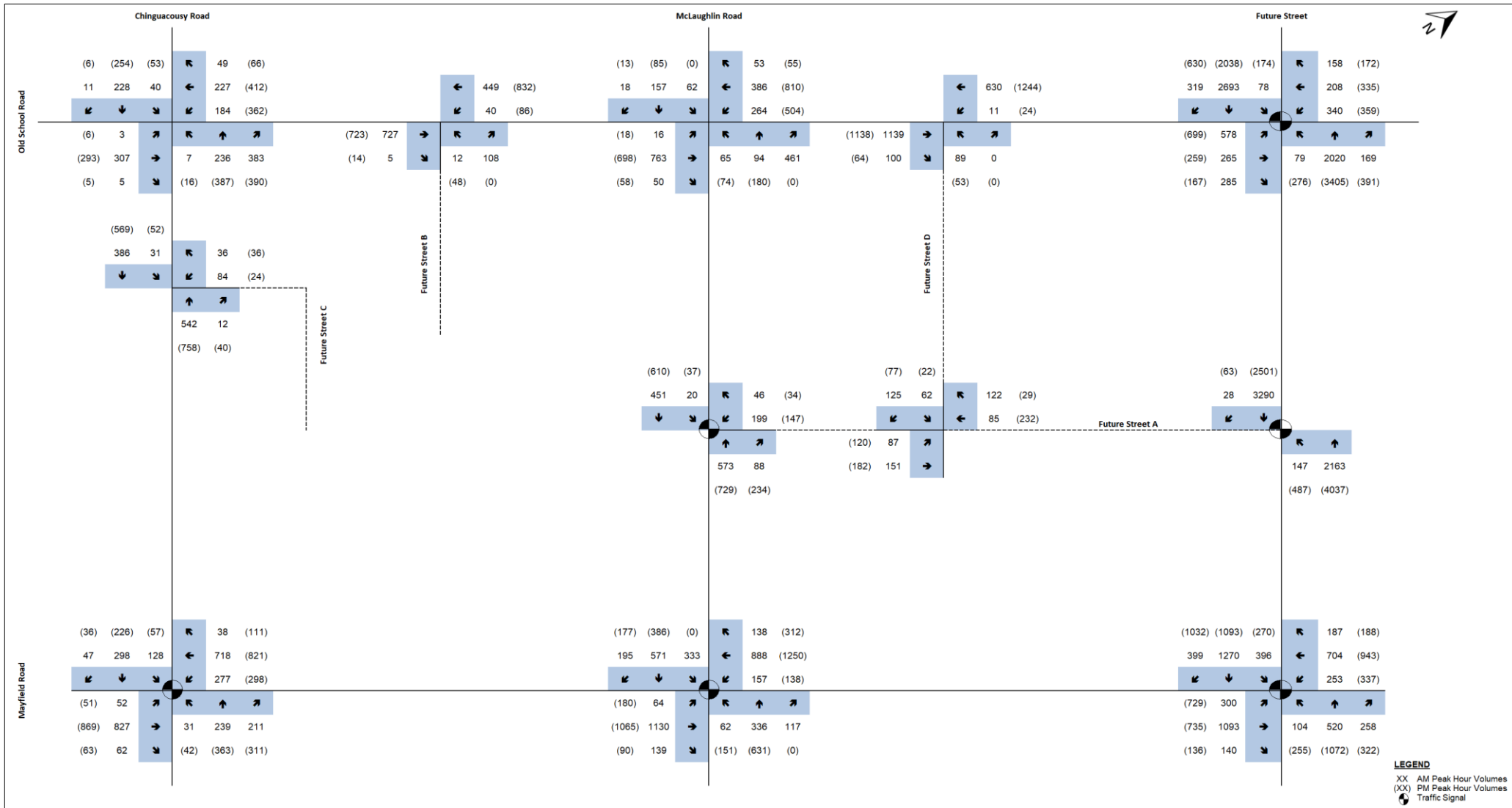


Figure 44 2041 Future Total Traffic Volumes – With GTA West Highway

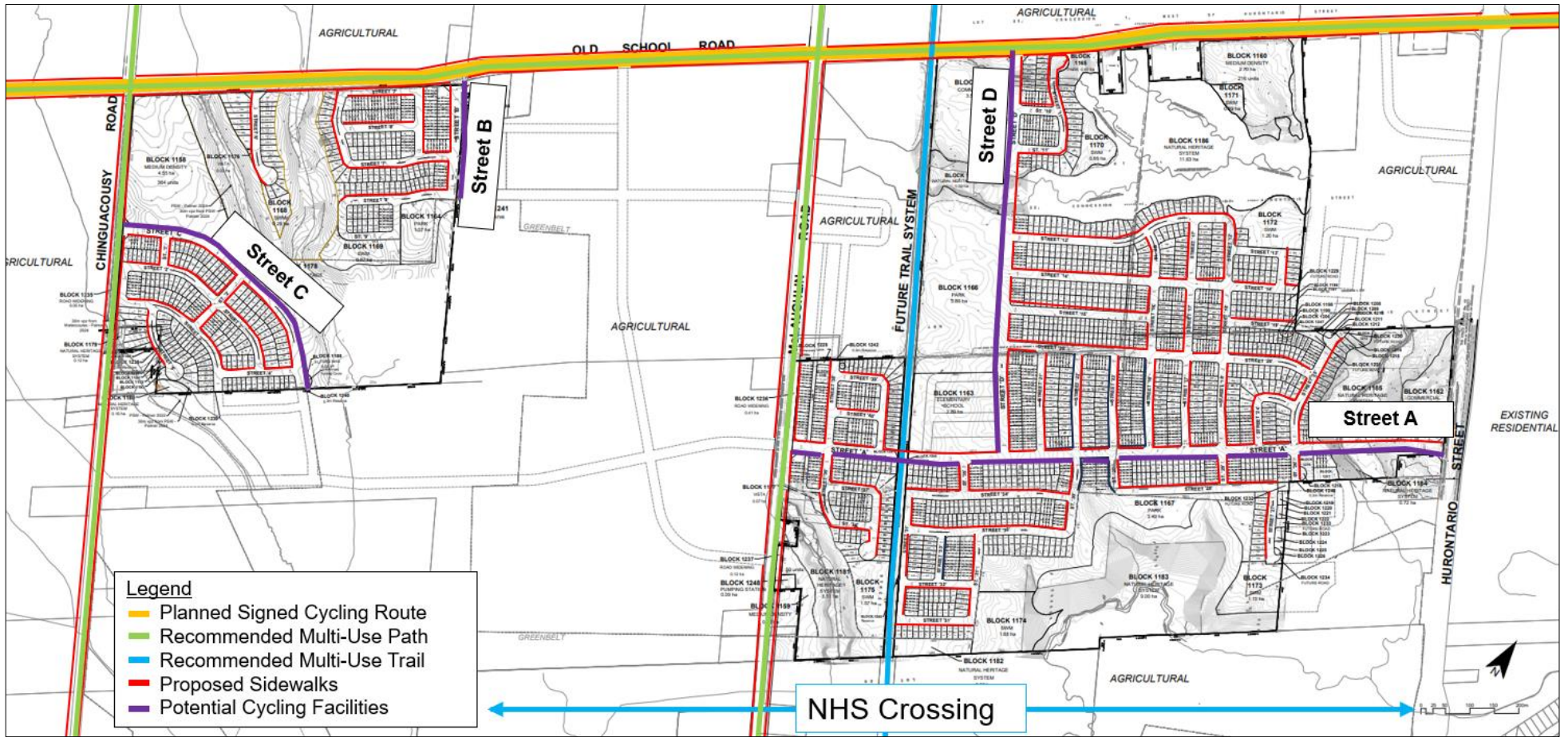


Figure 45 Active Transportation Plan

# **Appendix B**

**Terms of Reference**

## Raf Andrenacci

---

**From:** Kavleen Younan <Kavleen.Younan@caledon.ca>  
**Sent:** Wednesday, February 21, 2024 2:03 PM  
**To:** Raf Andrenacci  
**Cc:** Will Maria; Emma Howlett  
**Subject:** RE: Mayfield West Phase 2 Stage 3 Discussion with the Town

Some people who received this message don't often get email from kavleen.younan@caledon.ca. [Learn why this is important](#)

Hi Raf,

I apologize for the delay. I thought I responded to you. The approach seems reasonable; please ensure all assumptions are clearly accounted for within the body of the report.

**Kavleen S. Younan, P.Eng.**  
Transportation Engineer  
Engineering, Public Works & Transportation Department

Email: [kavleen.younan@caledon.ca](mailto:kavleen.younan@caledon.ca)  
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**STRATEGIC PLAN  
2023-2035**



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**From:** Raf Andrenacci <[Raf.Andrenacci@ghd.com](mailto:Raf.Andrenacci@ghd.com)>  
**Sent:** Wednesday, February 14, 2024 9:09 AM  
**To:** Kavleen Younan <[Kavleen.Younan@caledon.ca](mailto:Kavleen.Younan@caledon.ca)>; Will Maria <[William.Maria@ghd.com](mailto:William.Maria@ghd.com)>  
**Cc:** Emma Howlett <[Emma.Howlett@caledon.ca](mailto:Emma.Howlett@caledon.ca)>  
**Subject:** Re: Mayfield West Phase 2 Stage 3 Discussion with the Town

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Hi Kavleen,

Thanks for your quick response. We would like to further confirm with you that our methodology to establish the background development traffic is okay with the Town.

For Mayfield West Phase 1 Stage 2, the TIS assumed a full build-out in 2028. Based on the most recent Google Earth information, the land had not been graded in 2022, so to be consistent we would like to

assume that the first units would be occupied by 2024. To attain full build-out by 2028, this would result in 20% being built per year resulting in 60% of the site to be built in 2026 followed by 100% in 2028. For this background development, we would like to assume 60% of the site traffic will be included under the 2026 Future Background traffic with 100% of it added for the remaining horizon years.

Similarly for Mayfield West Phase 2 Stage 2, the TIS had assumed their traffic to be 100% assigned under the 2031 horizon year. Based on Google Earth images again, it seems like the first units were occupied by 2021. To attain 100% build-out by 2031, this would result in 9% being built per year. As a result, we proposed to include 55% of the site traffic under the 2026 Future Background scenario, 80% under the 2029 Future Background scenario, and 100% for the remaining years.

Please let us know if you have any concerns with this approach.

Thanks,  
Raf

---

**From:** Kavleen Younan <[Kavleen.Younan@caledon.ca](mailto:Kavleen.Younan@caledon.ca)>  
**Sent:** Tuesday, February 13, 2024 3:44 PM  
**To:** Raf Andrenacci <[Raf.Andrenacci@ghd.com](mailto:Raf.Andrenacci@ghd.com)>; Will Maria <[William.Maria@ghd.com](mailto:William.Maria@ghd.com)>  
**Cc:** Emma Howlett <[Emma.Howlett@caledon.ca](mailto:Emma.Howlett@caledon.ca)>  
**Subject:** RE: Mayfield West Phase 2 Stage 3 Discussion with the Town

Thanks Raf and Will,

Our comments are noted below in [blue](#). Thanks

**Kavleen S. Younan, P.Eng.**

Transportation Engineer

Engineering, Public Works & Transportation Department

Email: [kavleen.younan@caledon.ca](mailto:kavleen.younan@caledon.ca)

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---

**From:** Raf Andrenacci <[Raf.Andrenacci@ghd.com](mailto:Raf.Andrenacci@ghd.com)>  
**Sent:** Tuesday, February 13, 2024 10:24 AM  
**To:** Kavleen Younan <[Kavleen.Younan@caledon.ca](mailto:Kavleen.Younan@caledon.ca)>; Will Maria <[William.Maria@ghd.com](mailto:William.Maria@ghd.com)>  
**Subject:** Re: Mayfield West Phase 2 Stage 3 Discussion with the Town

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Hi Kavleen,

From our understanding this would be for both an OPA and a Draft Plan of Subdivision and Zoning By-law Amendment Applications.

Regards,  
Raf

**From:** Kavleen Younan <[Kavleen.Younan@caledon.ca](mailto:Kavleen.Younan@caledon.ca)>  
**Sent:** Tuesday, February 13, 2024 9:45 AM  
**To:** Will Maria <[William.Maria@ghd.com](mailto:William.Maria@ghd.com)>  
**Cc:** Raf Andrenacci <[Raf.Andrenacci@ghd.com](mailto:Raf.Andrenacci@ghd.com)>  
**Subject:** RE: Mayfield West Phase 2 Stage 3 Discussion with the Town

You don't often get email from [kavleen.younan@caledon.ca](mailto:kavleen.younan@caledon.ca). [Learn why this is important](#)

Thanks Will,

ill get comments on this for you today. In the meantime, could you confirm which application this current report will be for? Draft plan of subdivision? Zoning?

**Kavleen S. Younan, P.Eng.**  
Transportation Engineer  
Engineering, Public Works & Transportation Department

Email: [kavleen.younan@caledon.ca](mailto:kavleen.younan@caledon.ca)

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---

**From:** Will Maria <[William.Maria@ghd.com](mailto:William.Maria@ghd.com)>  
**Sent:** Monday, February 12, 2024 10:11 AM  
**To:** Kavleen Younan <[Kavleen.Younan@caledon.ca](mailto:Kavleen.Younan@caledon.ca)>  
**Cc:** Raf Andrenacci <[Raf.Andrenacci@ghd.com](mailto:Raf.Andrenacci@ghd.com)>; Emma Howlett <[Emma.Howlett@caledon.ca](mailto:Emma.Howlett@caledon.ca)>  
**Subject:** RE: Mayfield West Phase 2 Stage 3 Discussion with the Town

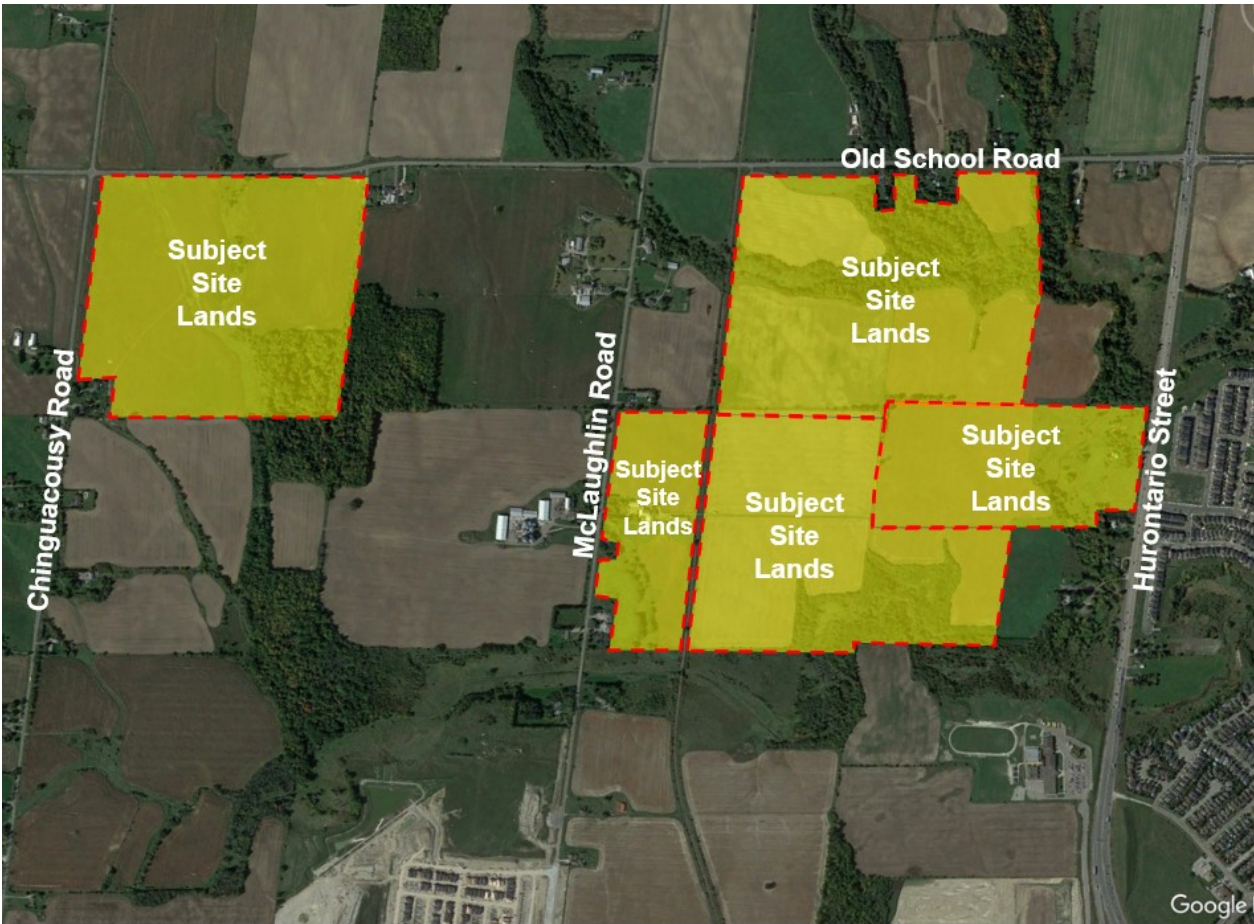
**CAUTION:** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the contents to be safe.

Hi Kavleen, unfortunately Frank is looking for us to submit a draft report this Friday February 16 which means we are having to complete the analysis and report before Thursday.  
Based on your previous email, you had requested that the study be consistent with the scope from the MW2 Stage 1 and 2 study however, we should include any new relevant background developments and intersections as deemed necessary. Would you be able to provide a list of the relevant background developments you would like us to include in addition to the MW2 Stage 1 and 2 site trips?

Also, below is the current ToR we have for this project. Let me know if you have any comments.

GHD Inc. has been retained to prepare a Transportation Impact Study for the lands known as Mayfield West Phase 2 – Stage 3 located in the Town of Caledon.





The subject site is located generally on the south side of Old School Road between Chinguacousy Road and Hurontario Street. The proposed development consists of 1,025 single detached units, 764 street and lane townhouse units, 690 units located within medium density blocks, an elementary school block, and two commercial blocks.

Access to the subject site from the external road network is proposed via road connections to Chinguacousy Road, Old School Road, McLaughlin Road, and Hurontario Street.



In order to properly scope this project, we ask that the Town review and provide comments on the following scope and confirm if there are any additional items required as part of the study.

## Study intersections

- Existing
  - Old School Road and Chinguacousy Road
  - Old School Road and McLaughlin Road
  - Old School Road and Hurontario Street
  - Mayfield Road and Chinguacousy Road
  - Mayfield Road and McLaughlin Road
  - Mayfield Road and Hurontario Street
- Proposed
  - Chinguacousy Road and Street 'C'
  - Old School Road and Street 'B'
  - McLaughlin and Street 'A'
  - Hurontario Street and Street 'A'
  - Old School Road and Street 'D'
  - Street 'A' and Street 'C'

## Traffic Data

Updated traffic counts at the existing study intersections will be undertaken during the a.m. and p.m. peak hours.

## Study Peak Hours

Weekday a.m. and p.m. peak hours

## Study Horizon Year

2024 (existing), 2026, 2029, 2031 (year of build-out for Phase 1, Phases 1-6, and full build-out) 2036, and 2041 (five and ten years post build-out)

## Background Growth Rate

Consistent with previous studies completed, GHD proposes to use a 2% per annum growth rate with the exception of along Hurontario at its intersection with Old School Road.

## Background Development Traffic

Town staff to advise if there are any proposed developments located in close proximity to the site that would contribute to additional trips along the study area road network. Consistent with previously completed studies, GHD proposes to include Mayfield West Phase 1 – Stage 2 and Mayfield West Phase 2 Stage 2.-[Agreed - Confirm with the City of Brampton if any additional background developments should be included.](#)

## Trip Generation

Will be completed using rates published by the ITE Trip Generation 11<sup>th</sup> Edition, LUC 210 Single Family Detached Housing for the detached units, LUC 215 Single Family Attached Housing for the townhouse units, LUC 520 elementary school for the school block, and LUC 820 Shopping Centre for the commercial blocks.

The directional distribution of traffic approaching and departing the site will be determined based on TTS 2016 data, existing local patterns and first principles.

The analysis will identify the transportation system requirements and other measures required to ensure the acceptable operation of the study intersections, including auxiliary turning lanes and other transportation infrastructure improvements. [Please include queuing reports using Sim Traffic](#)

TAC and Town guidelines will be reviewed in order to complete an access management.

Review for the site access that reviews corner clearance, driveway spacing, auxiliary lanes, corner radii, and clear throat distance.

Existing TDM opportunities will be identified and future TDM opportunities will be recommended for the site.

If the above scope is acceptable to the Town, it will form the basis of our scope of work.

[Please note that the OPA application is currently being processed. Therefore, Town Staff Transportation Engineering comments are subject to change as the application progresses.](#)





**William C. Maria, P.Eng.**  
Transportation Planning Lead

**GHD Ltd.**

T: 905 814 4397 | C: 647 229 8541 | F: 905 890 8499 | E: [will.maria@ghd.com](mailto:will.maria@ghd.com)

100 Milverton Drive Suite 404, Mississauga, ON L5R 4H1 | [www.ghd.com](http://www.ghd.com)

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**From:** Kavleen Younan <[Kavleen.Younan@caledon.ca](mailto:Kavleen.Younan@caledon.ca)>  
**Sent:** Monday, February 12, 2024 9:27 AM  
**To:** Will Maria <[William.Maria@ghd.com](mailto:William.Maria@ghd.com)>  
**Cc:** Raf Andrenacci <[Raf.Andrenacci@ghd.com](mailto:Raf.Andrenacci@ghd.com)>; Emma Howlett <[Emma.Howlett@caledon.ca](mailto:Emma.Howlett@caledon.ca)>  
**Subject:** RE: Mayfield West Phase 2 Stage 3 Discussion with the Town

Hi Folks,

Unfortunately the only available timeframe I have for this week is on thursday and Friday.

Thursday 9am-12pm  
Friday, all day.

**Kavleen S. Younan, P.Eng.**  
Transportation Engineer  
Engineering, Public Works & Transportation Department

Email: [kavleen.younan@caledon.ca](mailto:kavleen.younan@caledon.ca)

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---

**From:** Will Maria <[William.Maria@ghd.com](mailto:William.Maria@ghd.com)>  
**Sent:** Friday, February 9, 2024 1:40 PM  
**To:** Kavleen Younan <[Kavleen.Younan@caledon.ca](mailto:Kavleen.Younan@caledon.ca)>; Raf Andrenacci <[Raf.Andrenacci@ghd.com](mailto:Raf.Andrenacci@ghd.com)>  
**Subject:** RE: Mayfield West Phase 2 Stage 3 Discussion with the Town

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Hi Kavleen, can you let me know what times you have available next week for a meeting to discuss any updated background developments or intersections that we should be including.  
I am not available between 9:30 and 4:00 unfortunately due to OLT hearing but the client is asking to submit something for Feb 20<sup>th</sup> so we are under the gun.  
In the meantime, Raf will send you the ToR.  
Thanks for your attention to this.

Will

**William C. Maria, P.Eng.**  
Transportation Planning Lead

**GHD Ltd.**

Please consider our environment before printing this email

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**From:** Kavleen Younan <[Kavleen.Younan@caledon.ca](mailto:Kavleen.Younan@caledon.ca)>  
**Sent:** Monday, February 5, 2024 9:33 AM  
**To:** Frank Filippo (InTouch) <[ffilippo@brookvalley.ca](mailto:ffilippo@brookvalley.ca)>; Raf Andrenacci <[Raf.Andrenacci@ghd.com](mailto:Raf.Andrenacci@ghd.com)>  
**Cc:** Will Maria <[William.Maria@ghd.com](mailto:William.Maria@ghd.com)>  
**Subject:** RE: Mayfield West Phase 2 Stage 3 Discussion with the Town

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Hi Frank and Raf,

The scope of work can be similar to the ones that were used for MW2 Stages 1 and 2. They would have to be updated to include any new relevant background developments/intersections as deemed necessary. I am available for future discussions on Tuesday and Wednesday after 1pm.

If you could send a draft ToR outlining the proposed scope of work prior to the meeting, that would be beneficial. Thanks

**Kavleen S. Younan, P.Eng.**  
Transportation Engineer  
Engineering, Public Works & Transportation Department

Email: [kavleen.younan@caledon.ca](mailto:kavleen.younan@caledon.ca)

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---

**From:** Frank Filippo <[ffilippo@brookvalley.ca](mailto:ffilippo@brookvalley.ca)>  
**Sent:** Thursday, February 1, 2024 2:33 PM  
**To:** Raf Andrenacci <[Raf.Andrenacci@ghd.com](mailto:Raf.Andrenacci@ghd.com)>; Kavleen Younan <[Kavleen.Younan@caledon.ca](mailto:Kavleen.Younan@caledon.ca)>  
**Cc:** Will Maria <[William.Maria@ghd.com](mailto:William.Maria@ghd.com)>  
**Subject:** RE: Mayfield West Phase 2 Stage 3 Discussion with the Town

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Wondering if we can start by using any existing ToR developed for the MW2 Stages 1 and 2, currently being developed to the south.

---

**From:** Raf Andrenacci <[Raf.Andrenacci@ghd.com](mailto:Raf.Andrenacci@ghd.com)>  
**Sent:** Thursday, February 1, 2024 12:01 PM  
**To:** [Kavleen.Younan@caledon.ca](mailto:Kavleen.Younan@caledon.ca); Frank Filippo <[ffilippo@brookvalley.ca](mailto:ffilippo@brookvalley.ca)>  
**Cc:** Will Maria <[William.Maria@ghd.com](mailto:William.Maria@ghd.com)>  
**Subject:** Mayfield West Phase 2 Stage 3 Discussion with the Town

Hi Kavleen and Frank,

GHD has been retained to prepare a Traffic Impact Study for the Mayfield West Phase 2 - Stage 3 lands. We would like to set up a meeting with the Town next week to discuss what information the Town

currently has for the surrounding area and any expectations the Town has for the TIS in order for us to prepare a TOR to submit to the Town for approval. Kavleen and Frank, please advise us of your availability for early next week to set up this meeting.

Thanks,  
Raf

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# Appendix C

Traffic Data



## Project #24-021 - GHD

### Intersection Count Report

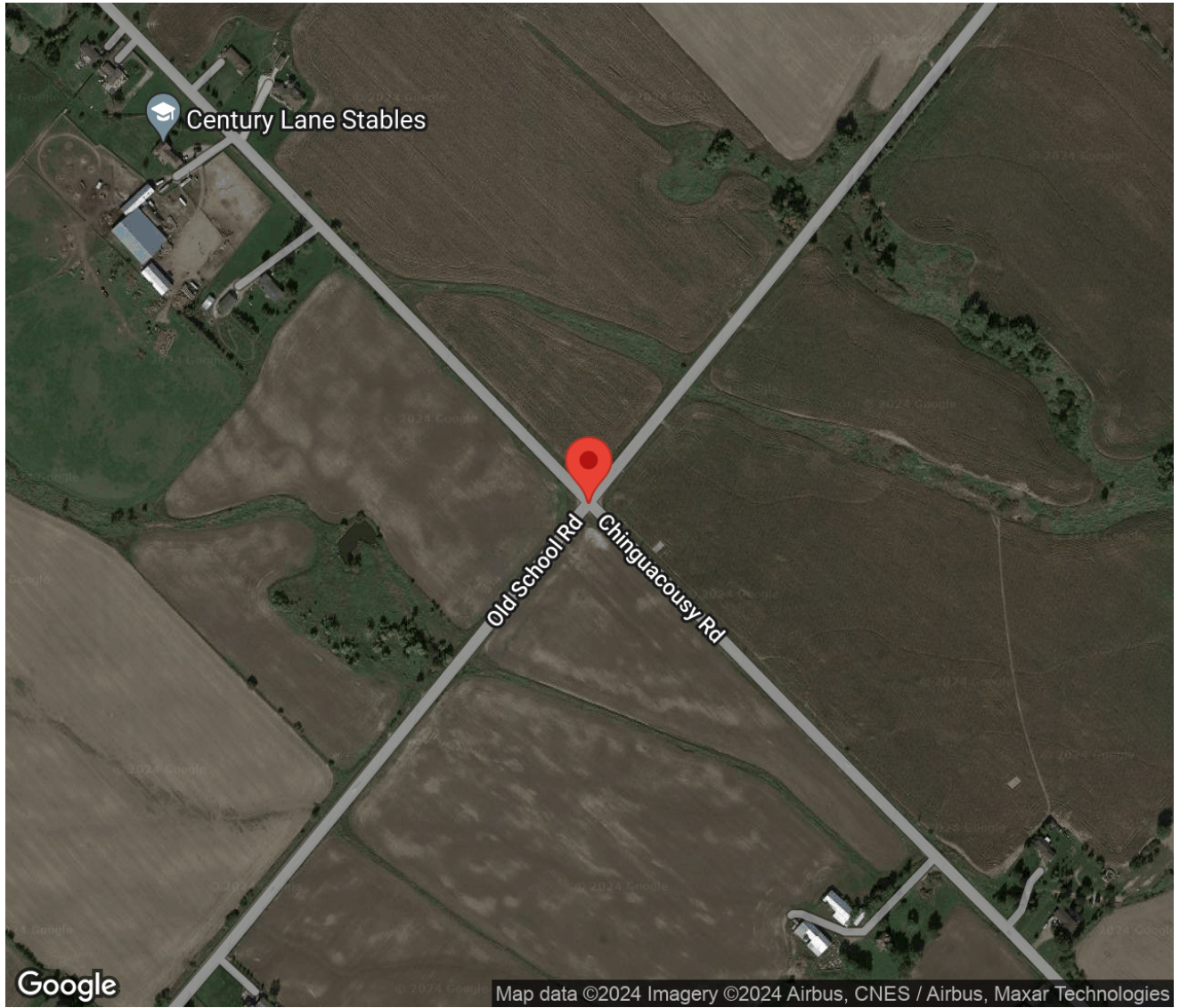
**Intersection:** Old School Rd & Chinguacousy Rd  
**Municipality:** Caledon  
**Count Date:** Wednesday, Jan 17, 2024  
**Site Code:** 2402100001  
**Count Categories:** Cars, Trucks, Bicycles, Pedestrians  
**Count Period:** 07:00-09:00, 16:00-18:00  
**Weather:** Clear  
**Comments:**



## Traffic Count Map

Intersection: Old School Rd & Chinguacousy Rd  
Site Code: 2402100001  
Municipality: Caledon  
Count Date: Jan 17, 2024

---





## Traffic Count Summary

Intersection: Old School Rd & Chinguacousy Rd  
 Site Code: 2402100001  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### Chinguacousy Rd - Traffic Summary

Hour	North Approach Totals						South Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
<b>07:00 - 08:00</b>	9	59	5	0	73	0	0	35	49	0	84	0	157
<b>08:00 - 09:00</b>	4	52	5	0	61	0	4	54	44	0	102	0	163
BREAK													
<b>16:00 - 17:00</b>	8	52	4	0	64	0	10	60	53	0	123	0	187
<b>17:00 - 18:00</b>	3	50	3	0	56	0	6	41	41	0	88	0	144
<b>GRAND TOTAL</b>	<b>24</b>	<b>213</b>	<b>17</b>	<b>0</b>	<b>254</b>	<b>0</b>	<b>20</b>	<b>190</b>	<b>187</b>	<b>0</b>	<b>397</b>	<b>0</b>	<b>651</b>





## Traffic Count Summary

Intersection: Old School Rd & Chinguacousy Rd  
 Site Code: 2402100001  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### Old School Rd - Traffic Summary

Hour	East Approach Totals						West Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
<b>07:00 - 08:00</b>	28	93	4	0	125	0	2	189	7	0	198	0	323
<b>08:00 - 09:00</b>	32	118	2	0	152	0	1	155	3	0	159	0	311
BREAK													
<b>16:00 - 17:00</b>	46	250	8	0	304	0	4	158	2	0	164	0	468
<b>17:00 - 18:00</b>	50	222	6	0	278	0	5	157	0	0	162	0	440
<b>GRAND TOTAL</b>	<b>156</b>	<b>683</b>	<b>20</b>	<b>0</b>	<b>859</b>	<b>0</b>	<b>12</b>	<b>659</b>	<b>12</b>	<b>0</b>	<b>683</b>	<b>0</b>	<b>1542</b>



## Traffic Count Data

Intersection: Old School Rd & Chinguacousy Rd  
 Site Code: 2402100001  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### North Approach - Chinguacousy Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	2	5	0	0	7	0	0	1	0	1	0	0	0	0	0	0
07:15	3	13	1	0	17	1	0	0	0	1	0	0	0	0	0	0
07:30	0	18	1	0	19	0	0	0	0	0	0	0	0	0	0	0
07:45	3	20	1	0	24	0	3	1	0	4	0	0	0	0	0	0
08:00	1	14	2	0	17	0	1	0	0	1	0	0	0	0	0	0
08:15	2	19	2	0	23	0	1	1	0	2	0	0	0	0	0	0
08:30	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0
08:45	1	7	0	0	8	0	0	0	0	0	0	0	0	0	0	0
<b>SUBTOTAL</b>	12	106	7	0	125	1	5	3	0	9	0	0	0	0	0	0



## Traffic Count Data

Intersection: Old School Rd & Chinguacousy Rd  
 Site Code: 2402100001  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### North Approach - Chinguacousy Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	1	11	1	0	13	2	1	1	0	4	0	0	0	0	0	0
16:15	2	15	2	0	19	0	0	0	0	0	0	0	0	0	0	0
16:30	1	15	0	0	16	0	0	0	0	0	0	0	0	0	0	0
16:45	2	10	0	0	12	0	0	0	0	0	0	0	0	0	0	0
17:00	1	15	1	0	17	0	0	0	0	0	0	0	0	0	0	0
17:15	0	12	1	0	13	0	0	0	0	0	0	0	0	0	0	0
17:30	2	16	0	0	18	0	0	0	0	0	0	0	0	0	0	0
17:45	0	7	1	0	8	0	0	0	0	0	0	0	0	0	0	0
<b>SUBTOTAL</b>	9	101	6	0	116	2	1	1	0	4	0	0	0	0	0	0
<b>GRAND TOTAL</b>	21	207	13	0	241	3	6	4	0	13	0	0	0	0	0	0



## Traffic Count Data

Intersection: Old School Rd & Chinguacousy Rd  
 Site Code: 2402100001  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### South Approach - Chinguacousy Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	0	9	8	0	17	0	1	0	0	1	0	0	0	0	0	0
07:15	0	8	11	0	19	0	1	0	0	1	0	0	0	0	0	0
07:30	0	3	14	0	17	0	1	0	0	1	0	0	0	0	0	0
07:45	0	12	16	0	28	0	0	0	0	0	0	0	0	0	0	0
08:00	2	11	13	0	26	0	1	0	0	1	0	0	0	0	0	0
08:15	0	14	16	0	30	0	0	2	0	2	0	0	0	0	0	0
08:30	0	14	7	0	21	0	0	1	0	1	0	0	0	0	0	0
08:45	2	14	4	0	20	0	0	1	0	1	0	0	0	0	0	0
<b>SUBTOTAL</b>	4	85	89	0	178	0	4	4	0	8	0	0	0	0	0	0



## Traffic Count Data

Intersection: Old School Rd & Chinguacousy Rd  
 Site Code: 2402100001  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### South Approach - Chinguacousy Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	1	17	10	0	28	0	1	0	0	1	0	0	0	0	0	0
16:15	3	9	16	0	28	0	2	1	0	3	0	0	0	0	0	0
16:30	4	16	18	0	38	0	1	0	0	1	0	0	0	0	0	0
16:45	2	14	8	0	24	0	0	0	0	0	0	0	0	0	0	0
17:00	3	11	10	0	24	0	0	0	0	0	0	0	0	0	0	0
17:15	1	8	6	0	15	0	0	0	0	0	0	0	0	0	0	0
17:30	1	17	11	0	29	1	0	0	0	1	0	0	0	0	0	0
17:45	0	5	14	0	19	0	0	0	0	0	0	0	0	0	0	0
<b>SUBTOTAL</b>	15	97	93	0	205	1	4	1	0	6	0	0	0	0	0	0
<b>GRAND TOTAL</b>	19	182	182	0	383	1	8	5	0	14	0	0	0	0	0	0



## Traffic Count Data

Intersection: Old School Rd & Chinguacousy Rd  
 Site Code: 2402100001  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### East Approach - Old School Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	2	14	0	0	16	1	1	0	0	2	0	0	0	0	0	0
07:15	9	23	0	0	32	0	2	0	0	2	0	0	0	0	0	0
07:30	6	23	1	0	30	0	2	1	0	3	0	0	0	0	0	0
07:45	10	28	2	0	40	0	0	0	0	0	0	0	0	0	0	0
08:00	11	22	0	0	33	0	0	1	0	1	0	0	0	0	0	0
08:15	4	36	0	0	40	1	0	0	0	1	0	0	0	0	0	0
08:30	8	33	0	0	41	1	0	1	0	2	0	0	0	0	0	0
08:45	7	26	0	0	33	0	1	0	0	1	0	0	0	0	0	0
<b>SUBTOTAL</b>	57	205	3	0	265	3	6	3	0	12	0	0	0	0	0	0



## Traffic Count Data

Intersection: Old School Rd & Chinguacousy Rd  
 Site Code: 2402100001  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### East Approach - Old School Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	11	64	1	0	76	0	1	0	0	1	0	0	0	0	0	0
16:15	13	67	1	0	81	0	1	0	0	1	0	0	0	0	0	0
16:30	11	50	0	0	61	0	1	1	0	2	0	0	0	0	0	0
16:45	11	66	5	0	82	0	0	0	0	0	0	0	0	0	0	0
17:00	6	60	3	0	69	1	0	0	0	1	0	0	0	0	0	0
17:15	17	65	1	0	83	0	0	0	0	0	0	0	0	0	0	0
17:30	13	44	1	0	58	0	0	0	0	0	0	0	0	0	0	0
17:45	13	52	0	0	65	0	1	1	0	2	0	0	0	0	0	0
<b>SUBTOTAL</b>	95	468	12	0	575	1	4	2	0	7	0	0	0	0	0	0
<b>GRAND TOTAL</b>	152	673	15	0	840	4	10	5	0	19	0	0	0	0	0	0



## Traffic Count Data

Intersection: Old School Rd & Chinguacousy Rd  
 Site Code: 2402100001  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### West Approach - Old School Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	0	31	1	0	32	0	2	1	0	3	0	0	0	0	0	0
07:15	0	47	2	0	49	0	2	1	0	3	0	0	0	0	0	0
07:30	2	60	0	0	62	0	0	0	0	0	0	0	0	0	0	0
07:45	0	47	2	0	49	0	0	0	0	0	0	0	0	0	0	0
08:00	0	49	1	0	50	0	0	0	0	0	0	0	0	0	0	0
08:15	0	41	0	0	41	0	1	0	0	1	0	0	0	0	0	0
08:30	0	39	1	0	40	0	1	0	0	1	0	0	0	0	0	0
08:45	1	23	1	0	25	0	1	0	0	1	0	0	0	0	0	0
<b>SUBTOTAL</b>	3	337	8	0	348	0	7	2	0	9	0	0	0	0	0	0





## Traffic Count Data

Intersection: Old School Rd & Chinguacousy Rd  
 Site Code: 2402100001  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### West Approach - Old School Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	1	43	1	0	45	0	2	0	0	2	0	0	0	0	0	0
16:15	1	40	0	0	41	0	1	0	0	1	0	0	0	0	0	0
16:30	0	30	1	0	31	0	1	0	0	1	0	0	0	0	0	0
16:45	2	40	0	0	42	0	1	0	0	1	0	0	0	0	0	0
17:00	1	39	0	0	40	0	1	0	0	1	0	0	0	0	0	0
17:15	0	35	0	0	35	0	0	0	0	0	0	0	0	0	0	0
17:30	2	47	0	0	49	0	2	0	0	2	0	0	0	0	0	0
17:45	2	31	0	0	33	0	2	0	0	2	0	0	0	0	0	0
<b>SUBTOTAL</b>	9	305	2	0	316	0	10	0	0	10	0	0	0	0	0	0
<b>GRAND TOTAL</b>	12	642	10	0	664	0	17	2	0	19	0	0	0	0	0	0

## Peak Hour Diagram

### Specified Period

From: 07:00:00  
To: 09:00:00

### One Hour Peak

From: 07:30:00  
To: 08:30:00

**Intersection:** Old School Rd & Chinguacousy Rd  
**Site Code:** 2402100001  
**Count Date:** Jan 17, 2024

**Weather conditions:** Clear

**\*\* Unsignalized Intersection \*\***

**Major Road:** Old School Rd runs E/W

### North Approach

	Out	In	Total
	83	45	128
	7	4	11
	0	0	0
<b>Totals</b>	<b>90</b>	<b>49</b>	<b>139</b>

### Chinguacousy Rd

	0	0	0	0
	2	5	0	0
	6	71	6	0
<b>Totals</b>	<b>8</b>	<b>76</b>	<b>6</b>	<b>0</b>

### East Approach

	Out	In	Total
	143	262	405
	5	3	8
	0	0	0
<b>Totals</b>	<b>148</b>	<b>265</b>	<b>413</b>

### Old School Rd

			Totals	
0	0	0	0	
0	0	2	2	
0	1	197	198	
0	0	3	3	

Peds: 0

Peds: 0



Peds: 0

Peds: 0

### Old School Rd

Totals			
0	0	0	0
5	3	2	0
111	109	2	0
32	31	1	0

### West Approach

	Out	In	Total
	202	117	319
	1	4	5
	0	0	0
<b>Totals</b>	<b>203</b>	<b>121</b>	<b>324</b>

Totals				
2	42	61	0	
	2	40	59	0
	0	2	2	0
	0	0	0	0

### Chinguacousy Rd

### South Approach

	Out	In	Total
	101	105	206
	4	6	10
	0	0	0
<b>Totals</b>	<b>105</b>	<b>111</b>	<b>216</b>

- Cars

- Trucks

- Bicycles

### Comments



## Peak Hour Summary

Intersection: Old School Rd & Chinguacousy Rd  
 Site Code: 2402100001  
 Count Date: Jan 17, 2024  
 Period: 07:00 - 09:00

### Peak Hour Data (07:30 - 08:30)

Start Time	North Approach Chinguacousy Rd						South Approach Chinguacousy Rd						East Approach Old School Rd						West Approach Old School Rd						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
07:30	0	18	1	0	0	19	0	4	14	0	0	18	6	25	2	0	0	33	2	60	0	0	0	62	132
07:45	3	23	2	0	0	28	0	12	16	0	0	28	10	28	2	0	0	40	0	47	2	0	0	49	145
08:00	1	15	2	0	0	18	2	12	13	0	0	27	11	22	1	0	0	34	0	49	1	0	0	50	129
08:15	2	20	3	0	0	25	0	14	18	0	0	32	5	36	0	0	0	41	0	42	0	0	0	42	140
<b>Grand Total</b>	<b>6</b>	<b>76</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>90</b>	<b>2</b>	<b>42</b>	<b>61</b>	<b>0</b>	<b>0</b>	<b>105</b>	<b>32</b>	<b>111</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>148</b>	<b>2</b>	<b>198</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>203</b>	<b>546</b>
Approach %	6.7	84.4	8.9	0	-	-	1.9	40	58.1	0	-	-	21.6	75	3.4	0	-	-	1	97.5	1.5	0	-	-	
Totals %	1.1	13.9	1.5	0	-	16.5	0.4	7.7	11.2	0	-	19.2	5.9	20.3	0.9	0	-	27.1	0.4	36.3	0.5	0	-	37.2	
<b>PHF</b>	<b>0.5</b>	<b>0.83</b>	<b>0.67</b>	<b>0</b>	<b>0</b>	<b>0.8</b>	<b>0.25</b>	<b>0.75</b>	<b>0.85</b>	<b>0</b>	<b>0.82</b>	<b>0.73</b>	<b>0.77</b>	<b>0.63</b>	<b>0</b>	<b>0.9</b>	<b>0.25</b>	<b>0.83</b>	<b>0.38</b>	<b>0</b>	<b>0</b>	<b>0.82</b>	<b>0.94</b>		
Cars	6	71	6	0	-	83	2	40	59	0	-	101	31	109	3	0	-	143	2	197	3	0	-	202	529
% Cars	100	93.4	75	0	-	92.2	100	95.2	96.7	0	-	96.2	96.9	98.2	60	0	-	96.6	100	99.5	100	0	-	99.5	96.9
Trucks	0	5	2	0	-	7	0	2	2	0	-	4	1	2	2	0	-	5	0	1	0	0	-	1	17
% Trucks	0	6.6	25	0	-	7.8	0	4.8	3.3	0	-	3.8	3.1	1.8	40	0	-	3.4	0	0.5	0	0	-	0.5	3.1
Bicycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
Peds					0	-					0	-					0	-					0	-	0
% Peds					0	-					0	-					0	-					0	-	0

## Peak Hour Diagram

### Specified Period

From: 16:00:00  
To: 18:00:00

### One Hour Peak

From: 16:00:00  
To: 17:00:00

**Intersection:** Old School Rd & Chinguacousy Rd  
**Site Code:** 2402100001  
**Count Date:** Jan 17, 2024

**Weather conditions:** Clear

**\*\* Unsignalized Intersection \*\***

**Major Road:** Old School Rd runs E/W

### North Approach

	Out	In	Total
	60	67	127
	4	5	9
	0	0	0
<b>Totals</b>	<b>64</b>	<b>72</b>	<b>136</b>

### Chinguacousy Rd

	0	0	0	0
	1	1	2	0
	3	51	6	0
<b>Totals</b>	<b>4</b>	<b>52</b>	<b>8</b>	<b>0</b>

### East Approach

	Out	In	Total
	300	211	511
	4	8	12
	0	0	0
<b>Totals</b>	<b>304</b>	<b>219</b>	<b>523</b>

### Old School Rd

				Totals	
	0	0	0	0	
	0	0	4	4	
	0	5	153	158	
	0	0	2	2	

Peds: 0

Peds: 0



Peds: 0

Peds: 0

### Old School Rd

Totals			
	0	0	0
	8	7	1
	250	247	3
	46	46	0

### West Approach

	Out	In	Total
	159	260	419
	5	4	9
	0	0	0
<b>Totals</b>	<b>164</b>	<b>264</b>	<b>428</b>

Totals				
	10	56	52	0
	0	4	1	0
	0	0	0	0

### Chinguacousy Rd

### South Approach

	Out	In	Total
	118	99	217
	5	1	6
	0	0	0
<b>Totals</b>	<b>123</b>	<b>100</b>	<b>223</b>

- Cars

- Trucks

- Bicycles

### Comments



## Peak Hour Summary

Intersection: Old School Rd & Chinguacousy Rd  
 Site Code: 2402100001  
 Count Date: Jan 17, 2024  
 Period: 16:00 - 18:00

### Peak Hour Data (16:00 - 17:00)

Start Time	North Approach Chinguacousy Rd						South Approach Chinguacousy Rd						East Approach Old School Rd						West Approach Old School Rd						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
16:00	3	12	2	0	0	17	1	18	10	0	0	29	11	65	1	0	0	77	1	45	1	0	0	47	170
16:15	2	15	2	0	0	19	3	11	17	0	0	31	13	68	1	0	0	82	1	41	0	0	0	42	174
16:30	1	15	0	0	0	16	4	17	18	0	0	39	11	51	1	0	0	63	0	31	1	0	0	32	150
16:45	2	10	0	0	0	12	2	14	8	0	0	24	11	66	5	0	0	82	2	41	0	0	0	43	161
<b>Grand Total</b>	<b>8</b>	<b>52</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>64</b>	<b>10</b>	<b>60</b>	<b>53</b>	<b>0</b>	<b>0</b>	<b>123</b>	<b>46</b>	<b>250</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>304</b>	<b>4</b>	<b>158</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>164</b>	<b>655</b>
<b>Approach %</b>	12.5	81.3	6.3	0	-	-	8.1	48.8	43.1	0	-	-	15.1	82.2	2.6	0	-	-	2.4	96.3	1.2	0	-	-	-
<b>Totals %</b>	1.2	7.9	0.6	0	9.8	18.8	1.5	9.2	8.1	0	18.8	7	38.2	1.2	0	46.4	0.6	24.1	0.3	0	25	-	-	-	-
<b>PHF</b>	<b>0.67</b>	<b>0.87</b>	<b>0.5</b>	<b>0</b>	<b>0.84</b>	<b>0.79</b>	<b>0.63</b>	<b>0.83</b>	<b>0.74</b>	<b>0</b>	<b>0.79</b>	<b>0.88</b>	<b>0.92</b>	<b>0.4</b>	<b>0</b>	<b>0.93</b>	<b>0.5</b>	<b>0.88</b>	<b>0.5</b>	<b>0</b>	<b>0.87</b>	<b>0.94</b>	<b>0.87</b>	<b>0.94</b>	
<b>Cars</b>	6	51	3	0	60	118	10	56	52	0	118	46	247	7	0	300	4	153	2	0	159	637	637		
<b>% Cars</b>	75	98.1	75	0	93.8	95.9	100	93.3	98.1	0	95.9	100	98.8	87.5	0	98.7	100	96.8	100	0	97	97.3	97.3	97.3	
<b>Trucks</b>	2	1	1	0	4	5	0	4	1	0	5	0	3	1	0	4	0	5	0	0	5	18	18		
<b>% Trucks</b>	25	1.9	25	0	6.3	4.1	0	6.7	1.9	0	4.1	0	1.2	12.5	0	1.3	0	3.2	0	0	3	2.7	2.7	2.7	
<b>Bicycles</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>% Bicycles</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Peds</b>					0	-				0	-					0	-				0	-			0
<b>% Peds</b>					0	-				0	-					0	-				0	-			0



## Project #24-021 - GHD

### Intersection Count Report

**Intersection:** Old School Rd & McLaughlin Rd  
**Municipality:** Caledon  
**Count Date:** Wednesday, Jan 17, 2024  
**Site Code:** 2402100002  
**Count Categories:** Cars, Trucks, Bicycles, Pedestrians  
**Count Period:** 07:00-09:00, 16:00-18:00  
**Weather:** Clear  
**Comments:**

## Traffic Count Map

Intersection: Old School Rd & McLaughlin Rd  
Site Code: 2402100002  
Municipality: Caledon  
Count Date: Jan 17, 2024

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## Traffic Count Summary

Intersection: Old School Rd & McLaughlin Rd  
 Site Code: 2402100002  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### McLaughlin Rd - Traffic Summary

Hour	North Approach Totals						South Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
<b>07:00 - 08:00</b>	39	95	9	0	143	0	3	45	68	0	116	0	259
<b>08:00 - 09:00</b>	20	65	9	0	94	0	2	56	78	0	136	0	230
BREAK													
<b>16:00 - 17:00</b>	19	51	6	0	76	0	5	120	82	0	207	0	283
<b>17:00 - 18:00</b>	30	54	6	0	90	0	3	80	73	0	156	0	246
<b>GRAND TOTAL</b>	<b>108</b>	<b>265</b>	<b>30</b>	<b>0</b>	<b>403</b>	<b>0</b>	<b>13</b>	<b>301</b>	<b>301</b>	<b>0</b>	<b>615</b>	<b>0</b>	<b>1018</b>





## Traffic Count Summary

Intersection: Old School Rd & McLaughlin Rd  
 Site Code: 2402100002  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### Old School Rd - Traffic Summary

Hour	East Approach Totals						West Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
<b>07:00 - 08:00</b>	46	117	12	1	176	0	6	242	4	0	252	0	428
<b>08:00 - 09:00</b>	53	147	29	0	229	0	10	185	8	1	204	0	433
BREAK													
<b>16:00 - 17:00</b>	79	294	23	0	396	0	9	208	5	0	222	0	618
<b>17:00 - 18:00</b>	89	266	10	0	365	0	8	187	4	0	199	0	564
<b>GRAND TOTAL</b>	<b>267</b>	<b>824</b>	<b>74</b>	<b>1</b>	<b>1166</b>	<b>0</b>	<b>33</b>	<b>822</b>	<b>21</b>	<b>1</b>	<b>877</b>	<b>0</b>	<b>2043</b>



## Traffic Count Data

Intersection: Old School Rd & McLaughlin Rd  
 Site Code: 2402100002  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### North Approach - McLaughlin Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	9	15	0	0	24	1	1	1	0	3	0	0	0	0	0	0
07:15	7	14	2	0	23	1	1	0	0	2	0	0	0	0	0	0
07:30	9	27	1	0	37	0	0	0	0	0	0	0	0	0	0	0
07:45	11	37	5	0	53	1	0	0	0	1	0	0	0	0	0	0
08:00	5	22	2	0	29	0	0	0	0	0	0	0	0	0	0	0
08:15	7	19	1	0	27	0	0	1	0	1	0	0	0	0	0	0
08:30	4	12	3	0	19	0	0	0	0	0	0	0	0	0	0	0
08:45	4	12	1	0	17	0	0	1	0	1	0	0	0	0	0	0
<b>SUBTOTAL</b>	56	158	15	0	229	3	2	3	0	8	0	0	0	0	0	0



## Traffic Count Data

Intersection: Old School Rd & McLaughlin Rd  
 Site Code: 2402100002  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### North Approach - McLaughlin Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	8	19	1	0	28	0	0	0	0	0	0	0	0	0	0	0
16:15	0	7	2	0	9	0	1	0	0	1	0	0	0	0	0	0
16:30	6	9	0	0	15	0	1	0	0	1	0	0	0	0	0	0
16:45	5	13	3	0	21	0	1	0	0	1	0	0	0	0	0	0
17:00	5	14	0	0	19	0	0	0	0	0	0	0	0	0	0	0
17:15	7	11	1	0	19	0	0	0	0	0	0	0	0	0	0	0
17:30	11	20	2	0	33	0	0	0	0	0	0	0	0	0	0	0
17:45	7	9	3	0	19	0	0	0	0	0	0	0	0	0	0	0
<b>SUBTOTAL</b>	49	102	12	0	163	0	3	0	0	3	0	0	0	0	0	0
<b>GRAND TOTAL</b>	105	260	27	0	392	3	5	3	0	11	0	0	0	0	0	0



## Traffic Count Data

Intersection: Old School Rd & McLaughlin Rd  
 Site Code: 2402100002  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### South Approach - McLaughlin Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	1	12	13	0	26	0	0	1	0	1	0	0	0	0	0	0
07:15	0	7	11	0	18	0	1	2	0	3	0	0	0	0	0	0
07:30	2	11	17	0	30	0	0	1	0	1	0	0	0	0	0	0
07:45	0	14	23	0	37	0	0	0	0	0	0	0	0	0	0	0
08:00	0	13	22	0	35	0	1	0	0	1	0	0	0	0	0	0
08:15	0	14	26	0	40	0	0	0	0	0	0	0	0	0	0	0
08:30	0	15	11	0	26	0	0	1	0	1	0	0	0	0	0	0
08:45	2	13	16	0	31	0	0	2	0	2	0	0	0	0	0	0
<b>SUBTOTAL</b>	5	99	139	0	243	0	2	7	0	9	0	0	0	0	0	0



## Traffic Count Data

Intersection: Old School Rd & McLaughlin Rd  
 Site Code: 2402100002  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### South Approach - McLaughlin Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	1	28	13	0	42	0	1	3	0	4	0	0	0	0	0	0
16:15	1	24	22	0	47	1	0	0	0	1	0	0	0	0	0	0
16:30	1	30	16	0	47	0	0	1	0	1	0	0	0	0	0	0
16:45	1	36	27	0	64	0	1	0	0	1	0	0	0	0	0	0
17:00	2	29	17	0	48	0	0	2	0	2	0	0	0	0	0	0
17:15	0	21	25	0	46	0	0	1	0	1	0	0	0	0	0	0
17:30	1	20	12	0	33	0	0	0	0	0	0	0	0	0	0	0
17:45	0	10	15	0	25	0	0	1	0	1	0	0	0	0	0	0
<b>SUBTOTAL</b>	7	198	147	0	352	1	2	8	0	11	0	0	0	0	0	0
<b>GRAND TOTAL</b>	12	297	286	0	595	1	4	15	0	20	0	0	0	0	0	0



## Traffic Count Data

Intersection: Old School Rd & McLaughlin Rd  
 Site Code: 2402100002  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### East Approach - Old School Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	5	17	1	0	23	0	2	0	0	2	0	0	0	0	0	0
07:15	12	29	4	0	45	0	1	0	0	1	0	0	0	0	0	0
07:30	14	32	4	1	51	1	3	0	0	4	0	0	0	0	0	0
07:45	14	33	3	0	50	0	0	0	0	0	0	0	0	0	0	0
08:00	18	35	6	0	59	0	1	2	0	3	0	0	0	0	0	0
08:15	13	40	6	0	59	0	1	0	0	1	0	0	0	0	0	0
08:30	13	38	8	0	59	1	1	0	0	2	0	0	0	0	0	0
08:45	7	30	7	0	44	1	1	0	0	2	0	0	0	0	0	0
<b>SUBTOTAL</b>	96	254	39	1	390	3	10	2	0	15	0	0	0	0	0	0





## Traffic Count Data

Intersection: Old School Rd & McLaughlin Rd  
 Site Code: 2402100002  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### West Approach - Old School Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	1	42	0	0	43	0	1	0	0	1	0	0	0	0	0	0
07:15	2	54	2	0	58	1	2	1	0	4	0	0	0	0	0	0
07:30	0	76	1	0	77	0	0	0	0	0	0	0	0	0	0	0
07:45	2	67	0	0	69	0	0	0	0	0	0	0	0	0	0	0
08:00	2	58	3	1	64	0	0	0	0	0	0	0	0	0	0	0
08:15	1	51	2	0	54	0	2	1	0	3	0	0	0	0	0	0
08:30	2	49	0	0	51	0	1	1	0	2	0	0	0	0	0	0
08:45	5	22	0	0	27	0	2	1	0	3	0	0	0	0	0	0
<b>SUBTOTAL</b>	15	419	8	1	443	1	8	4	0	13	0	0	0	0	0	0





## Peak Hour Diagram

### Specified Period

From: 07:00:00  
To: 09:00:00

### One Hour Peak

From: 07:30:00  
To: 08:30:00

**Intersection:** Old School Rd & McLaughlin Rd  
**Site Code:** 2402100002  
**Count Date:** Jan 17, 2024

**Weather conditions:** Clear

**\*\* Unsignalized Intersection \*\***

**Major Road:** Old School Rd runs E/W

### North Approach

	Out	In	Total
	146	76	222
	2	3	5
	0	0	0
<b>Totals</b>	<b>148</b>	<b>79</b>	<b>227</b>

### McLaughlin Rd

	0	0	0	0
	1	0	1	0
	9	105	32	0
<b>Totals</b>	<b>10</b>	<b>105</b>	<b>33</b>	<b>0</b>

### East Approach

	Out	In	Total
	219	373	592
	8	4	12
	0	0	0
<b>Totals</b>	<b>227</b>	<b>377</b>	<b>604</b>

### Old School Rd

				Totals	
	0	0	1	1	
	0	0	5	5	
	0	2	252	254	
	0	1	6	7	

Peds: 0

Peds: 0



Peds: 0

Peds: 0

### Old School Rd

Totals			
	1	1	0
	21	19	2
	145	140	5
	60	59	1

### West Approach

	Out	In	Total
	264	152	416
	3	6	9
	0	0	0
<b>Totals</b>	<b>267</b>	<b>158</b>	<b>425</b>

Totals				
	2	53	88	0
	0	1	1	0
	0	0	0	0

### McLaughlin Rd

### South Approach

	Out	In	Total
	142	170	312
	2	2	4
	0	0	0
<b>Totals</b>	<b>144</b>	<b>172</b>	<b>316</b>

- Cars

- Trucks

- Bicycles

### Comments



## Peak Hour Summary

Intersection: Old School Rd & McLaughlin Rd  
 Site Code: 2402100002  
 Count Date: Jan 17, 2024  
 Period: 07:00 - 09:00

### Peak Hour Data (07:30 - 08:30)

Start Time	North Approach McLaughlin Rd						South Approach McLaughlin Rd						East Approach Old School Rd						West Approach Old School Rd						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
07:30	9	27	1	0	0	37	2	11	18	0	0	31	15	35	4	1	0	55	0	76	1	0	0	77	200
07:45	12	37	5	0	0	54	0	14	23	0	0	37	14	33	3	0	0	50	2	67	0	0	0	69	210
08:00	5	22	2	0	0	29	0	14	22	0	0	36	18	36	8	0	0	62	2	58	3	1	0	64	191
08:15	7	19	2	0	0	28	0	14	26	0	0	40	13	41	6	0	0	60	1	53	3	0	0	57	185
<b>Grand Total</b>	<b>33</b>	<b>105</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>148</b>	<b>2</b>	<b>53</b>	<b>89</b>	<b>0</b>	<b>0</b>	<b>144</b>	<b>60</b>	<b>145</b>	<b>21</b>	<b>1</b>	<b>0</b>	<b>227</b>	<b>5</b>	<b>254</b>	<b>7</b>	<b>1</b>	<b>0</b>	<b>267</b>	<b>786</b>
Approach %	22.3	70.9	6.8	0	-	-	1.4	36.8	61.8	0	-	-	26.4	63.9	9.3	0.4	-	-	1.9	95.1	2.6	0.4	-	-	
Totals %	4.2	13.4	1.3	0	18.8	18.8	0.3	6.7	11.3	0	18.3	18.3	7.6	18.4	2.7	0.1	28.9	28.9	0.6	32.3	0.9	0.1	34	34	
<b>PHF</b>	<b>0.69</b>	<b>0.71</b>	<b>0.5</b>	<b>0</b>	<b>0.69</b>	<b>0.69</b>	<b>0.25</b>	<b>0.95</b>	<b>0.86</b>	<b>0</b>	<b>0.9</b>	<b>0.9</b>	<b>0.83</b>	<b>0.88</b>	<b>0.66</b>	<b>0.25</b>	<b>0.92</b>	<b>0.92</b>	<b>0.63</b>	<b>0.84</b>	<b>0.58</b>	<b>0.25</b>	<b>0.87</b>	<b>0.87</b>	<b>0.94</b>
Cars	32	105	9	0	0	146	2	52	88	0	0	142	59	140	19	1	0	219	5	252	6	1	0	264	771
% Cars	97	100	90	0	0	98.6	100	98.1	98.9	0	0	98.6	98.3	96.6	90.5	100	96.5	96.5	100	99.2	85.7	100	0	98.9	98.1
Trucks	1	0	1	0	0	2	0	1	1	0	0	2	1	5	2	0	0	8	0	2	1	0	0	3	15
% Trucks	3	0	10	0	0	1.4	0	1.9	1.1	0	0	1.4	1.7	3.4	9.5	0	0	3.5	0	0.8	14.3	0	0	1.1	1.9
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds					0	-					0	-					0	-					0	-	0
% Peds					0	-					0	-					0	-					0	-	

## Peak Hour Diagram

### Specified Period

From: 16:00:00  
To: 18:00:00

### One Hour Peak

From: 16:00:00  
To: 17:00:00

**Intersection:** Old School Rd & McLaughlin Rd  
**Site Code:** 2402100002  
**Count Date:** Jan 17, 2024

**Weather conditions:** Clear

**\*\* Unsignalized Intersection \*\***

**Major Road:** Old School Rd runs E/W

### North Approach

	Out	In	Total
	73	149	222
	3	3	6
	0	0	0
<b>Totals</b>	<b>76</b>	<b>152</b>	<b>228</b>

### McLaughlin Rd

	0	0	0	0
	0	3	0	0
	6	48	19	0
<b>Totals</b>	<b>6</b>	<b>51</b>	<b>19</b>	<b>0</b>

### East Approach

	Out	In	Total
	390	296	686
	6	13	19
	0	0	0
<b>Totals</b>	<b>396</b>	<b>309</b>	<b>705</b>

### Old School Rd

			Totals	
0	0	0	0	
0	0	9	9	
0	9	199	208	
0	1	4	5	

Peds: 0

Peds: 0



Peds: 0

Peds: 0

### Old School Rd

Totals			
0	0	0	0
23	22	1	0
294	292	2	0
79	76	3	0

### West Approach

	Out	In	Total
	212	302	514
	10	3	13
	0	0	0
<b>Totals</b>	<b>222</b>	<b>305</b>	<b>527</b>

Totals				
5	120	82	0	
	4	118	78	0
	1	2	4	0
	0	0	0	0

### McLaughlin Rd

### South Approach

	Out	In	Total
	200	128	328
	7	7	14
	0	0	0
<b>Totals</b>	<b>207</b>	<b>135</b>	<b>342</b>

- Cars

- Trucks

- Bicycles

### Comments



## Peak Hour Summary

Intersection: Old School Rd & McLaughlin Rd  
 Site Code: 2402100002  
 Count Date: Jan 17, 2024  
 Period: 16:00 - 18:00

### Peak Hour Data (16:00 - 17:00)

Start Time	North Approach McLaughlin Rd						South Approach McLaughlin Rd						East Approach Old School Rd						West Approach Old School Rd						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
16:00	8	19	1	0	0	28	1	29	16	0	0	46	15	73	3	0	0	91	1	56	2	0	0	59	224
16:15	0	8	2	0	0	10	2	24	22	0	0	48	27	71	8	0	0	106	1	59	1	0	0	61	225
16:30	6	10	0	0	0	16	1	30	17	0	0	48	18	70	11	0	0	99	1	48	1	0	0	50	213
16:45	5	14	3	0	0	22	1	37	27	0	0	65	19	80	1	0	0	100	6	45	1	0	0	52	239
<b>Grand Total</b>	<b>19</b>	<b>51</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>76</b>	<b>5</b>	<b>120</b>	<b>82</b>	<b>0</b>	<b>0</b>	<b>207</b>	<b>79</b>	<b>294</b>	<b>23</b>	<b>0</b>	<b>0</b>	<b>396</b>	<b>9</b>	<b>208</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>222</b>	<b>901</b>
Approach %	25	67.1	7.9	0	-	-	2.4	58	39.6	0	-	-	19.9	74.2	5.8	0	-	-	4.1	93.7	2.3	0	-	-	
Totals %	2.1	5.7	0.7	0	-	8.4	0.6	13.3	9.1	0	-	23	8.8	32.6	2.6	0	-	44	1	23.1	0.6	0	-	24.6	
<b>PHF</b>	<b>0.59</b>	<b>0.67</b>	<b>0.5</b>	<b>0</b>	<b>0</b>	<b>0.68</b>	<b>0.63</b>	<b>0.81</b>	<b>0.76</b>	<b>0</b>	<b>0</b>	<b>0.8</b>	<b>0.73</b>	<b>0.92</b>	<b>0.52</b>	<b>0</b>	<b>0</b>	<b>0.93</b>	<b>0.38</b>	<b>0.88</b>	<b>0.63</b>	<b>0</b>	<b>0</b>	<b>0.91</b>	<b>0.94</b>
Cars	19	48	6	0	-	73	4	118	78	0	-	200	76	292	22	0	-	390	9	199	4	0	-	212	875
% Cars	100	94.1	100	0	-	96.1	80	98.3	95.1	0	-	96.6	96.2	99.3	95.7	0	-	98.5	100	95.7	80	0	-	95.5	97.1
Trucks	0	3	0	0	-	3	1	2	4	0	-	7	3	2	1	0	-	6	0	9	1	0	-	10	26
% Trucks	0	5.9	0	0	-	3.9	20	1.7	4.9	0	-	3.4	3.8	0.7	4.3	0	-	1.5	0	4.3	20	0	-	4.5	2.9
Bicycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Bicycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
Peds					0	-				0	-	-				0	-	-				0	-	-	0
% Peds					0	-				0	-	-				0	-	-				0	-	-	0



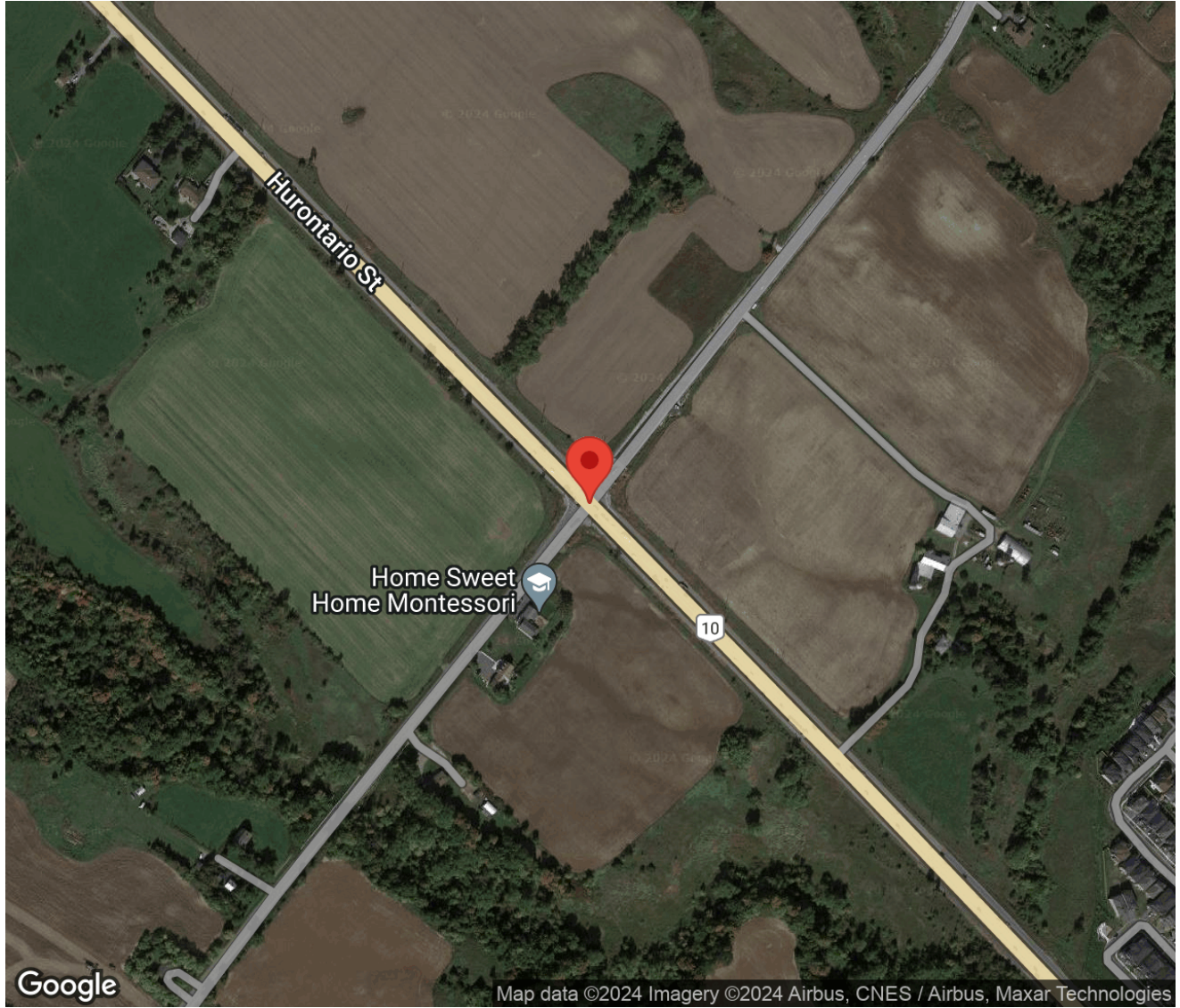
## Project #24-021 - GHD

### Intersection Count Report

**Intersection:** Old School Rd & Hurontario St  
**Municipality:** Caledon  
**Count Date:** Wednesday, Jan 17, 2024  
**Site Code:** 2402100003  
**Count Categories:** Cars, Trucks, Bicycles, Pedestrians  
**Count Period:** 07:00-09:00, 16:00-18:00  
**Weather:** Clear  
**Comments:**

## Traffic Count Map

Intersection: Old School Rd & Hurontario St  
Site Code: 2402100003  
Municipality: Caledon  
Count Date: Jan 17, 2024





## Traffic Count Summary

Intersection: Old School Rd & Hurontario St  
 Site Code: 2402100003  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### Hurontario St - Traffic Summary

Hour	North Approach Totals						South Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
<b>07:00 - 08:00</b>	22	1635	41	0	1698	0	45	862	47	0	954	0	2652
<b>08:00 - 09:00</b>	28	1288	27	0	1343	0	70	839	61	0	970	0	2313
BREAK													
<b>16:00 - 17:00</b>	29	954	33	0	1016	0	174	1578	88	0	1840	1	2856
<b>17:00 - 18:00</b>	38	839	38	0	915	0	142	1307	75	0	1524	0	2439
<b>GRAND TOTAL</b>	<b>117</b>	<b>4716</b>	<b>139</b>	<b>0</b>	<b>4972</b>	<b>0</b>	<b>431</b>	<b>4586</b>	<b>271</b>	<b>0</b>	<b>5288</b>	<b>1</b>	<b>10260</b>





## Traffic Count Summary

Intersection: Old School Rd & Hurontario St  
 Site Code: 2402100003  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### Old School Rd - Traffic Summary

Hour	East Approach Totals						West Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
<b>07:00 - 08:00</b>	30	98	21	0	149	0	43	162	146	0	351	0	500
<b>08:00 - 09:00</b>	61	133	38	0	232	0	43	132	100	0	275	0	507
BREAK													
<b>16:00 - 17:00</b>	48	195	41	0	284	0	65	142	93	0	300	0	584
<b>17:00 - 18:00</b>	54	182	32	0	268	0	38	148	103	0	289	0	557
<b>GRAND TOTAL</b>	<b>193</b>	<b>608</b>	<b>132</b>	<b>0</b>	<b>933</b>	<b>0</b>	<b>189</b>	<b>584</b>	<b>442</b>	<b>0</b>	<b>1215</b>	<b>0</b>	<b>2148</b>



## Traffic Count Data

Intersection: Old School Rd & Hurontario St  
 Site Code: 2402100003  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### North Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	1	393	6	0	400	1	14	0	0	15	0	0	0	0	0	0
07:15	0	396	9	0	405	1	21	0	0	22	0	0	0	0	0	0
07:30	7	391	14	0	412	1	22	0	0	23	0	0	0	0	0	0
07:45	10	389	12	0	411	1	9	0	0	10	0	0	0	0	0	0
08:00	11	359	7	0	377	1	9	0	0	10	0	0	0	0	0	0
08:15	7	310	8	0	325	0	16	0	0	16	0	0	0	0	0	0
08:30	3	293	7	0	303	1	22	1	0	24	0	0	0	0	0	0
08:45	5	266	4	0	275	0	13	0	0	13	0	0	0	0	0	0
<b>SUBTOTAL</b>	44	2797	67	0	2908	6	126	1	0	133	0	0	0	0	0	0



## Traffic Count Data

Intersection: Old School Rd & Hurontario St  
 Site Code: 2402100003  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### North Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	5	216	5	0	226	0	27	2	0	29	0	0	0	0	0	0
16:15	8	218	4	0	230	0	19	0	0	19	0	0	0	0	0	0
16:30	6	213	11	0	230	0	25	0	0	25	0	0	0	0	0	0
16:45	10	217	11	0	238	0	19	0	0	19	0	0	0	0	0	0
17:00	12	225	15	0	252	0	22	0	0	22	0	0	0	0	0	0
17:15	9	186	8	0	203	0	10	0	0	10	0	0	0	0	0	0
17:30	8	190	9	0	207	0	10	0	0	10	0	0	0	0	0	0
17:45	9	184	6	0	199	0	12	0	0	12	0	0	0	0	0	0
<b>SUBTOTAL</b>	67	1649	69	0	1785	0	144	2	0	146	0	0	0	0	0	0
<b>GRAND TOTAL</b>	111	4446	136	0	4693	6	270	3	0	279	0	0	0	0	0	0



## Traffic Count Data

Intersection: Old School Rd & Hurontario St  
 Site Code: 2402100003  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### South Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	6	129	6	0	141	1	28	0	0	29	0	0	0	0	0	0
07:15	14	163	12	0	189	1	33	2	0	36	0	0	0	0	0	0
07:30	12	194	12	0	218	1	41	1	0	43	0	0	0	0	0	0
07:45	9	222	13	0	244	1	52	1	0	54	0	0	0	0	0	0
08:00	14	185	14	0	213	0	39	2	0	41	0	0	0	0	0	0
08:15	22	179	14	0	215	1	37	1	0	39	0	0	0	0	0	0
08:30	16	157	13	0	186	0	37	1	0	38	0	0	0	0	0	0
08:45	17	177	13	0	207	0	28	3	0	31	0	0	0	0	0	0
<b>SUBTOTAL</b>	110	1406	97	0	1613	5	295	11	0	311	0	0	0	0	0	0





## Traffic Count Data

Intersection: Old School Rd & Hurontario St  
 Site Code: 2402100003  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### East Approach - Old School Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	5	14	1	0	20	1	2	1	0	4	0	0	0	0	0	0
07:15	9	23	9	0	41	0	0	0	0	0	0	0	0	0	0	0
07:30	6	23	1	0	30	0	3	0	0	3	0	0	0	0	0	0
07:45	8	33	9	0	50	1	0	0	0	1	0	0	0	0	0	0
08:00	11	36	11	0	58	1	3	1	0	5	0	0	0	0	0	0
08:15	15	32	9	0	56	0	0	0	0	0	0	0	0	0	0	0
08:30	23	36	10	0	69	1	1	0	0	2	0	0	0	0	0	0
08:45	10	23	7	0	40	0	2	0	0	2	0	0	0	0	0	0
<b>SUBTOTAL</b>	87	220	57	0	364	4	11	2	0	17	0	0	0	0	0	0



## Traffic Count Data

Intersection: Old School Rd & Hurontario St  
 Site Code: 2402100003  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### East Approach - Old School Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	9	49	10	0	68	0	1	0	0	1	0	0	0	0	0	0
16:15	13	52	9	0	74	0	0	0	0	0	0	0	0	0	0	0
16:30	10	43	14	0	67	1	1	0	0	2	0	0	0	0	0	0
16:45	15	49	8	0	72	0	0	0	0	0	0	0	0	0	0	0
17:00	14	38	9	0	61	0	0	0	0	0	0	0	0	0	0	0
17:15	20	51	5	0	76	0	0	0	0	0	0	0	0	0	0	0
17:30	13	57	7	0	77	0	0	0	0	0	0	0	0	0	0	0
17:45	7	36	11	0	54	0	0	0	0	0	0	0	0	0	0	0
<b>SUBTOTAL</b>	101	375	73	0	549	1	2	0	0	3	0	0	0	0	0	0
<b>GRAND TOTAL</b>	188	595	130	0	913	5	13	2	0	20	0	0	0	0	0	0



## Traffic Count Data

Intersection: Old School Rd & Hurontario St  
 Site Code: 2402100003  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### West Approach - Old School Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	7	34	24	0	65	0	1	1	0	2	0	0	0	0	0	0
07:15	10	28	31	0	69	2	3	0	0	5	0	0	0	0	0	0
07:30	11	47	45	0	103	0	1	1	0	2	0	0	0	0	0	0
07:45	13	46	43	0	102	0	2	1	0	3	0	0	0	0	0	0
08:00	14	39	31	0	84	0	0	0	0	0	0	0	0	0	0	0
08:15	13	38	30	0	81	0	1	0	0	1	0	0	0	0	0	0
08:30	5	37	26	0	68	1	0	0	0	1	0	0	0	0	0	0
08:45	8	15	13	0	36	2	2	0	0	4	0	0	0	0	0	0
<b>SUBTOTAL</b>	81	284	243	0	608	5	10	3	0	18	0	0	0	0	0	0





## Traffic Count Data

Intersection: Old School Rd & Hurontario St  
 Site Code: 2402100003  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### West Approach - Old School Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	15	26	30	0	71	0	1	7	0	8	0	0	0	0	0	0
16:15	18	37	17	0	72	0	1	0	0	1	0	0	0	0	0	0
16:30	17	38	19	0	74	0	2	0	0	2	0	0	0	0	0	0
16:45	15	37	19	0	71	0	0	1	0	1	0	0	0	0	0	0
17:00	12	31	20	0	63	0	1	0	0	1	0	0	0	0	0	0
17:15	12	39	22	0	73	0	0	1	0	1	0	0	0	0	0	0
17:30	7	43	35	0	85	0	0	2	0	2	0	0	0	0	0	0
17:45	7	30	22	0	59	0	4	1	0	5	0	0	0	0	0	0
<b>SUBTOTAL</b>	103	281	184	0	568	0	9	12	0	21	0	0	0	0	0	0
<b>GRAND TOTAL</b>	184	565	427	0	1176	5	19	15	0	39	0	0	0	0	0	0

## Peak Hour Diagram

### Specified Period

From: 07:00:00  
To: 09:00:00

### One Hour Peak

From: 07:15:00  
To: 08:15:00

**Intersection:** Old School Rd & Hurontario St  
**Site Code:** 2402100003  
**Count Date:** Jan 17, 2024

**Weather conditions:** Clear

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

**Major Road:** Hurontario St runs N/S

### North Approach

	Out	In	Total
	1605	842	2447
	65	168	233
	0	0	0
<b>Totals</b>	<b>1670</b>	<b>1010</b>	<b>2680</b>

### Hurontario St

	0	0	0	0
	0	61	4	0
	42	1535	28	0
<b>Totals</b>	<b>42</b>	<b>1596</b>	<b>32</b>	<b>0</b>

### East Approach

	Out	In	Total
	179	239	418
	9	16	25
	0	0	0
<b>Totals</b>	<b>188</b>	<b>255</b>	<b>443</b>

### Old School Rd

				Totals
	0	0	0	0
	0	2	48	50
	0	6	160	166
	0	2	150	152

Peds: 0

Peds: 0



Peds: 0

Peds: 0

### Old School Rd

Totals			
	0	0	0
	31	30	1
	121	115	6
	36	34	2

### West Approach

	Out	In	Total
	358	206	564
	10	9	19
	0	0	0
<b>Totals</b>	<b>368</b>	<b>215</b>	<b>583</b>

Totals				
	52	929	57	0
	49	764	51	0
	3	165	6	0
	0	0	0	0

### Hurontario St

### South Approach

	Out	In	Total
	864	1719	2583
	174	65	239
	0	0	0
<b>Totals</b>	<b>1038</b>	<b>1784</b>	<b>2822</b>

- Cars

- Trucks

- Bicycles

### Comments



## Peak Hour Summary

Intersection: Old School Rd & Hurontario St  
 Site Code: 2402100003  
 Count Date: Jan 17, 2024  
 Period: 07:00 - 09:00

### Peak Hour Data (07:15 - 08:15)

Start Time	North Approach Hurontario St						South Approach Hurontario St						East Approach Old School Rd						West Approach Old School Rd						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
07:15	1	417	9	0	0	427	15	196	14	0	0	225	9	23	9	0	0	41	12	31	31	0	0	74	767
07:30	8	413	14	0	0	435	13	235	13	0	0	261	6	26	1	0	0	33	11	48	46	0	0	105	834
07:45	11	398	12	0	0	421	10	274	14	0	0	298	9	33	9	0	0	51	13	48	44	0	0	105	875
08:00	12	368	7	0	0	387	14	224	16	0	0	254	12	39	12	0	0	63	14	39	31	0	0	84	788
<b>Grand Total</b>	<b>32</b>	<b>1596</b>	<b>42</b>	<b>0</b>	<b>0</b>	<b>1670</b>	<b>52</b>	<b>929</b>	<b>57</b>	<b>0</b>	<b>0</b>	<b>1038</b>	<b>36</b>	<b>121</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>188</b>	<b>50</b>	<b>166</b>	<b>152</b>	<b>0</b>	<b>0</b>	<b>368</b>	<b>3264</b>
<b>Approach %</b>	1.9	95.6	2.5	0	-	-	5	89.5	5.5	0	-	-	19.1	64.4	16.5	0	-	-	13.6	45.1	41.3	0	-	-	-
<b>Totals %</b>	1	48.9	1.3	0	-	51.2	1.6	28.5	1.7	0	-	31.8	1.1	3.7	0.9	0	-	5.8	1.5	5.1	4.7	0	-	11.3	-
<b>PHF</b>	<b>0.67</b>	<b>0.96</b>	<b>0.75</b>	<b>0</b>	-	<b>0.96</b>	<b>0.87</b>	<b>0.85</b>	<b>0.89</b>	<b>0</b>	-	<b>0.87</b>	<b>0.75</b>	<b>0.78</b>	<b>0.65</b>	<b>0</b>	-	<b>0.75</b>	<b>0.89</b>	<b>0.86</b>	<b>0.83</b>	<b>0</b>	-	<b>0.88</b>	<b>0.93</b>
<b>Cars</b>	28	1535	42	0	0	1605	49	764	51	0	0	864	34	115	30	0	0	179	48	160	150	0	0	358	3006
<b>% Cars</b>	87.5	96.2	100	0	0	96.1	94.2	82.2	89.5	0	0	83.2	94.4	95	96.8	0	0	95.2	96	96.4	98.7	0	0	97.3	92.1
<b>Trucks</b>	4	61	0	0	0	65	3	165	6	0	0	174	2	6	1	0	0	9	2	6	2	0	0	10	258
<b>% Trucks</b>	12.5	3.8	0	0	0	3.9	5.8	17.8	10.5	0	0	16.8	5.6	5	3.2	0	0	4.8	4	3.6	1.3	0	0	2.7	7.9
<b>Bicycles</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>% Bicycles</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Peds</b>					0	-					0	-					0	-					0	-	0
<b>% Peds</b>					0	-					0	-					0	-					0	-	0

## Peak Hour Diagram

### Specified Period

From: 16:00:00  
To: 18:00:00

### One Hour Peak

From: 16:00:00  
To: 17:00:00

**Intersection:** Old School Rd & Hurontario St  
**Site Code:** 2402100003  
**Count Date:** Jan 17, 2024

**Weather conditions:** Clear

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

**Major Road:** Hurontario St runs N/S

### North Approach

	Out	In	Total
	924	1627	2551
	92	57	149
	0	0	0
<b>Totals</b>	<b>1016</b>	<b>1684</b>	<b>2700</b>

### Hurontario St

	0	0	0	0
	2	90	0	0
	31	864	29	0
<b>Totals</b>	<b>33</b>	<b>954</b>	<b>29</b>	<b>0</b>

### East Approach

	Out	In	Total
	281	255	536
	3	4	7
	0	0	0
<b>Totals</b>	<b>284</b>	<b>259</b>	<b>543</b>

### Old School Rd

				Totals
	0	0	0	0
	0	0	65	65
	0	4	138	142
	0	8	85	93

Peds: 0

Peds: 0



Peds: 0

Peds: 1

### Old School Rd

Totals			
0	0	0	0
41	41	0	0
195	193	2	0
48	47	1	0

### West Approach

	Out	In	Total
	288	397	685
	12	5	17
	0	0	0
<b>Totals</b>	<b>300</b>	<b>402</b>	<b>702</b>

Totals				
174	1578	88	0	
	173	1521	88	0
	1	57	0	0
	0	0	0	0

### Hurontario St

### South Approach

	Out	In	Total
	1782	996	2778
	58	99	157
	0	0	0
<b>Totals</b>	<b>1840</b>	<b>1095</b>	<b>2935</b>

- Cars

- Trucks

- Bicycles

### Comments



## Peak Hour Summary

Intersection: Old School Rd & Hurontario St  
 Site Code: 2402100003  
 Count Date: Jan 17, 2024  
 Period: 16:00 - 18:00

### Peak Hour Data (16:00 - 17:00)

Start Time	North Approach Hurontario St						South Approach Hurontario St						East Approach Old School Rd						West Approach Old School Rd						Total Vehicles	
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total		
16:00	5	243	7	0	0	255	39	361	25	0	0	425	9	50	10	0	0	69	15	27	37	0	0	79	828	
16:15	8	237	4	0	0	249	42	421	17	0	0	480	13	52	9	0	0	74	18	38	17	0	0	73	876	
16:30	6	238	11	0	0	255	43	424	20	0	0	487	11	44	14	0	0	69	17	40	19	0	0	76	887	
16:45	10	236	11	0	0	257	50	372	26	0	1	448	15	49	8	0	0	72	15	37	20	0	0	72	849	
<b>Grand Total</b>	<b>29</b>	<b>954</b>	<b>33</b>	<b>0</b>	<b>0</b>	<b>1016</b>	<b>174</b>	<b>1578</b>	<b>88</b>	<b>0</b>	<b>1</b>	<b>1840</b>	<b>48</b>	<b>195</b>	<b>41</b>	<b>0</b>	<b>0</b>	<b>284</b>	<b>65</b>	<b>142</b>	<b>93</b>	<b>0</b>	<b>0</b>	<b>300</b>	<b>3440</b>	
<b>Approach %</b>	2.9	93.9	3.2	0	-	-	9.5	85.8	4.8	0	-	-	16.9	68.7	14.4	0	-	-	21.7	47.3	31	0	-	-	-	
<b>Totals %</b>	0.8	27.7	1	0	29.5	5.1	45.9	2.6	0	53.5	1.4	5.7	1.2	0	8.3	1.9	4.1	2.7	0	8.7						
<b>PHF</b>	<b>0.73</b>	<b>0.98</b>	<b>0.75</b>	<b>0</b>	<b>0.99</b>	<b>0.87</b>	<b>0.93</b>	<b>0.85</b>	<b>0</b>	<b>0.94</b>	<b>0.8</b>	<b>0.94</b>	<b>0.73</b>	<b>0</b>	<b>0.96</b>	<b>0.9</b>	<b>0.89</b>	<b>0.63</b>	<b>0</b>	<b>0.95</b>	<b>0.97</b>					
<b>Cars</b>	29	864	31	0	924	173	1521	88	0	1782	47	193	41	0	281	65	138	85	0	288	3275					
<b>% Cars</b>	100	90.6	93.9	0	90.9	99.4	96.4	100	0	96.8	97.9	99	100	0	98.9	100	97.2	91.4	0	96	95.2					
<b>Trucks</b>	0	90	2	0	92	1	57	0	0	58	1	2	0	0	3	0	4	8	0	12	165					
<b>% Trucks</b>	0	9.4	6.1	0	9.1	0.6	3.6	0	0	3.2	2.1	1	0	0	1.1	0	2.8	8.6	0	4	4.8					
<b>Bicycles</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
<b>% Bicycles</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
<b>Peds</b>					0	-					1	-					0	-					0	-	1	
<b>% Peds</b>					0	-					100	-					0	-					0	-		



## Project #24-021 - GHD

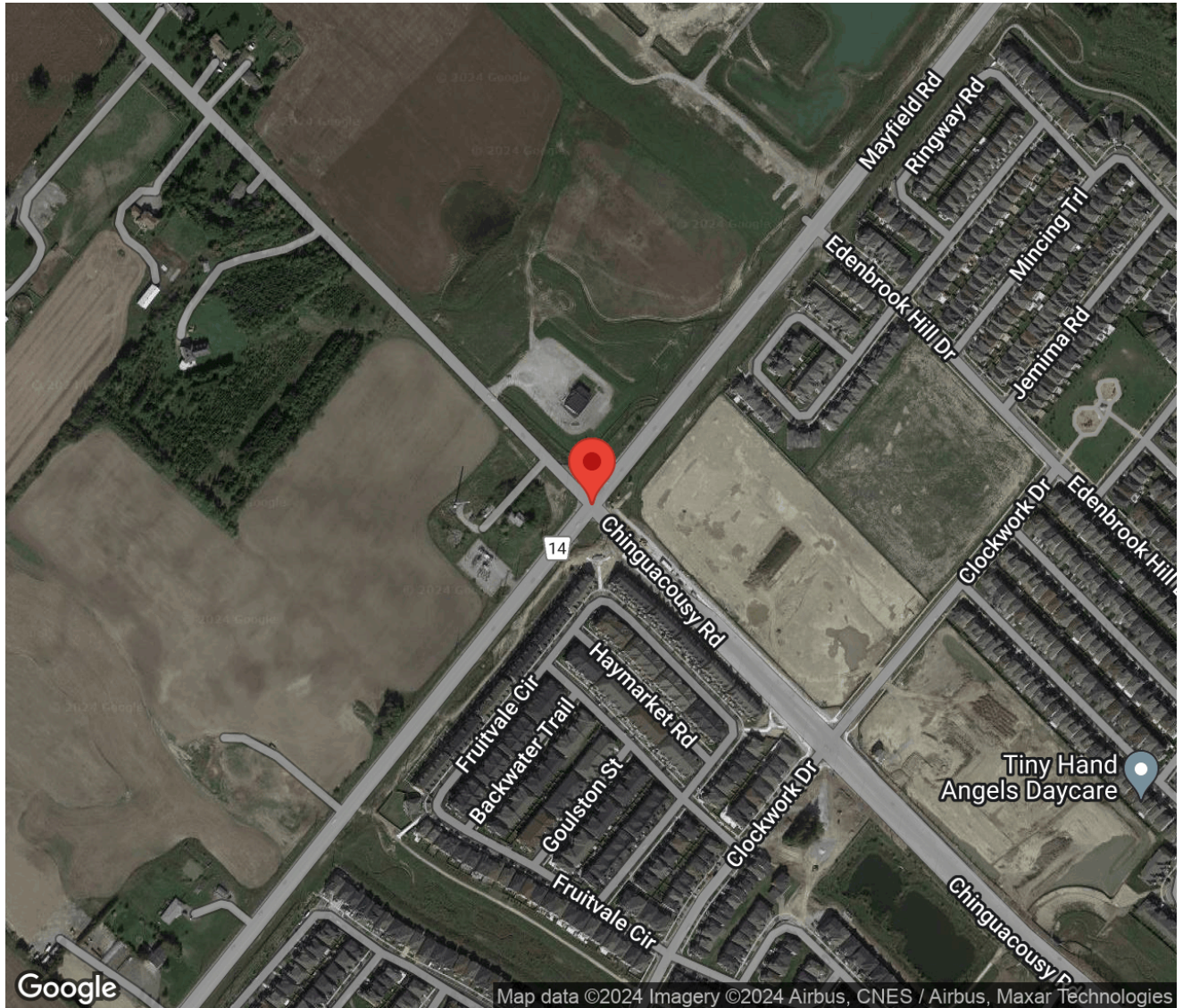
### Intersection Count Report

**Intersection:** Mayfield Rd & Chinguacousy Rd  
**Municipality:** Caledon  
**Count Date:** Wednesday, Jan 17, 2024  
**Site Code:** 2402100004  
**Count Categories:** Cars, Trucks, Bicycles, Pedestrians  
**Count Period:** 07:00-09:00, 16:00-18:00  
**Weather:** Clear  
**Comments:**



## Traffic Count Map

Intersection: Mayfield Rd & Chinguacousy Rd  
Site Code: 2402100004  
Municipality: Caledon  
Count Date: Jan 17, 2024





# Traffic Count Summary

Intersection: Mayfield Rd & Chinguacousy Rd  
 Site Code: 2402100004  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

## Chinguacousy Rd - Traffic Summary

Hour	North Approach Totals						South Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
<b>07:00 - 08:00</b>	8	83	24	0	115	0	22	81	104	0	207	0	322
<b>08:00 - 09:00</b>	10	97	33	0	140	0	46	90	113	0	249	0	389
BREAK													
<b>16:00 - 17:00</b>	9	115	18	0	142	0	26	114	94	0	234	0	376
<b>17:00 - 18:00</b>	15	105	22	0	142	0	30	94	105	0	229	0	371
<b>GRAND TOTAL</b>	<b>42</b>	<b>400</b>	<b>97</b>	<b>0</b>	<b>539</b>	<b>0</b>	<b>124</b>	<b>379</b>	<b>416</b>	<b>0</b>	<b>919</b>	<b>0</b>	<b>1458</b>





## Traffic Count Summary

Intersection: Mayfield Rd & Chinguacousy Rd  
 Site Code: 2402100004  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### Mayfield Rd - Traffic Summary

Hour	East Approach Totals						West Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
<b>07:00 - 08:00</b>	83	470	5	0	558	0	19	562	28	0	609	0	1167
<b>08:00 - 09:00</b>	105	514	13	0	632	0	25	539	38	0	602	0	1234
BREAK													
<b>16:00 - 17:00</b>	156	563	11	0	730	0	30	583	37	0	650	1	1380
<b>17:00 - 18:00</b>	162	585	7	0	754	0	33	571	40	0	644	1	1398
<b>GRAND TOTAL</b>	<b>506</b>	<b>2132</b>	<b>36</b>	<b>0</b>	<b>2674</b>	<b>0</b>	<b>107</b>	<b>2255</b>	<b>143</b>	<b>0</b>	<b>2505</b>	<b>2</b>	<b>5179</b>



## Traffic Count Data

Intersection: Mayfield Rd & Chinguacousy Rd  
 Site Code: 2402100004  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### North Approach - Chinguacousy Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	1	7	4	0	12	0	1	2	0	3	0	0	0	0	0	0
07:15	2	22	4	0	28	0	0	0	0	0	0	0	0	0	0	0
07:30	2	24	8	0	34	0	0	0	0	0	0	0	0	0	0	0
07:45	2	28	6	0	36	1	1	0	0	2	0	0	0	0	0	0
08:00	1	28	7	0	36	1	2	0	0	3	0	0	0	0	0	0
08:15	1	24	8	0	33	0	1	0	0	1	0	0	0	0	0	0
08:30	2	19	5	0	26	0	0	0	0	0	0	0	0	0	0	0
08:45	5	23	10	0	38	0	0	3	0	3	0	0	0	0	0	0
<b>SUBTOTAL</b>	16	175	52	0	243	2	5	5	0	12	0	0	0	0	0	0



## Traffic Count Data

Intersection: Mayfield Rd & Chinguacousy Rd  
 Site Code: 2402100004  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### North Approach - Chinguacousy Rd

Start Time	Cars					Trucks					Bicycles					Total Peds	
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total		
16:00	3	29	4	0	36	0	0	0	0	0	0	0	0	0	0	0	0
16:15	3	30	9	0	42	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	27	2	0	29	1	0	1	0	2	0	0	0	0	0	0	0
16:45	2	29	2	0	33	0	0	0	0	0	0	0	0	0	0	0	0
17:00	4	20	6	0	30	0	0	1	0	1	0	0	0	0	0	0	0
17:15	5	27	7	0	39	0	1	1	0	2	0	0	0	0	0	0	0
17:30	2	31	5	0	38	0	0	0	0	0	0	0	0	0	0	0	0
17:45	4	26	2	0	32	0	0	0	0	0	0	0	0	0	0	0	0
<b>SUBTOTAL</b>	23	219	37	0	279	1	1	3	0	5	0	0	0	0	0	0	0
<b>GRAND TOTAL</b>	39	394	89	0	522	3	6	8	0	17	0	0	0	0	0	0	0



## Traffic Count Data

Intersection: Mayfield Rd & Chinguacousy Rd  
 Site Code: 2402100004  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### South Approach - Chinguacousy Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	6	14	28	0	48	0	2	2	0	4	0	0	0	0	0	0
07:15	5	18	19	0	42	0	1	0	0	1	0	0	0	0	0	0
07:30	5	20	34	0	59	0	2	0	0	2	0	0	0	0	0	0
07:45	5	24	21	0	50	1	0	0	0	1	0	0	0	0	0	0
08:00	4	21	22	0	47	1	0	2	0	3	0	0	0	0	0	0
08:15	6	32	37	0	75	0	2	1	0	3	0	0	0	0	0	0
08:30	11	15	21	0	47	1	0	4	0	5	0	0	0	0	0	0
08:45	19	19	24	0	62	4	1	2	0	7	0	0	0	0	0	0
<b>SUBTOTAL</b>	61	163	206	0	430	7	8	11	0	26	0	0	0	0	0	0



## Traffic Count Data

Intersection: Mayfield Rd & Chinguacousy Rd  
 Site Code: 2402100004  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### South Approach - Chinguacousy Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	7	26	21	0	54	1	0	2	0	3	0	0	0	0	0	0
16:15	6	25	15	0	46	1	3	1	0	5	0	0	0	0	0	0
16:30	5	34	27	0	66	0	1	2	0	3	0	0	0	0	0	0
16:45	6	25	26	0	57	0	0	0	0	0	0	0	0	0	0	0
17:00	7	26	23	0	56	0	0	2	0	2	0	0	0	0	0	0
17:15	8	20	26	0	54	0	1	1	0	2	0	0	0	0	0	0
17:30	9	25	28	0	62	0	0	2	0	2	0	0	0	0	0	0
17:45	6	19	23	0	48	0	3	0	0	3	0	0	0	0	0	0
<b>SUBTOTAL</b>	54	200	189	0	443	2	8	10	0	20	0	0	0	0	0	0
<b>GRAND TOTAL</b>	115	363	395	0	873	9	16	21	0	46	0	0	0	0	0	0



## Traffic Count Data

Intersection: Mayfield Rd & Chinguacousy Rd  
 Site Code: 2402100004  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### East Approach - Mayfield Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	14	81	1	0	96	3	13	1	0	17	0	0	0	0	0	0
07:15	17	99	0	0	116	2	13	1	0	16	0	0	0	0	0	0
07:30	23	122	0	0	145	1	13	0	0	14	0	0	0	0	0	0
07:45	18	124	2	0	144	5	5	0	0	10	0	0	0	0	0	0
08:00	24	124	1	0	149	3	6	0	0	9	0	0	0	0	0	0
08:15	28	114	2	0	144	1	2	1	0	4	0	0	0	0	0	0
08:30	22	127	1	0	150	0	9	1	0	10	0	0	0	0	0	0
08:45	27	114	5	0	146	0	18	2	0	20	0	0	0	0	0	0
<b>SUBTOTAL</b>	173	905	12	0	1090	15	79	6	0	100	0	0	0	0	0	0





## Traffic Count Data

Intersection: Mayfield Rd & Chinguacousy Rd  
 Site Code: 2402100004  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### West Approach - Mayfield Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	1	135	4	0	140	0	2	0	0	2	0	0	0	0	0	0
07:15	3	123	5	0	131	0	4	0	0	4	0	0	0	0	0	0
07:30	6	141	11	0	158	0	4	0	0	4	0	0	0	0	0	0
07:45	9	146	8	0	163	0	7	0	0	7	0	0	0	0	0	0
08:00	7	125	12	0	144	0	21	0	0	21	0	0	0	0	0	0
08:15	5	129	11	0	145	0	10	2	0	12	0	0	0	0	0	0
08:30	4	115	7	0	126	1	10	1	0	12	0	0	0	0	0	0
08:45	8	113	5	0	126	0	16	0	0	16	0	0	0	0	0	0
<b>SUBTOTAL</b>	43	1027	63	0	1133	1	74	3	0	78	0	0	0	0	0	0





## Traffic Count Data

Intersection: Mayfield Rd & Chinguacousy Rd  
 Site Code: 2402100004  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### West Approach - Mayfield Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	7	113	4	0	124	1	14	1	0	16	0	0	0	0	0	1
16:15	5	137	14	0	156	2	10	1	0	13	0	0	0	0	0	0
16:30	9	151	5	0	165	1	10	0	0	11	0	0	0	0	0	0
16:45	5	145	12	0	162	0	3	0	0	3	0	0	0	0	0	0
17:00	6	142	12	0	160	0	2	0	0	2	0	0	0	0	0	0
17:15	12	139	10	0	161	0	4	1	0	5	0	0	0	0	0	0
17:30	8	164	10	0	182	0	6	0	0	6	0	0	0	0	0	1
17:45	7	113	7	0	127	0	1	0	0	1	0	0	0	0	0	0
<b>SUBTOTAL</b>	59	1104	74	0	1237	4	50	3	0	57	0	0	0	0	0	2
<b>GRAND TOTAL</b>	102	2131	137	0	2370	5	124	6	0	135	0	0	0	0	0	2

## Peak Hour Diagram

### Specified Period

From: 07:00:00  
To: 09:00:00

### One Hour Peak

From: 07:30:00  
To: 08:30:00

**Intersection:** Mayfield Rd & Chinguacousy Rd  
**Site Code:** 2402100004  
**Count Date:** Jan 17, 2024

**Weather conditions:** Clear

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

**Major Road:** Mayfield Rd runs E/W

### North Approach

	Out	In	Total
	139	129	268
	6	5	11
	0	0	0
<b>Totals</b>	<b>145</b>	<b>134</b>	<b>279</b>

### Chinguacousy Rd

	0	0	0	0
	0	4	2	0
	29	104	6	0
<b>Totals</b>	<b>29</b>	<b>108</b>	<b>8</b>	<b>0</b>

### East Approach

	Out	In	Total
	582	661	1243
	37	47	84
	0	0	0
<b>Totals</b>	<b>619</b>	<b>708</b>	<b>1327</b>

### Mayfield Rd

				Totals
	0	0	0	<b>0</b>
	0	0	27	<b>27</b>
	0	42	541	<b>583</b>
	0	2	42	<b>44</b>

Peds: 0

Peds: 0



Peds: 0

Peds: 0

### Mayfield Rd

Totals			
	0	0	0
	6	5	1
	510	484	26
	103	93	10

### West Approach

	Out	In	Total
	610	533	1143
	44	28	72
	0	0	0
<b>Totals</b>	<b>654</b>	<b>561</b>	<b>1215</b>

Totals				
	22	101	117	0
	2	4	3	0
	0	0	0	0

### Chinguacousy Rd

### South Approach

	Out	In	Total
	231	239	470
	9	16	25
	0	0	0
<b>Totals</b>	<b>240</b>	<b>255</b>	<b>495</b>

- Cars

- Trucks

- Bicycles

### Comments



## Peak Hour Summary

Intersection: Mayfield Rd & Chinguacousy Rd  
 Site Code: 2402100004  
 Count Date: Jan 17, 2024  
 Period: 07:00 - 09:00

### Peak Hour Data (07:30 - 08:30)

Start Time	North Approach Chinguacousy Rd						South Approach Chinguacousy Rd						East Approach Mayfield Rd						West Approach Mayfield Rd						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
07:30	2	24	8	0	0	34	5	22	34	0	0	61	24	135	0	0	0	159	6	145	11	0	0	162	416
07:45	3	29	6	0	0	38	6	24	21	0	0	51	23	129	2	0	0	154	9	153	8	0	0	170	413
08:00	2	30	7	0	0	39	5	21	24	0	0	50	27	130	1	0	0	158	7	146	12	0	0	165	412
08:15	1	25	8	0	0	34	6	34	38	0	0	78	29	116	3	0	0	148	5	139	13	0	0	157	417
<b>Grand Total</b>	<b>8</b>	<b>108</b>	<b>29</b>	<b>0</b>	<b>0</b>	<b>145</b>	<b>22</b>	<b>101</b>	<b>117</b>	<b>0</b>	<b>0</b>	<b>240</b>	<b>103</b>	<b>510</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>619</b>	<b>27</b>	<b>583</b>	<b>44</b>	<b>0</b>	<b>0</b>	<b>654</b>	<b>1658</b>
Approach %	5.5	74.5	20	0	-	-	9.2	42.1	48.8	0	-	-	16.6	82.4	1	0	-	4.1	89.1	6.7	0	-	-		
Totals %	0.5	6.5	1.7	0	8.7	14.5	1.3	6.1	7.1	0	14.5	6.2	30.8	0.4	0	37.3	1.6	35.2	2.7	0	39.4				
<b>PHF</b>	<b>0.67</b>	<b>0.9</b>	<b>0.91</b>	<b>0</b>	<b>0.93</b>	<b>0.77</b>	<b>0.92</b>	<b>0.74</b>	<b>0.77</b>	<b>0</b>	<b>0.77</b>	<b>0.89</b>	<b>0.94</b>	<b>0.5</b>	<b>0</b>	<b>0.97</b>	<b>0.75</b>	<b>0.95</b>	<b>0.85</b>	<b>0</b>	<b>0.96</b>	<b>0.99</b>			
<b>Cars</b>	6	104	29	0	139	231	20	97	114	0	231	93	484	5	0	582	27	541	42	0	610	1562			
<b>% Cars</b>	75	96.3	100	0	95.9	96.3	90.9	96	97.4	0	96.3	90.3	94.9	83.3	0	94	100	92.8	95.5	0	93.3	94.2			
<b>Trucks</b>	2	4	0	0	6	9	2	4	3	0	9	10	26	1	0	37	0	42	2	0	44	96			
<b>% Trucks</b>	25	3.7	0	0	4.1	3.8	9.1	4	2.6	0	3.8	9.7	5.1	16.7	0	6	0	7.2	4.5	0	6.7	5.8			
<b>Bicycles</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
<b>% Bicycles</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
<b>Peds</b>					0	-					0	-					0	-					0	-	
<b>% Peds</b>					0	-					0	-					0	-					0	-	

## Peak Hour Diagram

### Specified Period

From: 16:00:00  
To: 18:00:00

### One Hour Peak

From: 16:45:00  
To: 17:45:00

**Intersection:** Mayfield Rd & Chinguacousy Rd  
**Site Code:** 2402100004  
**Count Date:** Jan 17, 2024

**Weather conditions:** Clear

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

**Major Road:** Mayfield Rd runs E/W

### North Approach

	Out	In	Total
	140	136	276
	3	1	4
	0	0	0
<b>Totals</b>	<b>143</b>	<b>137</b>	<b>280</b>

### Chinguacousy Rd

	0	0	0	0
	2	1	0	0
	20	107	13	0
<b>Totals</b>	<b>22</b>	<b>108</b>	<b>13</b>	<b>0</b>

### East Approach

	Out	In	Total
	723	706	1429
	17	20	37
	0	0	0
<b>Totals</b>	<b>740</b>	<b>726</b>	<b>1466</b>

### Mayfield Rd

				Totals
	0	0	0	0
	0	0	31	31
	0	15	590	605
	0	1	44	45

Peds: 0

Peds: 1



Peds: 0

Peds: 0

### Mayfield Rd

Totals			
	0	0	0
	9	9	0
	577	560	17
	154	154	0

### West Approach

	Out	In	Total
	665	610	1275
	16	19	35
	0	0	0
<b>Totals</b>	<b>681</b>	<b>629</b>	<b>1310</b>

Totals				
	30	96	103	0
	0	1	5	0
	0	0	0	0

### Chinguacousy Rd

### South Approach

	Out	In	Total
	229	305	534
	6	2	8
	0	0	0
<b>Totals</b>	<b>235</b>	<b>307</b>	<b>542</b>

- Cars

- Trucks

- Bicycles

### Comments



## Peak Hour Summary

Intersection: Mayfield Rd & Chinguacousy Rd  
 Site Code: 2402100004  
 Count Date: Jan 17, 2024  
 Period: 16:00 - 18:00

### Peak Hour Data (16:45 - 17:45)

Start Time	North Approach Chinguacousy Rd						South Approach Chinguacousy Rd						East Approach Mayfield Rd						West Approach Mayfield Rd						Total Vehic es	
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total		
16:45	2	29	2	0	0	33	6	25	26	0	0	57	37	131	3	0	0	171	5	148	12	0	0	165	426	
17:00	4	20	7	0	0	31	7	26	25	0	0	58	44	144	1	0	0	189	6	144	12	0	0	162	440	
17:15	5	28	8	0	0	41	8	21	27	0	0	56	33	146	3	0	0	182	12	143	11	0	0	166	445	
17:30	2	31	5	0	0	38	9	25	30	0	0	64	40	156	2	0	0	198	8	170	10	0	1	188	488	
<b>Grand Total</b>	<b>13</b>	<b>108</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>143</b>	<b>30</b>	<b>97</b>	<b>108</b>	<b>0</b>	<b>0</b>	<b>235</b>	<b>154</b>	<b>577</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>740</b>	<b>31</b>	<b>605</b>	<b>45</b>	<b>0</b>	<b>1</b>	<b>681</b>	<b>1799</b>	
Approach %	9.1	75.5	15.4	0	-	-	12.8	41.3	46	0	-	-	20.8	78	1.2	0	-	-	4.6	88.8	6.6	0	-	-		
Totals %	0.7	6	1.2	0	-	7.9	1.7	5.4	6	0	-	13.1	8.6	32.1	0.5	0	-	41.1	1.7	33.6	2.5	0	-	-	37.9	
<b>PHF</b>	<b>0.65</b>	<b>0.87</b>	<b>0.69</b>	<b>0</b>	-	<b>0.87</b>	<b>0.83</b>	<b>0.93</b>	<b>0.9</b>	<b>0</b>	-	<b>0.92</b>	<b>0.88</b>	<b>0.92</b>	<b>0.75</b>	<b>0</b>	-	<b>0.93</b>	<b>0.65</b>	<b>0.89</b>	<b>0.94</b>	<b>0</b>	-	-	<b>0.91</b>	<b>0.92</b>
<b>Cars</b>	13	107	20	0	-	140	30	96	103	0	-	229	154	560	9	0	-	723	31	590	44	0	-	-	665	1757
<b>% Cars</b>	100	99.1	90.9	0	-	97.9	100	99	95.4	0	-	97.4	100	97.1	100	0	-	97.7	100	97.5	97.8	0	-	-	97.7	97.7
<b>Trucks</b>	0	1	2	0	-	3	0	1	5	0	-	6	0	17	0	0	-	17	0	15	1	0	-	-	16	42
<b>% Trucks</b>	0	0.9	9.1	0	-	2.1	0	1	4.6	0	-	2.6	0	2.9	0	0	-	2.3	0	2.5	2.2	0	-	-	2.3	2.3
<b>Bicycles</b>	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-	0	0
<b>% Bicycles</b>	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-	0	0
<b>Peds</b>	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	1
<b>% Peds</b>	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	100	-	-	-



## Project #24-021 - GHD

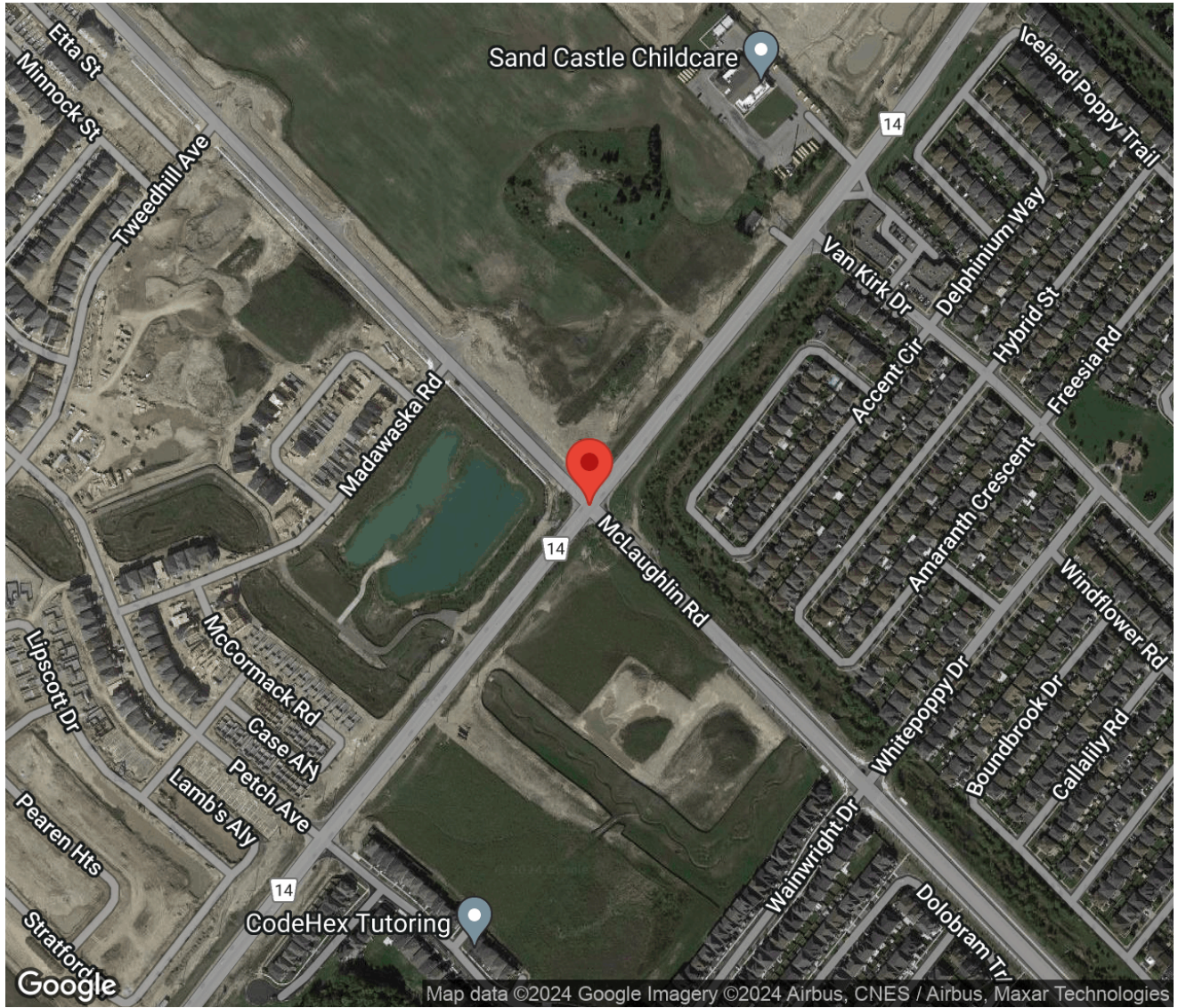
### Intersection Count Report

**Intersection:** Mayfield Rd & McLaughlin Rd  
**Municipality:** Caledon  
**Count Date:** Wednesday, Jan 17, 2024  
**Site Code:** 2402100005  
**Count Categories:** Cars, Trucks, Bicycles, Pedestrians  
**Count Period:** 07:00-09:00, 16:00-18:00  
**Weather:** Clear  
**Comments:**



## Traffic Count Map

Intersection: Mayfield Rd & McLaughlin Rd  
Site Code: 2402100005  
Municipality: Caledon  
Count Date: Jan 17, 2024





## Traffic Count Summary

Intersection: Mayfield Rd & McLaughlin Rd  
 Site Code: 2402100005  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### McLaughlin Rd - Traffic Summary

Hour	North Approach Totals						South Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
<b>07:00 - 08:00</b>	117	167	19	0	303	0	35	80	90	0	205	0	508
<b>08:00 - 09:00</b>	94	170	27	0	291	0	38	102	94	0	234	0	525
BREAK													
<b>16:00 - 17:00</b>	108	135	19	0	262	0	62	176	105	0	343	2	605
<b>17:00 - 18:00</b>	80	132	22	0	234	0	48	165	93	0	306	0	540
<b>GRAND TOTAL</b>	<b>399</b>	<b>604</b>	<b>87</b>	<b>0</b>	<b>1090</b>	<b>0</b>	<b>183</b>	<b>523</b>	<b>382</b>	<b>0</b>	<b>1088</b>	<b>2</b>	<b>2178</b>



## Traffic Count Summary

Intersection: Mayfield Rd & McLaughlin Rd  
 Site Code: 2402100005  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### Mayfield Rd - Traffic Summary

Hour	East Approach Totals						West Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
<b>07:00 - 08:00</b>	85	549	63	0	697	0	8	685	51	0	744	2	1441
<b>08:00 - 09:00</b>	104	598	60	0	762	0	15	640	61	0	716	1	1478
BREAK													
<b>16:00 - 17:00</b>	105	744	79	0	928	0	13	632	35	0	680	0	1608
<b>17:00 - 18:00</b>	97	780	60	0	937	0	16	678	45	0	739	0	1676
<b>GRAND TOTAL</b>	<b>391</b>	<b>2671</b>	<b>262</b>	<b>0</b>	<b>3324</b>	<b>0</b>	<b>52</b>	<b>2635</b>	<b>192</b>	<b>0</b>	<b>2879</b>	<b>3</b>	<b>6203</b>



## Traffic Count Data

Intersection: Mayfield Rd & McLaughlin Rd  
 Site Code: 2402100005  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### North Approach - McLaughlin Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	28	27	2	0	57	2	2	1	0	5	0	0	0	0	0	0
07:15	24	33	3	0	60	0	4	2	0	6	0	0	0	0	0	0
07:30	36	50	4	0	90	4	1	0	0	5	0	1	0	0	1	0
07:45	22	49	5	0	76	1	0	2	0	3	0	0	0	0	0	0
08:00	22	52	4	0	78	2	0	0	0	2	0	0	0	0	0	0
08:15	25	49	6	0	80	2	3	0	0	5	0	0	0	0	0	0
08:30	22	38	7	0	67	2	0	2	0	4	0	0	0	0	0	0
08:45	18	28	6	0	52	1	0	2	0	3	0	0	0	0	0	0
<b>SUBTOTAL</b>	197	326	37	0	560	14	10	9	0	33	0	1	0	0	1	0



## Traffic Count Data

Intersection: Mayfield Rd & McLaughlin Rd  
 Site Code: 2402100005  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### North Approach - McLaughlin Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	26	32	3	0	61	3	0	2	0	5	0	0	0	0	0	0
16:15	24	31	4	0	59	3	1	0	0	4	0	0	0	0	0	0
16:30	27	34	6	0	67	0	1	0	0	1	0	0	0	0	0	0
16:45	23	34	4	0	61	2	2	0	0	4	0	0	0	0	0	0
17:00	23	33	5	0	61	1	0	0	0	1	0	0	0	0	0	0
17:15	23	33	5	0	61	2	1	1	0	4	0	0	0	0	0	0
17:30	14	37	7	0	58	1	0	0	0	1	0	0	0	0	0	0
17:45	16	28	4	0	48	0	0	0	0	0	0	0	0	0	0	0
<b>SUBTOTAL</b>	176	262	38	0	476	12	5	3	0	20	0	0	0	0	0	0
<b>GRAND TOTAL</b>	<b>373</b>	<b>588</b>	<b>75</b>	<b>0</b>	<b>1036</b>	<b>26</b>	<b>15</b>	<b>12</b>	<b>0</b>	<b>53</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>



## Traffic Count Data

Intersection: Mayfield Rd & McLaughlin Rd  
 Site Code: 2402100005  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### South Approach - McLaughlin Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	9	19	19	0	47	0	1	0	0	1	0	0	0	0	0	0
07:15	9	11	30	0	50	0	1	3	0	4	0	0	0	0	0	0
07:30	8	19	19	0	46	2	0	0	0	2	0	0	0	0	0	0
07:45	7	29	19	0	55	0	0	0	0	0	0	0	0	0	0	0
08:00	4	33	23	0	60	0	0	2	0	2	0	0	0	0	0	0
08:15	6	23	17	0	46	1	2	1	0	4	0	0	0	0	0	0
08:30	8	24	19	0	51	1	2	2	0	5	0	0	0	0	0	0
08:45	12	17	28	0	57	6	1	2	0	9	0	0	0	0	0	0
<b>SUBTOTAL</b>	63	175	174	0	412	10	7	10	0	27	0	0	0	0	0	0



## Traffic Count Data

Intersection: Mayfield Rd & McLaughlin Rd  
 Site Code: 2402100005  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### South Approach - McLaughlin Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	14	45	32	0	91	0	1	4	0	5	0	0	0	0	0	2
16:15	13	34	16	0	63	1	0	1	0	2	0	0	0	0	0	0
16:30	18	54	27	0	99	0	0	1	0	1	0	0	0	0	0	0
16:45	16	42	23	0	81	0	0	1	0	1	0	0	0	0	0	0
17:00	9	43	18	0	70	0	2	1	0	3	0	0	0	0	0	0
17:15	15	44	25	0	84	0	0	0	0	0	0	0	0	0	0	0
17:30	12	36	23	0	71	0	0	0	0	0	0	0	0	0	0	0
17:45	12	40	26	0	78	0	0	0	0	0	0	0	0	0	0	0
<b>SUBTOTAL</b>	109	338	190	0	637	1	3	8	0	12	0	0	0	0	0	2
<b>GRAND TOTAL</b>	172	513	364	0	1049	11	10	18	0	39	0	0	0	0	0	2



## Traffic Count Data

Intersection: Mayfield Rd & McLaughlin Rd  
 Site Code: 2402100005  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### East Approach - Mayfield Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	14	95	8	0	117	0	19	4	0	23	0	0	0	0	0	0
07:15	19	122	16	0	157	1	15	3	0	19	0	0	0	0	0	0
07:30	26	135	15	0	176	3	15	3	0	21	0	0	0	0	0	0
07:45	22	137	11	0	170	0	11	3	0	14	0	0	0	0	0	0
08:00	26	143	11	0	180	3	9	0	0	12	0	0	0	0	0	0
08:15	26	144	15	0	185	1	3	0	0	4	0	0	0	0	0	0
08:30	23	141	15	0	179	2	8	1	0	11	0	0	0	0	0	0
08:45	23	137	18	0	178	0	13	0	0	13	0	0	0	0	0	0
<b>SUBTOTAL</b>	179	1054	109	0	1342	10	93	14	0	117	0	0	0	0	0	0





## Traffic Count Data

Intersection: Mayfield Rd & McLaughlin Rd  
 Site Code: 2402100005  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### West Approach - Mayfield Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	0	164	11	0	175	0	4	0	0	4	0	0	0	0	0	1
07:15	2	159	9	0	170	1	6	0	0	7	0	0	0	0	0	1
07:30	4	159	11	0	174	0	3	0	0	3	0	0	0	0	0	0
07:45	1	184	20	0	205	0	6	0	0	6	0	0	0	0	0	0
08:00	3	138	12	0	153	0	21	0	0	21	0	0	0	0	0	0
08:15	3	162	17	0	182	0	10	1	0	11	0	0	0	0	0	0
08:30	5	137	18	0	160	2	7	2	0	11	0	0	0	0	0	1
08:45	2	147	10	0	159	0	18	1	0	19	0	0	0	0	0	0
<b>SUBTOTAL</b>	20	1250	108	0	1378	3	75	4	0	82	0	0	0	0	0	3





## Traffic Count Data

Intersection: Mayfield Rd & McLaughlin Rd  
 Site Code: 2402100005  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### West Approach - Mayfield Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	0	124	10	0	134	0	12	0	0	12	0	0	0	0	0	0
16:15	3	154	10	0	167	0	14	0	0	14	0	0	0	0	0	0
16:30	6	164	8	0	178	1	8	0	0	9	0	0	0	0	0	0
16:45	3	151	7	0	161	0	5	0	0	5	0	0	0	0	0	0
17:00	6	155	8	0	169	0	6	1	0	7	0	0	0	0	0	0
17:15	4	180	14	0	198	0	4	0	0	4	0	0	0	0	0	0
17:30	3	160	10	0	173	0	7	0	0	7	0	0	0	0	0	0
17:45	2	161	12	0	175	1	5	0	0	6	0	0	0	0	0	0
<b>SUBTOTAL</b>	27	1249	79	0	1355	2	61	1	0	64	0	0	0	0	0	0
<b>GRAND TOTAL</b>	47	2499	187	0	2733	5	136	5	0	146	0	0	0	0	0	3

## Peak Hour Diagram

### Specified Period

From: 07:00:00  
To: 09:00:00

### One Hour Peak

From: 07:30:00  
To: 08:30:00

**Intersection:** Mayfield Rd & McLaughlin Rd  
**Site Code:** 2402100005  
**Count Date:** Jan 17, 2024

**Weather conditions:** Clear

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

**Major Road:** Mayfield Rd runs E/W

### North Approach

	Out	In	Total
	324	167	491
	15	8	23
	1	0	1
<b>Totals</b>	<b>340</b>	<b>175</b>	<b>515</b>

### McLaughlin Rd

	0	1	0	0
	2	4	9	0
	19	200	105	0
<b>Totals</b>	<b>21</b>	<b>205</b>	<b>114</b>	<b>0</b>

### East Approach

	Out	In	Total
	711	826	1537
	51	52	103
	0	0	0
<b>Totals</b>	<b>762</b>	<b>878</b>	<b>1640</b>

### Mayfield Rd

				Totals
	0	0	0	<b>0</b>
	0	0	11	<b>11</b>
	0	40	643	<b>683</b>
	0	1	60	<b>61</b>

Peds: 0

Peds: 0



Peds: 0

Peds: 0

### Mayfield Rd

Totals			
<b>0</b>	0	0	0
<b>58</b>	52	6	0
<b>597</b>	559	38	0
<b>107</b>	100	7	0

### West Approach

	Out	In	Total
	714	603	1317
	41	43	84
	0	0	0
<b>Totals</b>	<b>755</b>	<b>646</b>	<b>1401</b>

Totals				
<b>28</b>	25	104	78	0
<b>3</b>	3	2	3	0
<b>0</b>	0	0	0	0

### McLaughlin Rd

### South Approach

	Out	In	Total
	207	360	567
	8	12	20
	0	1	1
<b>Totals</b>	<b>215</b>	<b>373</b>	<b>588</b>

- Cars

- Trucks

- Bicycles

### Comments



## Peak Hour Summary

Intersection: Mayfield Rd & McLaughlin Rd  
 Site Code: 2402100005  
 Count Date: Jan 17, 2024  
 Period: 07:00 - 09:00

### Peak Hour Data (07:30 - 08:30)

Start Time	North Approach McLaughlin Rd						South Approach McLaughlin Rd						East Approach Mayfield Rd						West Approach Mayfield Rd						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
07:30	40	52	4	0	0	96	10	19	19	0	0	48	29	150	18	0	0	197	4	162	11	0	0	177	518
07:45	23	49	7	0	0	79	7	29	19	0	0	55	22	148	14	0	0	184	1	190	20	0	0	211	529
08:00	24	52	4	0	0	80	4	33	25	0	0	62	29	152	11	0	0	192	3	159	12	0	0	174	508
08:15	27	52	6	0	0	85	7	25	18	0	0	50	27	147	15	0	0	189	3	172	18	0	0	193	517
<b>Grand Total</b>	<b>114</b>	<b>205</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>340</b>	<b>28</b>	<b>106</b>	<b>81</b>	<b>0</b>	<b>0</b>	<b>215</b>	<b>107</b>	<b>597</b>	<b>58</b>	<b>0</b>	<b>0</b>	<b>762</b>	<b>11</b>	<b>683</b>	<b>61</b>	<b>0</b>	<b>0</b>	<b>755</b>	<b>2072</b>
Approach %	33.5	60.3	6.2	0	-	-	13	49.3	37.7	0	-	-	14	78.3	7.6	0	-	-	1.5	90.5	8.1	0	-	-	-
Totals %	5.5	9.9	1	0	16.4	10.4	1.4	5.1	3.9	0	10.4	5.2	28.8	2.8	0	36.8	0.5	33	2.9	0	36.4				
<b>PHF</b>	<b>0.71</b>	<b>0.99</b>	<b>0.75</b>	<b>0</b>	<b>0.89</b>	<b>0.87</b>	<b>0.7</b>	<b>0.8</b>	<b>0.81</b>	<b>0</b>	<b>0.87</b>	<b>0.92</b>	<b>0.98</b>	<b>0.81</b>	<b>0</b>	<b>0.97</b>	<b>0.69</b>	<b>0.9</b>	<b>0.76</b>	<b>0</b>	<b>0.89</b>	<b>0.98</b>			
Cars	105	200	19	0	324	207	25	104	78	0	207	711	100	559	52	0	711	714	11	643	60	0	714	1956	
% Cars	92.1	97.6	90.5	0	95.3	96.3	89.3	98.1	96.3	0	96.3	93.3	93.5	93.6	89.7	0	93.3	94.6	100	94.1	98.4	0	94.6	94.4	
Trucks	9	4	2	0	15	8	3	2	3	0	8	51	7	38	6	0	51	41	0	40	1	0	41	115	
% Trucks	7.9	2	9.5	0	4.4	3.7	10.7	1.9	3.7	0	3.7	6.7	6.5	6.4	10.3	0	6.7	5.4	0	5.9	1.6	0	5.4	5.6	
Bicycles	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
% Bicycles	0	0.5	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Peds					0	-					0	-					0	-					0	-	0
% Peds					0	-					0	-					0	-					0	-	0

## Peak Hour Diagram

### Specified Period

From: 16:00:00  
To: 18:00:00

### One Hour Peak

From: 16:30:00  
To: 17:30:00

**Intersection:** Mayfield Rd & McLaughlin Rd  
**Site Code:** 2402100005  
**Count Date:** Jan 17, 2024

**Weather conditions:** Clear

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

**Major Road:** Mayfield Rd runs E/W

### North Approach

	Out	In	Total
	250	270	520
	10	3	13
	0	0	0
<b>Totals</b>	<b>260</b>	<b>273</b>	<b>533</b>

### McLaughlin Rd

	0	0	0	0
	1	4	5	0
	20	134	96	0
<b>Totals</b>	<b>21</b>	<b>138</b>	<b>101</b>	<b>0</b>

### East Approach

	Out	In	Total
	869	839	1708
	43	31	74
	0	0	0
<b>Totals</b>	<b>912</b>	<b>870</b>	<b>1782</b>

### Mayfield Rd

				Totals
	0	0	0	<b>0</b>
	0	1	19	<b>20</b>
	0	23	650	<b>673</b>
	0	1	37	<b>38</b>

Peds: 0

Peds: 0



Peds: 0

Peds: 0

### Mayfield Rd

Totals			
<b>0</b>	0	0	0
<b>68</b>	68	0	0
<b>748</b>	709	39	0
<b>96</b>	92	4	0

### West Approach

	Out	In	Total
	706	787	1493
	25	40	65
	0	0	0
<b>Totals</b>	<b>731</b>	<b>827</b>	<b>1558</b>

Totals				
<b>58</b>	58	183	93	0
<b>0</b>	0	2	3	0
<b>0</b>	0	0	0	0

### McLaughlin Rd

### South Approach

	Out	In	Total
	334	263	597
	5	9	14
	0	0	0
<b>Totals</b>	<b>339</b>	<b>272</b>	<b>611</b>

- Cars

- Trucks

- Bicycles

### Comments



## Peak Hour Summary

Intersection: Mayfield Rd & McLaughlin Rd  
 Site Code: 2402100005  
 Count Date: Jan 17, 2024  
 Period: 16:00 - 18:00

### Peak Hour Data (16:30 - 17:30)

Start Time	North Approach McLaughlin Rd						South Approach McLaughlin Rd						East Approach Mayfield Rd						West Approach Mayfield Rd						Total Vehic es
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
16:30	27	35	6	0	0	68	18	54	28	0	0	100	24	184	19	0	0	227	7	172	8	0	0	187	582
16:45	25	36	4	0	0	65	16	42	24	0	0	82	26	188	21	0	0	235	3	156	7	0	0	166	548
17:00	24	33	5	0	0	62	9	45	19	0	0	73	23	186	13	0	0	222	6	161	9	0	0	176	533
17:15	25	34	6	0	0	65	15	44	25	0	0	84	23	190	15	0	0	228	4	184	14	0	0	202	579
<b>Grand Total</b>	<b>101</b>	<b>138</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>260</b>	<b>58</b>	<b>185</b>	<b>96</b>	<b>0</b>	<b>0</b>	<b>339</b>	<b>96</b>	<b>748</b>	<b>68</b>	<b>0</b>	<b>0</b>	<b>912</b>	<b>20</b>	<b>673</b>	<b>38</b>	<b>0</b>	<b>0</b>	<b>731</b>	<b>2242</b>
<b>Approach %</b>	38.8	53.1	8.1	0	-	-	17.1	54.6	28.3	0	-	-	10.5	82	7.5	0	-	-	2.7	92.1	5.2	0	-	-	-
<b>Totals %</b>	4.5	6.2	0.9	0	11.6	-	2.6	8.3	4.3	0	15.1	-	4.3	33.4	3	0	40.7	-	0.9	30	1.7	0	-	32.6	-
<b>PHF</b>	<b>0.94</b>	<b>0.96</b>	<b>0.88</b>	<b>0</b>	<b>0.96</b>	<b>0.81</b>	<b>0.86</b>	<b>0.86</b>	<b>0</b>	<b>0.85</b>	<b>0.92</b>	<b>0.98</b>	<b>0.81</b>	<b>0</b>	<b>0.97</b>	<b>0.71</b>	<b>0.91</b>	<b>0.68</b>	<b>0</b>	<b>0.9</b>	<b>0.96</b>	<b>0.9</b>	<b>0.9</b>	<b>0.96</b>	
<b>Cars</b>	96	134	20	0	0	250	58	183	93	0	0	334	92	709	68	0	0	869	19	650	37	0	0	706	2159
<b>% Cars</b>	95	97.1	95.2	0	0	96.2	100	98.9	96.9	0	0	98.5	95.8	94.8	100	0	0	95.3	95	96.6	97.4	0	0	96.6	96.3
<b>Trucks</b>	5	4	1	0	0	10	0	2	3	0	0	5	4	39	0	0	43	1	23	1	0	0	25	83	
<b>% Trucks</b>	5	2.9	4.8	0	0	3.8	0	1.1	3.1	0	0	1.5	4.2	5.2	0	0	4.7	5	3.4	2.6	0	0	3.4	3.7	
<b>Bicycles</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>% Bicycles</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Peds</b>					0	-					0	-					0	-					0	-	0
<b>% Peds</b>					0	-					0	-					0	-					0	-	0



## Project #24-021 - GHD

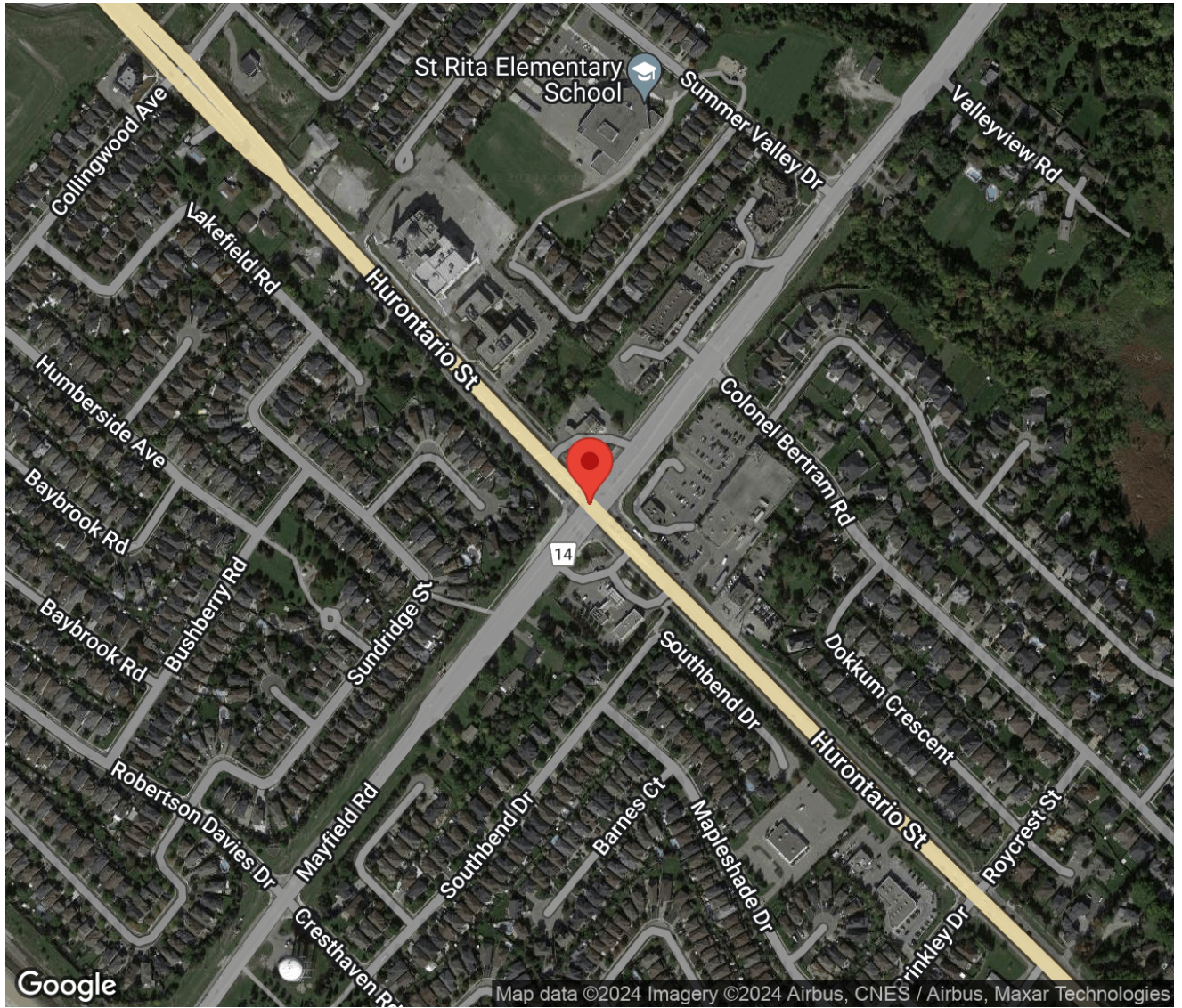
### Intersection Count Report

**Intersection:** Mayfield Rd & Hurontario St  
**Municipality:** Caledon  
**Count Date:** Wednesday, Jan 17, 2024  
**Site Code:** 2402100006  
**Count Categories:** Cars, Trucks, Bicycles, Pedestrians  
**Count Period:** 07:00-09:00, 16:00-18:00  
**Weather:** Clear  
**Comments:**



## Traffic Count Map

Intersection: Mayfield Rd & Hurontario St  
Site Code: 2402100006  
Municipality: Caledon  
Count Date: Jan 17, 2024





## Traffic Count Summary

Intersection: Mayfield Rd & Hurontario St  
 Site Code: 2402100006  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### Hurontario St - Traffic Summary

Hour	North Approach Totals						South Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
<b>07:00 - 08:00</b>	67	680	223	0	970	2	63	253	173	0	489	5	1459
<b>08:00 - 09:00</b>	116	687	283	0	1086	2	69	334	194	0	597	6	1683
BREAK													
<b>16:00 - 17:00</b>	151	596	369	0	1116	3	79	511	239	2	831	12	1947
<b>17:00 - 18:00</b>	110	691	397	0	1198	9	79	524	240	0	843	9	2041
<b>GRAND TOTAL</b>	<b>444</b>	<b>2654</b>	<b>1272</b>	<b>0</b>	<b>4370</b>	<b>16</b>	<b>290</b>	<b>1622</b>	<b>846</b>	<b>2</b>	<b>2760</b>	<b>32</b>	<b>7130</b>





## Traffic Count Summary

Intersection: Mayfield Rd & Hurontario St  
 Site Code: 2402100006  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### Mayfield Rd - Traffic Summary

Hour	East Approach Totals						West Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
<b>07:00 - 08:00</b>	125	377	23	0	525	5	225	576	82	0	883	8	1408
<b>08:00 - 09:00</b>	169	399	65	0	633	7	196	549	77	0	822	3	1455
BREAK													
<b>16:00 - 17:00</b>	242	577	58	1	878	14	271	482	60	0	813	4	1691
<b>17:00 - 18:00</b>	229	569	56	0	854	12	268	471	49	2	790	2	1644
<b>GRAND TOTAL</b>	<b>765</b>	<b>1922</b>	<b>202</b>	<b>1</b>	<b>2890</b>	<b>38</b>	<b>960</b>	<b>2078</b>	<b>268</b>	<b>2</b>	<b>3308</b>	<b>17</b>	<b>6198</b>



## Traffic Count Data

Intersection: Mayfield Rd & Hurontario St  
 Site Code: 2402100006  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### North Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	10	103	41	0	154	1	3	4	0	8	0	0	0	0	0	1
07:15	12	171	62	0	245	5	1	3	0	9	0	0	0	0	0	1
07:30	22	193	49	0	264	1	8	2	0	11	0	0	0	0	0	0
07:45	16	196	57	0	269	0	5	5	0	10	0	0	0	0	0	0
08:00	19	186	68	0	273	3	4	2	0	9	0	0	0	0	0	0
08:15	11	156	65	0	232	0	5	1	0	6	0	0	0	0	0	0
08:30	30	179	74	0	283	3	8	1	0	12	0	0	0	0	0	2
08:45	48	145	71	0	264	2	4	1	0	7	0	0	0	0	0	0
<b>SUBTOTAL</b>	168	1329	487	0	1984	15	38	19	0	72	0	0	0	0	0	4





## Traffic Count Data

Intersection: Mayfield Rd & Hurontario St  
 Site Code: 2402100006  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### South Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	10	38	25	0	73	0	3	1	0	4	0	0	0	0	0	2
07:15	14	65	45	0	124	0	5	3	0	8	0	0	0	0	0	1
07:30	21	65	42	0	128	1	5	4	0	10	0	0	0	0	0	1
07:45	17	68	49	0	134	0	4	4	0	8	0	0	0	0	0	1
08:00	17	70	37	0	124	0	6	2	0	8	0	0	0	0	0	1
08:15	10	71	38	0	119	0	3	3	0	6	0	0	0	0	0	0
08:30	26	91	46	0	163	1	4	5	0	10	0	0	0	0	0	1
08:45	15	86	53	0	154	0	3	10	0	13	0	0	0	0	0	4
<b>SUBTOTAL</b>	130	554	335	0	1019	2	33	32	0	67	0	0	0	0	0	11



## Traffic Count Data

Intersection: Mayfield Rd & Hurontario St  
 Site Code: 2402100006  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### South Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	13	106	52	2	173	0	3	6	0	9	0	0	0	0	0	5
16:15	28	138	52	0	218	1	2	3	0	6	0	0	0	0	0	4
16:30	20	134	54	0	208	0	1	4	0	5	0	0	1	0	1	1
16:45	17	125	65	0	207	0	2	2	0	4	0	0	0	0	0	2
17:00	24	136	46	0	206	1	2	3	0	6	0	0	0	0	0	4
17:15	15	148	62	0	225	1	2	4	0	7	0	0	0	0	0	3
17:30	19	117	49	0	185	1	3	7	0	11	0	0	0	0	0	0
17:45	17	115	64	0	196	1	1	5	0	7	0	0	0	0	0	2
<b>SUBTOTAL</b>	153	1019	444	2	1618	5	16	34	0	55	0	0	1	0	1	21
<b>GRAND TOTAL</b>	<b>283</b>	<b>1573</b>	<b>779</b>	<b>2</b>	<b>2637</b>	<b>7</b>	<b>49</b>	<b>66</b>	<b>0</b>	<b>122</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>32</b>



## Traffic Count Data

Intersection: Mayfield Rd & Hurontario St  
 Site Code: 2402100006  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### East Approach - Mayfield Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	17	69	5	0	91	4	15	1	0	20	0	0	0	0	0	1
07:15	19	57	1	0	77	2	10	3	0	15	0	0	0	0	0	2
07:30	34	108	2	0	144	5	15	1	0	21	0	0	0	0	0	0
07:45	39	97	7	0	143	5	6	3	0	14	0	0	0	0	0	2
08:00	38	100	13	0	151	1	7	1	0	9	0	0	0	0	0	1
08:15	54	119	7	0	180	2	2	1	0	5	0	0	0	0	0	2
08:30	39	90	19	0	148	3	11	3	0	17	0	0	0	0	0	1
08:45	30	63	21	0	114	2	7	0	0	9	0	0	0	0	0	3
<b>SUBTOTAL</b>	270	703	75	0	1048	24	73	13	0	110	0	0	0	0	0	12





## Traffic Count Data

Intersection: Mayfield Rd & Hurontario St  
 Site Code: 2402100006  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### West Approach - Mayfield Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	62	115	12	0	189	2	5	0	0	7	0	0	0	0	0	3
07:15	58	130	20	0	208	1	6	2	0	9	0	0	0	0	0	4
07:30	40	163	22	0	225	3	3	2	0	8	0	0	0	0	0	1
07:45	56	151	24	0	231	3	3	0	0	6	0	0	0	0	0	0
08:00	38	104	16	0	158	4	15	1	0	20	0	0	0	0	0	0
08:15	51	132	18	0	201	1	12	2	0	15	0	0	0	0	0	0
08:30	51	129	23	0	203	3	7	2	0	12	0	0	0	0	0	2
08:45	46	134	14	0	194	2	16	1	0	19	0	0	0	0	0	1
<b>SUBTOTAL</b>	402	1058	149	0	1609	19	67	10	0	96	0	0	0	0	0	11





## Traffic Count Data

Intersection: Mayfield Rd & Hurontario St  
 Site Code: 2402100006  
 Municipality: Caledon  
 Count Date: Jan 17, 2024

### West Approach - Mayfield Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
16:00	66	101	10	0	177	1	11	0	0	12	0	0	0	0	0	3
16:15	63	93	26	0	182	5	14	1	0	20	0	0	0	0	0	0
16:30	59	119	10	0	188	3	7	0	0	10	0	0	0	0	0	1
16:45	73	134	13	0	220	1	3	0	0	4	0	0	0	0	0	0
17:00	64	115	13	0	192	3	1	0	0	4	0	0	0	0	0	2
17:15	54	121	12	0	187	2	6	0	0	8	0	0	0	0	0	0
17:30	67	130	10	0	207	1	3	0	2	6	0	0	0	0	0	0
17:45	76	93	14	0	183	1	2	0	0	3	0	0	0	0	0	0
<b>SUBTOTAL</b>	522	906	108	0	1536	17	47	1	2	67	0	0	0	0	0	6
<b>GRAND TOTAL</b>	924	1964	257	0	3145	36	114	11	2	163	0	0	0	0	0	17

## Peak Hour Diagram

### Specified Period

From: 07:00:00  
To: 09:00:00

### One Hour Peak

From: 07:45:00  
To: 08:45:00

**Intersection:** Mayfield Rd & Hurontario St  
**Site Code:** 2402100006  
**Count Date:** Jan 17, 2024

**Weather conditions:** Clear

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

**Major Road:** Hurontario St runs N/S

### North Approach

	Out	In	Total
	1057	542	1599
	37	36	73
	0	0	0
<b>Totals</b>	<b>1094</b>	<b>578</b>	<b>1672</b>

### Hurontario St

	0	0	0	0
	9	22	6	0
	264	717	76	0
<b>Totals</b>	<b>273</b>	<b>739</b>	<b>82</b>	<b>0</b>

### East Approach

	Out	In	Total
	622	762	1384
	45	57	102
	0	0	0
<b>Totals</b>	<b>667</b>	<b>819</b>	<b>1486</b>

### Mayfield Rd

				Totals
	0	0	0	0
	0	11	196	207
	0	37	516	553
	0	5	81	86

Peds: 2

Peds: 2



Peds: 6

Peds: 3

### Mayfield Rd

Totals			
	0	0	0
	54	46	8
	432	406	26
	181	170	11

### West Approach

	Out	In	Total
	793	740	1533
	53	36	89
	0	0	0
<b>Totals</b>	<b>846</b>	<b>776</b>	<b>1622</b>

Totals				
	71	317	184	0
	1	17	14	0
	0	0	0	0

### Hurontario St

### South Approach

	Out	In	Total
	540	968	1508
	32	38	70
	0	0	0
<b>Totals</b>	<b>572</b>	<b>1006</b>	<b>1578</b>

- Cars

- Trucks

- Bicycles

### Comments



## Peak Hour Summary

Intersection: Mayfield Rd & Hurontario St  
 Site Code: 2402100006  
 Count Date: Jan 17, 2024  
 Period: 07:00 - 09:00

### Peak Hour Data (07:45 - 08:45)

Start Time	North Approach Hurontario St						South Approach Hurontario St						East Approach Mayfield Rd						West Approach Mayfield Rd						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
07:45	16	201	62	0	0	279	17	72	53	0	1	142	44	103	10	0	2	157	59	154	24	0	0	237	815
08:00	22	190	70	0	0	282	17	76	39	0	1	132	39	107	14	0	1	160	42	119	17	0	0	178	752
08:15	11	161	66	0	0	238	10	74	41	0	0	125	56	121	8	0	2	185	52	144	20	0	0	216	764
08:30	33	187	75	0	2	295	27	95	51	0	1	173	42	101	22	0	1	165	54	136	25	0	2	215	848
<b>Grand Total</b>	<b>82</b>	<b>739</b>	<b>273</b>	<b>0</b>	<b>2</b>	<b>1094</b>	<b>71</b>	<b>317</b>	<b>184</b>	<b>0</b>	<b>3</b>	<b>572</b>	<b>181</b>	<b>432</b>	<b>54</b>	<b>0</b>	<b>6</b>	<b>667</b>	<b>207</b>	<b>553</b>	<b>86</b>	<b>0</b>	<b>2</b>	<b>846</b>	<b>3179</b>
Approach %	7.5	67.6	25	0	-	-	12.4	55.4	32.2	0	-	-	27.1	64.8	8.1	0	-	-	24.5	65.4	10.2	0	-	-	-
Totals %	2.6	23.2	8.6	0	34.4	-	2.2	10	5.8	0	18	-	5.7	13.6	1.7	0	21	-	6.5	17.4	2.7	0	26.6	-	
<b>PHF</b>	<b>0.62</b>	<b>0.92</b>	<b>0.91</b>	<b>0</b>	<b>0.93</b>	<b>0.66</b>	<b>0.83</b>	<b>0.87</b>	<b>0</b>	<b>0.83</b>	<b>0.81</b>	<b>0.89</b>	<b>0.61</b>	<b>0</b>	<b>0.9</b>	<b>0.88</b>	<b>0.9</b>	<b>0.86</b>	<b>0</b>	<b>0.89</b>	<b>0.94</b>	<b>0.89</b>	<b>0.94</b>	<b>0.94</b>	
Cars	76	717	264	0	1057	70	300	170	0	540	170	406	46	0	622	196	516	81	0	793	3012				
% Cars	92.7	97	96.7	0	96.6	98.6	94.6	92.4	0	94.4	93.9	94	85.2	0	93.3	94.7	93.3	94.2	0	93.7	94.7				
Trucks	6	22	9	0	37	1	17	14	0	32	11	26	8	0	45	11	37	5	0	53	167				
% Trucks	7.3	3	3.3	0	3.4	1.4	5.4	7.6	0	5.6	6.1	6	14.8	0	6.7	5.3	6.7	5.8	0	6.3	5.3				
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Peds					2	-				3	-					6	-			2	-			13	
% Peds					15.4	-				23.1	-					46.2	-			15.4	-			-	

## Peak Hour Diagram

### Specified Period

From: 16:00:00  
To: 18:00:00

### One Hour Peak

From: 16:15:00  
To: 17:15:00

**Intersection:** Mayfield Rd & Hurontario St  
**Site Code:** 2402100006  
**Count Date:** Jan 17, 2024

**Weather conditions:** Clear

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

**Major Road:** Hurontario St runs N/S

### North Approach

	Out	In	Total
	1114	853	1967
	37	21	58
	0	0	0
<b>Totals</b>	<b>1151</b>	<b>874</b>	<b>2025</b>

### Hurontario St

	0	0	0	0
	13	24	0	0
	374	612	128	0
<b>Totals</b>	<b>387</b>	<b>636</b>	<b>128</b>	<b>0</b>

### East Approach

	Out	In	Total
	842	807	1649
	26	37	63
	0	1	1
<b>Totals</b>	<b>868</b>	<b>845</b>	<b>1713</b>

### Mayfield Rd

				Totals
	0	0	0	<b>0</b>
	0	12	259	<b>271</b>
	0	25	461	<b>486</b>
	0	1	62	<b>63</b>

Peds: 1

Peds: 3



Peds: 13

Peds: 11

### Mayfield Rd

Totals			
<b>1</b>	1	0	0
<b>63</b>	61	2	0
<b>564</b>	549	15	0
<b>240</b>	231	9	0

### West Approach

	Out	In	Total
	782	1012	1794
	38	30	68
	0	0	0
<b>Totals</b>	<b>820</b>	<b>1042</b>	<b>1862</b>

Totals				
<b>91</b>	<b>540</b>	<b>230</b>	<b>0</b>	
	89	533	217	0
	2	7	12	0
	0	0	1	0

Hurontario St

### South Approach

Out	In	Total	
	839	905	1744
	21	34	55
	1	0	1
<b>Totals</b>	<b>861</b>	<b>939</b>	<b>1800</b>

- Cars

- Trucks

- Bicycles

### Comments



## Peak Hour Summary

Intersection: Mayfield Rd & Hurontario St  
 Site Code: 2402100006  
 Count Date: Jan 17, 2024  
 Period: 16:00 - 18:00

### Peak Hour Data (16:15 - 17:15)

Start Time	North Approach Hurontario St						South Approach Hurontario St						East Approach Mayfield Rd						West Approach Mayfield Rd						Total Vehicles
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
16:15	33	175	99	0	0	307	29	140	55	0	4	224	71	129	21	1	8	222	68	107	27	0	0	202	955
16:30	37	143	105	0	0	285	20	135	59	0	1	214	48	141	13	0	0	202	62	126	10	0	1	198	899
16:45	30	129	85	0	0	244	17	127	67	0	2	211	56	148	12	0	2	216	74	137	13	0	0	224	895
17:00	28	189	98	0	1	315	25	138	49	0	4	212	65	146	17	0	3	228	67	116	13	0	2	196	951
<b>Grand Total</b>	<b>128</b>	<b>636</b>	<b>387</b>	<b>0</b>	<b>1</b>	<b>1151</b>	<b>91</b>	<b>540</b>	<b>230</b>	<b>0</b>	<b>11</b>	<b>861</b>	<b>240</b>	<b>564</b>	<b>63</b>	<b>1</b>	<b>13</b>	<b>868</b>	<b>271</b>	<b>486</b>	<b>63</b>	<b>0</b>	<b>3</b>	<b>820</b>	<b>3700</b>
<b>Approach %</b>	11.1	55.3	33.6	0	-	-	10.6	62.7	26.7	0	-	-	27.6	65	7.3	0.1	-	-	33	59.3	7.7	0	-	-	-
<b>Totals %</b>	3.5	17.2	10.5	0	31.1	-	2.5	14.6	6.2	0	23.3	-	6.5	15.2	1.7	0	23.5	-	7.3	13.1	1.7	0	22.2	-	-
<b>PHF</b>	<b>0.86</b>	<b>0.84</b>	<b>0.92</b>	<b>0</b>	<b>0.91</b>	<b>0.91</b>	<b>0.78</b>	<b>0.96</b>	<b>0.86</b>	<b>0</b>	<b>0.96</b>	<b>0.96</b>	<b>0.85</b>	<b>0.95</b>	<b>0.75</b>	<b>0.25</b>	<b>0.95</b>	<b>0.95</b>	<b>0.92</b>	<b>0.89</b>	<b>0.58</b>	<b>0</b>	<b>0.92</b>	<b>0.92</b>	<b>0.97</b>
<b>Cars</b>	128	612	374	0	-	1114	89	533	217	0	-	839	231	549	61	1	-	842	259	461	62	0	-	782	3577
<b>% Cars</b>	100	96.2	96.6	0	96.8	96.8	97.8	98.7	94.3	0	97.4	97.4	96.3	97.3	96.8	100	97	97	95.6	94.9	98.4	0	95.4	95.4	96.7
<b>Trucks</b>	0	24	13	0	-	37	2	7	12	0	-	21	9	15	2	0	-	26	12	25	1	0	-	38	122
<b>% Trucks</b>	0	3.8	3.4	0	3.2	3.2	2.2	1.3	5.2	0	2.4	2.4	3.8	2.7	3.2	0	3	3	4.4	5.1	1.6	0	4.6	4.6	3.3
<b>Bicycles</b>	0	0	0	0	-	0	0	0	1	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	1
<b>% Bicycles</b>	0	0	0	0	0	0	0	0	0.4	0	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Peds</b>	-	-	-	-	1	-	-	-	-	-	11	-	-	-	-	-	13	-	-	-	-	-	3	-	28
<b>% Peds</b>	-	-	-	-	3.6	-	-	-	-	-	39.3	-	-	-	-	-	46.4	-	-	-	-	-	10.7	-	-

















# **Appendix D**

## **Synchro Outputs**

## **Synchro Outputs - No GTA West**

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Existing 2024  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	198	3	32	111	5	2	42	61	6	76	8
Future Volume (vph)	2	198	3	32	111	5	2	42	61	6	76	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.996			0.922			0.987	
Flt Protected					0.989			0.999			0.997	
Satd. Flow (prot)	0	1917	0	0	1847	0	0	1706	0	0	1769	0
Flt Permitted					0.989			0.999			0.997	
Satd. Flow (perm)	0	1917	0	0	1847	0	0	1706	0	0	1769	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			342.6	
Travel Time (s)		30.4			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Adj. Flow (vph)	2	211	3	34	118	5	2	45	65	6	81	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	216	0	0	157	0	0	112	0	0	96	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

















Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	36.4%
ICU Level of Service	A
Analysis Period (min)	15



HCM Unsignalized Intersection Capacity Analysis  
 1: Chinguacousy Road & Old School Road

Existing 2024  
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	198	3	32	111	5	2	42	61	6	76	8
Future Volume (vph)	2	198	3	32	111	5	2	42	61	6	76	8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	2	211	3	34	118	5	2	45	65	6	81	9
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	216	157	112	96								
Volume Left (vph)	2	34	2	6								
Volume Right (vph)	3	5	65	9								
Hadj (s)	-0.01	0.07	-0.28	0.07								
Departure Headway (s)	4.6	4.8	4.7	5.0								
Degree Utilization, x	0.28	0.21	0.14	0.13								
Capacity (veh/h)	735	712	708	654								
Control Delay (s)	9.4	9.0	8.4	8.8								
Approach Delay (s)	9.4	9.0	8.4	8.8								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			9.0									
Level of Service			A									
Intersection Capacity Utilization			36.4%	ICU Level of Service	A							
Analysis Period (min)			15									

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Existing 2024  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	6	254	7	61	145	21	2	53	89	33	105	10
Future Volume (vph)	6	254	7	61	145	21	2	53	89	33	105	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.997			0.988			0.916			0.991	
Fl <sub>t</sub> Protected		0.999			0.987			0.999			0.989	
Satd. Flow (prot)	0	1889	0	0	1812	0	0	1735	0	0	1858	0
Fl <sub>t</sub> Permitted		0.999			0.987			0.999			0.989	
Satd. Flow (perm)	0	1889	0	0	1812	0	0	1735	0	0	1858	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Adj. Flow (vph)	6	270	7	65	154	22	2	56	95	35	112	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	283	0	0	241	0	0	153	0	0	158	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	56.1%
ICU Level of Service	B
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 2: McLaughlin Road & Old School Road

Existing 2024  
 AM Peak Hour



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	254	7	61	145	21	2	53	89	33	105	10
Future Volume (vph)	6	254	7	61	145	21	2	53	89	33	105	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	6	270	7	65	154	22	2	56	95	35	112	11

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	283	241	153	158
Volume Left (vph)	6	65	2	35
Volume Right (vph)	7	22	95	11
Hadj (s)	0.01	0.06	-0.35	0.03
Departure Headway (s)	5.2	5.3	5.2	5.6
Degree Utilization, x	0.41	0.35	0.22	0.24
Capacity (veh/h)	654	639	608	580
Control Delay (s)	11.6	11.1	9.7	10.4
Approach Delay (s)	11.6	11.1	9.7	10.4
Approach LOS	B	B	A	B

Intersection Summary			
Delay		10.9	
Level of Service		B	
Intersection Capacity Utilization	56.1%	ICU Level of Service	B
Analysis Period (min)		15	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

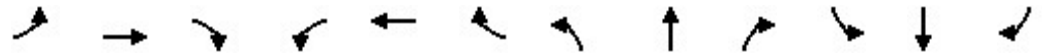
Existing 2024  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	166	152	36	121	31	52	929	57	32	1596	42
Future Volume (vph)	50	166	152	36	121	31	52	929	57	32	1596	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.928			0.970			0.991			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	1738	0	1722	1782	0	1722	3076	0	1615	3499	0
Flt Permitted	0.654			0.329			0.085			0.232		
Satd. Flow (perm)	1208	1738	0	596	1782	0	154	3076	0	394	3499	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			15			13			6	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			440.4			855.3			282.2	
Travel Time (s)		51.8			22.6			38.5			12.7	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Adj. Flow (vph)	54	178	163	39	130	33	56	999	61	34	1716	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	341	0	39	163	0	56	1060	0	34	1761	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Existing 2024  
AM Peak Hour

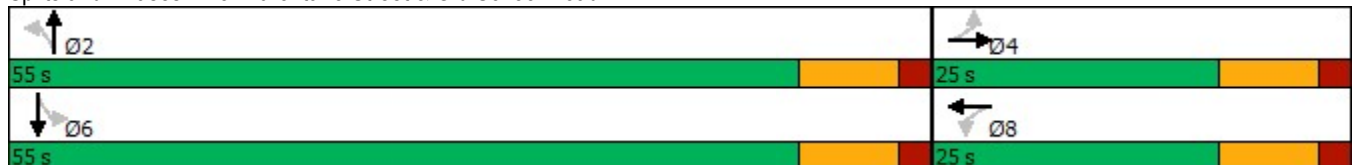


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	24.0	24.0		24.0	24.0		29.0	29.0		29.0	29.0	
Total Split (s)	25.0	25.0		25.0	25.0		55.0	55.0		55.0	55.0	
Total Split (%)	31.3%	31.3%		31.3%	31.3%		68.8%	68.8%		68.8%	68.8%	
Maximum Green (s)	17.0	17.0		17.0	17.0		47.0	47.0		47.0	47.0	
Yellow Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
All-Red Time (s)	2.0	2.0		2.0	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	
Total Lost Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)	16.5	16.5		16.5	16.5		47.0	47.0		47.0	47.0	
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.59	0.59		0.59	0.59	
v/c Ratio	0.22	0.90		0.32	0.43		0.62	0.58		0.15	0.85	
Control Delay	28.7	58.8		34.6	28.7		46.2	11.7		9.4	18.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	28.7	58.8		34.6	28.7		46.2	11.7		9.4	18.7	
LOS	C	E		C	C		D	B		A	B	
Approach Delay		54.7			29.8			13.4			18.6	
Approach LOS		D			C			B			B	

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	79.5
Natural Cycle:	65
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.90
Intersection Signal Delay:	21.6
Intersection LOS:	C
Intersection Capacity Utilization:	86.8%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Existing 2024  
AM Peak Hour

























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	54	341	39	163	56	1060	34	1761
v/c Ratio	0.22	0.90	0.32	0.43	0.62	0.58	0.15	0.85
Control Delay	28.7	58.8	34.6	28.7	46.2	11.7	9.4	18.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.7	58.8	34.6	28.7	46.2	11.7	9.4	18.7
Queue Length 50th (m)	6.8	47.8	5.0	19.4	5.0	47.8	2.1	105.9
Queue Length 95th (m)	16.3	#94.1	13.9	36.6	#25.6	64.7	6.5	140.2
Internal Link Dist (m)		983.8		416.4		831.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	258	387	127	392	91	1823	232	2071
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.88	0.31	0.42	0.62	0.58	0.15	0.85

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

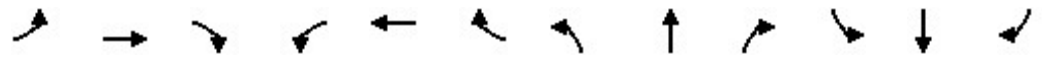
HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Existing 2024  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (vph)	50	166	152	36	121	31	52	929	57	32	1596	42
Future Volume (vph)	50	166	152	36	121	31	52	929	57	32	1596	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.97		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1755	1739		1722	1781		1722	3077		1615	3500	
Flt Permitted	0.65	1.00		0.33	1.00		0.09	1.00		0.23	1.00	
Satd. Flow (perm)	1208	1739		597	1781		154	3077		395	3500	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	54	178	163	39	130	33	56	999	61	34	1716	45
RTOR Reduction (vph)	0	16	0	0	12	0	0	5	0	0	2	0
Lane Group Flow (vph)	54	325	0	39	151	0	56	1055	0	34	1759	0
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	16.5	16.5		16.5	16.5		47.0	47.0		47.0	47.0	
Effective Green, g (s)	16.5	16.5		16.5	16.5		47.0	47.0		47.0	47.0	
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.59	0.59		0.59	0.59	
Clearance Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	250	360		123	369		91	1819		233	2069	
v/s Ratio Prot		c0.19			0.08			0.34			c0.50	
v/s Ratio Perm	0.04			0.07			0.36			0.09		
v/c Ratio	0.22	0.90		0.32	0.41		0.62	0.58		0.15	0.85	
Uniform Delay, d1	26.1	30.7		26.7	27.3		10.4	10.1		7.3	13.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	24.9		1.5	0.7		27.3	1.4		1.3	4.6	
Delay (s)	26.6	55.6		28.2	28.0		37.8	11.5		8.6	18.0	
Level of Service	C	E		C	C		D	B		A	B	
Approach Delay (s)		51.7			28.1			12.8			17.8	
Approach LOS		D			C			B			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			20.6				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			79.5				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			86.8%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Existing 2024  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	27	583	44	103	510	6	22	101	117	8	108	29
Future Volume (vph)	27	583	44	103	510	6	22	101	117	8	108	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.991			0.999			0.934			0.973	
Fl <sub>t</sub> Protected		0.998			0.992			0.995			0.997	
Satd. Flow (prot)	0	1783	0	0	1797	0	0	1717	0	0	1800	0
Fl <sub>t</sub> Permitted		0.963			0.804			0.968			0.977	
Satd. Flow (perm)	0	1720	0	0	1456	0	0	1671	0	0	1764	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			1			35			9	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		274.5			1419.4			345.5			2784.8	
Travel Time (s)		14.1			73.0			15.5			125.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Adj. Flow (vph)	27	589	44	104	515	6	22	102	118	8	109	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	660	0	0	625	0	0	242	0	0	146	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	94.0	94.0		94.0	94.0		26.0	26.0		26.0	26.0	
Total Split (%)	78.3%	78.3%		78.3%	78.3%		21.7%	21.7%		21.7%	21.7%	
Maximum Green (s)	90.0	90.0		90.0	90.0		22.0	22.0		22.0	22.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		90.0			90.0			22.0			22.0	
Actuated g/C Ratio		0.75			0.75			0.18			0.18	
v/c Ratio		0.51			0.57			0.72			0.44	
Control Delay		7.6			23.2			52.9			45.6	
Queue Delay		0.0			0.0			0.0			0.0	



Lanes, Volumes, Timings  
 4: Chinguacousy Road & Mayfield Road

Existing 2024  
 AM Peak Hour

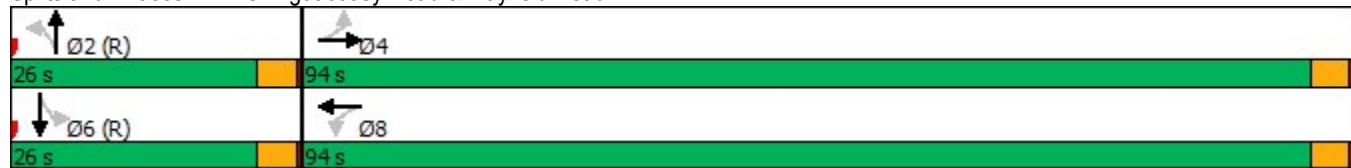


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		7.6			23.2			52.9			45.6	
LOS		A			C			D			D	
Approach Delay		7.6			23.2			52.9			45.6	
Approach LOS		A			C			D			D	

Intersection Summary

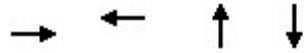
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	23.3
Intersection LOS:	C
Intersection Capacity Utilization	97.0%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Existing 2024  
AM Peak Hour



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	660	625	242	146
v/c Ratio	0.51	0.57	0.72	0.44
Control Delay	7.6	23.2	52.9	45.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.6	23.2	52.9	45.6
Queue Length 50th (m)	53.4	126.3	46.5	28.9
Queue Length 95th (m)	75.2	167.6	#79.4	49.3
Internal Link Dist (m)	250.5	1395.4	321.5	2760.8
Turn Bay Length (m)				
Base Capacity (vph)	1292	1092	334	330
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.51	0.57	0.72	0.44

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road

Existing 2024  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕			↕			↕			↕		
Traffic Volume (vph)	27	583	44	103	510	6	22	101	117	8	108	29	
Future Volume (vph)	27	583	44	103	510	6	22	101	117	8	108	29	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0			4.0			4.0			4.0		
Lane Util. Factor		1.00			1.00			1.00			1.00		
Frt		0.99			1.00			0.93			0.97		
Flt Protected		1.00			0.99			1.00			1.00		
Satd. Flow (prot)		1783			1796			1718			1801		
Flt Permitted		0.96			0.80			0.97			0.98		
Satd. Flow (perm)		1721			1456			1670			1764		
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Adj. Flow (vph)	27	589	44	104	515	6	22	102	118	8	109	29	
RTOR Reduction (vph)	0	2	0	0	0	0	0	29	0	0	7	0	
Lane Group Flow (vph)	0	658	0	0	625	0	0	213	0	0	139	0	
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		90.0			90.0			22.0			22.0		
Effective Green, g (s)		90.0			90.0			22.0			22.0		
Actuated g/C Ratio		0.75			0.75			0.18			0.18		
Clearance Time (s)		4.0			4.0			4.0			4.0		
Lane Grp Cap (vph)		1290			1092			306			323		
v/s Ratio Prot													
v/s Ratio Perm		0.38			0.43			0.13			0.08		
v/c Ratio		0.51			0.57			0.70			0.43		
Uniform Delay, d1		6.1			6.6			45.9			43.4		
Progression Factor		1.00			3.10			1.00			1.00		
Incremental Delay, d2		1.4			1.8			12.4			4.1		
Delay (s)		7.5			22.2			58.3			47.6		
Level of Service		A			C			E			D		
Approach Delay (s)		7.5			22.2			58.3			47.6		
Approach LOS		A			C			E			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			23.8									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.60										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			97.0%									ICU Level of Service	F
Analysis Period (min)			15										

c Critical Lane Group

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Existing 2024  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	683	61	107	597	58	28	106	81	114	205	21
Future Volume (vph)	11	683	61	107	597	58	28	106	81	114	205	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.987				0.850		0.986	
Flt Protected	0.950			0.950				0.990		0.950		
Satd. Flow (prot)	1825	1796	0	1706	1770	0	0	1830	1570	1690	1844	0
Flt Permitted	0.298			0.243				0.897		0.646		
Satd. Flow (perm)	572	1796	0	436	1770	0	0	1658	1570	1149	1844	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			8				83			4
Link Speed (k/h)		70			70			80				80
Link Distance (m)		1419.4			1263.7			341.6				2496.3
Travel Time (s)		73.0			65.0			15.4				112.3
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Adj. Flow (vph)	11	697	62	109	609	59	29	108	83	116	209	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	759	0	109	668	0	0	137	83	116	230	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)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4			8			2				6
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	23.0	23.0	
Total Split (s)	81.0	81.0		81.0	81.0		39.0	39.0	39.0	39.0	39.0	
Total Split (%)	67.5%	67.5%		67.5%	67.5%		32.5%	32.5%	32.5%	32.5%	32.5%	
Maximum Green (s)	75.0	75.0		75.0	75.0		33.0	33.0	33.0	33.0	33.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		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	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
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)	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)	75.0	75.0		75.0	75.0			33.0	33.0	33.0	33.0	
Actuated g/C Ratio	0.62	0.62		0.62	0.62			0.28	0.28	0.28	0.28	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

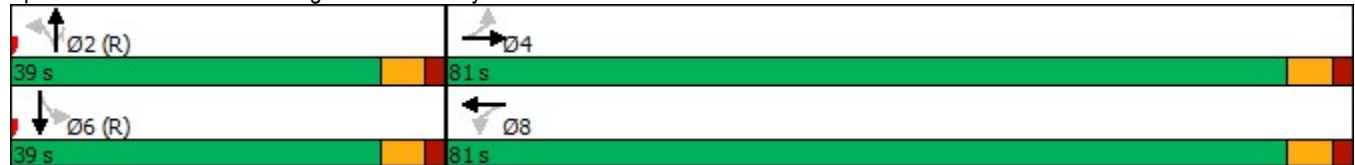
Existing 2024  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.03	0.67		0.40	0.60			0.30	0.17	0.37	0.45	
Control Delay	11.0	17.6		16.7	16.2			36.6	7.8	39.2	38.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay	11.0	17.6		16.7	16.2			36.6	7.8	39.2	38.8	
LOS	B	B		B	B			D	A	D	D	
Approach Delay		17.5			16.3			25.8			38.9	
Approach LOS		B			B			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:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	21.4
Intersection LOS:	C
Intersection Capacity Utilization	84.8%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Existing 2024  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	11	759	109	668	137	83	116	230
v/c Ratio	0.03	0.67	0.40	0.60	0.30	0.17	0.37	0.45
Control Delay	11.0	17.6	16.7	16.2	36.6	7.8	39.2	38.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.0	17.6	16.7	16.2	36.6	7.8	39.2	38.8
Queue Length 50th (m)	0.9	94.1	12.0	87.2	25.6	0.0	22.1	44.1
Queue Length 95th (m)	m1.9	142.6	26.0	121.9	42.9	11.8	39.4	67.9
Internal Link Dist (m)		1395.4		1239.7	317.6			2472.3
Turn Bay Length (m)	30.0		30.0			30.0		
Base Capacity (vph)	357	1125	272	1109	455	491	315	510
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.67	0.40	0.60	0.30	0.17	0.37	0.45

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Existing 2024  
AM Peak Hour



























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	683	61	107	597	58	28	106	81	114	205	21
Future Volume (vph)	11	683	61	107	597	58	28	106	81	114	205	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1825	1796		1706	1769			1830	1570	1690	1844	
Flt Permitted	0.30	1.00		0.24	1.00			0.90	1.00	0.65	1.00	
Satd. Flow (perm)	573	1796		436	1769			1658	1570	1149	1844	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	11	697	62	109	609	59	29	108	83	116	209	21
RTOR Reduction (vph)	0	3	0	0	3	0	0	0	60	0	3	0
Lane Group Flow (vph)	11	756	0	109	665	0	0	137	23	116	227	0
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	75.0	75.0		75.0	75.0			33.0	33.0	33.0	33.0	
Effective Green, g (s)	75.0	75.0		75.0	75.0			33.0	33.0	33.0	33.0	
Actuated g/C Ratio	0.62	0.62		0.62	0.62			0.28	0.28	0.28	0.28	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	358	1122		272	1105			455	431	315	507	
v/s Ratio Prot		c0.42			0.38						c0.12	
v/s Ratio Perm	0.02			0.25				0.08	0.01	0.10		
v/c Ratio	0.03	0.67		0.40	0.60			0.30	0.05	0.37	0.45	
Uniform Delay, d1	8.6	14.6		11.3	13.5			34.4	32.0	35.1	36.0	
Progression Factor	1.24	0.98		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	2.8		4.4	2.4			1.7	0.2	3.3	2.8	
Delay (s)	10.8	17.2		15.6	16.0			36.1	32.2	38.4	38.8	
Level of Service	B	B		B	B			D	C	D	D	
Approach Delay (s)		17.1			15.9			34.6			38.7	
Approach LOS		B			B			C			D	

Intersection Summary		
HCM 2000 Control Delay	22.0	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.60	C
Actuated Cycle Length (s)	120.0	Sum of lost time (s)
Intersection Capacity Utilization	84.8%	12.0
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

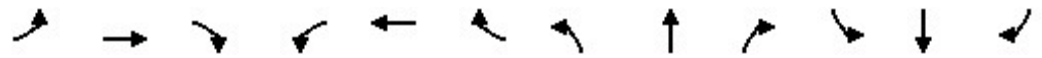
Existing 2024  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	207	553	86	181	432	54	71	317	184	82	739	273
Future Volume (vph)	207	553	86	181	432	54	71	317	184	82	739	273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	0.99		0.98			0.97	0.99		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	3411	1541	3340	3444	1420	1807	3476	1512	1706	3544	1585
Flt Permitted	0.382			0.950			0.275			0.535		
Satd. Flow (perm)	697	3411	1508	3318	3444	1395	523	3476	1467	950	3544	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91			61			196			290
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			749.9			381.1			609.4	
Travel Time (s)		7.3			38.6			19.6			31.3	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Adj. Flow (vph)	220	588	91	193	460	57	76	337	196	87	786	290
Shared Lane Traffic (%)												
Lane Group Flow (vph)	220	588	91	193	460	57	76	337	196	87	786	290
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	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)	9.0	23.0	23.0	9.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	20.0	55.0	55.0	20.0	55.0	55.0	85.0	85.0	85.0	85.0	85.0	85.0
Total Split (%)	12.5%	34.4%	34.4%	12.5%	34.4%	34.4%	53.1%	53.1%	53.1%	53.1%	53.1%	53.1%
Maximum Green (s)	15.0	48.0	48.0	15.0	48.0	48.0	78.0	78.0	78.0	78.0	78.0	78.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	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	0



Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Existing 2024  
AM Peak Hour

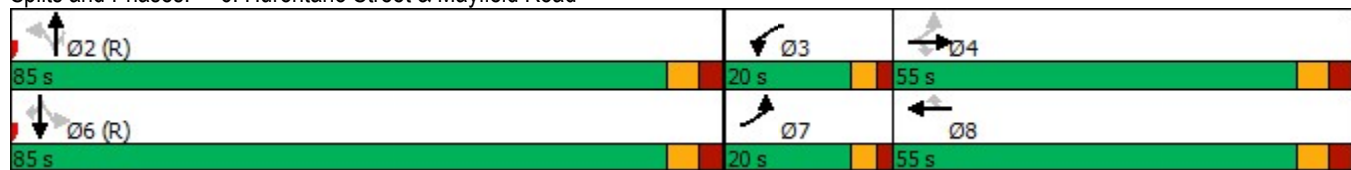


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	65.0	48.0	48.0	15.0	48.0	48.0	78.0	78.0	78.0	78.0	78.0	78.0
Actuated g/C Ratio	0.41	0.30	0.30	0.09	0.30	0.30	0.49	0.49	0.49	0.49	0.49	0.49
v/c Ratio	0.58	0.57	0.18	0.62	0.45	0.12	0.30	0.20	0.24	0.19	0.46	0.32
Control Delay	36.4	50.0	8.1	78.9	46.9	8.6	28.7	23.7	3.4	24.5	28.1	3.2
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	36.4	50.0	8.1	78.9	46.9	8.6	28.7	23.7	3.4	24.5	28.1	3.2
LOS	D	D	A	E	D	A	C	C	A	C	C	A
Approach Delay		42.5			52.5			17.8			21.6	
Approach LOS		D			D			B			C	

Intersection Summary

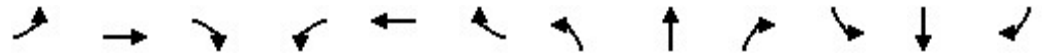
Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	122 (76%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.62
Intersection Signal Delay:	33.0
Intersection LOS:	C
Intersection Capacity Utilization	70.8%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Existing 2024  
AM Peak Hour



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	220	588	91	193	460	57	76	337	196	87	786	290
v/c Ratio	0.58	0.57	0.18	0.62	0.45	0.12	0.30	0.20	0.24	0.19	0.46	0.32
Control Delay	36.4	50.0	8.1	78.9	46.9	8.6	28.7	23.7	3.4	24.5	28.1	3.2
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	36.4	50.0	8.1	78.9	46.9	8.6	28.7	23.7	3.4	24.5	28.1	3.2
Queue Length 50th (m)	44.7	83.7	0.0	30.9	62.5	0.0	14.3	31.5	0.0	15.4	85.2	0.0
Queue Length 95th (m)	64.9	103.5	13.5	44.6	79.4	9.9	27.8	41.6	13.4	27.2	102.7	15.5
Internal Link Dist (m)		118.1			725.9			357.1			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	380	1023	516	313	1033	461	254	1694	815	463	1727	907
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.57	0.18	0.62	0.45	0.12	0.30	0.20	0.24	0.19	0.46	0.32

Intersection Summary

# HCM Signalized Intersection Capacity Analysis










## 6: Hurontario Street & Mayfield Road

Existing 2024  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	207	553	86	181	432	54	71	317	184	82	739	273	
Future Volume (vph)	207	553	86	181	432	54	71	317	184	82	739	273	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1737	3411	1508	3340	3444	1395	1807	3476	1467	1688	3544	1557	
Flt Permitted	0.38	1.00	1.00	0.95	1.00	1.00	0.27	1.00	1.00	0.54	1.00	1.00	
Satd. Flow (perm)	698	3411	1508	3340	3444	1395	523	3476	1467	950	3544	1557	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	220	588	91	193	460	57	76	337	196	87	786	290	
RTOR Reduction (vph)	0	0	64	0	0	40	0	0	100	0	0	149	
Lane Group Flow (vph)	220	588	27	193	460	17	76	337	96	87	786	141	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2	
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	
Protected Phases	7	4		3	8			2			6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	63.0	48.0	48.0	15.0	48.0	48.0	78.0	78.0	78.0	78.0	78.0	78.0	
Effective Green, g (s)	63.0	48.0	48.0	15.0	48.0	48.0	78.0	78.0	78.0	78.0	78.0	78.0	
Actuated g/C Ratio	0.39	0.30	0.30	0.09	0.30	0.30	0.49	0.49	0.49	0.49	0.49	0.49	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Lane Grp Cap (vph)	372	1023	452	313	1033	418	254	1694	715	463	1727	759	
v/s Ratio Prot	0.06	0.17		c0.06	0.13			0.10			c0.22		
v/s Ratio Perm	c0.18		0.02			0.01	0.15		0.07	0.09		0.09	
v/c Ratio	0.59	0.57	0.06	0.62	0.45	0.04	0.30	0.20	0.13	0.19	0.46	0.19	
Uniform Delay, d1	34.1	47.4	39.9	69.7	45.2	39.7	24.6	23.3	22.5	23.1	27.0	23.1	
Progression 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	
Incremental Delay, d2	6.8	2.3	0.3	8.8	1.4	0.2	3.0	0.3	0.4	0.9	0.9	0.5	
Delay (s)	40.9	49.7	40.2	78.5	46.6	39.9	27.6	23.5	22.9	24.0	27.9	23.7	
Level of Service	D	D	D	E	D	D	C	C	C	C	C	C	
Approach Delay (s)		46.6			54.8			23.8			26.5		
Approach LOS		D			D			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			37.3									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.52										
Actuated Cycle Length (s)			160.0									Sum of lost time (s)	19.0
Intersection Capacity Utilization			70.8%									ICU Level of Service	C
Analysis Period (min)			15										
c Critical Lane Group													










Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C

Existing 2024  
AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
<b>Flt Protected</b>						
Satd. Flow (prot)	1883	0	1883	0	0	1883
<b>Flt Permitted</b>						
Satd. Flow (perm)	1883	0	1883	0	0	1883
Link Speed (k/h)	48		80			80
Link Distance (m)	204.9		2784.8			298.8
Travel Time (s)	15.4		125.3			13.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
<b>Shared Lane Traffic (%)</b>						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
<b>Two way Left Turn Lane</b>						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	0.0%		ICU Level of Service A			
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
7: Chinguacousy Road & Street C

Existing 2024  
AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
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)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0	0			0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0			0	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	1023	1085			1623	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	0.0%			ICU Level of Service	A	
Analysis Period (min)	15					

Lanes, Volumes, Timings  
8: Street B & Old School Road

Existing 2024  
AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
<b>Flt Protected</b>						
Satd. Flow (prot)	1883	0	0	1883	1883	0
<b>Flt Permitted</b>						
Satd. Flow (perm)	1883	0	0	1883	1883	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
<b>Shared Lane Traffic (%)</b>						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
<b>Two way Left Turn Lane</b>						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	0.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 8: Street B & Old School Road

















Existing 2024  
 AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↔	↔
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
<b>Pedestrians</b>						
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			0		0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		0	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1623		1023	1085
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS				A		
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS				A		
<b>Intersection Summary</b>						
Average Delay				0.0		
Intersection Capacity Utilization				0.0%	ICU Level of Service	A
Analysis Period (min)				15		

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

















Existing 2024  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	1883	0	0	1883	0	0	1883	0	0	1883	0
Flt Permitted												
Satd. Flow (perm)	0	1883	0	0	1883	0	0	1883	0	0	1883	0
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			403.1			2496.3			588.2	
Travel Time (s)		15.4			30.2			112.3			26.5	
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
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 0.0%	ICU Level of Service A											
Analysis Period (min) 15												



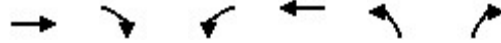
HCM Unsignalized Intersection Capacity Analysis  
 9: McLaughlin Road & Street A

Existing 2024  
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	0	0	0	0	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	0	0	0	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	1023	896	1085	1023	896	1085	1623			1623		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	0	0	0	0								
Volume Left	0	0	0	0								
Volume Right	0	0	0	0								
cSH	1700	1700	1700	1700								
Volume to Capacity	0.00	0.00	0.00	0.00								
Queue Length 95th (m)	0.0	0.0	0.0	0.0								
Control Delay (s)	0.0	0.0	0.0	0.0								
Lane LOS	A	A										
Approach Delay (s)	0.0	0.0	0.0	0.0								
Approach LOS	A	A										
Intersection Summary												
Average Delay			0.0									
Intersection Capacity Utilization			0.0%		ICU Level of Service					A		
Analysis Period (min)			15									

Lanes, Volumes, Timings  
 10: Street D & Old School Road

Existing 2024  
 AM Peak Hour



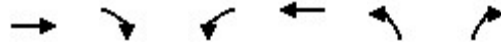
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	0	1883	1883	0
Flt Permitted						
Satd. Flow (perm)	1883	0	0	1883	1883	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	0.0%
Analysis Period (min)	15
	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis  
 10: Street D & Old School Road

Existing 2024  
 AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	↔	
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
<b>Pedestrians</b>						
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			0		0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		0	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1623		1023	1085
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS				A		
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS				A		
<b>Intersection Summary</b>						
Average Delay				0.0		
Intersection Capacity Utilization				0.0%	ICU Level of Service	A
Analysis Period (min)				15		

Lanes, Volumes, Timings  
11: Street A & Street D

Existing 2024  
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	0	1883	1883	0	1883	0
Flt Permitted						
Satd. Flow (perm)	0	1883	1883	0	1883	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	97			97	97	97
Sign Control		Free	Free		Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	0.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 11: Street A & Street D

Existing 2024  
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1623				1023	1085
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Existing 2024  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	50.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	3579	3579	0
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	3579	3579	0
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	0.0%
	ICU Level of Service A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 12: Hurontario Street & Street A

Existing 2024  
 AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
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)	0	0	0	0	0	0
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL	TWLTL		
Median storage veh			2	2		
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0	0	0			
vC1, stage 1 conf vol	0					
vC2, stage 2 conf vol	0					
vCu, unblocked vol	0	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1023	1084	1622			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0				0.0
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Existing 2024  
PM Peak Hour



















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	4	158	2	46	250	8	10	60	53	8	55	4
Future Volume (vph)	4	158	2	46	250	8	10	60	53	8	55	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.996			0.942			0.992	
Flt Protected		0.999			0.992			0.996			0.994	
Satd. Flow (prot)	0	1861	0	0	1876	0	0	1729	0	0	1831	0
Flt Permitted		0.999			0.992			0.996			0.994	
Satd. Flow (perm)	0	1861	0	0	1876	0	0	1729	0	0	1831	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			342.6	
Travel Time (s)		30.4			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	4	168	2	49	266	9	11	64	56	9	59	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	174	0	0	324	0	0	131	0	0	72	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	43.3%
	ICU Level of Service A
Analysis Period (min)	15



HCM Unsignalized Intersection Capacity Analysis  
 1: Chinguacousy Road & Old School Road

Existing 2024  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	158	2	46	250	8	10	60	53	8	55	4
Future Volume (vph)	4	158	2	46	250	8	10	60	53	8	55	4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	4	168	2	49	266	9	11	64	56	9	59	4
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	174	324	131	72								
Volume Left (vph)	4	49	11	9								
Volume Right (vph)	2	9	56	4								
Hadj (s)	0.05	0.03	-0.17	0.05								
Departure Headway (s)	4.9	4.7	5.1	5.4								
Degree Utilization, x	0.24	0.42	0.18	0.11								
Capacity (veh/h)	686	731	644	596								
Control Delay (s)	9.4	11.1	9.2	9.0								
Approach Delay (s)	9.4	11.1	9.2	9.0								
Approach LOS	A	B	A	A								
Intersection Summary												
Delay			10.1									
Level of Service			B									
Intersection Capacity Utilization			43.3%		ICU Level of Service	A						
Analysis Period (min)			15									

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Existing 2024  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	9	208	5	79	294	23	5	120	82	19	51	6
Future Volume (vph)	9	208	5	79	294	23	5	120	82	19	51	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.997			0.992			0.947			0.990	
Fl <sub>t</sub> Protected		0.998			0.990			0.999			0.988	
Satd. Flow (prot)	0	1839	0	0	1854	0	0	1758	0	0	1806	0
Fl <sub>t</sub> Permitted		0.998			0.990			0.999			0.988	
Satd. Flow (perm)	0	1839	0	0	1854	0	0	1758	0	0	1806	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	10	221	5	84	313	24	5	128	87	20	54	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	236	0	0	421	0	0	220	0	0	80	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	56.7%
ICU Level of Service	B
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 2: McLaughlin Road & Old School Road

Existing 2024  
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	208	5	79	294	23	5	120	82	19	51	6
Future Volume (vph)	9	208	5	79	294	23	5	120	82	19	51	6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	10	221	5	84	313	24	5	128	87	20	54	6

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	236	421	220	80
Volume Left (vph)	10	84	5	20
Volume Right (vph)	5	24	87	6
Hadj (s)	0.06	0.04	-0.18	0.07
Departure Headway (s)	5.5	5.2	5.6	6.2
Degree Utilization, x	0.36	0.61	0.35	0.14
Capacity (veh/h)	604	661	571	482
Control Delay (s)	11.6	16.1	11.6	10.2
Approach Delay (s)	11.6	16.1	11.6	10.2
Approach LOS	B	C	B	B

Intersection Summary			
Delay		13.5	
Level of Service		B	
Intersection Capacity Utilization	56.7%	ICU Level of Service	B
Analysis Period (min)		15	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Existing 2024  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	142	93	48	195	41	174	1578	88	29	954	33
Future Volume (vph)	65	142	93	48	195	41	174	1578	88	29	954	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.940			0.974			0.992			0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	1714	0	1789	1856	0	1807	3489	0	1825	3335	0
Flt Permitted	0.253			0.256			0.188			0.063		
Satd. Flow (perm)	486	1714	0	482	1856	0	358	3489	0	121	3335	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			8			8			4	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			440.4			855.3			282.2	
Travel Time (s)		51.8			22.6			38.5			12.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Adj. Flow (vph)	67	146	96	49	201	42	179	1627	91	30	984	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	242	0	49	243	0	179	1718	0	30	1018	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

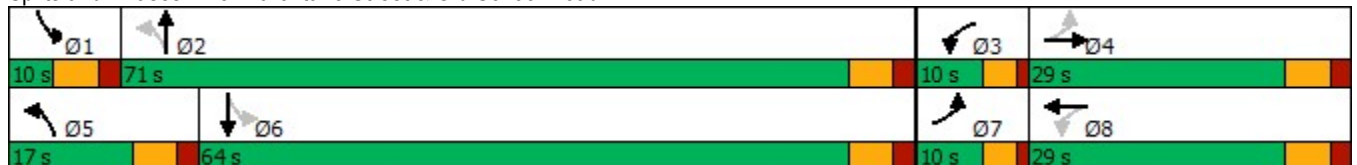
Existing 2024  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	10.0	29.0		10.0	29.0		17.0	71.0		10.0	64.0	
Total Split (%)	8.3%	24.2%		8.3%	24.2%		14.2%	59.2%		8.3%	53.3%	
Maximum Green (s)	6.0	23.0		6.0	23.0		11.0	65.0		4.0	58.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	-2.0		0.0	-2.0		-2.0	-2.0		-2.0	-2.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	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	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	25.3	20.7		25.3	20.7		76.3	70.6		66.7	60.7	
Actuated g/C Ratio	0.22	0.18		0.22	0.18		0.68	0.63		0.59	0.54	
v/c Ratio	0.37	0.72		0.28	0.70		0.46	0.79		0.19	0.57	
Control Delay	37.9	52.4		35.6	53.7		11.6	21.5		11.0	20.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	37.9	52.4		35.6	53.7		11.6	21.5		11.0	20.2	
LOS	D	D		D	D		B	C		B	C	
Approach Delay		49.2			50.7			20.6			19.9	
Approach LOS		D			D			C			B	

Intersection Summary

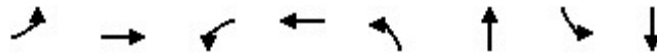
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 112.7  
 Natural Cycle: 100  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.79  
 Intersection Signal Delay: 25.4  
 Intersection LOS: C  
 Intersection Capacity Utilization 79.6%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Existing 2024  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	67	242	49	243	179	1718	30	1018
v/c Ratio	0.37	0.72	0.28	0.70	0.46	0.79	0.19	0.57
Control Delay	37.9	52.4	35.6	53.7	11.6	21.5	11.0	20.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	52.4	35.6	53.7	11.6	21.5	11.0	20.2
Queue Length 50th (m)	11.6	47.1	8.4	50.7	14.3	165.1	2.2	81.1
Queue Length 95th (m)	22.8	74.6	17.8	77.7	24.8	212.7	5.8	108.5
Internal Link Dist (m)		983.8		416.4		831.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	180	402	178	421	410	2188	162	1797
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.60	0.28	0.58	0.44	0.79	0.19	0.57
<b>Intersection Summary</b>								

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Existing 2024  
PM Peak Hour

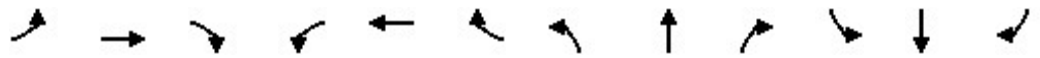


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	142	93	48	195	41	174	1578	88	29	954	33
Future Volume (vph)	65	142	93	48	195	41	174	1578	88	29	954	33
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	0.97		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	1715		1789	1856		1807	3489		1825	3335	
Flt Permitted	0.25	1.00		0.26	1.00		0.19	1.00		0.06	1.00	
Satd. Flow (perm)	487	1715		482	1856		357	3489		121	3335	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	67	146	96	49	201	42	179	1627	91	30	984	34
RTOR Reduction (vph)	0	21	0	0	7	0	0	3	0	0	2	0
Lane Group Flow (vph)	67	221	0	49	236	0	179	1715	0	30	1016	0
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	23.3	18.7		23.3	18.7		76.9	68.6		63.6	61.3	
Effective Green, g (s)	23.3	20.7		23.3	20.7		78.9	70.6		67.6	63.3	
Actuated g/C Ratio	0.20	0.18		0.20	0.18		0.68	0.61		0.58	0.54	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	150	305		148	330		387	2119		133	1816	
v/s Ratio Prot	c0.02	c0.13		0.01	0.13		c0.05	c0.49		0.01	0.30	
v/s Ratio Perm	0.07			0.05			0.27			0.12		
v/c Ratio	0.45	0.73		0.33	0.72		0.46	0.81		0.23	0.56	
Uniform Delay, d1	39.1	45.1		38.7	45.0		9.9	17.6		16.2	17.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	8.3		1.3	7.2		0.9	3.5		0.9	1.3	
Delay (s)	41.2	53.4		40.0	52.2		10.8	21.1		17.0	18.6	
Level of Service	D	D		D	D		B	C		B	B	
Approach Delay (s)		50.8			50.2			20.1			18.5	
Approach LOS		D			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	116.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Existing 2024  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	31	605	45	154	577	9	30	97	108	13	108	22
Future Volume (vph)	31	605	45	154	577	9	30	97	108	13	108	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.991			0.998			0.938			0.979	
Flt Protected		0.998			0.990			0.994			0.996	
Satd. Flow (prot)	0	1848	0	0	1855	0	0	1744	0	0	1824	0
Flt Permitted		0.943			0.726			0.924			0.928	
Satd. Flow (perm)	0	1746	0	0	1360	0	0	1621	0	0	1700	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			2			31			7	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		274.5			1419.4			345.5			2784.8	
Travel Time (s)		14.1			73.0			15.5			125.3	
Confl. Peds. (#/hr)							1					1
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
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Adj. Flow (vph)	34	658	49	167	627	10	33	105	117	14	117	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	741	0	0	804	0	0	255	0	0	155	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	94.0	94.0		94.0	94.0		26.0	26.0		26.0	26.0	
Total Split (%)	78.3%	78.3%		78.3%	78.3%		21.7%	21.7%		21.7%	21.7%	
Maximum Green (s)	90.0	90.0		90.0	90.0		22.0	22.0		22.0	22.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		90.0			90.0			22.0			22.0	
Actuated g/C Ratio		0.75			0.75			0.18			0.18	
v/c Ratio		0.57			0.79			0.79			0.49	



Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Existing 2024  
PM Peak Hour

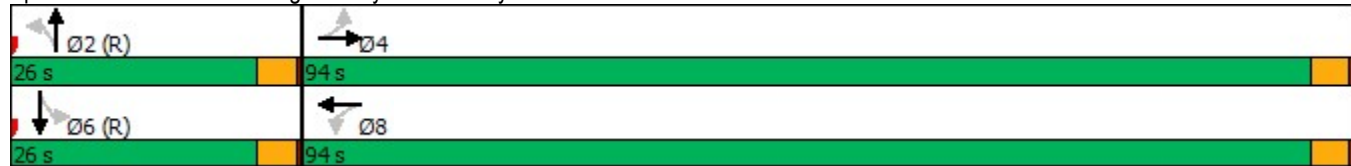


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		8.4			31.8			59.6			47.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		8.4			31.8			59.6			47.9	
LOS		A			C			E			D	
Approach Delay		8.4			31.8			59.6			47.9	
Approach LOS		A			C			E			D	

Intersection Summary

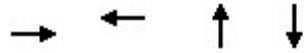
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.79
Intersection Signal Delay:	27.8
Intersection LOS:	C
Intersection Capacity Utilization	105.3%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Existing 2024  
PM Peak Hour



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	741	804	255	155
v/c Ratio	0.57	0.79	0.79	0.49
Control Delay	8.4	31.8	59.6	47.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	8.4	31.8	59.6	47.9
Queue Length 50th (m)	64.5	185.9	51.2	31.5
Queue Length 95th (m)	90.4	228.6	#90.8	52.6
Internal Link Dist (m)	250.5	1395.4	321.5	2760.8
Turn Bay Length (m)				
Base Capacity (vph)	1311	1020	322	317
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.57	0.79	0.79	0.49

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road

Existing 2024  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕			↕			↕			↕		
Traffic Volume (vph)	31	605	45	154	577	9	30	97	108	13	108	22	
Future Volume (vph)	31	605	45	154	577	9	30	97	108	13	108	22	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0			4.0			4.0			4.0		
Lane Util. Factor		1.00			1.00			1.00			1.00		
Frbp, ped/bikes		1.00			1.00			1.00			1.00		
Flpb, ped/bikes		1.00			1.00			1.00			1.00		
Frt		0.99			1.00			0.94			0.98		
Flt Protected		1.00			0.99			0.99			1.00		
Satd. Flow (prot)		1848			1855			1743			1824		
Flt Permitted		0.94			0.73			0.92			0.93		
Satd. Flow (perm)		1747			1361			1621			1701		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	34	658	49	167	627	10	33	105	117	14	117	24	
RTOR Reduction (vph)	0	2	0	0	1	0	0	25	0	0	6	0	
Lane Group Flow (vph)	0	739	0	0	804	0	0	230	0	0	149	0	
Confl. Peds. (#/hr)							1					1	
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		90.0			90.0			22.0			22.0		
Effective Green, g (s)		90.0			90.0			22.0			22.0		
Actuated g/C Ratio		0.75			0.75			0.18			0.18		
Clearance Time (s)		4.0			4.0			4.0			4.0		
Lane Grp Cap (vph)		1310			1020			297			311		
v/s Ratio Prot													
v/s Ratio Perm		0.42			0.59			0.14			0.09		
v/c Ratio		0.56			0.79			0.77			0.48		
Uniform Delay, d1		6.5			9.2			46.6			43.9		
Progression Factor		1.00			2.71			1.00			1.00		
Incremental Delay, d2		1.8			4.2			17.6			5.2		
Delay (s)		8.3			29.0			64.3			49.1		
Level of Service		A			C			E			D		
Approach Delay (s)		8.3			29.0			64.3			49.1		
Approach LOS		A			C			E			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			27.3									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.78										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			105.3%									ICU Level of Service	G
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Existing 2024  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	673	38	96	748	68	58	185	96	101	138	21
Future Volume (vph)	20	673	38	96	748	68	58	185	96	101	138	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.987				0.850		0.980	
Flt Protected	0.950			0.950				0.988		0.950		
Satd. Flow (prot)	1738	1850	0	1755	1813	0	0	1884	1585	1738	1823	0
Flt Permitted	0.188			0.253				0.876		0.452		
Satd. Flow (perm)	344	1850	0	467	1813	0	0	1670	1585	827	1823	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			7				81		6	
Link Speed (k/h)		70			70			80		80		
Link Distance (m)		1419.4			1263.7			341.6		2496.3		
Travel Time (s)		73.0			65.0			15.4		112.3		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	21	701	40	100	779	71	60	193	100	105	144	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	741	0	100	850	0	0	253	100	105	166	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)		3.7			3.7			3.7		3.7		
Link Offset(m)		0.0			0.0			0.0		0.0		
Crosswalk Width(m)		1.6			1.6			1.6		1.6		
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	81.0	81.0		81.0	81.0		39.0	39.0	39.0	39.0	39.0	
Total Split (%)	67.5%	67.5%		67.5%	67.5%		32.5%	32.5%	32.5%	32.5%	32.5%	
Maximum Green (s)	75.0	75.0		75.0	75.0		33.0	33.0	33.0	33.0	33.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		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)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
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)	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)	75.0	75.0		75.0	75.0		33.0	33.0	33.0	33.0	33.0	
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.28	0.28	0.28	0.28	0.28	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

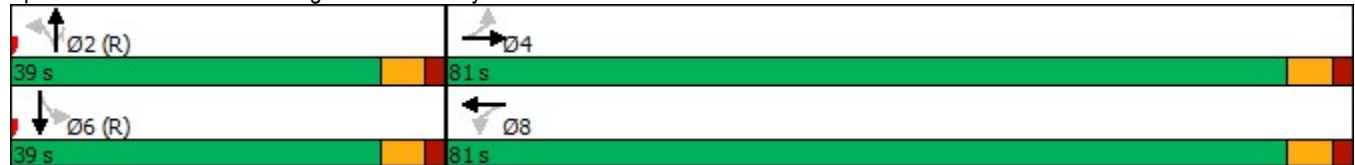
Existing 2024  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.10	0.64		0.34	0.75			0.55	0.20	0.46	0.33	
Control Delay	12.9	18.0		14.8	21.0			42.6	11.2	44.1	35.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay	12.9	18.0		14.8	21.0			42.6	11.2	44.1	35.6	
LOS	B	B		B	C			D	B	D	D	
Approach Delay		17.9			20.3			33.7			38.9	
Approach LOS		B			C			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:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	23.7
Intersection LOS:	C
Intersection Capacity Utilization	88.3%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Existing 2024  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	21	741	100	850	253	100	105	166
v/c Ratio	0.10	0.64	0.34	0.75	0.55	0.20	0.46	0.33
Control Delay	12.9	18.0	14.8	21.0	42.6	11.2	44.1	35.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.9	18.0	14.8	21.0	42.6	11.2	44.1	35.6
Queue Length 50th (m)	1.9	96.9	10.5	130.6	51.0	3.3	20.6	30.0
Queue Length 95th (m)	m4.0	145.0	22.2	183.3	77.4	16.3	38.5	49.2
Internal Link Dist (m)		1395.4		1239.7	317.6			2472.3
Turn Bay Length (m)	30.0		30.0			30.0		
Base Capacity (vph)	215	1158	291	1135	459	494	227	505
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.64	0.34	0.75	0.55	0.20	0.46	0.33

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

# HCM Signalized Intersection Capacity Analysis

## 5: McLaughlin Road & Mayfield Road

Existing 2024  
PM Peak Hour



























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	20	673	38	96	748	68	58	185	96	101	138	21	
Future Volume (vph)	20	673	38	96	748	68	58	185	96	101	138	21	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0	6.0		
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00		
Frt	1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.98		
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00		
Satd. Flow (prot)	1738	1850		1755	1814			1884	1585	1738	1823		
Flt Permitted	0.19	1.00		0.25	1.00			0.88	1.00	0.45	1.00		
Satd. Flow (perm)	345	1850		468	1814			1671	1585	827	1823		
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	21	701	40	100	779	71	60	193	100	105	144	22	
RTOR Reduction (vph)	0	2	0	0	3	0	0	0	59	0	4	0	
Lane Group Flow (vph)	21	739	0	100	847	0	0	253	41	105	162	0	
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		4			8			2		2	6		
Permitted Phases	4			8			2		2	6			
Actuated Green, G (s)	75.0	75.0		75.0	75.0			33.0	33.0	33.0	33.0		
Effective Green, g (s)	75.0	75.0		75.0	75.0			33.0	33.0	33.0	33.0		
Actuated g/C Ratio	0.62	0.62		0.62	0.62			0.28	0.28	0.28	0.28		
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0	6.0		
Lane Grp Cap (vph)	215	1156		292	1133			459	435	227	501		
v/s Ratio Prot		0.40			c0.47							0.09	
v/s Ratio Perm	0.06			0.21				c0.15	0.03	0.13			
v/c Ratio	0.10	0.64		0.34	0.75			0.55	0.09	0.46	0.32		
Uniform Delay, d1	9.0	14.1		10.7	15.8			37.2	32.4	36.1	34.6		
Progression Factor	1.28	1.10		1.00	1.00			1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.7	2.2		3.2	4.5			4.7	0.4	6.6	1.7		
Delay (s)	12.2	17.6		13.9	20.4			41.9	32.8	42.8	36.3		
Level of Service	B	B		B	C			D	C	D	D		
Approach Delay (s)		17.5			19.7			39.3			38.8		
Approach LOS		B			B			D			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			24.1									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.69										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	12.0
Intersection Capacity Utilization			88.3%									ICU Level of Service	E
Analysis Period (min)			15										

c Critical Lane Group

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Existing 2024  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	271	486	63	241	564	63	91	540	230	128	636	387
Future Volume (vph)	271	486	63	241	564	63	91	540	230	128	636	387
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.96	0.98		0.99	1.00		0.96	0.99		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	3476	1601	3404	3544	1585	1789	3614	1555	1825	3510	1585
Flt Permitted	0.309			0.950			0.402			0.308		
Satd. Flow (perm)	570	3476	1538	3326	3544	1562	755	3614	1486	587	3510	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			105			237			379
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			749.9			381.1			609.4	
Travel Time (s)		7.3			38.6			19.6			31.3	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Adj. Flow (vph)	279	501	65	248	581	65	94	557	237	132	656	399
Shared Lane Traffic (%)												
Lane Group Flow (vph)	279	501	65	248	581	65	94	557	237	132	656	399
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	22.0	49.0	49.0	22.0	49.0	49.0	51.0	51.0	51.0	13.0	64.0	64.0
Total Split (%)	16.3%	36.3%	36.3%	16.3%	36.3%	36.3%	37.8%	37.8%	37.8%	9.6%	47.4%	47.4%
Maximum Green (s)	17.0	42.0	42.0	17.0	42.0	42.0	44.0	44.0	44.0	9.0	57.0	57.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	1.0	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
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)		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



Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

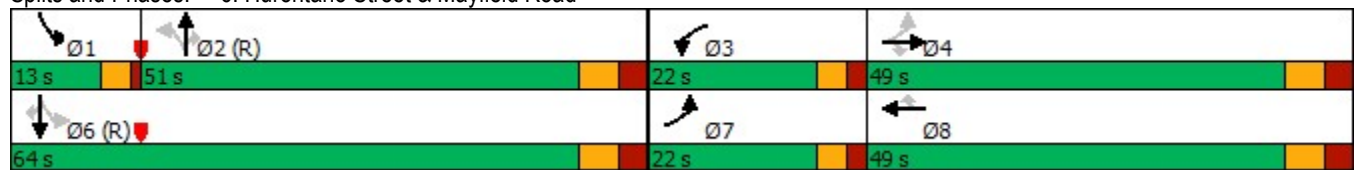
Existing 2024  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	61.0	42.0	42.0	17.0	42.0	42.0	44.0	44.0	44.0	60.0	57.0	57.0
Actuated g/C Ratio	0.45	0.31	0.31	0.13	0.31	0.31	0.33	0.33	0.33	0.44	0.42	0.42
v/c Ratio	0.69	0.46	0.12	0.58	0.53	0.12	0.38	0.47	0.37	0.38	0.44	0.46
Control Delay	31.2	39.1	1.7	61.6	40.4	1.7	40.7	37.9	5.6	26.0	28.9	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	39.1	1.7	61.6	40.4	1.7	40.7	37.9	5.6	26.0	28.9	4.8
LOS	C	D	A	E	D	A	D	D	A	C	C	A
Approach Delay		33.6			43.5			29.6			20.5	
Approach LOS		C			D			C			C	

Intersection Summary

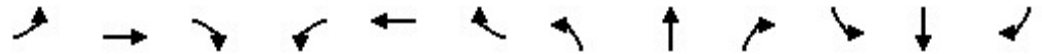
Area Type:	Other
Cycle Length:	135
Actuated Cycle Length:	135
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	30.9
Intersection LOS:	C
Intersection Capacity Utilization	74.9%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Existing 2024  
PM Peak Hour



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	279	501	65	248	581	65	94	557	237	132	656	399
v/c Ratio	0.69	0.46	0.12	0.58	0.53	0.12	0.38	0.47	0.37	0.38	0.44	0.46
Control Delay	31.2	39.1	1.7	61.6	40.4	1.7	40.7	37.9	5.6	26.0	28.9	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.2	39.1	1.7	61.6	40.4	1.7	40.7	37.9	5.6	26.0	28.9	4.8
Queue Length 50th (m)	44.2	56.5	0.0	32.5	67.1	0.0	19.3	62.1	0.0	20.7	64.5	3.1
Queue Length 95th (m)	64.4	73.2	2.8	46.6	85.3	2.8	35.8	79.2	18.0	34.0	81.2	23.0
Internal Link Dist (m)		118.1			725.9			357.1			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	406	1081	550	428	1102	558	246	1177	644	343	1482	875
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.46	0.12	0.58	0.53	0.12	0.38	0.47	0.37	0.38	0.44	0.46

Intersection Summary










HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Existing 2024  
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	271	486	63	241	564	63	91	540	230	128	636	387	
Future Volume (vph)	271	486	63	241	564	63	91	540	230	128	636	387	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1755	3476	1538	3404	3544	1562	1784	3614	1486	1821	3510	1555	
Flt Permitted	0.31	1.00	1.00	0.95	1.00	1.00	0.40	1.00	1.00	0.31	1.00	1.00	
Satd. Flow (perm)	571	3476	1538	3404	3544	1562	756	3614	1486	589	3510	1555	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	279	501	65	248	581	65	94	557	237	132	656	399	
RTOR Reduction (vph)	0	0	45	0	0	45	0	0	160	0	0	219	
Lane Group Flow (vph)	279	501	20	248	581	20	94	557	77	132	656	180	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3	
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8			2		1	6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	59.0	42.0	42.0	17.0	42.0	42.0	44.0	44.0	44.0	57.0	57.0	57.0	
Effective Green, g (s)	59.0	42.0	42.0	17.0	42.0	42.0	44.0	44.0	44.0	57.0	57.0	57.0	
Actuated g/C Ratio	0.44	0.31	0.31	0.13	0.31	0.31	0.33	0.33	0.33	0.42	0.42	0.42	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Grp Cap (vph)	398	1081	478	428	1102	485	246	1177	484	330	1482	656	
v/s Ratio Prot	c0.09	0.14		0.07	0.16			c0.15		0.03	c0.19		
v/s Ratio Perm	c0.22		0.01			0.01	0.12		0.05	0.14		0.12	
v/c Ratio	0.70	0.46	0.04	0.58	0.53	0.04	0.38	0.47	0.16	0.40	0.44	0.27	
Uniform Delay, d1	26.3	37.4	32.5	55.6	38.3	32.5	35.0	36.3	32.4	25.2	27.7	25.5	
Progression 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	
Incremental Delay, d2	9.9	1.4	0.2	5.6	1.8	0.2	4.5	1.4	0.7	3.6	1.0	1.0	
Delay (s)	36.1	38.9	32.6	61.3	40.1	32.6	39.5	37.6	33.1	28.8	28.7	26.5	
Level of Service	D	D	C	E	D	C	D	D	C	C	C	C	
Approach Delay (s)		37.5			45.4			36.6			28.0		
Approach LOS		D			D			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			36.2									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.60										
Actuated Cycle Length (s)			135.0									Sum of lost time (s)	23.0
Intersection Capacity Utilization			74.9%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													










Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C

Existing 2024  
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
<b>Flt Protected</b>						
Satd. Flow (prot)	1883	0	1883	0	0	1883
<b>Flt Permitted</b>						
Satd. Flow (perm)	1883	0	1883	0	0	1883
Link Speed (k/h)	48		80			80
Link Distance (m)	204.9		2784.8			298.8
Travel Time (s)	15.4		125.3			13.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
<b>Shared Lane Traffic (%)</b>						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
<b>Two way Left Turn Lane</b>						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	0.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
7: Chinguacousy Road & Street C

Existing 2024  
PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
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)	0	0	0	0	0	0
<b>Pedestrians</b>						
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	0	0				0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0				0
tC, single (s)	6.4	6.2				4.1
tC, 2 stage (s)						
tF (s)	3.5	3.3				2.2
p0 queue free %	100	100				100
cM capacity (veh/h)	1023	1085				1623
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay	0.0					
Intersection Capacity Utilization	0.0%		ICU Level of Service		A	
Analysis Period (min)	15					

Lanes, Volumes, Timings  
8: Street B & Old School Road

Existing 2024  
PM Peak Hour



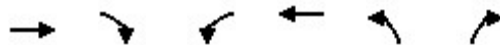
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	0	1883	1883	0
Flt Permitted						
Satd. Flow (perm)	1883	0	0	1883	1883	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	0.0%
Analysis Period (min)	15
	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis  
8: Street B & Old School Road

















Existing 2024  
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↶	↷
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0			0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0			0	0	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	100			100	100	
cM capacity (veh/h)	1623			1023	1085	
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS				A		
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS				A		
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	0.0%			ICU Level of Service	A	
Analysis Period (min)	15					

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

















Existing 2024  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	1883	0	0	1883	0	0	1883	0	0	1883	0
Flt Permitted												
Satd. Flow (perm)	0	1883	0	0	1883	0	0	1883	0	0	1883	0
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			403.1			2496.3			588.2	
Travel Time (s)		15.4			30.2			112.3			26.5	
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
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 0.0%	ICU Level of Service A											
Analysis Period (min) 15												













HCM Unsignalized Intersection Capacity Analysis  
 9: McLaughlin Road & Street A

Existing 2024  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	0	0	0	0	0	0	0			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0	0	0	0	0	0	0			0		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	100	100	100	100			100		
cM capacity (veh/h)	1023	896	1085	1023	896	1085	1623			1623		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	0	0	0	0								
Volume Left	0	0	0	0								
Volume Right	0	0	0	0								
cSH	1700	1700	1700	1700								
Volume to Capacity	0.00	0.00	0.00	0.00								
Queue Length 95th (m)	0.0	0.0	0.0	0.0								
Control Delay (s)	0.0	0.0	0.0	0.0								
Lane LOS	A	A										
Approach Delay (s)	0.0	0.0	0.0	0.0								
Approach LOS	A	A										
Intersection Summary												
Average Delay			0.0									
Intersection Capacity Utilization			0.0%		ICU Level of Service				A			
Analysis Period (min)			15									










Lanes, Volumes, Timings  
 10: Street D & Old School Road

Existing 2024  
 PM Peak Hour

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	0	1883	1883	0
Flt Permitted						
Satd. Flow (perm)	1883	0	0	1883	1883	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	0.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 10: Street D & Old School Road

Existing 2024  
 PM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
<b>Pedestrians</b>						
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			0		0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		0	0
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1623		1023	1085
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS				A		
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS				A		
<b>Intersection Summary</b>						
Average Delay				0.0		
Intersection Capacity Utilization				0.0%	ICU Level of Service	A
Analysis Period (min)				15		

Lanes, Volumes, Timings  
11: Street A & Street D

Existing 2024  
PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	0	1883	1883	0	1883	0
Flt Permitted						
Satd. Flow (perm)	0	1883	1883	0	1883	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Stop	Stop		Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	0.0%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 11: Street A & Street D

Existing 2024  
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total (vph)	0	0	0			
Volume Left (vph)	0	0	0			
Volume Right (vph)	0	0	0			
Hadj (s)	0.00	0.00	0.00			
Departure Headway (s)	3.9	3.9	3.9			
Degree Utilization, x	0.00	0.00	0.00			
Capacity (veh/h)	917	917	917			
Control Delay (s)	6.9	6.9	6.9			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A	A	A			
Intersection Summary						
Delay			0.0			
Level of Service			A			
Intersection Capacity Utilization			0.0%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Existing 2024  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	50.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	3579	3579	0
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	3579	3579	0
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	0.0%
	ICU Level of Service A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 12: Hurontario Street & Street A


















Existing 2024  
 PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
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)	0	0	0	0	0	0
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL	TWLTL		
Median storage veh			2	2		
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0	0	0			
vC1, stage 1 conf vol	0					
vC2, stage 2 conf vol	0					
vCu, unblocked vol	0	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1023	1084	1622			
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0				0.0
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road


















Future Background 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	217	3	86	139	26	2	141	177	20	146	8
Future Volume (vph)	2	217	3	86	139	26	2	141	177	20	146	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.976			0.925				0.993
Flt Protected				0.950								0.994
Satd. Flow (prot)	0	1917	0	1772	1816	0	0	1711	0	0	1783	0
Flt Permitted				0.950								0.994
Satd. Flow (perm)	0	1917	0	1772	1816	0	0	1711	0	0	1783	0
Link Speed (k/h)		70			70			80				80
Link Distance (m)		998.2			490.2			298.8				656.2
Travel Time (s)		51.3			25.2			13.4				29.5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Adj. Flow (vph)	2	231	3	91	148	28	2	150	188	21	155	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	236	0	91	176	0	0	340	0	0	185	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)		3.7			3.7			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop				Stop
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	53.3%						ICU Level of Service A					
Analysis Period (min)	15											





















HCM Unsignalized Intersection Capacity Analysis  
 1: Chinguacousy Road & Old School Road

Future Background 2026  
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	217	3	86	139	26	2	141	177	20	146	8
Future Volume (vph)	2	217	3	86	139	26	2	141	177	20	146	8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	2	231	3	91	148	28	2	150	188	21	155	9
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1							
Volume Total (vph)	236	91	176	340	185							
Volume Left (vph)	2	91	0	2	21							
Volume Right (vph)	3	0	28	188	9							
Hadj (s)	-0.01	0.55	-0.06	-0.26	0.10							
Departure Headway (s)	6.1	7.0	6.4	5.5	6.2							
Degree Utilization, x	0.40	0.18	0.31	0.52	0.32							
Capacity (veh/h)	539	472	506	608	524							
Control Delay (s)	13.1	10.3	11.1	14.3	12.0							
Approach Delay (s)	13.1	10.8		14.3	12.0							
Approach LOS	B	B		B	B							
Intersection Summary												
Delay			12.7									
Level of Service			B									
Intersection Capacity Utilization			53.3%	ICU Level of Service	A							
Analysis Period (min)			15									



















Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Background 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	390	21	153	228	21	22	55	263	34	109	10
Future Volume (vph)	6	390	21	153	228	21	22	55	263	34	109	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.988				0.850			0.991
Flt Protected		0.999		0.950				0.986				0.989
Satd. Flow (prot)	0	1875	0	1789	1832	0	0	1867	1617	0	1858	0
Flt Permitted		0.999		0.950				0.986				0.989
Satd. Flow (perm)	0	1875	0	1789	1832	0	0	1867	1617	0	1858	0
Link Speed (k/h)		70			70			80				80
Link Distance (m)		893.1			349.1			588.2				806.8
Travel Time (s)		45.9			18.0			26.5				36.3
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Adj. Flow (vph)	6	415	22	163	243	22	23	59	280	36	116	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	443	0	163	265	0	0	82	280	0	163	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)		3.7			3.7			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	60.3%						ICU Level of Service B					
Analysis Period (min)	15											
























HCM Unsignalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road

Future Background 2026  
AM Peak Hour

												
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	390	21	153	228	21	22	55	263	34	109	10
Future Volume (vph)	6	390	21	153	228	21	22	55	263	34	109	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	6	415	22	163	243	22	23	59	280	36	116	11
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1						
Volume Total (vph)	443	163	265	82	280	163						
Volume Left (vph)	6	163	0	23	0	36						
Volume Right (vph)	22	0	22	0	280	11						
Hadj (s)	0.00	0.53	0.00	0.16	-0.68	0.03						
Departure Headway (s)	7.4	8.1	7.5	8.1	7.2	8.6						
Degree Utilization, x	0.91	0.37	0.55	0.18	0.56	0.39						
Capacity (veh/h)	473	416	450	430	473	401						
Control Delay (s)	47.8	14.5	18.3	11.7	17.9	16.9						
Approach Delay (s)	47.8	16.9		16.5		16.9						
Approach LOS	E	C		C		C						
Intersection Summary												
Delay			26.6									
Level of Service			D									
Intersection Capacity Utilization			60.3%		ICU Level of Service				B			
Analysis Period (min)			15									

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2026  
AM Peak Hour

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	327	195	158	242	154	35	53	1396	129	32	2054	181	
Future Volume (vph)	327	195	158	242	154	35	53	1396	129	32	2054	181	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0	
Storage Lanes	1		0	1		0	1		1	1		1	
Taper Length (m)	2.5			2.5			2.5			2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	
Frt		0.933			0.972				0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1755	1746	0	1722	1785	0	1722	4445	1471	1615	5043	1633	
Flt Permitted	0.605			0.386			0.067			0.112			
Satd. Flow (perm)	1118	1746	0	700	1785	0	121	4445	1471	190	5043	1633	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		2			11				135			129	
Link Speed (k/h)		70			70			80			80		
Link Distance (m)		1007.8			934.7			855.3			784.7		
Travel Time (s)		51.8			48.1			38.5			35.3		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%	
Adj. Flow (vph)	352	210	170	260	166	38	57	1501	139	34	2209	195	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	352	380	0	260	204	0	57	1501	139	34	2209	195	
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)		3.7			3.7			3.7			3.7		
Link Offset(m)		0.0			0.0			0.0			0.0		
Crosswalk Width(m)		1.6			1.6			1.6			1.6		
Two way Left Turn Lane								Yes					
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Number of Detectors	1	2		1	2		1	2	1	1	2	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7		
Detector 2 Size(m)		1.8			1.8			1.8			1.8		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
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	Perm	
Protected Phases		4			8			2			6		

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2026  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	24.0	24.0		24.0	24.0		29.0	29.0	29.0	29.0	29.0	29.0
Total Split (s)	52.0	52.0		52.0	52.0		68.0	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%	56.7%
Maximum Green (s)	44.0	44.0		44.0	44.0		60.0	60.0	60.0	60.0	60.0	60.0
Yellow Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	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	0.0
Total Lost Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
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	3.0
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	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	0
Act Effct Green (s)	44.0	44.0		44.0	44.0		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.37	0.37		0.37	0.37		0.50	0.50	0.50	0.50	0.50	0.50
v/c Ratio	0.86	0.59		1.02	0.31		0.95	0.68	0.17	0.36	0.88	0.22
Control Delay	56.9	35.2		99.2	27.2		138.1	24.6	3.4	31.7	31.7	6.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	35.2		99.2	27.2		138.1	24.6	3.4	31.7	31.7	6.6
LOS	E	D		F	C		F	C	A	C	C	A
Approach Delay		45.6			67.5			26.6			29.7	
Approach LOS		D			E			C			C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Natural Cycle:	80
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.02
Intersection Signal Delay:	34.2
Intersection LOS:	C
Intersection Capacity Utilization:	97.4%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Background 2026  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	352	380	260	204	57	1501	139	34	2209	195
v/c Ratio	0.86	0.59	1.02	0.31	0.95	0.68	0.17	0.36	0.88	0.22
Control Delay	56.9	35.2	99.2	27.2	138.1	24.6	3.4	31.7	31.7	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	35.2	99.2	27.2	138.1	24.6	3.4	31.7	31.7	6.6
Queue Length 50th (m)	76.0	71.4	~62.5	32.0	12.3	94.6	0.5	4.7	164.2	7.8
Queue Length 95th (m)	#129.4	103.1	#116.0	51.2	#40.6	111.1	10.4	15.1	186.5	20.2
Internal Link Dist (m)		983.8		910.7		831.3			760.7	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	409	641	256	661	60	2222	803	95	2521	881
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.59	1.02	0.31	0.95	0.68	0.17	0.36	0.88	0.22

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Background 2026  
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	327	195	158	242	154	35	53	1396	129	32	2054	181
Future Volume (vph)	327	195	158	242	154	35	53	1396	129	32	2054	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	1746		1722	1785		1722	4445	1471	1615	5043	1633
Flt Permitted	0.61	1.00		0.39	1.00		0.07	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	1118	1746		699	1785		121	4445	1471	191	5043	1633
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	352	210	170	260	166	38	57	1501	139	34	2209	195
RTOR Reduction (vph)	0	1	0	0	7	0	0	0	68	0	0	65
Lane Group Flow (vph)	352	379	0	260	197	0	57	1501	72	34	2209	131
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2		2	6	6
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	44.0	44.0		44.0	44.0		60.0	60.0	60.0	60.0	60.0	60.0
Effective Green, g (s)	44.0	44.0		44.0	44.0		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.37	0.37		0.37	0.37		0.50	0.50	0.50	0.50	0.50	0.50
Clearance Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	409	640		256	654		60	2222	735	95	2521	816
v/s Ratio Prot		0.22			0.11			0.34			0.44	
v/s Ratio Perm	0.31			c0.37			c0.47		0.05	0.18		0.08
v/c Ratio	0.86	0.59		1.02	0.30		0.95	0.68	0.10	0.36	0.88	0.16
Uniform Delay, d1	35.2	30.7		38.0	27.1		28.6	22.7	15.8	18.3	26.7	16.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	16.7	1.5		60.3	0.3		102.6	1.7	0.3	10.2	4.7	0.4
Delay (s)	51.8	32.2		98.3	27.3		131.1	24.3	16.0	28.5	31.4	16.7
Level of Service	D	C		F	C		F	C	B	C	C	B
Approach Delay (s)		41.6			67.1			27.2			30.1	
Approach LOS		D			E			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			34.0									C
HCM 2000 Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			120.0								16.0	
Intersection Capacity Utilization			97.4%									F
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2026  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕			↕↕↕			↕			↕	
Traffic Volume (vph)	35	609	45	125	530	18	22	151	126	57	182	33
Future Volume (vph)	35	609	45	125	530	18	22	151	126	57	182	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.990			0.996			0.943			0.984	
Fl <sub>t</sub> Protected		0.997			0.991			0.996			0.990	
Satd. Flow (prot)	0	4860	0	0	4872	0	0	1736	0	0	1786	0
Fl <sub>t</sub> Permitted		0.874			0.719			0.967			0.789	
Satd. Flow (perm)	0	4260	0	0	3535	0	0	1685	0	0	1423	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			7			31			6	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.8			1419.4			749.2			2784.8	
Travel Time (s)		30.4			73.0			33.7			125.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Adj. Flow (vph)	35	615	45	126	535	18	22	153	127	58	184	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	695	0	0	679	0	0	302	0	0	275	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	81.0	81.0		81.0	81.0		39.0	39.0		39.0	39.0	
Total Split (%)	67.5%	67.5%		67.5%	67.5%		32.5%	32.5%		32.5%	32.5%	
Maximum Green (s)	77.0	77.0		77.0	77.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		77.0			77.0			35.0			35.0	
Actuated g/C Ratio		0.64			0.64			0.29			0.29	
v/c Ratio		0.25			0.30			0.59			0.66	
Control Delay		9.2			23.9			37.9			45.1	
Queue Delay		0.0			0.0			0.0			0.0	



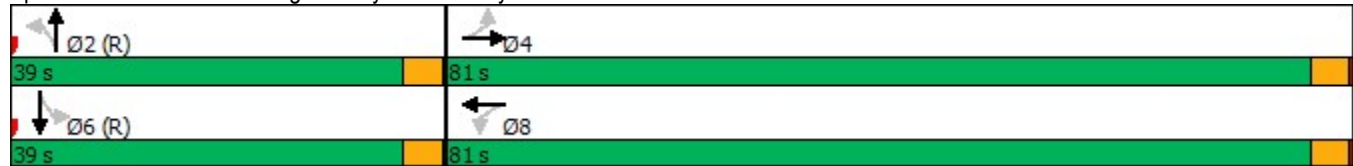
Lanes, Volumes, Timings  
 4: Chinguacousy Road & Mayfield Road

Future Background 2026  
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		9.2			23.9			37.9			45.1	
LOS		A			C			D			D	
Approach Delay		9.2			23.9			37.9			45.1	
Approach LOS		A			C			D			D	

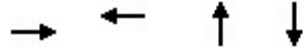
Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	40
Control Type:	Pretimed
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	23.8
Intersection LOS:	C
Intersection Capacity Utilization	66.0%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

























Future Background 2026  
AM Peak Hour



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	695	679	302	275
v/c Ratio	0.25	0.30	0.59	0.66
Control Delay	9.2	23.9	37.9	45.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	9.2	23.9	37.9	45.1
Queue Length 50th (m)	23.0	42.5	54.6	55.6
Queue Length 95th (m)	29.1	54.9	83.9	85.7
Internal Link Dist (m)	566.8	1395.4	725.2	2760.8
Turn Bay Length (m)				
Base Capacity (vph)	2739	2270	513	419
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.30	0.59	0.66
Intersection Summary				

HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road






















Future Background 2026  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  			  			  				  	
Traffic Volume (vph)	35	609	45	125	530	18	22	151	126	57	182	33	
Future Volume (vph)	35	609	45	125	530	18	22	151	126	57	182	33	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0			4.0			4.0			4.0		
Lane Util. Factor		0.91			0.91			1.00			1.00		
Frt		0.99			1.00			0.94			0.98		
Flt Protected		1.00			0.99			1.00			0.99		
Satd. Flow (prot)		4864			4871			1737			1785		
Flt Permitted		0.87			0.72			0.97			0.79		
Satd. Flow (perm)		4260			3536			1686			1423		
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Adj. Flow (vph)	35	615	45	126	535	18	22	153	127	58	184	33	
RTOR Reduction (vph)	0	6	0	0	3	0	0	22	0	0	4	0	
Lane Group Flow (vph)	0	689	0	0	676	0	0	280	0	0	271	0	
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		77.0			77.0			35.0			35.0		
Effective Green, g (s)		77.0			77.0			35.0			35.0		
Actuated g/C Ratio		0.64			0.64			0.29			0.29		
Clearance Time (s)		4.0			4.0			4.0			4.0		
Lane Grp Cap (vph)		2733			2268			491			415		
v/s Ratio Prot													
v/s Ratio Perm		0.16			c0.19			0.17			c0.19		
v/c Ratio		0.25			0.30			0.57			0.65		
Uniform Delay, d1		9.2			9.5			36.1			37.2		
Progression Factor		1.00			2.48			1.00			1.00		
Incremental Delay, d2		0.2			0.3			4.7			7.8		
Delay (s)		9.4			23.9			40.9			44.9		
Level of Service		A			C			D			D		
Approach Delay (s)		9.4			23.9			40.9			44.9		
Approach LOS		A			C			D			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			24.3									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.41										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			66.0%									ICU Level of Service	C
Analysis Period (min)			15										

c Critical Lane Group

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	795	88	115	646	91	39	177	86	213	305	55
Future Volume (vph)	14	795	88	115	646	91	39	177	86	213	305	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.981				0.850		0.977	
Flt Protected	0.950			0.950				0.991		0.950		
Satd. Flow (prot)	1825	4892	0	1706	4781	0	0	1837	1570	1690	1818	0
Flt Permitted	0.341			0.284				0.671		0.521		
Satd. Flow (perm)	655	4892	0	510	4781	0	0	1244	1570	927	1818	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			38				84			8
Link Speed (k/h)		70			70			80				80
Link Distance (m)		1419.4			1263.7			743.2				2496.3
Travel Time (s)		73.0			65.0			33.4				112.3
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Adj. Flow (vph)	14	811	90	117	659	93	40	181	88	217	311	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	901	0	117	752	0	0	221	88	217	367	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)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4			8			2				6
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	23.0	23.0	
Total Split (s)	78.0	78.0		78.0	78.0		42.0	42.0	42.0	42.0	42.0	
Total Split (%)	65.0%	65.0%		65.0%	65.0%		35.0%	35.0%	35.0%	35.0%	35.0%	
Maximum Green (s)	72.0	72.0		72.0	72.0		36.0	36.0	36.0	36.0	36.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		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	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
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)	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)	72.0	72.0		72.0	72.0			36.0	36.0	36.0	36.0	
Actuated g/C Ratio	0.60	0.60		0.60	0.60			0.30	0.30	0.30	0.30	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2026  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.04	0.31		0.38	0.26			0.59	0.17	0.78	0.67	
Control Delay	17.5	18.9		17.0	11.0			43.5	8.0	59.1	42.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay	17.5	18.9		17.0	11.0			43.5	8.0	59.1	42.9	
LOS	B	B		B	B			D	A	E	D	
Approach Delay		18.9			11.8			33.4			48.9	
Approach LOS		B			B			C			D	

Intersection Summary

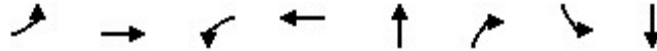
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 50  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 24.8  
 Intersection Capacity Utilization 74.6%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service D

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Background 2026  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	14	901	117	752	221	88	217	367
v/c Ratio	0.04	0.31	0.38	0.26	0.59	0.17	0.78	0.67
Control Delay	17.5	18.9	17.0	11.0	43.5	8.0	59.1	42.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	18.9	17.0	11.0	43.5	8.0	59.1	42.9
Queue Length 50th (m)	1.6	44.1	13.5	27.3	44.3	0.7	46.7	73.9
Queue Length 95th (m)	m4.8	55.0	27.6	34.2	71.0	12.4	#86.2	107.3
Internal Link Dist (m)		1395.4		1239.7	719.2			2472.3
Turn Bay Length (m)	30.0		30.0			30.0		
Base Capacity (vph)	393	2946	306	2883	373	529	278	551
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.31	0.38	0.26	0.59	0.17	0.78	0.67

Intersection Summary


























# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road


































Future Background 2026  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  			  								
Traffic Volume (vph)	14	795	88	115	646	91	39	177	86	213	305	55	
Future Volume (vph)	14	795	88	115	646	91	39	177	86	213	305	55	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0	6.0		
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00		
Frt	1.00	0.99		1.00	0.98			1.00	0.85	1.00	0.98		
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00		
Satd. Flow (prot)	1825	4892		1706	4783			1837	1570	1690	1819		
Flt Permitted	0.34	1.00		0.28	1.00			0.67	1.00	0.52	1.00		
Satd. Flow (perm)	656	4892		510	4783			1244	1570	927	1819		
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
Adj. Flow (vph)	14	811	90	117	659	93	40	181	88	217	311	56	
RTOR Reduction (vph)	0	11	0	0	15	0	0	0	59	0	6	0	
Lane Group Flow (vph)	14	890	0	117	737	0	0	221	29	217	361	0	
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		4			8			2		2	6	6	
Permitted Phases	4			8			2		2	6			
Actuated Green, G (s)	72.0	72.0		72.0	72.0			36.0	36.0	36.0	36.0	36.0	
Effective Green, g (s)	72.0	72.0		72.0	72.0			36.0	36.0	36.0	36.0	36.0	
Actuated g/C Ratio	0.60	0.60		0.60	0.60			0.30	0.30	0.30	0.30	0.30	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	393	2935		306	2869			373	471	278	545		
v/s Ratio Prot		0.18			0.15							0.20	
v/s Ratio Perm	0.02			c0.23				0.18	0.02	c0.23			
v/c Ratio	0.04	0.30		0.38	0.26			0.59	0.06	0.78	0.66		
Uniform Delay, d1	9.8	11.7		12.5	11.3			35.8	30.0	38.4	36.7		
Progression Factor	1.72	1.63		1.00	1.00			1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.2	0.3		3.6	0.2			6.8	0.3	19.3	6.2		
Delay (s)	17.1	19.4		16.1	11.6			42.5	30.2	57.7	42.9		
Level of Service	B	B		B	B			D	C	E	D		
Approach Delay (s)		19.4			12.2			39.0			48.4		
Approach LOS		B			B			D			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			25.6									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.52										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	12.0
Intersection Capacity Utilization			74.6%									ICU Level of Service	D
Analysis Period (min)			15										

c Critical Lane Group

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 		 	 	
Traffic Volume (vph)	220	750	89	188	503	117	73	329	191	239	768	293
Future Volume (vph)	220	750	89	188	503	117	73	329	191	239	768	293
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	1.00		0.98			0.97	0.99		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	4902	1541	3340	4948	1420	1807	3476	1512	1706	3544	1585
Flt Permitted	0.329			0.950			0.253			0.523		
Satd. Flow (perm)	601	4902	1508	3324	4948	1395	481	3476	1467	929	3544	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			95			124			203			312
Link Speed (k/h)		70			70			70				70
Link Distance (m)		142.1			1544.2			817.3				609.4
Travel Time (s)		7.3			79.4			42.0				31.3
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Adj. Flow (vph)	234	798	95	200	535	124	78	350	203	254	817	312
Shared Lane Traffic (%)												
Lane Group Flow (vph)	234	798	95	200	535	124	78	350	203	254	817	312
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)		7.4			7.4			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	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)	9.0	23.0	23.0	9.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	28.0	58.0	58.0	20.0	50.0	50.0	82.0	82.0	82.0	82.0	82.0	82.0
Total Split (%)	17.5%	36.3%	36.3%	12.5%	31.3%	31.3%	51.3%	51.3%	51.3%	51.3%	51.3%	51.3%
Maximum Green (s)	23.0	51.0	51.0	15.0	43.0	43.0	75.0	75.0	75.0	75.0	75.0	75.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	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	0



Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2026  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	73.0	51.0	51.0	15.0	43.0	43.0	75.0	75.0	75.0	75.0	75.0	75.0
Actuated g/C Ratio	0.46	0.32	0.32	0.09	0.27	0.27	0.47	0.47	0.47	0.47	0.47	0.47
v/c Ratio	0.54	0.51	0.17	0.64	0.40	0.27	0.35	0.21	0.26	0.58	0.49	0.35
Control Delay	32.3	45.7	7.4	79.9	49.1	8.3	32.5	25.5	3.7	37.8	30.6	3.4
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	32.3	45.7	7.4	79.9	49.1	8.3	32.5	25.5	3.7	37.8	30.6	3.4
LOS	C	D	A	E	D	A	C	C	A	D	C	A
Approach Delay		39.7			50.4			19.4			25.8	
Approach LOS		D			D			B			C	

Intersection Summary

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	122 (76%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	34.0
Intersection LOS:	C
Intersection Capacity Utilization	73.8%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Background 2026  
AM Peak Hour



































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	234	798	95	200	535	124	78	350	203	254	817	312
v/c Ratio	0.54	0.51	0.17	0.64	0.40	0.27	0.35	0.21	0.26	0.58	0.49	0.35
Control Delay	32.3	45.7	7.4	79.9	49.1	8.3	32.5	25.5	3.7	37.8	30.6	3.4
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	32.3	45.7	7.4	79.9	49.1	8.3	32.5	25.5	3.7	37.8	30.6	3.4
Queue Length 50th (m)	46.3	75.9	0.0	32.1	51.5	0.0	15.6	34.1	0.0	58.3	93.2	0.0
Queue Length 95th (m)	66.6	89.7	13.4	46.0	63.5	16.3	30.4	44.9	14.1	89.5	111.7	16.5
Internal Link Dist (m)		118.1			1520.2			793.3			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	437	1562	545	313	1329	465	225	1629	795	435	1661	895
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.51	0.17	0.64	0.40	0.27	0.35	0.21	0.26	0.58	0.49	0.35

Intersection Summary

# HCM Signalized Intersection Capacity Analysis


















## 6: Hurontario Street & Mayfield Road

Future Background 2026  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		  	  			 			 		
Traffic Volume (vph)	220	750	89	188	503	117	73	329	191	239	768	293	
Future Volume (vph)	220	750	89	188	503	117	73	329	191	239	768	293	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1737	4902	1508	3340	4948	1395	1807	3476	1467	1688	3544	1557	
Flt Permitted	0.33	1.00	1.00	0.95	1.00	1.00	0.25	1.00	1.00	0.52	1.00	1.00	
Satd. Flow (perm)	602	4902	1508	3340	4948	1395	482	3476	1467	929	3544	1557	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	234	798	95	200	535	124	78	350	203	254	817	312	
RTOR Reduction (vph)	0	0	65	0	0	91	0	0	108	0	0	166	
Lane Group Flow (vph)	234	798	30	200	535	33	78	350	95	254	817	146	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2	
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	
Protected Phases	7	4		3	8			2			6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	71.0	51.0	51.0	15.0	43.0	43.0	75.0	75.0	75.0	75.0	75.0	75.0	
Effective Green, g (s)	71.0	51.0	51.0	15.0	43.0	43.0	75.0	75.0	75.0	75.0	75.0	75.0	
Actuated g/C Ratio	0.44	0.32	0.32	0.09	0.27	0.27	0.47	0.47	0.47	0.47	0.47	0.47	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Lane Grp Cap (vph)	430	1562	480	313	1329	374	225	1629	687	435	1661	729	
v/s Ratio Prot	c0.08	0.16		c0.06	0.11			0.10			0.23		
v/s Ratio Perm	c0.16		0.02			0.02	0.16		0.06	c0.27		0.09	
v/c Ratio	0.54	0.51	0.06	0.64	0.40	0.09	0.35	0.21	0.14	0.58	0.49	0.20	
Uniform Delay, d1	29.3	44.4	37.9	69.9	48.0	43.8	27.0	25.1	24.1	31.1	29.3	24.9	
Progression 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	
Incremental Delay, d2	4.9	1.2	0.3	9.6	0.9	0.5	4.2	0.3	0.4	5.6	1.0	0.6	
Delay (s)	34.2	45.5	38.1	79.5	48.9	44.3	31.1	25.4	24.6	36.7	30.4	25.5	
Level of Service	C	D	D	E	D	D	C	C	C	D	C	C	
Approach Delay (s)		42.6			55.3			25.8			30.5		
Approach LOS		D			E			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			38.5									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.58										
Actuated Cycle Length (s)			160.0									Sum of lost time (s)	19.0
Intersection Capacity Utilization			73.8%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													


















Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2026  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	194	2	174	275	32	10	229	199	25	154	4
Future Volume (vph)	4	194	2	174	275	32	10	229	199	25	154	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.984			0.939			0.997	
Flt Protected		0.999		0.950				0.999			0.993	
Satd. Flow (prot)	0	1863	0	1825	1849	0	0	1723	0	0	1842	0
Flt Permitted		0.999		0.950				0.999			0.993	
Satd. Flow (perm)	0	1863	0	1825	1849	0	0	1723	0	0	1842	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		998.2			490.2			298.8			656.2	
Travel Time (s)		51.3			25.2			13.4			29.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	4	206	2	185	293	34	11	244	212	27	164	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	212	0	185	327	0	0	467	0	0	195	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	62.9%						ICU Level of Service B					
Analysis Period (min)	15											



















HCM Unsignalized Intersection Capacity Analysis  
 1: Chinguacousy Road & Old School Road

Future Background 2026  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	194	2	174	275	32	10	229	199	25	154	4
Future Volume (vph)	4	194	2	174	275	32	10	229	199	25	154	4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	4	206	2	185	293	34	11	244	212	27	164	4
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1							
Volume Total (vph)	212	185	327	467	195							
Volume Left (vph)	4	185	0	11	27							
Volume Right (vph)	2	0	34	212	4							
Hadj (s)	0.05	0.50	-0.03	-0.19	0.07							
Departure Headway (s)	7.7	7.9	7.4	6.6	7.6							
Degree Utilization, x	0.45	0.41	0.67	0.85	0.41							
Capacity (veh/h)	435	435	466	528	429							
Control Delay (s)	16.8	15.1	22.8	36.4	15.8							
Approach Delay (s)	16.8	20.0		36.4	15.8							
Approach LOS	C	C		E	C							
Intersection Summary												
Delay			24.5									
Level of Service			C									
Intersection Capacity Utilization			62.9%		ICU Level of Service				B			
Analysis Period (min)			15									



















Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Background 2026  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	390	22	274	447	23	29	124	280	19	53	6
Future Volume (vph)	9	390	22	274	447	23	29	124	280	19	53	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.993				0.850		0.990	
Flt Protected		0.999		0.950				0.991			0.988	
Satd. Flow (prot)	0	1829	0	1755	1886	0	0	1839	1555	0	1805	0
Flt Permitted		0.999		0.950				0.991			0.988	
Satd. Flow (perm)	0	1829	0	1755	1886	0	0	1839	1555	0	1805	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			806.8	
Travel Time (s)		45.9			18.0			26.5			36.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	10	415	23	291	476	24	31	132	298	20	56	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	448	0	291	500	0	0	163	298	0	82	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	72.9%						ICU Level of Service C					
Analysis Period (min)	15											
























HCM Unsignalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road

Future Background 2026  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	390	22	274	447	23	29	124	280	19	53	6
Future Volume (vph)	9	390	22	274	447	23	29	124	280	19	53	6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	10	415	23	291	476	24	31	132	298	20	56	6
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1						
Volume Total (vph)	448	291	500	163	298	82						
Volume Left (vph)	10	291	0	31	0	20						
Volume Right (vph)	23	0	24	0	298	6						
Hadj (s)	0.05	0.57	-0.01	0.15	-0.61	0.07						
Departure Headway (s)	7.6	8.1	7.5	8.2	7.4	9.4						
Degree Utilization, x	0.94	0.65	1.04	0.37	0.62	0.21						
Capacity (veh/h)	471	434	484	430	467	367						
Control Delay (s)	55.4	23.9	78.5	14.8	20.4	14.9						
Approach Delay (s)	55.4	58.5		18.4		14.9						
Approach LOS	F	F		C		B						
Intersection Summary												
Delay			45.3									
Level of Service			E									
Intersection Capacity Utilization			72.9%		ICU Level of Service		C					
Analysis Period (min)			15									

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2026  
PM Peak Hour

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	399	185	96	202	232	45	177	2435	301	32	1437	337	
Future Volume (vph)	399	185	96	202	232	45	177	2435	301	32	1437	337	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0	
Storage Lanes	1		0	1		0	1		1	1		1	
Taper Length (m)	2.5			2.5			2.5			2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	
Frt		0.949			0.976				0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1825	1736	0	1789	1859	0	1807	5043	1633	1825	4812	1541	
Flt Permitted	0.204			0.450			0.078			0.089			
Satd. Flow (perm)	392	1736	0	848	1859	0	148	5043	1633	171	4812	1541	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		21			7				186			203	
Link Speed (k/h)		70			70			80			80		
Link Distance (m)		1007.8			934.7			855.3			784.7		
Travel Time (s)		51.8			48.1			38.5			35.3		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%	
Adj. Flow (vph)	411	191	99	208	239	46	182	2510	310	33	1481	347	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	411	290	0	208	285	0	182	2510	310	33	1481	347	
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)		3.7			3.7			3.7			3.7		
Link Offset(m)		0.0			0.0			0.0			0.0		
Crosswalk Width(m)		1.6			1.6			1.6			1.6		
Two way Left Turn Lane								Yes					
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Number of Detectors	1	2		1	2		1	2	1	1	2	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7		
Detector 2 Size(m)		1.8			1.8			1.8			1.8		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0			0.0		
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov	
Protected Phases	7	4		3	8		5	2			6	7	



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

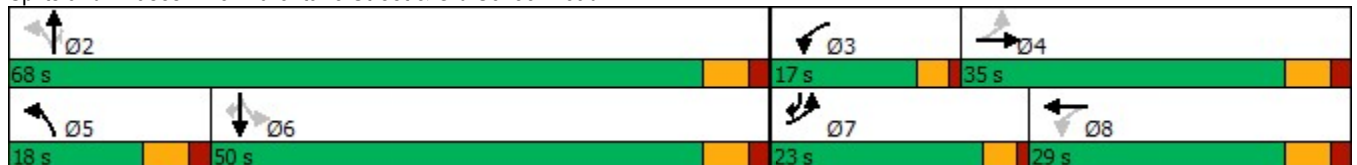
Future Background 2026  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	6	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0	29.0	29.0	29.0	10.0
Total Split (s)	23.0	35.0		17.0	29.0		18.0	68.0	68.0	50.0	50.0	23.0
Total Split (%)	19.2%	29.2%		14.2%	24.2%		15.0%	56.7%	56.7%	41.7%	41.7%	19.2%
Maximum Green (s)	19.0	29.0		13.0	23.0		12.0	62.0	62.0	44.0	44.0	19.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	1.0
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)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lead
Lead-Lag Optimize?	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
Recall Mode	None	None		None	None		None	Max	Max	Max	Max	None
Walk Time (s)		5.0			5.0			5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0			11.0			11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0			0			0	0	0	0	
Act Effct Green (s)	45.9	27.6		35.3	20.9		62.0	62.0	62.0	45.0	45.0	70.0
Actuated g/C Ratio	0.39	0.23		0.30	0.18		0.53	0.53	0.53	0.38	0.38	0.59
v/c Ratio	1.07	0.69		0.59	0.85		0.78	0.95	0.33	0.52	0.81	0.35
Control Delay	96.5	47.7		33.2	69.2		48.0	35.9	7.3	61.6	37.4	6.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.5	47.7		33.2	69.2		48.0	35.9	7.3	61.6	37.4	6.2
LOS	F	D		C	E		D	D	A	E	D	A
Approach Delay		76.3			54.0			33.7			32.0	
Approach LOS		E			D			C			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 118  
 Natural Cycle: 100  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.07  
 Intersection Signal Delay: 39.8  
 Intersection Capacity Utilization 105.8%  
 Analysis Period (min) 15  
 Intersection LOS: D  
 ICU Level of Service G

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Background 2026  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	411	290	208	285	182	2510	310	33	1481	347
v/c Ratio	1.07	0.69	0.59	0.85	0.78	0.95	0.33	0.52	0.81	0.35
Control Delay	96.5	47.7	33.2	69.2	48.0	35.9	7.3	61.6	37.4	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.5	47.7	33.2	69.2	48.0	35.9	7.3	61.6	37.4	6.2
Queue Length 50th (m)	~83.6	57.7	32.8	63.0	26.2	200.9	14.8	6.0	115.7	15.1
Queue Length 95th (m)	#145.4	87.7	51.1	#102.7	#59.5	#244.5	31.8	#22.4	135.2	31.8
Internal Link Dist (m)		983.8		910.7		831.3			760.7	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	383	442	362	368	246	2651	946	64	1834	996
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.07	0.66	0.57	0.77	0.74	0.95	0.33	0.52	0.81	0.35

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Background 2026  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	399	185	96	202	232	45	177	2435	301	32	1437	337	
Future Volume (vph)	399	185	96	202	232	45	177	2435	301	32	1437	337	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00	
Frt	1.00	0.95		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1825	1735		1789	1859		1807	5043	1633	1825	4812	1541	
Flt Permitted	0.20	1.00		0.45	1.00		0.08	1.00	1.00	0.09	1.00	1.00	
Satd. Flow (perm)	393	1735		847	1859		149	5043	1633	171	4812	1541	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	411	191	99	208	239	46	182	2510	310	33	1481	347	
RTOR Reduction (vph)	0	16	0	0	6	0	0	0	88	0	0	93	
Lane Group Flow (vph)	411	274	0	208	279	0	182	2510	222	33	1481	254	
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov	
Protected Phases	7	4		3	8		5	2			6	7	
Permitted Phases	4			8			2		2	6		6	
Actuated Green, G (s)	44.0	27.6		33.4	21.0		62.1	62.1	62.1	45.0	45.0	64.0	
Effective Green, g (s)	44.0	27.6		33.4	21.0		62.1	62.1	62.1	45.0	45.0	64.0	
Actuated g/C Ratio	0.37	0.23		0.28	0.18		0.53	0.53	0.53	0.38	0.38	0.54	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	376	405		338	330		234	2651	858	65	1833	835	
v/s Ratio Prot	c0.18	0.16		0.06	0.15		0.07	c0.50			0.31	0.05	
v/s Ratio Perm	c0.23			0.11			0.34		0.14	0.19		0.12	
v/c Ratio	1.09	0.68		0.62	0.85		0.78	0.95	0.26	0.51	0.81	0.30	
Uniform Delay, d1	31.1	41.2		34.5	47.0		27.2	26.4	15.4	28.0	32.7	14.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	73.8	4.4		3.3	17.8		14.9	8.8	0.7	25.6	4.0	0.2	
Delay (s)	104.9	45.6		37.8	64.8		42.2	35.3	16.1	53.6	36.6	15.0	
Level of Service	F	D		D	E		D	D	B	D	D	B	
Approach Delay (s)		80.4			53.4			33.7			32.9		
Approach LOS		F			D			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			40.5									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			1.10										
Actuated Cycle Length (s)			118.1									Sum of lost time (s)	22.0
Intersection Capacity Utilization			105.8%									ICU Level of Service	G
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2026  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕			↕↕↕			↕				↕
Traffic Volume (vph)	36	636	46	165	601	46	31	207	135	26	139	25
Future Volume (vph)	36	636	46	165	601	46	31	207	135	26	139	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.990			0.991			0.951			0.982	
Flt Protected		0.998			0.990			0.996			0.993	
Satd. Flow (prot)	0	5041	0	0	5034	0	0	1778	0	0	1832	0
Flt Permitted		0.849			0.676			0.962			0.918	
Satd. Flow (perm)	0	4289	0	0	3437	0	0	1717	0	0	1694	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			10			31			8	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.8			1419.4			749.2			2784.8	
Travel Time (s)		30.4			73.0			33.7			125.3	
Confl. Peds. (#/hr)							1					1
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
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Adj. Flow (vph)	39	691	50	179	653	50	34	225	147	28	151	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	780	0	0	882	0	0	406	0	0	206	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	61.0	61.0		61.0	61.0		59.0	59.0		59.0	59.0	
Total Split (%)	50.8%	50.8%		50.8%	50.8%		49.2%	49.2%		49.2%	49.2%	
Maximum Green (s)	57.0	57.0		57.0	57.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		57.0			57.0			55.0			55.0	
Actuated g/C Ratio		0.48			0.48			0.46			0.46	
v/c Ratio		0.38			0.54			0.51			0.26	

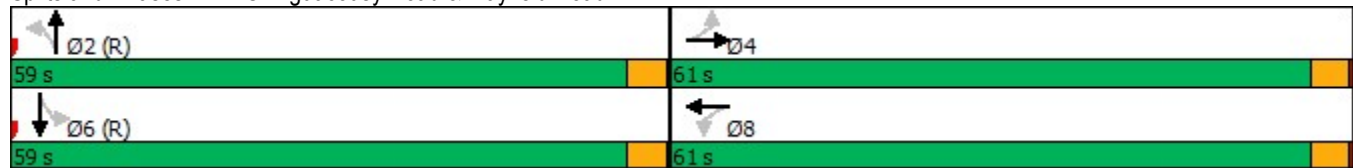
Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2026  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		20.5			44.8			23.7			20.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		20.5			44.8			23.7			20.3	
LOS		C			D			C			C	
Approach Delay		20.5			44.8			23.7			20.3	
Approach LOS		C			D			C			C	

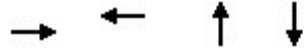
Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	40
Control Type:	Pretimed
Maximum v/c Ratio:	0.54
Intersection Signal Delay:	30.5
Intersection LOS:	C
Intersection Capacity Utilization	64.8%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Background 2026  
PM Peak Hour



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	780	882	406	206
v/c Ratio	0.38	0.54	0.51	0.26
Control Delay	20.5	44.8	23.7	20.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	20.5	44.8	23.7	20.3
Queue Length 50th (m)	41.3	73.8	60.7	28.0
Queue Length 95th (m)	51.5	87.8	89.2	44.5
Internal Link Dist (m)	566.8	1395.4	725.2	2760.8
Turn Bay Length (m)				
Base Capacity (vph)	2043	1637	803	780
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.38	0.54	0.51	0.26
Intersection Summary				

# HCM Signalized Intersection Capacity Analysis

## 4: Chinguacousy Road & Mayfield Road

Future Background 2026  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔↔↔			↔↔↔			↔			↔		
Traffic Volume (vph)	36	636	46	165	601	46	31	207	135	26	139	25	
Future Volume (vph)	36	636	46	165	601	46	31	207	135	26	139	25	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0			4.0			4.0			4.0		
Lane Util. Factor		0.91			0.91			1.00			1.00		
Frbp, ped/bikes		1.00			1.00			1.00			1.00		
Flpb, ped/bikes		1.00			1.00			1.00			1.00		
Frt		0.99			0.99			0.95			0.98		
Flt Protected		1.00			0.99			1.00			0.99		
Satd. Flow (prot)		5041			5036			1777			1833		
Flt Permitted		0.85			0.68			0.96			0.92		
Satd. Flow (perm)		4288			3438			1717			1694		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	39	691	50	179	653	50	34	225	147	28	151	27	
RTOR Reduction (vph)	0	6	0	0	5	0	0	17	0	0	4	0	
Lane Group Flow (vph)	0	774	0	0	877	0	0	389	0	0	202	0	
Confl. Peds. (#/hr)							1					1	
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		57.0			57.0			55.0			55.0		
Effective Green, g (s)		57.0			57.0			55.0			55.0		
Actuated g/C Ratio		0.48			0.48			0.46			0.46		
Clearance Time (s)		4.0			4.0			4.0			4.0		
Lane Grp Cap (vph)		2036			1633			786			776		
v/s Ratio Prot													
v/s Ratio Perm		0.18			c0.26			c0.23			0.12		
v/c Ratio		0.38			0.54			0.50			0.26		
Uniform Delay, d1		20.2			22.2			22.8			20.0		
Progression Factor		1.00			1.97			1.00			1.00		
Incremental Delay, d2		0.5			1.1			2.2			0.8		
Delay (s)		20.7			44.8			25.0			20.8		
Level of Service		C			D			C			C		
Approach Delay (s)		20.7			44.8			25.0			20.8		
Approach LOS		C			D			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			30.8									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.52										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			64.8%									ICU Level of Service	C
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2026  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	762	56	102	879	190	92	315	104	158	192	57
Future Volume (vph)	34	762	56	102	879	190	92	315	104	158	192	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.973				0.850		0.966	
Flt Protected	0.950			0.950				0.989		0.950		
Satd. Flow (prot)	1738	5041	0	1755	4902	0	0	1885	1585	1738	1794	0
Flt Permitted	0.173			0.264				0.852		0.301		
Satd. Flow (perm)	317	5041	0	488	4902	0	0	1624	1585	551	1794	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			48				64			17
Link Speed (k/h)		70			70			80				80
Link Distance (m)		1419.4			1263.7			743.2				2496.3
Travel Time (s)		73.0			65.0			33.4				112.3
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	35	794	58	106	916	198	96	328	108	165	200	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	852	0	106	1114	0	0	424	108	165	259	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)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt		NA
Protected Phases		4			8			2		1		6
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	8.0		22.0
Total Split (s)	56.0	56.0		56.0	56.0		52.0	52.0	52.0	12.0		64.0
Total Split (%)	46.7%	46.7%		46.7%	46.7%		43.3%	43.3%	43.3%	10.0%		53.3%
Maximum Green (s)	50.0	50.0		50.0	50.0		46.0	46.0	46.0	8.0		58.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.5		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	0.5		2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	4.0		6.0
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0			5.0
Flash Dont Walk (s)	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
Act Effct Green (s)	50.0	50.0		50.0	50.0			46.0	46.0	60.0		58.0
Actuated g/C Ratio	0.42	0.42		0.42	0.42			0.38	0.38	0.50		0.48



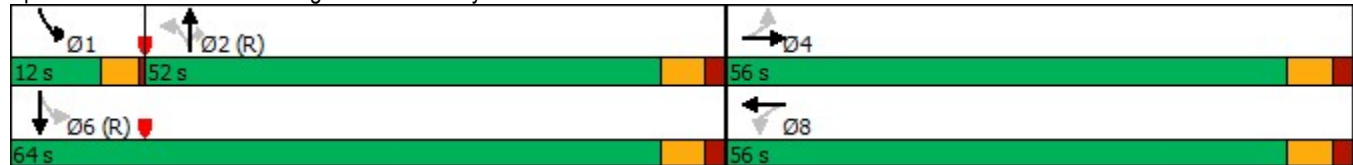
Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2026  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.27	0.40		0.52	0.54			0.68	0.17	0.47	0.30	
Control Delay	32.8	28.1		37.4	26.2			37.6	11.7	21.3	18.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay	32.8	28.1		37.4	26.2			37.6	11.7	21.3	18.5	
LOS	C	C		D	C			D	B	C	B	
Approach Delay		28.3			27.2			32.4			19.6	
Approach LOS		C			C			C			B	

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:	55
Control Type:	Pretimed
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	27.4
Intersection LOS:	C
Intersection Capacity Utilization	79.8%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Background 2026  
PM Peak Hour




























Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	35	852	106	1114	424	108	165	259
v/c Ratio	0.27	0.40	0.52	0.54	0.68	0.17	0.47	0.30
Control Delay	32.8	28.1	37.4	26.2	37.6	11.7	21.3	18.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.8	28.1	37.4	26.2	37.6	11.7	21.3	18.5
Queue Length 50th (m)	6.6	62.1	18.3	67.9	82.4	6.5	20.8	33.2
Queue Length 95th (m)	m16.5	75.4	38.2	81.6	119.1	18.3	33.8	51.2
Internal Link Dist (m)		1395.4		1239.7	719.2			2472.3
Turn Bay Length (m)	30.0		30.0			30.0		
Base Capacity (vph)	132	2107	203	2070	622	647	354	875
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.40	0.52	0.54	0.68	0.17	0.47	0.30

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

































Future Background 2026  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	34	762	56	102	879	190	92	315	104	158	192	57
Future Volume (vph)	34	762	56	102	879	190	92	315	104	158	192	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0	4.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.97			1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1738	5040		1755	4903			1885	1585	1738	1793	
Flt Permitted	0.17	1.00		0.26	1.00			0.85	1.00	0.30	1.00	
Satd. Flow (perm)	316	5040		488	4903			1623	1585	550	1793	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	35	794	58	106	916	198	96	328	108	165	200	59
RTOR Reduction (vph)	0	7	0	0	28	0	0	0	39	0	9	0
Lane Group Flow (vph)	35	845	0	106	1086	0	0	424	69	165	250	0
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	50.0	50.0		50.0	50.0			46.0	46.0	58.0	58.0	
Effective Green, g (s)	50.0	50.0		50.0	50.0			46.0	46.0	58.0	58.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42			0.38	0.38	0.48	0.48	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	4.0	6.0	
Lane Grp Cap (vph)	131	2100		203	2042			622	607	345	866	
v/s Ratio Prot		0.17			c0.22					c0.03	0.14	
v/s Ratio Perm	0.11			0.22				c0.26	0.04	0.20		
v/c Ratio	0.27	0.40		0.52	0.53			0.68	0.11	0.48	0.29	
Uniform Delay, d1	23.0	24.5		26.1	26.2			30.9	23.8	19.9	18.6	
Progression Factor	1.13	1.14		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.6	0.5		9.3	1.0			5.9	0.4	4.7	0.8	
Delay (s)	30.7	28.4		35.4	27.2			36.8	24.2	24.6	19.5	
Level of Service	C	C		D	C			D	C	C	B	
Approach Delay (s)		28.5			27.9			34.3			21.4	
Approach LOS		C			C			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			28.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				16.0		
Intersection Capacity Utilization			79.8%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2026  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	474	535	86	250	670	120	154	606	239	183	700	672
Future Volume (vph)	474	535	86	250	670	120	154	606	239	183	700	672
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.96	0.98		0.99	1.00		0.96			0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	4995	1601	3404	5092	1585	1789	3614	1555	1825	3510	1585
Fl <sub>t</sub> Permitted	0.160			0.950			0.349			0.284		
Satd. Flow (perm)	296	4995	1538	3331	5092	1562	656	3614	1486	546	3510	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			145			246			680
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			1544.2			817.3			609.4	
Travel Time (s)		7.3			79.4			42.0			31.3	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Adj. Flow (vph)	489	552	89	258	691	124	159	625	246	189	722	693
Shared Lane Traffic (%)												
Lane Group Flow (vph)	489	552	89	258	691	124	159	625	246	189	722	693
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	43.0	49.0	49.0	21.0	27.0	27.0	55.0	55.0	55.0	10.0	65.0	65.0
Total Split (%)	31.9%	36.3%	36.3%	15.6%	20.0%	20.0%	40.7%	40.7%	40.7%	7.4%	48.1%	48.1%
Maximum Green (s)	38.0	42.0	42.0	16.0	20.0	20.0	48.0	48.0	48.0	6.0	58.0	58.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	1.0	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
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)		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

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

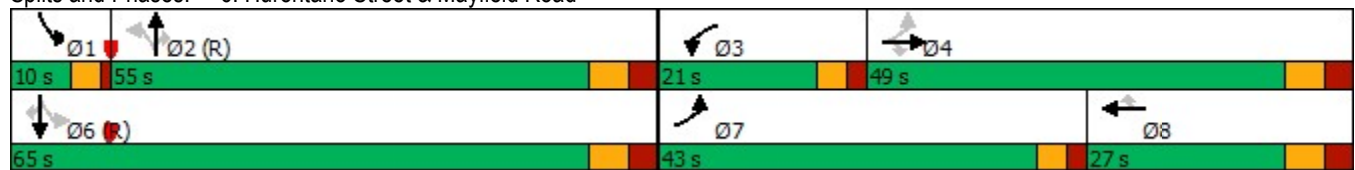
Future Background 2026  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	65.0	42.0	42.0	16.0	20.0	20.0	48.0	48.0	48.0	61.0	58.0	58.0
Actuated g/C Ratio	0.48	0.31	0.31	0.12	0.15	0.15	0.36	0.36	0.36	0.45	0.43	0.43
v/c Ratio	0.88	0.36	0.16	0.64	0.92	0.35	0.68	0.49	0.36	0.62	0.48	0.66
Control Delay	53.0	36.8	4.8	64.7	74.4	7.8	53.9	35.5	5.1	34.5	29.0	5.4
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	53.0	36.8	4.8	64.7	74.4	7.8	53.9	35.5	5.1	34.5	29.0	5.4
LOS	D	D	A	E	E	A	D	D	A	C	C	A
Approach Delay		41.3			64.4			31.1			19.4	
Approach LOS		D			E			C			B	

Intersection Summary

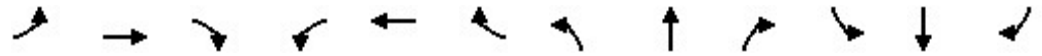
Area Type:	Other
Cycle Length:	135
Actuated Cycle Length:	135
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	90
Control Type:	Pretimed
Maximum v/c Ratio:	0.92
Intersection Signal Delay:	37.0
Intersection LOS:	D
Intersection Capacity Utilization	89.1%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Background 2026  
PM Peak Hour



































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	489	552	89	258	691	124	159	625	246	189	722	693
v/c Ratio	0.88	0.36	0.16	0.64	0.92	0.35	0.68	0.49	0.36	0.62	0.48	0.66
Control Delay	53.0	36.8	4.8	64.7	74.4	7.8	53.9	35.5	5.1	34.5	29.0	5.4
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	53.0	36.8	4.8	64.7	74.4	7.8	53.9	35.5	5.1	34.5	29.0	5.4
Queue Length 50th (m)	106.9	41.7	0.0	34.3	67.3	0.0	35.9	68.0	0.0	30.3	71.7	2.0
Queue Length 95th (m)	#167.5	52.7	8.9	48.7	#90.3	12.4	#67.7	85.5	17.4	46.5	89.1	28.0
Internal Link Dist (m)		118.1			1520.2			793.3			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	553	1554	550	403	754	354	233	1284	686	303	1508	1055
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.36	0.16	0.64	0.92	0.35	0.68	0.49	0.36	0.62	0.48	0.66

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.


















HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Background 2026  
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		  	  			 			 		
Traffic Volume (vph)	474	535	86	250	670	120	154	606	239	183	700	672	
Future Volume (vph)	474	535	86	250	670	120	154	606	239	183	700	672	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1755	4995	1538	3404	5092	1562	1785	3614	1486	1825	3510	1555	
Flt Permitted	0.16	1.00	1.00	0.95	1.00	1.00	0.35	1.00	1.00	0.28	1.00	1.00	
Satd. Flow (perm)	296	4995	1538	3404	5092	1562	655	3614	1486	545	3510	1555	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	489	552	89	258	691	124	159	625	246	189	722	693	
RTOR Reduction (vph)	0	0	61	0	0	106	0	0	159	0	0	388	
Lane Group Flow (vph)	489	552	28	258	691	18	159	625	87	189	722	305	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3	
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8			2		1	6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	63.0	42.0	42.0	16.0	20.0	20.0	48.0	48.0	48.0	58.0	58.0	58.0	
Effective Green, g (s)	63.0	42.0	42.0	16.0	20.0	20.0	48.0	48.0	48.0	58.0	58.0	58.0	
Actuated g/C Ratio	0.47	0.31	0.31	0.12	0.15	0.15	0.36	0.36	0.36	0.43	0.43	0.43	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Grp Cap (vph)	548	1554	478	403	754	231	232	1284	528	291	1508	668	
v/s Ratio Prot	c0.25	0.11		0.08	0.14			0.17		c0.03	0.21		
v/s Ratio Perm	c0.17		0.02			0.01	0.24		0.06	c0.25		0.20	
v/c Ratio	0.89	0.36	0.06	0.64	0.92	0.08	0.69	0.49	0.17	0.65	0.48	0.46	
Uniform Delay, d1	35.9	36.0	32.6	56.8	56.7	49.6	37.1	33.9	29.8	30.3	27.6	27.3	
Progression 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	
Incremental Delay, d2	19.4	0.6	0.2	7.6	17.8	0.7	15.3	1.3	0.7	10.7	1.1	2.2	
Delay (s)	55.4	36.6	32.9	64.3	74.5	50.2	52.3	35.2	30.5	41.0	28.7	29.6	
Level of Service	E	D	C	E	E	D	D	D	C	D	C	C	
Approach Delay (s)		44.4			69.2			36.7			30.5		
Approach LOS		D			E			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			43.7									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.81										
Actuated Cycle Length (s)			135.0									Sum of lost time (s)	23.0
Intersection Capacity Utilization			89.1%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road


















Future Total 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	219	3	86	145	26	2	141	177	20	146	8
Future Volume (vph)	2	219	3	86	145	26	2	141	177	20	146	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.977			0.925				0.993
Flt Protected				0.950								0.994
Satd. Flow (prot)	0	1917	0	1772	1818	0	0	1711	0	0	1783	0
Flt Permitted				0.950								0.994
Satd. Flow (perm)	0	1917	0	1772	1818	0	0	1711	0	0	1783	0
Link Speed (k/h)		70			70			80				80
Link Distance (m)		590.7			490.2			298.8				342.6
Travel Time (s)		30.4			25.2			13.4				15.4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Adj. Flow (vph)	2	233	3	91	154	28	2	150	188	21	155	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	238	0	91	182	0	0	340	0	0	185	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)		3.7			3.7			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop				Stop
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	53.7%						ICU Level of Service A					
Analysis Period (min)	15											





















HCM Unsignalized Intersection Capacity Analysis  
 1: Chinguacousy Road & Old School Road

Future Total 2026  
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	219	3	86	145	26	2	141	177	20	146	8
Future Volume (vph)	2	219	3	86	145	26	2	141	177	20	146	8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	2	233	3	91	154	28	2	150	188	21	155	9
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1							
Volume Total (vph)	238	91	182	340	185							
Volume Left (vph)	2	91	0	2	21							
Volume Right (vph)	3	0	28	188	9							
Hadj (s)	-0.01	0.55	-0.05	-0.26	0.10							
Departure Headway (s)	6.1	7.0	6.4	5.5	6.2							
Degree Utilization, x	0.40	0.18	0.32	0.52	0.32							
Capacity (veh/h)	537	471	505	605	521							
Control Delay (s)	13.2	10.4	11.3	14.5	12.1							
Approach Delay (s)	13.2	11.0		14.5	12.1							
Approach LOS	B	B		B	B							
Intersection Summary												
Delay			12.8									
Level of Service			B									
Intersection Capacity Utilization			53.7%		ICU Level of Service				A			
Analysis Period (min)			15									



















Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Total 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	390	23	158	228	21	28	62	270	34	113	10
Future Volume (vph)	6	390	23	158	228	21	28	62	270	34	113	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.988				0.850		0.991	
Flt Protected		0.999		0.950				0.985			0.989	
Satd. Flow (prot)	0	1874	0	1789	1832	0	0	1867	1617	0	1859	0
Flt Permitted		0.999		0.950				0.985			0.989	
Satd. Flow (perm)	0	1874	0	1789	1832	0	0	1867	1617	0	1859	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Adj. Flow (vph)	6	415	24	168	243	22	30	66	287	36	120	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	445	0	168	265	0	0	96	287	0	167	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	60.6%						ICU Level of Service B					
Analysis Period (min)	15											
























HCM Unsignalized Intersection Capacity Analysis  
 2: McLaughlin Road & Old School Road

Future Total 2026  
 AM Peak Hour

												
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	390	23	158	228	21	28	62	270	34	113	10
Future Volume (vph)	6	390	23	158	228	21	28	62	270	34	113	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	6	415	24	168	243	22	30	66	287	36	120	11
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1						
Volume Total (vph)	445	168	265	96	287	167						
Volume Left (vph)	6	168	0	30	0	36						
Volume Right (vph)	24	0	22	0	287	11						
Hadj (s)	0.00	0.53	0.00	0.18	-0.68	0.03						
Departure Headway (s)	7.5	8.2	7.7	8.2	7.3	8.7						
Degree Utilization, x	0.92	0.38	0.57	0.22	0.58	0.40						
Capacity (veh/h)	466	410	442	428	472	398						
Control Delay (s)	51.8	15.1	19.0	12.3	18.9	17.4						
Approach Delay (s)	51.8	17.5		17.2		17.4						
Approach LOS	F	C		C		C						
Intersection Summary												
Delay			28.1									
Level of Service			D									
Intersection Capacity Utilization			60.6%		ICU Level of Service		B					
Analysis Period (min)			15									

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2026  
AM Peak Hour

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	334	195	158	242	154	35	53	1396	129	32	2054	186	
Future Volume (vph)	334	195	158	242	154	35	53	1396	129	32	2054	186	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0	
Storage Lanes	1		0	1		0	1		1	1		1	
Taper Length (m)	2.5			2.5			2.5			2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	
Frt		0.933			0.972				0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1755	1746	0	1722	1785	0	1722	4445	1471	1615	5043	1633	
Flt Permitted	0.605			0.386			0.067			0.112			
Satd. Flow (perm)	1118	1746	0	700	1785	0	121	4445	1471	190	5043	1633	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		2			11				135			132	
Link Speed (k/h)		70			70			80			80		
Link Distance (m)		1007.8			440.4			855.3			282.2		
Travel Time (s)		51.8			22.6			38.5			12.7		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%	
Adj. Flow (vph)	359	210	170	260	166	38	57	1501	139	34	2209	200	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	359	380	0	260	204	0	57	1501	139	34	2209	200	
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)		3.7			3.7			3.7			3.7		
Link Offset(m)		0.0			0.0			0.0			0.0		
Crosswalk Width(m)		1.6			1.6			1.6			1.6		
Two way Left Turn Lane								Yes					
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Number of Detectors	1	2		1	2		1	2	1	1	2	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7		
Detector 2 Size(m)		1.8			1.8			1.8			1.8		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
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	Perm	
Protected Phases		4			8			2			6		

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2026  
AM Peak Hour

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	24.0	24.0		24.0	24.0		29.0	29.0	29.0	29.0	29.0	29.0
Total Split (s)	52.0	52.0		52.0	52.0		68.0	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%	56.7%
Maximum Green (s)	44.0	44.0		44.0	44.0		60.0	60.0	60.0	60.0	60.0	60.0
Yellow Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	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	0.0
Total Lost Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
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	3.0
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	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	0
Act Effct Green (s)	44.0	44.0		44.0	44.0		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.37	0.37		0.37	0.37		0.50	0.50	0.50	0.50	0.50	0.50
v/c Ratio	0.88	0.59		1.02	0.31		0.95	0.68	0.17	0.36	0.88	0.23
Control Delay	59.1	35.2		99.2	27.2		138.1	24.6	3.4	31.7	31.7	6.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.1	35.2		99.2	27.2		138.1	24.6	3.4	31.7	31.7	6.7
LOS	E	D		F	C		F	C	A	C	C	A
Approach Delay		46.8			67.5			26.6			29.7	
Approach LOS		D			E			C			C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Natural Cycle:	80
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.02
Intersection Signal Delay:	34.4
Intersection LOS:	C
Intersection Capacity Utilization:	97.4%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Total 2026  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	359	380	260	204	57	1501	139	34	2209	200
v/c Ratio	0.88	0.59	1.02	0.31	0.95	0.68	0.17	0.36	0.88	0.23
Control Delay	59.1	35.2	99.2	27.2	138.1	24.6	3.4	31.7	31.7	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.1	35.2	99.2	27.2	138.1	24.6	3.4	31.7	31.7	6.7
Queue Length 50th (m)	78.2	71.4	~62.5	32.0	12.3	94.6	0.5	4.7	164.2	8.1
Queue Length 95th (m)	#133.3	103.1	#116.0	51.2	#40.6	111.1	10.4	15.1	186.5	20.5
Internal Link Dist (m)		983.8		416.4		831.3			258.2	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	409	641	256	661	60	2222	803	95	2521	882
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.59	1.02	0.31	0.95	0.68	0.17	0.36	0.88	0.23

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.























Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

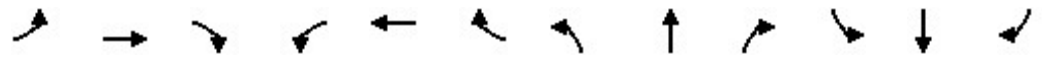
HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Total 2026  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	334	195	158	242	154	35	53	1396	129	32	2054	186
Future Volume (vph)	334	195	158	242	154	35	53	1396	129	32	2054	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	1746		1722	1785		1722	4445	1471	1615	5043	1633
Flt Permitted	0.61	1.00		0.39	1.00		0.07	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	1118	1746		699	1785		121	4445	1471	191	5043	1633
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	359	210	170	260	166	38	57	1501	139	34	2209	200
RTOR Reduction (vph)	0	1	0	0	7	0	0	0	68	0	0	66
Lane Group Flow (vph)	359	379	0	260	197	0	57	1501	72	34	2209	134
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2		2	6	6
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	44.0	44.0		44.0	44.0		60.0	60.0	60.0	60.0	60.0	60.0
Effective Green, g (s)	44.0	44.0		44.0	44.0		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.37	0.37		0.37	0.37		0.50	0.50	0.50	0.50	0.50	0.50
Clearance Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	409	640		256	654		60	2222	735	95	2521	816
v/s Ratio Prot		0.22			0.11			0.34			0.44	
v/s Ratio Perm	0.32			c0.37			c0.47		0.05	0.18		0.08
v/c Ratio	0.88	0.59		1.02	0.30		0.95	0.68	0.10	0.36	0.88	0.16
Uniform Delay, d1	35.5	30.7		38.0	27.1		28.6	22.7	15.8	18.3	26.7	16.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	18.7	1.5		60.3	0.3		102.6	1.7	0.3	10.2	4.7	0.4
Delay (s)	54.2	32.2		98.3	27.3		131.1	24.3	16.0	28.5	31.4	16.8
Level of Service	D	C		F	C		F	C	B	C	C	B
Approach Delay (s)		42.9			67.1			27.2			30.1	
Approach LOS		D			E			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			34.2									C
HCM 2000 Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			120.0								16.0	
Intersection Capacity Utilization			97.4%									F
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2026  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔			↔↔↔				↔			↔	
Traffic Volume (vph)	35	609	45	143	530	18	22	151	133	57	182	33
Future Volume (vph)	35	609	45	143	530	18	22	151	133	57	182	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.990			0.996			0.941			0.984	
Fl <sub>t</sub> Protected		0.997			0.990			0.996			0.990	
Satd. Flow (prot)	0	4860	0	0	4863	0	0	1733	0	0	1786	0
Fl <sub>t</sub> Permitted		0.872			0.703			0.968			0.782	
Satd. Flow (perm)	0	4251	0	0	3453	0	0	1684	0	0	1411	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			6			32			6	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		648.5			1419.4			675.3			2784.8	
Travel Time (s)		33.4			73.0			30.4			125.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Adj. Flow (vph)	35	615	45	144	535	18	22	153	134	58	184	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	695	0	0	697	0	0	309	0	0	275	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	81.0	81.0		81.0	81.0		39.0	39.0		39.0	39.0	
Total Split (%)	67.5%	67.5%		67.5%	67.5%		32.5%	32.5%		32.5%	32.5%	
Maximum Green (s)	77.0	77.0		77.0	77.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		77.0			77.0			35.0			35.0	
Actuated g/C Ratio		0.64			0.64			0.29			0.29	
v/c Ratio		0.25			0.31			0.60			0.66	
Control Delay		9.2			23.6			38.3			45.4	
Queue Delay		0.0			0.0			0.0			0.0	



Lanes, Volumes, Timings  
 4: Chinguacousy Road & Mayfield Road

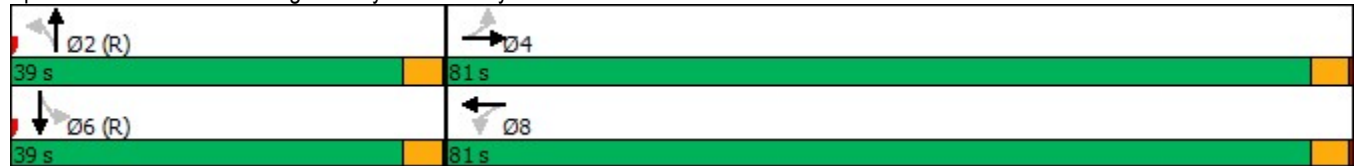
Future Total 2026  
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		9.2			23.6			38.3			45.4	
LOS		A			C			D			D	
Approach Delay		9.2			23.6			38.3			45.4	
Approach LOS		A			C			D			D	

Intersection Summary

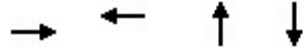
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	40
Control Type:	Pretimed
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	23.9
Intersection LOS:	C
Intersection Capacity Utilization	66.7%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Total 2026  
AM Peak Hour



























Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	695	697	309	275
v/c Ratio	0.25	0.31	0.60	0.66
Control Delay	9.2	23.6	38.3	45.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	9.2	23.6	38.3	45.4
Queue Length 50th (m)	23.0	43.0	56.2	55.7
Queue Length 95th (m)	29.1	55.4	85.6	85.9
Internal Link Dist (m)	624.5	1395.4	651.3	2760.8
Turn Bay Length (m)				
Base Capacity (vph)	2734	2217	513	415
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.31	0.60	0.66
Intersection Summary				

# HCM Signalized Intersection Capacity Analysis

## 4: Chinguacousy Road & Mayfield Road

























Future Total 2026  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			  				  
Traffic Volume (vph)	35	609	45	143	530	18	22	151	133	57	182	33
Future Volume (vph)	35	609	45	143	530	18	22	151	133	57	182	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frt		0.99			1.00			0.94			0.98	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		4864			4862			1734			1785	
Flt Permitted		0.87			0.70			0.97			0.78	
Satd. Flow (perm)		4252			3454			1685			1411	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	35	615	45	144	535	18	22	153	134	58	184	33
RTOR Reduction (vph)	0	6	0	0	2	0	0	23	0	0	4	0
Lane Group Flow (vph)	0	689	0	0	695	0	0	286	0	0	271	0
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		77.0			77.0			35.0			35.0	
Effective Green, g (s)		77.0			77.0			35.0			35.0	
Actuated g/C Ratio		0.64			0.64			0.29			0.29	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		2728			2216			491			411	
v/s Ratio Prot												
v/s Ratio Perm		0.16			c0.20			0.17			c0.19	
v/c Ratio		0.25			0.31			0.58			0.66	
Uniform Delay, d1		9.2			9.6			36.3			37.3	
Progression Factor		1.00			2.41			1.00			1.00	
Incremental Delay, d2		0.2			0.4			5.0			8.0	
Delay (s)		9.4			23.6			41.3			45.3	
Level of Service		A			C			D			D	
Approach Delay (s)		9.4			23.6			41.3			45.3	
Approach LOS		A			C			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			24.4									C
HCM 2000 Volume to Capacity ratio			0.42									
Actuated Cycle Length (s)			120.0								8.0	
Intersection Capacity Utilization			66.7%									C
ICU Level of Service												C
Analysis Period (min)			15									

c Critical Lane Group

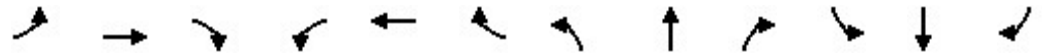
Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Total 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 				 		 	
Traffic Volume (vph)	21	795	88	115	646	91	39	184	86	213	323	73
Future Volume (vph)	21	795	88	115	646	91	39	184	86	213	323	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.981				0.850		0.973	
Flt Protected	0.950			0.950				0.991		0.950		
Satd. Flow (prot)	1825	4892	0	1706	4781	0	0	1838	1570	1690	1807	0
Flt Permitted	0.341			0.284				0.603		0.510		
Satd. Flow (perm)	655	4892	0	510	4781	0	0	1118	1570	907	1807	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			38				82			10
Link Speed (k/h)		70			70			80				80
Link Distance (m)		1419.4			1263.7			659.8				2496.3
Travel Time (s)		73.0			65.0			29.7				112.3
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Adj. Flow (vph)	21	811	90	117	659	93	40	188	88	217	330	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	901	0	117	752	0	0	228	88	217	404	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)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4			8			2				6
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	23.0	23.0	
Total Split (s)	78.0	78.0		78.0	78.0		42.0	42.0	42.0	42.0	42.0	
Total Split (%)	65.0%	65.0%		65.0%	65.0%		35.0%	35.0%	35.0%	35.0%	35.0%	
Maximum Green (s)	72.0	72.0		72.0	72.0		36.0	36.0	36.0	36.0	36.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		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	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
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)	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)	72.0	72.0		72.0	72.0			36.0	36.0	36.0	36.0	
Actuated g/C Ratio	0.60	0.60		0.60	0.60			0.30	0.30	0.30	0.30	

Lanes, Volumes, Timings  
 5: McLaughlin Road & Mayfield Road

Future Total 2026  
 AM Peak Hour

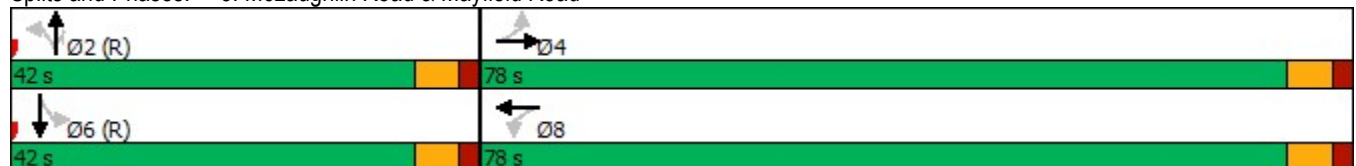


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.05	0.31		0.38	0.26			0.68	0.17	0.80	0.74	
Control Delay	17.3	18.8		17.0	11.0			48.8	8.4	61.3	46.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay	17.3	18.8		17.0	11.0			48.8	8.4	61.3	46.0	
LOS	B	B		B	B			D	A	E	D	
Approach Delay		18.7			11.8			37.5			51.4	
Approach LOS		B			B			D			D	

Intersection Summary

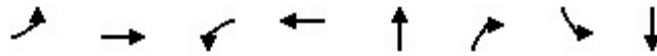
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 50  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.80  
 Intersection Signal Delay: 26.1  
 Intersection LOS: C  
 Intersection Capacity Utilization 77.0%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Total 2026  
AM Peak Hour




























Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	21	901	117	752	228	88	217	404
v/c Ratio	0.05	0.31	0.38	0.26	0.68	0.17	0.80	0.74
Control Delay	17.3	18.8	17.0	11.0	48.8	8.4	61.3	46.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	18.8	17.0	11.0	48.8	8.4	61.3	46.0
Queue Length 50th (m)	2.5	43.8	13.5	27.3	47.2	1.0	47.0	83.4
Queue Length 95th (m)	m6.5	54.5	27.6	34.2	76.4	12.8	#87.7	120.0
Internal Link Dist (m)		1395.4		1239.7	635.8			2472.3
Turn Bay Length (m)	30.0		30.0			30.0		
Base Capacity (vph)	393	2946	306	2883	335	528	272	549
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.31	0.38	0.26	0.68	0.17	0.80	0.74

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road


































Future Total 2026  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  			  								
Traffic Volume (vph)	21	795	88	115	646	91	39	184	86	213	323	73	
Future Volume (vph)	21	795	88	115	646	91	39	184	86	213	323	73	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0	6.0		
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00		
Frt	1.00	0.99		1.00	0.98			1.00	0.85	1.00	0.97		
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00		
Satd. Flow (prot)	1825	4892		1706	4783			1839	1570	1690	1806		
Flt Permitted	0.34	1.00		0.28	1.00			0.60	1.00	0.51	1.00		
Satd. Flow (perm)	656	4892		510	4783			1118	1570	908	1806		
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
Adj. Flow (vph)	21	811	90	117	659	93	40	188	88	217	330	74	
RTOR Reduction (vph)	0	11	0	0	15	0	0	0	57	0	7	0	
Lane Group Flow (vph)	21	890	0	117	737	0	0	228	31	217	397	0	
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2		2	6			
Actuated Green, G (s)	72.0	72.0		72.0	72.0			36.0	36.0	36.0	36.0		
Effective Green, g (s)	72.0	72.0		72.0	72.0			36.0	36.0	36.0	36.0		
Actuated g/C Ratio	0.60	0.60		0.60	0.60			0.30	0.30	0.30	0.30		
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0	6.0		
Lane Grp Cap (vph)	393	2935		306	2869			335	471	272	541		
v/s Ratio Prot		0.18			0.15						0.22		
v/s Ratio Perm	0.03			c0.23				0.20	0.02	c0.24			
v/c Ratio	0.05	0.30		0.38	0.26			0.68	0.06	0.80	0.73		
Uniform Delay, d1	9.9	11.7		12.5	11.3			36.9	30.0	38.7	37.7		
Progression Factor	1.67	1.62		1.00	1.00			1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.3	0.3		3.6	0.2			10.7	0.3	21.2	8.6		
Delay (s)	16.8	19.3		16.1	11.6			47.6	30.2	59.8	46.3		
Level of Service	B	B		B	B			D	C	E	D		
Approach Delay (s)		19.2			12.2			42.8			51.0		
Approach LOS		B			B			D			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			26.9									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.52										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	12.0
Intersection Capacity Utilization			77.0%									ICU Level of Service	D
Analysis Period (min)			15										

c Critical Lane Group

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 		 	 	
Traffic Volume (vph)	220	750	89	188	503	117	73	336	191	239	789	293
Future Volume (vph)	220	750	89	188	503	117	73	336	191	239	789	293
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	1.00		0.98			0.97	0.99		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	4902	1541	3340	4948	1420	1807	3476	1512	1706	3544	1585
Flt Permitted	0.329			0.950			0.244			0.517		
Satd. Flow (perm)	601	4902	1508	3324	4948	1395	464	3476	1467	919	3544	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			94			124			203			312
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			1215.9			670.9			784.2	
Travel Time (s)		7.3			62.5			34.5			40.3	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Adj. Flow (vph)	234	798	95	200	535	124	78	357	203	254	839	312
Shared Lane Traffic (%)												
Lane Group Flow (vph)	234	798	95	200	535	124	78	357	203	254	839	312
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	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)	9.0	23.0	23.0	9.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	28.0	58.0	58.0	20.0	50.0	50.0	82.0	82.0	82.0	82.0	82.0	82.0
Total Split (%)	17.5%	36.3%	36.3%	12.5%	31.3%	31.3%	51.3%	51.3%	51.3%	51.3%	51.3%	51.3%
Maximum Green (s)	23.0	51.0	51.0	15.0	43.0	43.0	75.0	75.0	75.0	75.0	75.0	75.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	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	0



Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

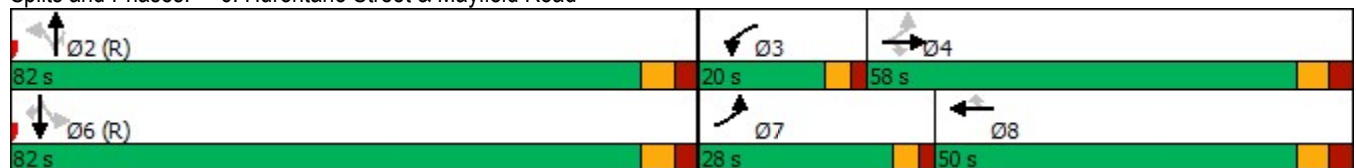
Future Total 2026  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	73.0	51.0	51.0	15.0	43.0	43.0	75.0	75.0	75.0	75.0	75.0	75.0
Actuated g/C Ratio	0.46	0.32	0.32	0.09	0.27	0.27	0.47	0.47	0.47	0.47	0.47	0.47
v/c Ratio	0.54	0.51	0.17	0.64	0.40	0.27	0.36	0.22	0.26	0.59	0.51	0.35
Control Delay	32.3	45.7	7.7	79.9	49.1	8.3	33.2	25.6	3.7	38.2	30.9	3.4
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	32.3	45.7	7.7	79.9	49.1	8.3	33.2	25.6	3.7	38.2	30.9	3.4
LOS	C	D	A	E	D	A	C	C	A	D	C	A
Approach Delay		39.8			50.4			19.6			26.1	
Approach LOS		D			D			B			C	

Intersection Summary













Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	122 (76%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	34.1
Intersection LOS:	C
Intersection Capacity Utilization	73.8%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road


































Queues  
6: Hurontario Street & Mayfield Road

Future Total 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	234	798	95	200	535	124	78	357	203	254	839	312
v/c Ratio	0.54	0.51	0.17	0.64	0.40	0.27	0.36	0.22	0.26	0.59	0.51	0.35
Control Delay	32.3	45.7	7.7	79.9	49.1	8.3	33.2	25.6	3.7	38.2	30.9	3.4
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	32.3	45.7	7.7	79.9	49.1	8.3	33.2	25.6	3.7	38.2	30.9	3.4
Queue Length 50th (m)	46.3	75.9	0.2	32.1	51.5	0.0	15.6	34.9	0.0	58.5	96.5	0.0
Queue Length 95th (m)	66.6	89.7	13.6	46.0	63.5	16.3	30.8	45.8	14.1	90.1	115.4	16.5
Internal Link Dist (m)		118.1			1191.9			646.9			760.2	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	437	1562	544	313	1329	465	217	1629	795	430	1661	895
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.51	0.17	0.64	0.40	0.27	0.36	0.22	0.26	0.59	0.51	0.35
Intersection Summary												










HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Total 2026  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		 	  			 			 		
Traffic Volume (vph)	220	750	89	188	503	117	73	336	191	239	789	293	
Future Volume (vph)	220	750	89	188	503	117	73	336	191	239	789	293	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1737	4902	1508	3340	4948	1395	1807	3476	1467	1689	3544	1557	
Flt Permitted	0.33	1.00	1.00	0.95	1.00	1.00	0.24	1.00	1.00	0.52	1.00	1.00	
Satd. Flow (perm)	602	4902	1508	3340	4948	1395	464	3476	1467	920	3544	1557	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	234	798	95	200	535	124	78	357	203	254	839	312	
RTOR Reduction (vph)	0	0	64	0	0	91	0	0	108	0	0	166	
Lane Group Flow (vph)	234	798	31	200	535	33	78	357	95	254	839	146	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2	
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	
Protected Phases	7	4		3	8			2			6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	71.0	51.0	51.0	15.0	43.0	43.0	75.0	75.0	75.0	75.0	75.0	75.0	
Effective Green, g (s)	71.0	51.0	51.0	15.0	43.0	43.0	75.0	75.0	75.0	75.0	75.0	75.0	
Actuated g/C Ratio	0.44	0.32	0.32	0.09	0.27	0.27	0.47	0.47	0.47	0.47	0.47	0.47	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Lane Grp Cap (vph)	430	1562	480	313	1329	374	217	1629	687	431	1661	729	
v/s Ratio Prot	c0.08	0.16		c0.06	0.11			0.10			0.24		
v/s Ratio Perm	c0.16		0.02			0.02	0.17		0.06	c0.28		0.09	
v/c Ratio	0.54	0.51	0.06	0.64	0.40	0.09	0.36	0.22	0.14	0.59	0.51	0.20	
Uniform Delay, d1	29.3	44.4	37.9	69.9	48.0	43.8	27.2	25.2	24.1	31.2	29.6	24.9	
Progression 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	
Incremental Delay, d2	4.9	1.2	0.3	9.6	0.9	0.5	4.6	0.3	0.4	5.8	1.1	0.6	
Delay (s)	34.2	45.5	38.2	79.5	48.9	44.3	31.7	25.5	24.6	37.0	30.7	25.5	
Level of Service	C	D	D	E	D	D	C	C	C	D	C	C	
Approach Delay (s)		42.6			55.3			26.0			30.7		
Approach LOS		D			E			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			38.5									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.58										
Actuated Cycle Length (s)			160.0									Sum of lost time (s)	19.0
Intersection Capacity Utilization			73.8%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													










Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C

Future Total 2026  
AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	320	0	0	235
Future Volume (vph)	0	0	320	0	0	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	0	0	1883
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	0	0	1883
Link Speed (k/h)	48		80			80
Link Distance (m)	204.9		2784.8			298.8
Travel Time (s)	15.4		125.3			13.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	348	0	0	255
<b>Shared Lane Traffic (%)</b>						
Lane Group Flow (vph)	0	0	348	0	0	255
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
<b>Two way Left Turn Lane</b>						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	20.2%			ICU Level of Service A		
Analysis Period (min)	15					










HCM Unsignalized Intersection Capacity Analysis  
7: Chinguacousy Road & Street C

Future Total 2026  
AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	320	0	0	235
Future Volume (Veh/h)	0	0	320	0	0	235
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)	0	0	348	0	0	255
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	603	348			348	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	603	348			348	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	462	695			1211	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	0	348	255			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1211			
Volume to Capacity	0.00	0.20	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			20.2%		ICU Level of Service	A
Analysis Period (min)			15			

Lanes, Volumes, Timings  
8: Street B & Old School Road

Future Total 2026  
AM Peak Hour

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	416	0	0	252	0	0
Future Volume (vph)	416	0	0	252	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
<b>Flt Protected</b>						
Satd. Flow (prot)	1883	0	0	1883	1883	0
<b>Flt Permitted</b>						
Satd. Flow (perm)	1883	0	0	1883	1883	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	452	0	0	274	0	0
<b>Shared Lane Traffic (%)</b>						
Lane Group Flow (vph)	452	0	0	274	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
<b>Two way Left Turn Lane</b>						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	25.2%			ICU Level of Service A		
Analysis Period (min)	15					

















HCM Unsignalized Intersection Capacity Analysis  
 8: Street B & Old School Road

Future Total 2026  
 AM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	
Traffic Volume (veh/h)	416	0	0	252	0	0
Future Volume (Veh/h)	416	0	0	252	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	452	0	0	274	0	0
<b>Pedestrians</b>						
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			452		726	452
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			452		726	452
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1109		391	608
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	452	274	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1109	1700			
Volume to Capacity	0.27	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			25.2%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

















Future Total 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	120	0	20	0	341	35	10	283	0
Future Volume (vph)	0	0	0	120	0	20	0	341	35	10	283	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Fr <sub>t</sub>					0.980			0.986				
Fl <sub>t</sub> Protected					0.959						0.998	
Satd. Flow (prot)	0	1883	0	0	1770	0	0	3528	0	0	3571	0
Fl <sub>t</sub> Permitted					0.959						0.998	
Satd. Flow (perm)	0	1883	0	0	1770	0	0	3528	0	0	3571	0
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			403.1			2496.3			588.2	
Travel Time (s)		15.4			30.2			112.3			26.5	
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
Adj. Flow (vph)	0	0	0	130	0	22	0	371	38	11	308	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	152	0	0	409	0	0	319	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	29.6%						ICU Level of Service A					
Analysis Period (min)	15											



HCM Unsignalized Intersection Capacity Analysis  
 9: McLaughlin Road & Street A

Future Total 2026  
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	120	0	20	0	341	35	10	283	0
Future Volume (Veh/h)	0	0	0	120	0	20	0	341	35	10	283	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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	0	0	130	0	22	0	371	38	11	308	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	538	739	154	566	720	204	308			409		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	538	739	154	566	720	204	308			409		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	68	100	97	100			99		
cM capacity (veh/h)	412	340	864	404	349	802	1249			1146		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	0	152	186	224	165	154						
Volume Left	0	130	0	0	11	0						
Volume Right	0	22	0	38	0	0						
cSH	1700	435	1249	1700	1146	1700						
Volume to Capacity	0.00	0.35	0.00	0.13	0.01	0.09						
Queue Length 95th (m)	0.0	11.7	0.0	0.0	0.2	0.0						
Control Delay (s)	0.0	17.6	0.0	0.0	0.6	0.0						
Lane LOS	A	C			A							
Approach Delay (s)	0.0	17.6	0.0		0.3							
Approach LOS	A	C										
Intersection Summary												
Average Delay				3.2								
Intersection Capacity Utilization			29.6%		ICU Level of Service				A			
Analysis Period (min)			15									










Lanes, Volumes, Timings  
 10: Street D & Old School Road

Future Total 2026  
 AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	
Traffic Volume (vph)	688	0	0	403	0	0
Future Volume (vph)	688	0	0	403	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Frt</b>						
Flt Protected						
Satd. Flow (prot)	1883	0	0	1883	1883	0
Flt Permitted						
Satd. Flow (perm)	1883	0	0	1883	1883	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	748	0	0	438	0	0
<b>Shared Lane Traffic (%)</b>						
Lane Group Flow (vph)	748	0	0	438	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
<b>Two way Left Turn Lane</b>						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	39.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 10: Street D & Old School Road

Future Total 2026  
 AM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	688	0	0	403	0	0
Future Volume (Veh/h)	688	0	0	403	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	748	0	0	438	0	0
<b>Pedestrians</b>						
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			748	1186		748
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			748	1186		748
tC, single (s)			4.1	6.4		6.2
tC, 2 stage (s)						
tF (s)			2.2	3.5		3.3
p0 queue free %			100	100		100
cM capacity (veh/h)			861	208		412
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	748	438	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	861	1700			
Volume to Capacity	0.44	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			39.5%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings  
11: Street A & Street D

Future Total 2026  
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	0	1883	1883	0	1883	0
Flt Permitted						
Satd. Flow (perm)	0	1883	1883	0	1883	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	97			97	97	97
Sign Control		Free	Free		Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	0.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 11: Street A & Street D
















Future Total 2026  
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
<b>Pedestrians</b>						
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	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1623				1023	1085
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2026  
AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				  	  	
Traffic Volume (vph)	0	0	0	1578	2455	0
Future Volume (vph)	0	0	0	1578	2455	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	50.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	5142	5142	0
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	5142	5142	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	1715	2668	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	1715	2668	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Minimum Split (s)	20.0		20.0	20.0	20.0	
Total Split (s)	20.0		20.0	20.0	20.0	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	16.0		16.0	16.0	16.0	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	0.5		0.5	0.5	0.5	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.0		4.0	4.0	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	5.0		5.0	5.0	5.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)				16.0	16.0	
Actuated g/C Ratio				0.40	0.40	
v/c Ratio				0.83	1.30	

Lanes, Volumes, Timings  
 12: Hurontario Street & Street A

Future Total 2026  
 AM Peak Hour

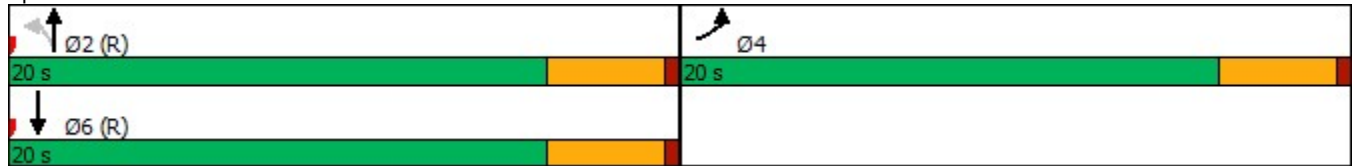


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Control Delay				16.0	155.4	
Queue Delay				0.0	0.0	
Total Delay				16.0	155.4	
LOS				B	F	
Approach Delay				16.0	155.4	
Approach LOS				B	F	

Intersection Summary

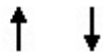
Area Type:	Other
Cycle Length:	40
Actuated Cycle Length:	40
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	1.30
Intersection Signal Delay:	100.9
Intersection LOS:	F
Intersection Capacity Utilization	50.8%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 12: Hurontario Street & Street A



Queues  
12: Hurontario Street & Street A

Future Total 2026  
AM Peak Hour



Lane Group	NBT	SBT
Lane Group Flow (vph)	1715	2668
v/c Ratio	0.83	1.30
Control Delay	16.0	155.4
Queue Delay	0.0	0.0
Total Delay	16.0	155.4
Queue Length 50th (m)	35.8	~91.4
Queue Length 95th (m)	#53.3	#116.9
Internal Link Dist (m)	904.0	831.3
Turn Bay Length (m)		
Base Capacity (vph)	2056	2056
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.83	1.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



HCM Signalized Intersection Capacity Analysis  
 12: Hurontario Street & Street A


















Future Total 2026  
 AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	1578	2455	0
Future Volume (vph)	0	0	0	1578	2455	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	
Lane Util. Factor				0.91	0.91	
Frt				1.00	1.00	
Flt Protected				1.00	1.00	
Satd. Flow (prot)				5142	5142	
Flt Permitted				1.00	1.00	
Satd. Flow (perm)				5142	5142	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	1715	2668	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	1715	2668	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Actuated Green, G (s)				16.0	16.0	
Effective Green, g (s)				16.0	16.0	
Actuated g/C Ratio				0.40	0.40	
Clearance Time (s)				4.0	4.0	
Lane Grp Cap (vph)				2056	2056	
v/s Ratio Prot				0.33	c0.52	
v/s Ratio Perm						
v/c Ratio				0.83	1.30	
Uniform Delay, d1				10.8	12.0	
Progression Factor				1.00	1.00	
Incremental Delay, d2				4.2	137.7	
Delay (s)				15.0	149.7	
Level of Service				B	F	
Approach Delay (s)	0.0			15.0	149.7	
Approach LOS	A			B	F	
<b>Intersection Summary</b>						
HCM 2000 Control Delay			97.0		HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			0.65			
Actuated Cycle Length (s)			40.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			50.8%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road


















PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	200	2	174	279	32	10	229	199	25	154	4
Future Volume (vph)	4	200	2	174	279	32	10	229	199	25	154	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.985			0.939			0.997	
Flt Protected		0.999		0.950				0.999			0.993	
Satd. Flow (prot)	0	1863	0	1825	1851	0	0	1723	0	0	1842	0
Flt Permitted		0.999		0.950				0.999			0.993	
Satd. Flow (perm)	0	1863	0	1825	1851	0	0	1723	0	0	1842	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			342.6	
Travel Time (s)		30.4			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	4	213	2	185	297	34	11	244	212	27	164	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	219	0	185	331	0	0	467	0	0	195	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	63.4%						ICU Level of Service B					
Analysis Period (min)	15											

# HCM Unsignalized Intersection Capacity Analysis



















## 1: Chinguacousy Road & Old School Road

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	200	2	174	279	32	10	229	199	25	154	4
Future Volume (vph)	4	200	2	174	279	32	10	229	199	25	154	4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	4	213	2	185	297	34	11	244	212	27	164	4
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1							
Volume Total (vph)	219	185	331	467	195							
Volume Left (vph)	4	185	0	11	27							
Volume Right (vph)	2	0	34	212	4							
Hadj (s)	0.05	0.50	-0.03	-0.19	0.07							
Departure Headway (s)	7.7	8.0	7.4	6.6	7.7							
Degree Utilization, x	0.47	0.41	0.68	0.86	0.42							
Capacity (veh/h)	434	433	464	525	426							
Control Delay (s)	17.3	15.2	23.7	37.5	16.0							
Approach Delay (s)	17.3	20.6		37.5	16.0							
Approach LOS	C	C		E	C							
Intersection Summary												
Delay			25.1									
Level of Service			D									
Intersection Capacity Utilization			63.4%		ICU Level of Service		B					
Analysis Period (min)			15									

## Lanes, Volumes, Timings 2: McLaughlin Road & Old School Road



















PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	390	28	280	447	23	33	128	286	19	59	6
Future Volume (vph)	9	390	28	280	447	23	33	128	286	19	59	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.993				0.850		0.991	
Flt Protected		0.999		0.950				0.990			0.989	
Satd. Flow (prot)	0	1823	0	1755	1886	0	0	1835	1555	0	1806	0
Flt Permitted		0.999		0.950				0.990			0.989	
Satd. Flow (perm)	0	1823	0	1755	1886	0	0	1835	1555	0	1806	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	10	415	30	298	476	24	35	136	304	20	63	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	455	0	298	500	0	0	171	304	0	89	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	74.1%						ICU Level of Service D					
Analysis Period (min)	15											

# HCM Unsignalized Intersection Capacity Analysis
























## 2: McLaughlin Road & Old School Road

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	390	28	280	447	23	33	128	286	19	59	6
Future Volume (vph)	9	390	28	280	447	23	33	128	286	19	59	6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	10	415	30	298	476	24	35	136	304	20	63	6
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1						
Volume Total (vph)	455	298	500	171	304	89						
Volume Left (vph)	10	298	0	35	0	20						
Volume Right (vph)	30	0	24	0	304	6						
Hadj (s)	0.04	0.57	-0.01	0.16	-0.61	0.08						
Departure Headway (s)	7.7	8.2	7.6	8.3	7.5	9.5						
Degree Utilization, x	0.97	0.68	1.06	0.39	0.63	0.23						
Capacity (veh/h)	466	428	478	427	465	365						
Control Delay (s)	61.5	25.9	84.6	15.4	21.4	15.3						
Approach Delay (s)	61.5	62.7		19.2		15.3						
Approach LOS	F	F		C		C						
Intersection Summary												
Delay			48.7									
Level of Service			E									
Intersection Capacity Utilization			74.1%	ICU Level of Service								D
Analysis Period (min)			15									

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

PM Peak Hour

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	404	186	96	202	232	45	177	2435	301	32	1437	343	
Future Volume (vph)	404	186	96	202	232	45	177	2435	301	32	1437	343	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0	
Storage Lanes	1		0	1		0	1		1	1		1	
Taper Length (m)	2.5			2.5			2.5			2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	
Frt		0.949			0.976				0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1825	1736	0	1789	1859	0	1807	5043	1633	1825	4812	1541	
Flt Permitted	0.203			0.484			0.079			0.090			
Satd. Flow (perm)	390	1736	0	912	1859	0	150	5043	1633	173	4812	1541	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		21			7				183			197	
Link Speed (k/h)		70			70			80			80		
Link Distance (m)		1007.8			440.4			855.3			282.2		
Travel Time (s)		51.8			22.6			38.5			12.7		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%	
Adj. Flow (vph)	416	192	99	208	239	46	182	2510	310	33	1481	354	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	416	291	0	208	285	0	182	2510	310	33	1481	354	
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)		3.7			3.7			3.7			3.7		
Link Offset(m)		0.0			0.0			0.0			0.0		
Crosswalk Width(m)		1.6			1.6			1.6			1.6		
Two way Left Turn Lane								Yes					
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Number of Detectors	1	2		1	2		1	2	1	1	2	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7		
Detector 2 Size(m)		1.8			1.8			1.8			1.8		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0			0.0		
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov	
Protected Phases	7	4		3	8		5	2			6	7	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	6	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0	29.0	29.0	29.0	10.0
Total Split (s)	24.0	36.0		17.0	29.0		17.0	67.0	67.0	50.0	50.0	24.0
Total Split (%)	20.0%	30.0%		14.2%	24.2%		14.2%	55.8%	55.8%	41.7%	41.7%	20.0%
Maximum Green (s)	20.0	30.0		13.0	23.0		11.0	61.0	61.0	44.0	44.0	20.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	1.0
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)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lead
Lead-Lag Optimize?	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
Recall Mode	None	None		None	None		None	Max	Max	Max	Max	None
Walk Time (s)		5.0			5.0			5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0			11.0			11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0			0			0	0	0	0	
Act Effct Green (s)	46.9	28.6		35.3	20.9		61.0	61.0	61.0	44.5	44.5	70.5
Actuated g/C Ratio	0.40	0.24		0.30	0.18		0.52	0.52	0.52	0.38	0.38	0.60
v/c Ratio	1.05	0.67		0.57	0.85		0.81	0.96	0.33	0.51	0.82	0.35
Control Delay	87.2	45.9		31.9	69.2		51.4	38.8	7.7	61.2	38.1	6.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.2	45.9		31.9	69.2		51.4	38.8	7.7	61.2	38.1	6.4
LOS	F	D		C	E		D	D	A	E	D	A
Approach Delay		70.2			53.5			36.3			32.5	
Approach LOS		E			D			D			C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	118
Natural Cycle:	100
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.05
Intersection Signal Delay:	40.5
Intersection LOS:	D
Intersection Capacity Utilization:	106.0%
ICU Level of Service:	G
Analysis Period (min):	15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues

3: Hurontario Street & Old School Road

PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	416	291	208	285	182	2510	310	33	1481	354
v/c Ratio	1.05	0.67	0.57	0.85	0.81	0.96	0.33	0.51	0.82	0.35
Control Delay	87.2	45.9	31.9	69.2	51.4	38.8	7.7	61.2	38.1	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.2	45.9	31.9	69.2	51.4	38.8	7.7	61.2	38.1	6.4
Queue Length 50th (m)	~82.5	57.2	32.3	63.0	26.4	204.8	15.4	6.0	115.7	16.3
Queue Length 95th (m)	#144.3	87.3	50.3	#102.7	#62.9	#248.2	32.9	#22.2	135.2	33.3
Internal Link Dist (m)		983.8		416.4		831.3			258.2	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	398	457	374	368	232	2608	933	65	1812	1000
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.64	0.56	0.77	0.78	0.96	0.33	0.51	0.82	0.35

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



# HCM Signalized Intersection Capacity Analysis

## 3: Hurontario Street & Old School Road

PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	404	186	96	202	232	45	177	2435	301	32	1437	343
Future Volume (vph)	404	186	96	202	232	45	177	2435	301	32	1437	343
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	4.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.95		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1825	1736		1789	1859		1807	5043	1633	1825	4812	1541
Flt Permitted	0.20	1.00		0.48	1.00		0.08	1.00	1.00	0.09	1.00	1.00
Satd. Flow (perm)	391	1736		911	1859		151	5043	1633	173	4812	1541
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	416	192	99	208	239	46	182	2510	310	33	1481	354
RTOR Reduction (vph)	0	16	0	0	6	0	0	0	88	0	0	89
Lane Group Flow (vph)	416	275	0	208	279	0	182	2510	222	33	1481	265
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov
Protected Phases	7	4		3	8		5	2			6	7
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	44.9	28.6		33.2	20.9		61.0	61.0	61.0	44.4	44.4	64.4
Effective Green, g (s)	44.9	28.6		33.2	20.9		61.0	61.0	61.0	44.4	44.4	64.4
Actuated g/C Ratio	0.38	0.24		0.28	0.18		0.52	0.52	0.52	0.38	0.38	0.55
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	4.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	392	421		348	329		227	2609	844	65	1812	841
v/s Ratio Prot	c0.18	0.16		0.06	0.15		0.07	c0.50			0.31	0.05
v/s Ratio Perm	c0.22			0.11			0.34		0.14	0.19		0.12
v/c Ratio	1.06	0.65		0.60	0.85		0.80	0.96	0.26	0.51	0.82	0.31
Uniform Delay, d1	30.6	40.2		34.5	47.0		27.4	27.3	15.9	28.3	33.1	14.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	62.6	3.6		2.8	18.1		18.1	10.7	0.8	25.6	4.2	0.2
Delay (s)	93.2	43.8		37.2	65.0		45.5	38.1	16.6	53.9	37.3	14.9
Level of Service	F	D		D	E		D	D	B	D	D	B
Approach Delay (s)		72.8			53.3			36.3			33.4	
Approach LOS		E			D			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			41.0								HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			1.10									
Actuated Cycle Length (s)			117.9								Sum of lost time (s)	22.0
Intersection Capacity Utilization			106.0%								ICU Level of Service	G
Analysis Period (min)			15									
c Critical Lane Group												

# Lanes, Volumes, Timings

## 4: Chinguacousy Road & Mayfield Road

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↔↕↔			↔↕↔				↕↔			↕↔		
Traffic Volume (vph)	36	636	46	179	601	46	31	207	156	26	139	25	
Future Volume (vph)	36	636	46	179	601	46	31	207	156	26	139	25	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	0.91	0.91	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor									1.00			1.00	
Frt	0.990				0.992				0.947		0.982		
Flt Protected	0.998				0.989				0.996		0.993		
Satd. Flow (prot)	0	5041	0	0	5036	0	0	1768	0	0	1832	0	
Flt Permitted	0.847				0.672				0.964		0.915		
Satd. Flow (perm)	0	4279	0	0	3422	0	0	1711	0	0	1688	0	
Right Turn on Red			Yes				Yes		Yes				
Satd. Flow (RTOR)	12				10				36		8		
Link Speed (k/h)	70				70				80		80		
Link Distance (m)	648.5				1419.4				675.3		2784.8		
Travel Time (s)	33.4				73.0				30.4		125.3		
Confl. Peds. (#/hr)							1						1
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	
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%	
Adj. Flow (vph)	39	691	50	195	653	50	34	225	170	28	151	27	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	780	0	0	898	0	0	429	0	0	206	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)	3.7				3.7				0.0		0.0		
Link Offset(m)	0.0				0.0				0.0		0.0		
Crosswalk Width(m)	1.6				1.6				1.6		1.6		
Two way Left Turn Lane													
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Turning Speed (k/h)	24		14		24		14		24		14		
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases	4				8				2		6		
Permitted Phases	4				8				2		6		
Minimum Split (s)	20.0	20.0	20.0		20.0		20.0		20.0		20.0		
Total Split (s)	61.0	61.0	61.0		61.0		59.0		59.0		59.0		
Total Split (%)	50.8%	50.8%	50.8%		50.8%		49.2%		49.2%		49.2%		
Maximum Green (s)	57.0	57.0	57.0		57.0		55.0		55.0		55.0		
Yellow Time (s)	3.5	3.5	3.5		3.5		3.5		3.5		3.5		
All-Red Time (s)	0.5	0.5	0.5		0.5		0.5		0.5		0.5		
Lost Time Adjust (s)	0.0				0.0				0.0		0.0		
Total Lost Time (s)	4.0				4.0				4.0		4.0		
Lead/Lag													
Lead-Lag Optimize?													
Walk Time (s)	5.0	5.0	5.0		5.0		5.0		5.0		5.0		
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)	57.0				57.0				55.0		55.0		
Actuated g/C Ratio	0.48				0.48				0.46		0.46		
v/c Ratio	0.38				0.55				0.53		0.26		

Lanes, Volumes, Timings  
 4: Chinguacousy Road & Mayfield Road

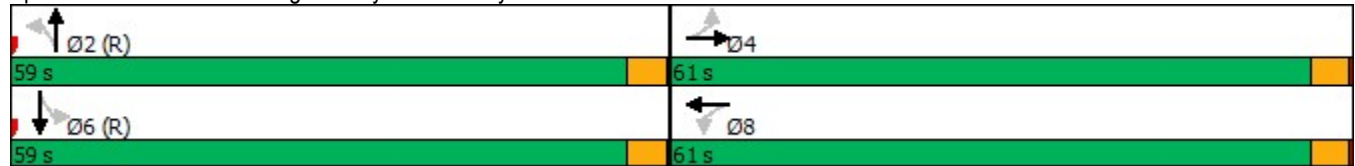
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		20.6			44.6			24.1			20.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		20.6			44.6			24.1			20.3	
LOS		C			D			C			C	
Approach Delay		20.6			44.6			24.1			20.3	
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:	40
Control Type:	Pretimed
Maximum v/c Ratio:	0.55
Intersection Signal Delay:	30.5
Intersection LOS:	C
Intersection Capacity Utilization	66.4%
ICU Level of Service	C
Analysis Period (min)	15

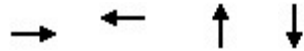
Splits and Phases: 4: Chinguacousy Road & Mayfield Road



# Queues

## 4: Chinguacousy Road & Mayfield Road

PM Peak Hour



























Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	780	898	429	206
v/c Ratio	0.38	0.55	0.53	0.26
Control Delay	20.6	44.6	24.1	20.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	20.6	44.6	24.1	20.3
Queue Length 50th (m)	41.3	75.0	64.8	28.0
Queue Length 95th (m)	51.6	89.1	94.9	44.5
Internal Link Dist (m)	624.5	1395.4	651.3	2760.8
Turn Bay Length (m)				
Base Capacity (vph)	2038	1630	803	778
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.38	0.55	0.53	0.26
<b>Intersection Summary</b>				

# HCM Signalized Intersection Capacity Analysis

## 4: Chinguacousy Road & Mayfield Road

PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  			  			  				  	
Traffic Volume (vph)	36	636	46	179	601	46	31	207	156	26	139	25	
Future Volume (vph)	36	636	46	179	601	46	31	207	156	26	139	25	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0			4.0			4.0			4.0		
Lane Util. Factor		0.91			0.91			1.00			1.00		
Frbp, ped/bikes		1.00			1.00			1.00			1.00		
Flpb, ped/bikes		1.00			1.00			1.00			1.00		
Frt		0.99			0.99			0.95			0.98		
Flt Protected		1.00			0.99			1.00			0.99		
Satd. Flow (prot)		5041			5035			1767			1833		
Flt Permitted		0.85			0.67			0.96			0.91		
Satd. Flow (perm)		4280			3422			1710			1689		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	39	691	50	195	653	50	34	225	170	28	151	27	
RTOR Reduction (vph)	0	6	0	0	5	0	0	20	0	0	4	0	
Lane Group Flow (vph)	0	774	0	0	893	0	0	410	0	0	202	0	
Confl. Peds. (#/hr)							1					1	
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		57.0			57.0			55.0			55.0		
Effective Green, g (s)		57.0			57.0			55.0			55.0		
Actuated g/C Ratio		0.48			0.48			0.46			0.46		
Clearance Time (s)		4.0			4.0			4.0			4.0		
Lane Grp Cap (vph)		2033			1625			783			774		
v/s Ratio Prot													
v/s Ratio Perm		0.18			c0.26			c0.24			0.12		
v/c Ratio		0.38			0.55			0.52			0.26		
Uniform Delay, d1		20.2			22.4			23.2			20.0		
Progression Factor		1.00			1.94			1.00			1.00		
Incremental Delay, d2		0.5			1.1			2.5			0.8		
Delay (s)		20.7			44.6			25.6			20.8		
Level of Service		C			D			C			C		
Approach Delay (s)		20.7			44.6			25.6			20.8		
Approach LOS		C			D			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			30.9									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.54										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			66.4%									ICU Level of Service	C
Analysis Period (min)			15										
c	Critical Lane Group												

# Lanes, Volumes, Timings

## 5: McLaughlin Road & Mayfield Road

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	762	56	102	879	190	92	336	104	158	206	71
Future Volume (vph)	55	762	56	102	879	190	92	336	104	158	206	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.973				0.850		0.962	
Flt Protected	0.950			0.950				0.989		0.950		
Satd. Flow (prot)	1738	5041	0	1755	4902	0	0	1885	1585	1738	1785	0
Flt Permitted	0.173			0.264				0.849		0.279		
Satd. Flow (perm)	317	5041	0	488	4902	0	0	1618	1585	510	1785	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			48				64			20
Link Speed (k/h)		70			70			80				80
Link Distance (m)		1419.4			1263.7			659.8				2496.3
Travel Time (s)		73.0			65.0			29.7				112.3
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	57	794	58	106	916	198	96	350	108	165	215	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	57	852	0	106	1114	0	0	446	108	165	289	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)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1		6
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	8.0		22.0
Total Split (s)	56.0	56.0		56.0	56.0		52.0	52.0	52.0	12.0		64.0
Total Split (%)	46.7%	46.7%		46.7%	46.7%		43.3%	43.3%	43.3%	10.0%		53.3%
Maximum Green (s)	50.0	50.0		50.0	50.0		46.0	46.0	46.0	8.0		58.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.5		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	0.5		2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	4.0		6.0
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0			5.0
Flash Dont Walk (s)	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
Act Effct Green (s)	50.0	50.0		50.0	50.0			46.0	46.0	60.0		58.0
Actuated g/C Ratio	0.42	0.42		0.42	0.42			0.38	0.38	0.50		0.48

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

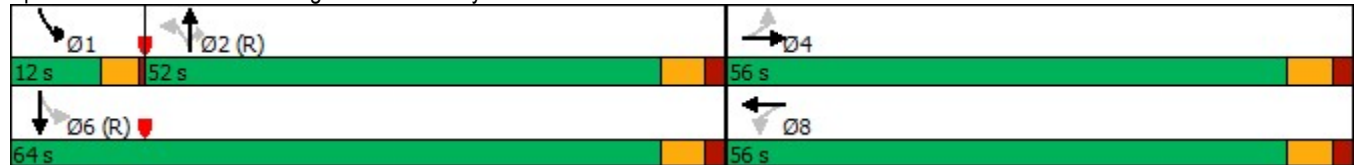
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.43	0.40		0.52	0.54			0.72	0.17	0.49	0.33	
Control Delay	40.6	27.8		37.4	26.2			39.4	11.7	22.1	18.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay	40.6	27.8		37.4	26.2			39.4	11.7	22.1	18.9	
LOS	D	C		D	C			D	B	C	B	
Approach Delay		28.6			27.2			34.0			20.1	
Approach LOS		C			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:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	27.8
Intersection LOS:	C
Intersection Capacity Utilization	82.5%
ICU Level of Service	E
Analysis Period (min)	15

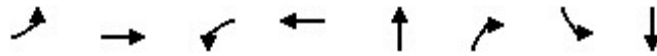
Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues

5: McLaughlin Road & Mayfield Road

PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	57	852	106	1114	446	108	165	289
v/c Ratio	0.43	0.40	0.52	0.54	0.72	0.17	0.49	0.33
Control Delay	40.6	27.8	37.4	26.2	39.4	11.7	22.1	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.6	27.8	37.4	26.2	39.4	11.7	22.1	18.9
Queue Length 50th (m)	11.4	61.0	18.3	67.9	88.4	6.5	20.8	37.7
Queue Length 95th (m)	m25.3	74.5	38.2	81.6	127.1	18.3	33.8	57.2
Internal Link Dist (m)		1395.4		1239.7	635.8			2472.3
Turn Bay Length (m)	30.0		30.0			30.0		
Base Capacity (vph)	132	2107	203	2070	620	647	336	873
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.40	0.52	0.54	0.72	0.17	0.49	0.33

Intersection Summary






















m Volume for 95th percentile queue is metered by upstream signal.



# HCM Signalized Intersection Capacity Analysis

## 5: McLaughlin Road & Mayfield Road

































PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	55	762	56	102	879	190	92	336	104	158	206	71	
Future Volume (vph)	55	762	56	102	879	190	92	336	104	158	206	71	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0	4.0	6.0		
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00		
Frt	1.00	0.99		1.00	0.97			1.00	0.85	1.00	0.96		
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00		
Satd. Flow (prot)	1738	5040		1755	4903			1886	1585	1738	1785		
Flt Permitted	0.17	1.00		0.26	1.00			0.85	1.00	0.28	1.00		
Satd. Flow (perm)	316	5040		488	4903			1619	1585	510	1785		
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	57	794	58	106	916	198	96	350	108	165	215	74	
RTOR Reduction (vph)	0	7	0	0	28	0	0	0	39	0	10	0	
Lane Group Flow (vph)	57	845	0	106	1086	0	0	446	69	165	279	0	
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA		
Protected Phases		4			8			2		2	1	6	
Permitted Phases	4			8			2		2	6			
Actuated Green, G (s)	50.0	50.0		50.0	50.0			46.0	46.0	58.0	58.0		
Effective Green, g (s)	50.0	50.0		50.0	50.0			46.0	46.0	58.0	58.0		
Actuated g/C Ratio	0.42	0.42		0.42	0.42			0.38	0.38	0.48	0.48		
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	4.0	6.0		
Lane Grp Cap (vph)	131	2100		203	2042			620	607	328	862		
v/s Ratio Prot		0.17			c0.22					c0.03	0.16		
v/s Ratio Perm	0.18			0.22				c0.28	0.04	0.21			
v/c Ratio	0.44	0.40		0.52	0.53			0.72	0.11	0.50	0.32		
Uniform Delay, d1	24.9	24.5		26.1	26.2			31.5	23.8	20.2	19.0		
Progression Factor	1.13	1.12		1.00	1.00			1.00	1.00	1.00	1.00		
Incremental Delay, d2	9.5	0.5		9.3	1.0			7.0	0.4	5.4	1.0		
Delay (s)	37.7	28.1		35.4	27.2			38.6	24.2	25.7	20.0		
Level of Service	D	C		D	C			D	C	C	B		
Approach Delay (s)		28.7			27.9			35.8			22.0		
Approach LOS		C			C			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			28.7									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.61										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			82.5%									ICU Level of Service	E
Analysis Period (min)			15										

c Critical Lane Group

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	474	535	86	250	670	120	154	628	239	183	714	672
Future Volume (vph)	474	535	86	250	670	120	154	628	239	183	714	672
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.96	0.98		0.99	1.00		0.96			0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	4995	1601	3404	5092	1585	1789	3614	1555	1825	3510	1585
Flt Permitted	0.160			0.950			0.340			0.271		
Satd. Flow (perm)	296	4995	1538	3331	5092	1562	639	3614	1486	521	3510	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			145			246			680
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			1215.9			670.9			784.2	
Travel Time (s)		7.3			62.5			34.5			40.3	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Adj. Flow (vph)	489	552	89	258	691	124	159	647	246	189	736	693
Shared Lane Traffic (%)												
Lane Group Flow (vph)	489	552	89	258	691	124	159	647	246	189	736	693
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	43.0	49.0	49.0	21.0	27.0	27.0	55.0	55.0	55.0	10.0	65.0	65.0
Total Split (%)	31.9%	36.3%	36.3%	15.6%	20.0%	20.0%	40.7%	40.7%	40.7%	7.4%	48.1%	48.1%
Maximum Green (s)	38.0	42.0	42.0	16.0	20.0	20.0	48.0	48.0	48.0	6.0	58.0	58.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	1.0	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
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)		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

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

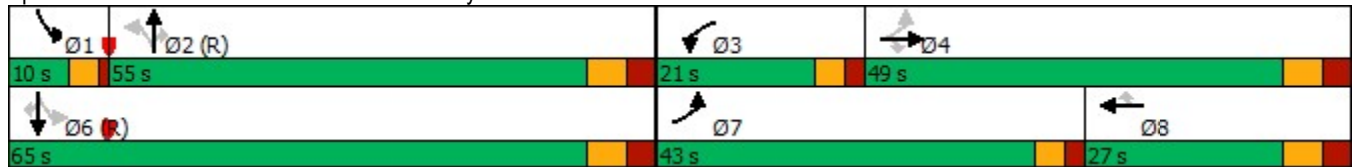
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	65.0	42.0	42.0	16.0	20.0	20.0	48.0	48.0	48.0	61.0	58.0	58.0
Actuated g/C Ratio	0.48	0.31	0.31	0.12	0.15	0.15	0.36	0.36	0.36	0.45	0.43	0.43
v/c Ratio	0.88	0.36	0.16	0.64	0.92	0.35	0.70	0.50	0.36	0.65	0.49	0.66
Control Delay	53.0	36.8	4.8	64.7	74.4	7.8	55.8	35.8	5.1	35.9	29.2	5.4
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	53.0	36.8	4.8	64.7	74.4	7.8	55.8	35.8	5.1	35.9	29.2	5.4
LOS	D	D	A	E	E	A	E	D	A	D	C	A
Approach Delay		41.3			64.4			31.6			19.8	
Approach LOS		D			E			C			B	

Intersection Summary

Area Type:	Other
Cycle Length:	135
Actuated Cycle Length:	135
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	90
Control Type:	Pretimed
Maximum v/c Ratio:	0.92
Intersection Signal Delay:	37.1
Intersection LOS:	D
Intersection Capacity Utilization	89.5%
ICU Level of Service	E
Analysis Period (min)	15

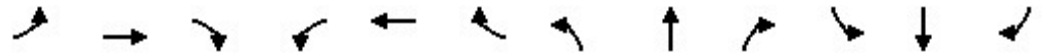
Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues

6: Hurontario Street & Mayfield Road

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	489	552	89	258	691	124	159	647	246	189	736	693
v/c Ratio	0.88	0.36	0.16	0.64	0.92	0.35	0.70	0.50	0.36	0.65	0.49	0.66
Control Delay	53.0	36.8	4.8	64.7	74.4	7.8	55.8	35.8	5.1	35.9	29.2	5.4
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	53.0	36.8	4.8	64.7	74.4	7.8	55.8	35.8	5.1	35.9	29.2	5.4
Queue Length 50th (m)	106.9	41.7	0.0	34.3	67.3	0.0	36.2	70.8	0.0	30.3	73.4	2.0
Queue Length 95th (m)	#167.5	52.7	8.9	48.7	#90.3	12.4	#69.4	89.1	17.4	46.5	91.2	28.0
Internal Link Dist (m)		118.1			1191.9			646.9			760.2	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	553	1554	550	403	754	354	227	1284	686	293	1508	1055
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.36	0.16	0.64	0.92	0.35	0.70	0.50	0.36	0.65	0.49	0.66

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis










## 6: Hurontario Street & Mayfield Road

PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	474	535	86	250	670	120	154	628	239	183	714	672	
Future Volume (vph)	474	535	86	250	670	120	154	628	239	183	714	672	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1755	4995	1538	3404	5092	1562	1785	3614	1486	1825	3510	1555	
Flt Permitted	0.16	1.00	1.00	0.95	1.00	1.00	0.34	1.00	1.00	0.27	1.00	1.00	
Satd. Flow (perm)	296	4995	1538	3404	5092	1562	639	3614	1486	521	3510	1555	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	489	552	89	258	691	124	159	647	246	189	736	693	
RTOR Reduction (vph)	0	0	61	0	0	106	0	0	159	0	0	388	
Lane Group Flow (vph)	489	552	28	258	691	18	159	647	87	189	736	305	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3	
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8			2		1	6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	63.0	42.0	42.0	16.0	20.0	20.0	48.0	48.0	48.0	58.0	58.0	58.0	
Effective Green, g (s)	63.0	42.0	42.0	16.0	20.0	20.0	48.0	48.0	48.0	58.0	58.0	58.0	
Actuated g/C Ratio	0.47	0.31	0.31	0.12	0.15	0.15	0.36	0.36	0.36	0.43	0.43	0.43	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Grp Cap (vph)	548	1554	478	403	754	231	227	1284	528	281	1508	668	
v/s Ratio Prot	c0.25	0.11		0.08	0.14			0.18		c0.03	0.21		
v/s Ratio Perm	c0.17		0.02			0.01	0.25		0.06	c0.26		0.20	
v/c Ratio	0.89	0.36	0.06	0.64	0.92	0.08	0.70	0.50	0.17	0.67	0.49	0.46	
Uniform Delay, d1	35.9	36.0	32.6	56.8	56.7	49.6	37.3	34.2	29.8	30.7	27.8	27.3	
Progression 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	
Incremental Delay, d2	19.4	0.6	0.2	7.6	17.8	0.7	16.5	1.4	0.7	12.2	1.1	2.2	
Delay (s)	55.4	36.6	32.9	64.3	74.5	50.2	53.8	35.6	30.5	42.8	28.9	29.6	
Level of Service	E	D	C	E	E	D	D	D	C	D	C	C	
Approach Delay (s)		44.4			69.2			37.1			30.8		
Approach LOS		D			E			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			43.8									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.83										
Actuated Cycle Length (s)			135.0									Sum of lost time (s)	23.0
Intersection Capacity Utilization			89.5%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C










PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	438	0	0	331
Future Volume (vph)	0	0	438	0	0	331
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	0	0	1883
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	0	0	1883
Link Speed (k/h)	48		80			80
Link Distance (m)	204.9		2784.8			298.8
Travel Time (s)	15.4		125.3			13.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	476	0	0	360
<b>Shared Lane Traffic (%)</b>						
Lane Group Flow (vph)	0	0	476	0	0	360
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
<b>Two way Left Turn Lane</b>						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	26.4%			ICU Level of Service A		
Analysis Period (min)	15					

# HCM Unsignalized Intersection Capacity Analysis

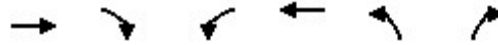
## 7: Chinguacousy Road & Street C

PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	438	0	0	331
Future Volume (Veh/h)	0	0	438	0	0	331
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)	0	0	476	0	0	360
<b>Pedestrians</b>						
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	836	476			476	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	836	476			476	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	337	589			1086	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	0	476	360			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1086			
Volume to Capacity	0.00	0.28	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			26.4%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
8: Street B & Old School Road

PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	419	0	0	481	0	0
Future Volume (vph)	419	0	0	481	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	1883	0	0	1883	1883	0
Flt Permitted						
Satd. Flow (perm)	1883	0	0	1883	1883	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	455	0	0	523	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	455	0	0	523	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

**Intersection Summary**

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



# HCM Unsignalized Intersection Capacity Analysis

## 8: Street B & Old School Road

















PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↔	↔
Traffic Volume (veh/h)	419	0	0	481	0	0
Future Volume (Veh/h)	419	0	0	481	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	455	0	0	523	0	0
<b>Pedestrians</b>						
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			455		978	455
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			455		978	455
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1106		278	605
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	455	523	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1106	1700			
Volume to Capacity	0.27	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			28.6%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	73	0	15	0	434	130	18	350	0
Future Volume (vph)	0	0	0	73	0	15	0	434	130	18	350	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Fr <sub>t</sub>					0.977			0.965				
Fl <sub>t</sub> Protected					0.960						0.998	
Satd. Flow (prot)	0	1883	0	0	1767	0	0	3453	0	0	3571	0
Fl <sub>t</sub> Permitted					0.960						0.998	
Satd. Flow (perm)	0	1883	0	0	1767	0	0	3453	0	0	3571	0
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			403.1			2496.3			588.2	
Travel Time (s)		15.4			30.2			112.3			26.5	
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
Adj. Flow (vph)	0	0	0	79	0	16	0	472	141	20	380	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	95	0	0	613	0	0	400	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

















Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	34.6%
ICU Level of Service	A
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis











## 9: McLaughlin Road & Street A

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	73	0	15	0	434	130	18	350	0
Future Volume (Veh/h)	0	0	0	73	0	15	0	434	130	18	350	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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	0	0	79	0	16	0	472	141	20	380	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	672	1033	190	772	962	306	380			613		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	672	1033	190	772	962	306	380			613		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	72	100	98	100			98		
cM capacity (veh/h)	328	226	820	284	249	689	1175			962		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	0	95	236	377	210	190						
Volume Left	0	79	0	0	20	0						
Volume Right	0	16	0	141	0	0						
cSH	1700	316	1175	1700	962	1700						
Volume to Capacity	0.00	0.30	0.00	0.22	0.02	0.11						
Queue Length 95th (m)	0.0	9.4	0.0	0.0	0.5	0.0						
Control Delay (s)	0.0	21.2	0.0	0.0	1.0	0.0						
Lane LOS	A	C			A							
Approach Delay (s)	0.0	21.2	0.0		0.5							
Approach LOS	A	C										
Intersection Summary												
Average Delay			2.0									
Intersection Capacity Utilization			34.6%		ICU Level of Service				A			
Analysis Period (min)			15									

Lanes, Volumes, Timings  
10: Street D & Old School Road

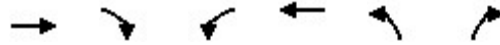
PM Peak Hour

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	690	0	0	745	0	0
Future Volume (vph)	690	0	0	745	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
<b>Flt Protected</b>						
Satd. Flow (prot)	1883	0	0	1883	1883	0
<b>Flt Permitted</b>						
Satd. Flow (perm)	1883	0	0	1883	1883	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	750	0	0	810	0	0
<b>Shared Lane Traffic (%)</b>						
Lane Group Flow (vph)	750	0	0	810	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
<b>Two way Left Turn Lane</b>						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	42.5%			ICU Level of Service A		
Analysis Period (min)	15					

# HCM Unsignalized Intersection Capacity Analysis

## 10: Street D & Old School Road

PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↔	↔
Traffic Volume (veh/h)	690	0	0	745	0	0
Future Volume (Veh/h)	690	0	0	745	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	750	0	0	810	0	0
<b>Pedestrians</b>						
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			750		1560	750
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			750		1560	750
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			859		123	411
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	750	810	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	859	1700			
Volume to Capacity	0.44	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			42.5%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
11: Street A & Street D

PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	0	1883	1883	0	1883	0
Flt Permitted						
Satd. Flow (perm)	0	1883	1883	0	1883	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Stop	Stop		Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	0.0%			ICU Level of Service A		
Analysis Period (min)	15					

# HCM Unsignalized Intersection Capacity Analysis

## 11: Street A & Street D

PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total (vph)	0	0	0			
Volume Left (vph)	0	0	0			
Volume Right (vph)	0	0	0			
Hadj (s)	0.00	0.00	0.00			
Departure Headway (s)	3.9	3.9	3.9			
Degree Utilization, x	0.00	0.00	0.00			
Capacity (veh/h)	917	917	917			
Control Delay (s)	6.9	6.9	6.9			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A	A	A			
Intersection Summary						
Delay			0.0			
Level of Service			A			
Intersection Capacity Utilization			0.0%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	2913	1736	0
Future Volume (vph)	0	0	0	2913	1736	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	50.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	5142	5142	0
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	5142	5142	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	3166	1887	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	3166	1887	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Minimum Split (s)	20.0		20.0	20.0	20.0	
Total Split (s)	20.0		20.0	20.0	20.0	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	16.0		16.0	16.0	16.0	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	0.5		0.5	0.5	0.5	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.0		4.0	4.0	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	5.0		5.0	5.0	5.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)				16.0	16.0	
Actuated g/C Ratio				0.40	0.40	
v/c Ratio				1.54	0.92	



Lanes, Volumes, Timings  
 12: Hurontario Street & Street A

PM Peak Hour

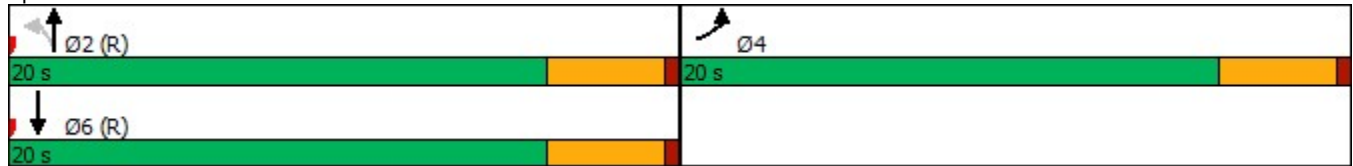


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Control Delay				264.1	21.4	
Queue Delay				0.0	0.0	
Total Delay				264.1	21.4	
LOS				F	C	
Approach Delay				264.1	21.4	
Approach LOS				F	C	

Intersection Summary

Area Type:	Other
Cycle Length:	40
Actuated Cycle Length:	40
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	1.54
Intersection Signal Delay:	173.5
Intersection LOS:	F
Intersection Capacity Utilization	59.6%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 12: Hurontario Street & Street A



Queues

12: Hurontario Street & Street A

PM Peak Hour



Lane Group	NBT	SBT
Lane Group Flow (vph)	3166	1887
v/c Ratio	1.54	0.92
Control Delay	264.1	21.4
Queue Delay	0.0	0.0
Total Delay	264.1	21.4
Queue Length 50th (m)	~119.1	41.5
Queue Length 95th (m)	#145.6	#71.3
Internal Link Dist (m)	904.0	831.3
Turn Bay Length (m)		
Base Capacity (vph)	2056	2056
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	1.54	0.92

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 12: Hurontario Street & Street A

PM Peak Hour



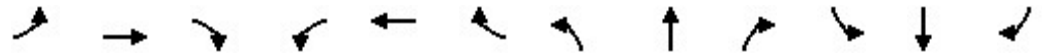
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	2913	1736	0
Future Volume (vph)	0	0	0	2913	1736	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	
Lane Util. Factor				0.91	0.91	
Fr <sub>t</sub>				1.00	1.00	
Fl <sub>t</sub> Protected				1.00	1.00	
Satd. Flow (prot)				5142	5142	
Fl <sub>t</sub> Permitted				1.00	1.00	
Satd. Flow (perm)				5142	5142	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	3166	1887	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	3166	1887	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Actuated Green, G (s)				16.0	16.0	
Effective Green, g (s)				16.0	16.0	
Actuated g/C Ratio				0.40	0.40	
Clearance Time (s)				4.0	4.0	
Lane Grp Cap (vph)				2056	2056	
v/s Ratio Prot				0.62	0.37	
v/s Ratio Perm						
v/c Ratio				1.54	0.92	
Uniform Delay, d <sub>1</sub>				12.0	11.4	
Progression Factor				1.00	1.00	
Incremental Delay, d <sub>2</sub>				245.4	8.0	
Delay (s)				257.4	19.4	
Level of Service				F	B	
Approach Delay (s)	0.0			257.4	19.4	
Approach LOS	A			F	B	

### Intersection Summary

HCM 2000 Control Delay	168.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	59.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2029 - AM  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	238	3	112	162	35	2	187	233	27	181	8
Future Volume (vph)	2	238	3	112	162	35	2	187	233	27	181	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.973			0.925				0.995
Flt Protected				0.950								0.994
Satd. Flow (prot)	0	1917	0	1772	1807	0	0	1711	0	0	1788	0
Flt Permitted		0.997		0.586				0.999			0.931	
Satd. Flow (perm)	0	1912	0	1093	1807	0	0	1709	0	0	1675	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			32			185				6
Link Speed (k/h)		70			70			80				80
Link Distance (m)		867.8			490.2			298.8				716.9
Travel Time (s)		44.6			25.2			13.4				32.3
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Adj. Flow (vph)	2	253	3	119	172	37	2	199	248	29	193	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	258	0	119	209	0	0	449	0	0	231	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)		3.7			3.7			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

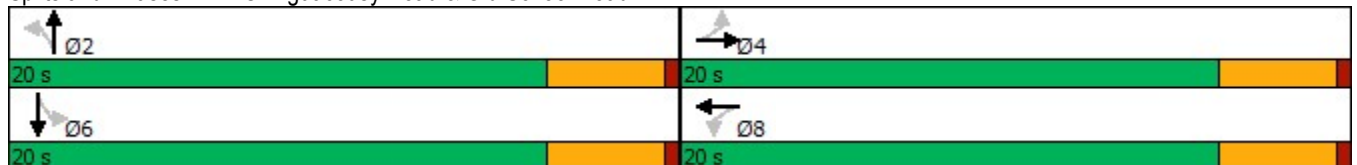
Future Background 2029 - AM  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		9.7		9.5	9.5			19.8			19.8	
Actuated g/C Ratio		0.28		0.27	0.27			0.57			0.57	
v/c Ratio		0.48		0.40	0.40			0.43			0.24	
Control Delay		13.1		13.7	10.4			5.5			6.8	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		13.1		13.7	10.4			5.5			6.8	
LOS		B		B	B			A			A	
Approach Delay		13.1			11.6			5.5			6.8	
Approach LOS		B			B			A			A	

Intersection Summary

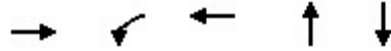
Area Type: Other  
 Cycle Length: 40  
 Actuated Cycle Length: 34.7  
 Natural Cycle: 40  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.48  
 Intersection Signal Delay: 8.9  
 Intersection Capacity Utilization 63.8%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 1: Chinguacousy Road & Old School Road



Queues  
1: Chinguacousy Road & Old School Road


















Future Background 2029 - AM  
AM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	258	119	209	449	231
v/c Ratio	0.48	0.40	0.40	0.43	0.24
Control Delay	13.1	13.7	10.4	5.5	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.1	13.7	10.4	5.5	6.8
Queue Length 50th (m)	11.3	5.1	7.5	7.6	6.4
Queue Length 95th (m)	22.8	13.0	17.1	25.0	18.2
Internal Link Dist (m)	843.8		466.2	274.8	692.9
Turn Bay Length (m)		30.0			
Base Capacity (vph)	886	506	853	1055	959
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.29	0.24	0.25	0.43	0.24
Intersection Summary					



















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Background 2029 - AM  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	2	238	3	112	162	35	2	187	233	27	181	8	
Future Volume (vph)	2	238	3	112	162	35	2	187	233	27	181	8	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0		
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00		
Frt		1.00		1.00	0.97			0.93			0.99		
Flt Protected		1.00		0.95	1.00			1.00			0.99		
Satd. Flow (prot)		1917		1772	1808			1711			1788		
Flt Permitted		1.00		0.59	1.00			1.00			0.93		
Satd. Flow (perm)		1912		1093	1808			1710			1674		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	2	253	3	119	172	37	2	199	248	29	193	9	
RTOR Reduction (vph)	0	2	0	0	24	0	0	86	0	0	3	0	
Lane Group Flow (vph)	0	256	0	119	185	0	0	363	0	0	228	0	
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		8.4		8.4	8.4			19.0			19.0		
Effective Green, g (s)		8.4		8.4	8.4			19.0			19.0		
Actuated g/C Ratio		0.24		0.24	0.24			0.54			0.54		
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0		
Lane Grp Cap (vph)		453		259	429			917			898		
v/s Ratio Prot					0.10								
v/s Ratio Perm		c0.13		0.11				c0.21			0.14		
v/c Ratio		0.57		0.46	0.43			0.40			0.25		
Uniform Delay, d1		11.9		11.6	11.5			4.8			4.4		
Progression Factor		1.00		1.00	1.00			1.00			1.00		
Incremental Delay, d2		1.6		1.3	0.7			1.3			0.7		
Delay (s)		13.5		12.8	12.2			6.1			5.1		
Level of Service		B		B	B			A			A		
Approach Delay (s)		13.5			12.4			6.1			5.1		
Approach LOS		B			B			A			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			9.1									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.45										
Actuated Cycle Length (s)			35.4									Sum of lost time (s)	8.0
Intersection Capacity Utilization			63.8%									ICU Level of Service	B
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Background 2029 - AM  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	466	28	197	277	23	32	58	347	36	115	11
Future Volume (vph)	6	466	28	197	277	23	32	58	347	36	115	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.989				0.850		0.991	
Flt Protected		0.999		0.950				0.983			0.989	
Satd. Flow (prot)	0	1872	0	1789	1835	0	0	1864	1617	0	1858	0
Flt Permitted		0.995		0.261				0.866			0.923	
Satd. Flow (perm)	0	1864	0	492	1835	0	0	1642	1617	0	1734	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			8				368			5
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			755.6	
Travel Time (s)		45.9			18.0			26.5			34.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Adj. Flow (vph)	6	496	30	210	295	24	34	62	369	38	122	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	532	0	210	319	0	0	96	369	0	172	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6



Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

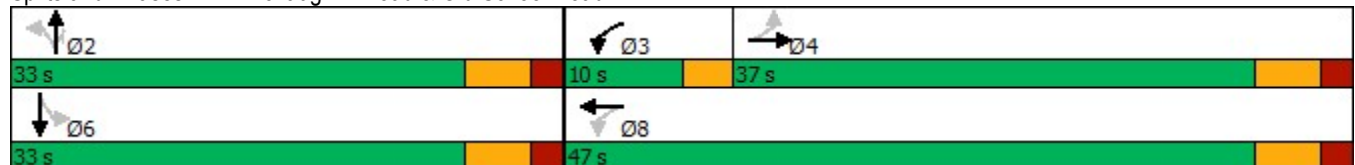
Future Background 2029 - AM  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	37.0	37.0		10.0	47.0		33.0	33.0	33.0	33.0	33.0	
Total Split (%)	46.3%	46.3%		12.5%	58.8%		41.3%	41.3%	41.3%	41.3%	41.3%	
Maximum Green (s)	31.0	31.0		7.0	41.0		27.0	27.0	27.0	27.0	27.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		0.0	2.0		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	
Total Lost Time (s)		6.0		3.0	6.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		25.0		38.1	35.1			27.2	27.2		27.2	
Actuated g/C Ratio		0.34		0.51	0.47			0.37	0.37		0.37	
v/c Ratio		0.85		0.56	0.37			0.16	0.45		0.27	
Control Delay		36.0		15.9	13.3			18.6	4.3		19.0	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		36.0		15.9	13.3			18.6	4.3		19.0	
LOS		D		B	B			B	A		B	
Approach Delay		36.0			14.3			7.3			19.0	
Approach LOS		D			B			A			B	

Intersection Summary

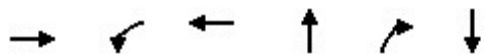
Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 74.3  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.85  
 Intersection Signal Delay: 19.6  
 Intersection Capacity Utilization 72.9%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service C

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road



















Future Background 2029 - AM  
AM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	532	210	319	96	369	172
v/c Ratio	0.85	0.56	0.37	0.16	0.45	0.27
Control Delay	36.0	15.9	13.3	18.6	4.3	19.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.0	15.9	13.3	18.6	4.3	19.0
Queue Length 50th (m)	67.0	15.1	26.1	9.0	0.1	16.4
Queue Length 95th (m)	103.1	26.0	42.4	20.6	17.1	33.2
Internal Link Dist (m)	869.1		325.1	564.2		731.6
Turn Bay Length (m)		30.0				
Base Capacity (vph)	784	375	1022	600	824	637
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.56	0.31	0.16	0.45	0.27
<b>Intersection Summary</b>						
























HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road

Future Background 2029 - AM  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	466	28	197	277	23	32	58	347	36	115	11
Future Volume (vph)	6	466	28	197	277	23	32	58	347	36	115	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		3.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Frt		0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	
Satd. Flow (prot)		1873		1789	1835			1864	1617		1857	
Flt Permitted		1.00		0.26	1.00			0.87	1.00		0.92	
Satd. Flow (perm)		1866		491	1835			1642	1617		1733	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	6	496	30	210	295	24	34	62	369	38	122	12
RTOR Reduction (vph)	0	3	0	0	4	0	0	0	233	0	3	0
Lane Group Flow (vph)	0	529	0	210	315	0	0	96	136	0	169	0
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		25.0		35.0	35.0			27.2	27.2		27.2	
Effective Green, g (s)		25.0		35.0	35.0			27.2	27.2		27.2	
Actuated g/C Ratio		0.34		0.47	0.47			0.37	0.37		0.37	
Clearance Time (s)		6.0		3.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		628		354	865			601	592		635	
v/s Ratio Prot				c0.06	0.17							
v/s Ratio Perm		c0.28		0.22				0.06	0.08		c0.10	
v/c Ratio		0.84		0.59	0.36			0.16	0.23		0.27	
Uniform Delay, d1		22.8		14.0	12.5			15.8	16.3		16.5	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		10.0		2.7	0.3			0.6	0.9		1.0	
Delay (s)		32.8		16.7	12.8			16.4	17.2		17.5	
Level of Service		C		B	B			B	B		B	
Approach Delay (s)		32.8			14.3			17.0			17.5	
Approach LOS		C			B			B			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			21.2			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			74.2			Sum of lost time (s)		15.0				
Intersection Capacity Utilization			72.9%			ICU Level of Service			C			
Analysis Period (min)			15									
c	Critical Lane Group											

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2029 - AM  
AM Peak Hour

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	455	218	167	370	179	39	54	1629	174	33	2297	245	
Future Volume (vph)	455	218	167	370	179	39	54	1629	174	33	2297	245	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0	
Storage Lanes	1		0	1		0	1		1	1		1	
Taper Length (m)	2.5			2.5			2.5			2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	
Frt		0.935			0.973				0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1755	1749	0	1722	1786	0	1722	4445	1471	1615	5043	1633	
Flt Permitted	0.300			0.222			0.070			0.070			
Satd. Flow (perm)	554	1749	0	402	1786	0	127	4445	1471	119	5043	1633	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		20			8				148			148	
Link Speed (k/h)		70			70			80			80		
Link Distance (m)		1007.8			739.5			855.3			752.1		
Travel Time (s)		51.8			38.0			38.5			33.8		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%	
Adj. Flow (vph)	489	234	180	398	192	42	58	1752	187	35	2470	263	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	489	414	0	398	234	0	58	1752	187	35	2470	263	
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)		3.7			3.7			3.7			3.7		
Link Offset(m)		0.0			0.0			0.0			0.0		
Crosswalk Width(m)		1.6			1.6			1.6			1.6		
Two way Left Turn Lane								Yes					
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Number of Detectors	1	2		1	2		1	2	1	1	2	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7		
Detector 2 Size(m)		1.8			1.8			1.8			1.8		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0			0.0		
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm	
Protected Phases	7	4		3	8			2			6		

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2029 - AM  
AM Peak Hour

	↖		→		↘		↙		←		↗		↖		↗		↑		↘		↓		↙			
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR														
Permitted Phases	4				8				2				2		6				6				6			
Detector Phase	7	4			3	8			2	2	2	6	6	6												
Switch Phase																										
Minimum Initial (s)	4.0	4.0			4.0	4.0			4.0	4.0	4.0	4.0	4.0	4.0												
Minimum Split (s)	8.0	24.0			8.0	24.0			29.0	29.0	29.0	29.0	29.0	29.0												
Total Split (s)	29.0	32.0			23.0	26.0			65.0	65.0	65.0	65.0	65.0	65.0												
Total Split (%)	24.2%	26.7%			19.2%	21.7%			54.2%	54.2%	54.2%	54.2%	54.2%	54.2%												
Maximum Green (s)	25.0	24.0			19.0	18.0			57.0	57.0	57.0	57.0	57.0	57.0												
Yellow Time (s)	3.5	6.0			3.5	6.0			6.0	6.0	6.0	6.0	6.0	6.0												
All-Red Time (s)	0.5	2.0			0.5	2.0			2.0	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	0.0												
Total Lost Time (s)	4.0	8.0			4.0	8.0			8.0	8.0	8.0	8.0	8.0	8.0												
Lead/Lag	Lead	Lag			Lead	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	None			None	None			Max	Max	Max	Max	Max	Max												
Walk Time (s)	5.0				5.0				5.0	5.0	5.0	5.0	5.0	5.0												
Flash Dont Walk (s)	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												
Act Effct Green (s)	51.0	24.0			41.0	18.0			57.0	57.0	57.0	57.0	57.0	57.0												
Actuated g/C Ratio	0.42	0.20			0.34	0.15			0.48	0.48	0.48	0.48	0.48	0.48												
v/c Ratio	1.01	1.13			1.15	0.85			0.97	0.83	0.24	0.62	1.03	0.31												
Control Delay	72.8	130.4			126.6	75.8			143.9	31.6	5.6	74.1	58.5	9.1												
Queue Delay	0.0	0.0			0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0												
Total Delay	72.8	130.4			126.6	75.8			143.9	31.6	5.6	74.1	58.5	9.1												
LOS	E	F			F	E			F	C	A	E	E	A												
Approach Delay	99.2				107.8				32.4				54.0													
Approach LOS	F				F				C				D													

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 130  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.15  
 Intersection Signal Delay: 59.0  
 Intersection Capacity Utilization 103.7%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service G

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Background 2029 - AM  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	489	414	398	234	58	1752	187	35	2470	263
v/c Ratio	1.01	1.13	1.15	0.85	0.97	0.83	0.24	0.62	1.03	0.31
Control Delay	72.8	130.4	126.6	75.8	143.9	31.6	5.6	74.1	58.5	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.8	130.4	126.6	75.8	143.9	31.6	5.6	74.1	58.5	9.1
Queue Length 50th (m)	~91.3	~109.6	~91.0	52.6	12.9	127.4	4.8	6.0	~228.3	14.9
Queue Length 95th (m)	#155.0	#170.9	#152.7	#95.6	#41.1	148.5	17.3	#24.9	#256.3	31.8
Internal Link Dist (m)		983.8		715.5		831.3			728.1	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	485	365	346	274	60	2111	776	56	2395	853
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	1.13	1.15	0.85	0.97	0.83	0.24	0.63	1.03	0.31

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Background 2029 - AM  
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	455	218	167	370	179	39	54	1629	174	33	2297	245
Future Volume (vph)	455	218	167	370	179	39	54	1629	174	33	2297	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	1749		1722	1786		1722	4445	1471	1615	5043	1633
Flt Permitted	0.30	1.00		0.22	1.00		0.07	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	554	1749		403	1786		127	4445	1471	119	5043	1633
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	489	234	180	398	192	42	58	1752	187	35	2470	263
RTOR Reduction (vph)	0	16	0	0	7	0	0	0	78	0	0	78
Lane Group Flow (vph)	489	398	0	398	227	0	58	1752	109	35	2470	185
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	47.0	24.0		37.0	18.0		57.0	57.0	57.0	57.0	57.0	57.0
Effective Green, g (s)	47.0	24.0		37.0	18.0		57.0	57.0	57.0	57.0	57.0	57.0
Actuated g/C Ratio	0.39	0.20		0.31	0.15		0.48	0.48	0.48	0.48	0.48	0.48
Clearance Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	467	349		333	267		60	2111	698	56	2395	775
v/s Ratio Prot	c0.22	c0.23		c0.19	0.13			0.39			c0.49	
v/s Ratio Perm	0.19			0.18			0.46		0.07	0.29		0.11
v/c Ratio	1.05	1.14		1.20	0.85		0.97	0.83	0.16	0.62	1.03	0.24
Uniform Delay, d1	31.8	48.0		37.1	49.7		30.6	27.3	17.9	23.5	31.5	18.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	54.5	92.0		113.5	22.0		107.0	4.0	0.5	42.7	27.0	0.7
Delay (s)	86.3	140.0		150.6	71.7		137.6	31.3	18.3	66.3	58.5	19.4
Level of Service	F	F		F	E		F	C	B	E	E	B
Approach Delay (s)		110.9			121.4			33.1			54.9	
Approach LOS		F			F			C			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			62.7									E
HCM 2000 Volume to Capacity ratio			1.10									
Actuated Cycle Length (s)			120.0						20.0			
Intersection Capacity Utilization			103.7%									G
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2029 - AM  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↕↔			↔↕↔				↕↔			↕↔	
Traffic Volume (vph)	41	647	48	140	563	24	24	178	136	80	220	36
Future Volume (vph)	41	647	48	140	563	24	24	178	136	80	220	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.990			0.995			0.946			0.986	
Fl <sub>t</sub> Protected		0.997			0.990			0.996			0.988	
Satd. Flow (prot)	0	4861	0	0	4858	0	0	1741	0	0	1782	0
Fl <sub>t</sub> Permitted		0.855			0.682			0.963			0.842	
Satd. Flow (perm)	0	4169	0	0	3346	0	0	1684	0	0	1519	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			5			40			7	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		800.0			1419.4			707.2			2784.8	
Travel Time (s)		41.1			73.0			31.8			125.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Adj. Flow (vph)	41	654	48	141	569	24	24	180	137	81	222	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	743	0	0	734	0	0	341	0	0	339	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	56.0	56.0		56.0	56.0		64.0	64.0		64.0	64.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	52.0	52.0		52.0	52.0		60.0	60.0		60.0	60.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		52.0			52.0			60.0			60.0	
Actuated g/C Ratio		0.43			0.43			0.50			0.50	
v/c Ratio		0.41			0.51			0.40			0.44	
Control Delay		23.9			44.4			17.9			21.2	
Queue Delay		0.0			0.0			0.0			0.0	



Lanes, Volumes, Timings  
 4: Chinguacousy Road & Mayfield Road

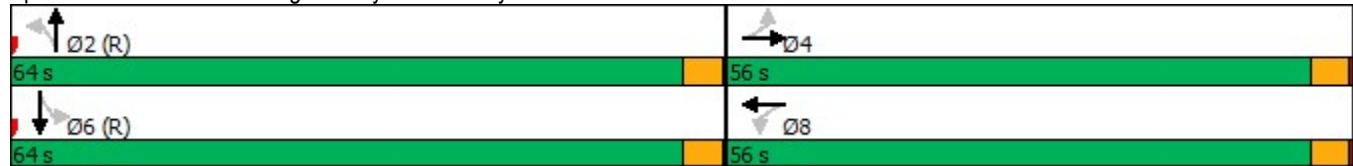
Future Background 2029 - AM  
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		23.9			44.4			17.9			21.2	
LOS		C			D			B			C	
Approach Delay		23.9			44.4			17.9			21.2	
Approach LOS		C			D			B			C	

Intersection Summary

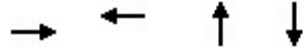
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	40
Control Type:	Pretimed
Maximum v/c Ratio:	0.51
Intersection Signal Delay:	29.5
Intersection LOS:	C
Intersection Capacity Utilization	78.5%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Background 2029 - AM  
AM Peak Hour



























Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	743	734	341	339
v/c Ratio	0.41	0.51	0.40	0.44
Control Delay	23.9	44.4	17.9	21.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	23.9	44.4	17.9	21.2
Queue Length 50th (m)	42.6	64.5	42.4	48.6
Queue Length 95th (m)	53.5	78.1	64.4	72.8
Internal Link Dist (m)	776.0	1395.4	683.2	2760.8
Turn Bay Length (m)				
Base Capacity (vph)	1812	1452	862	763
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.41	0.51	0.40	0.44
<b>Intersection Summary</b>				

# HCM Signalized Intersection Capacity Analysis





















## 4: Chinguacousy Road & Mayfield Road

Future Background 2029 - AM  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			  				  
Traffic Volume (vph)	41	647	48	140	563	24	24	178	136	80	220	36
Future Volume (vph)	41	647	48	140	563	24	24	178	136	80	220	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frt		0.99			1.00			0.95			0.99	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		4864			4860			1742			1782	
Flt Permitted		0.86			0.68			0.96			0.84	
Satd. Flow (perm)		4171			3346			1682			1519	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	41	654	48	141	569	24	24	180	137	81	222	36
RTOR Reduction (vph)	0	6	0	0	3	0	0	20	0	0	4	0
Lane Group Flow (vph)	0	737	0	0	731	0	0	321	0	0	336	0
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		52.0			52.0			60.0			60.0	
Effective Green, g (s)		52.0			52.0			60.0			60.0	
Actuated g/C Ratio		0.43			0.43			0.50			0.50	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		1807			1449			841			759	
v/s Ratio Prot												
v/s Ratio Perm		0.18			0.22			0.19			0.22	
v/c Ratio		0.41			0.50			0.38			0.44	
Uniform Delay, d1		23.4			24.7			18.5			19.3	
Progression Factor		1.00			1.74			1.00			1.00	
Incremental Delay, d2		0.7			1.2			1.3			1.9	
Delay (s)		24.1			44.2			19.9			21.1	
Level of Service		C			D			B			C	
Approach Delay (s)		24.1			44.2			19.9			21.1	
Approach LOS		C			D			B			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			29.8									C
HCM 2000 Volume to Capacity ratio			0.47									
Actuated Cycle Length (s)			120.0								8.0	
Intersection Capacity Utilization			78.5%									D
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2029 - AM  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	877	104	123	696	109	46	214	92	264	360	72
Future Volume (vph)	16	877	104	123	696	109	46	214	92	264	360	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.984			0.980			0.955			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4888	0	1706	4770	0	1644	3397	0	1690	3444	0
Flt Permitted	0.294			0.227			0.454			0.551		
Satd. Flow (perm)	565	4888	0	408	4770	0	786	3397	0	980	3444	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			34			69			24	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			699.5			2496.3	
Travel Time (s)		73.0			65.0			31.5			112.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Adj. Flow (vph)	16	895	106	126	710	111	47	218	94	269	367	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	1001	0	126	821	0	47	312	0	269	440	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		23.0	23.0	
Total Split (s)	64.0	64.0		64.0	64.0		56.0	56.0		56.0	56.0	
Total Split (%)	53.3%	53.3%		53.3%	53.3%		46.7%	46.7%		46.7%	46.7%	
Maximum Green (s)	58.0	58.0		58.0	58.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	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	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)	58.0	58.0		58.0	58.0		50.0	50.0		50.0	50.0	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.42	0.42		0.42	0.42	

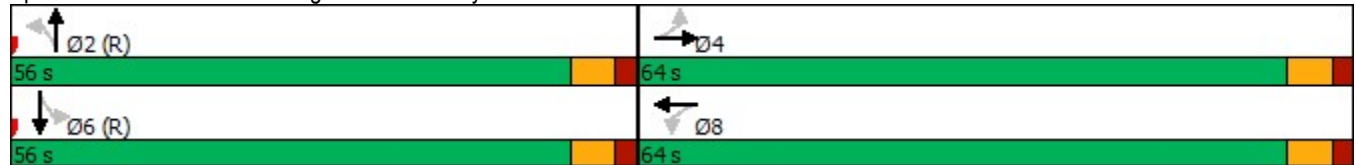
Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2029 - AM  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.06	0.42		0.64	0.35		0.14	0.21		0.66	0.30	
Control Delay	21.9	26.6		40.9	19.0		23.3	17.7		37.5	22.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	21.9	26.6		40.9	19.0		23.3	17.7		37.5	22.7	
LOS	C	C		D	B		C	B		D	C	
Approach Delay		26.5			21.9			18.4			28.3	
Approach LOS		C			C			B			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:	50
Control Type:	Pretimed
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	24.5
Intersection Capacity Utilization	69.6%
Analysis Period (min)	15
Intersection LOS:	C
ICU Level of Service	C

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Background 2029 - AM  
AM Peak Hour























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	16	1001	126	821	47	312	269	440
v/c Ratio	0.06	0.42	0.64	0.35	0.14	0.21	0.66	0.30
Control Delay	21.9	26.6	40.9	19.0	23.3	17.7	37.5	22.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	26.6	40.9	19.0	23.3	17.7	37.5	22.7
Queue Length 50th (m)	2.6	70.2	21.6	41.0	6.8	18.6	50.1	33.6
Queue Length 95th (m)	m6.9	81.8	#51.7	50.7	15.1	28.3	82.1	45.8
Internal Link Dist (m)		1395.4		1239.7		675.5		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	273	2374	197	2323	327	1455	408	1449
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.42	0.64	0.35	0.14	0.21	0.66	0.30

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

































Future Background 2029 - AM  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	877	104	123	696	109	46	214	92	264	360	72
Future Volume (vph)	16	877	104	123	696	109	46	214	92	264	360	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	4889		1706	4768		1644	3397		1690	3445	
Flt Permitted	0.29	1.00		0.23	1.00		0.45	1.00		0.55	1.00	
Satd. Flow (perm)	564	4889		408	4768		785	3397		980	3445	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	16	895	106	126	710	111	47	218	94	269	367	73
RTOR Reduction (vph)	0	12	0	0	18	0	0	40	0	0	14	0
Lane Group Flow (vph)	16	989	0	126	803	0	47	272	0	269	426	0
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	58.0	58.0		58.0	58.0		50.0	50.0		50.0	50.0	
Effective Green, g (s)	58.0	58.0		58.0	58.0		50.0	50.0		50.0	50.0	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.42	0.42		0.42	0.42	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	272	2363		197	2304		327	1415		408	1435	
v/s Ratio Prot		0.20			0.17			0.08			0.12	
v/s Ratio Perm	0.03			c0.31			0.06			c0.27		
v/c Ratio	0.06	0.42		0.64	0.35		0.14	0.19		0.66	0.30	
Uniform Delay, d1	16.5	20.1		23.2	19.3		21.7	22.2		28.1	23.3	
Progression Factor	1.26	1.32		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.5		14.9	0.4		0.9	0.3		8.1	0.5	
Delay (s)	21.2	27.1		38.0	19.7		22.6	22.5		36.3	23.8	
Level of Service	C	C		D	B		C	C		D	C	
Approach Delay (s)		27.0			22.1			22.5			28.5	
Approach LOS		C			C			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			25.3				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			69.6%				ICU Level of Service			C		
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2029 - AM  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	236	865	94	199	556	148	78	349	203	315	815	315
Future Volume (vph)	236	865	94	199	556	148	78	349	203	315	815	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	1.00		0.98			0.97	0.99		0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	4902	1541	3340	4948	1420	1807	3476	1512	1706	3544	1585
Fl <sub>t</sub> Permitted	0.198			0.950			0.264			0.521		
Satd. Flow (perm)	362	4902	1508	3326	4948	1395	502	3476	1467	926	3544	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			100			157			216			335
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			871.1			746.1			609.4	
Travel Time (s)		7.3			44.8			38.4			31.3	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Adj. Flow (vph)	251	920	100	212	591	157	83	371	216	335	867	335
Shared Lane Traffic (%)												
Lane Group Flow (vph)	251	920	100	212	591	157	83	371	216	335	867	335
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	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)	9.0	23.0	23.0	9.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	31.0	44.0	44.0	20.0	33.0	33.0	96.0	96.0	96.0	96.0	96.0	96.0
Total Split (%)	19.4%	27.5%	27.5%	12.5%	20.6%	20.6%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%
Maximum Green (s)	26.0	37.0	37.0	15.0	26.0	26.0	89.0	89.0	89.0	89.0	89.0	89.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	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	0



Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

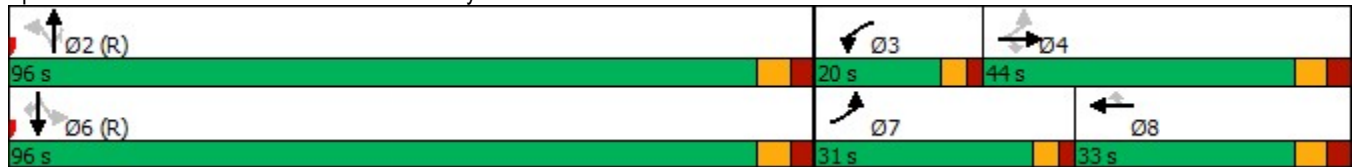
Future Background 2029 - AM  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	59.0	37.0	37.0	15.0	26.0	26.0	89.0	89.0	89.0	89.0	89.0	89.0
Actuated g/C Ratio	0.37	0.23	0.23	0.09	0.16	0.16	0.56	0.56	0.56	0.56	0.56	0.56
v/c Ratio	0.70	0.81	0.24	0.68	0.74	0.44	0.30	0.19	0.24	0.65	0.44	0.33
Control Delay	48.8	64.9	9.7	81.8	69.9	11.9	22.5	17.9	2.6	32.1	21.7	2.5
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	48.8	64.9	9.7	81.8	69.9	11.9	22.5	17.9	2.6	32.1	21.7	2.5
LOS	D	E	A	F	E	B	C	B	A	C	C	A
Approach Delay		57.4			63.0			13.6			19.8	
Approach LOS		E			E			B			B	

Intersection Summary

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	122 (76%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.81
Intersection Signal Delay:	39.0
Intersection LOS:	D
Intersection Capacity Utilization	78.9%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Background 2029 - AM  
AM Peak Hour




































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	251	920	100	212	591	157	83	371	216	335	867	335
v/c Ratio	0.70	0.81	0.24	0.68	0.74	0.44	0.30	0.19	0.24	0.65	0.44	0.33
Control Delay	48.8	64.9	9.7	81.8	69.9	11.9	22.5	17.9	2.6	32.1	21.7	2.5
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	48.8	64.9	9.7	81.8	69.9	11.9	22.5	17.9	2.6	32.1	21.7	2.5
Queue Length 50th (m)	58.9	102.4	0.0	34.2	66.4	0.0	13.6	30.0	0.0	72.1	82.8	0.0
Queue Length 95th (m)	84.2	119.5	15.4	48.6	81.0	21.2	26.4	39.1	11.9	110.3	98.8	13.9
Internal Link Dist (m)		118.1			847.1			722.1			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	357	1133	425	313	804	358	279	1933	911	515	1971	1014
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.81	0.24	0.68	0.74	0.44	0.30	0.19	0.24	0.65	0.44	0.33

Intersection Summary

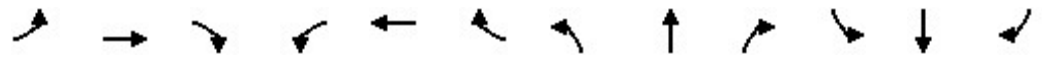
HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Background 2029 - AM  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 		 	 	
Traffic Volume (vph)	236	865	94	199	556	148	78	349	203	315	815	315
Future Volume (vph)	236	865	94	199	556	148	78	349	203	315	815	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1738	4902	1508	3340	4948	1395	1807	3476	1467	1688	3544	1557
Flt Permitted	0.20	1.00	1.00	0.95	1.00	1.00	0.26	1.00	1.00	0.52	1.00	1.00
Satd. Flow (perm)	362	4902	1508	3340	4948	1395	502	3476	1467	926	3544	1557
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	251	920	100	212	591	157	83	371	216	335	867	335
RTOR Reduction (vph)	0	0	77	0	0	131	0	0	96	0	0	149
Lane Group Flow (vph)	251	920	23	212	591	26	83	371	120	335	867	186
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4			8	2		2	6		6
Actuated Green, G (s)	57.0	37.0	37.0	15.0	26.0	26.0	89.0	89.0	89.0	89.0	89.0	89.0
Effective Green, g (s)	57.0	37.0	37.0	15.0	26.0	26.0	89.0	89.0	89.0	89.0	89.0	89.0
Actuated g/C Ratio	0.36	0.23	0.23	0.09	0.16	0.16	0.56	0.56	0.56	0.56	0.56	0.56
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lane Grp Cap (vph)	352	1133	348	313	804	226	279	1933	816	515	1971	866
v/s Ratio Prot	c0.12	c0.19		0.06	0.12			0.11			0.24	
v/s Ratio Perm	0.14		0.02			0.02	0.17		0.08	c0.36		0.12
v/c Ratio	0.71	0.81	0.07	0.68	0.74	0.11	0.30	0.19	0.15	0.65	0.44	0.22
Uniform Delay, d1	40.0	58.2	48.0	70.2	63.7	57.2	18.9	17.6	17.2	24.7	20.9	17.9
Progression 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
Incremental Delay, d2	11.7	6.4	0.4	11.2	5.9	1.0	2.7	0.2	0.4	6.3	0.7	0.6
Delay (s)	51.6	64.6	48.4	81.4	69.6	58.2	21.6	17.9	17.5	30.9	21.6	18.5
Level of Service	D	E	D	F	E	E	C	B	B	C	C	B
Approach Delay (s)		60.8			70.4			18.2			22.9	
Approach LOS		E			E			B			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			43.3									D
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			160.0							19.0		
Intersection Capacity Utilization			78.9%									D
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2029 - PM  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	224	2	234	301	44	11	308	268	34	202	4
Future Volume (vph)	4	224	2	234	301	44	11	308	268	34	202	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.981			0.938			0.998	
Flt Protected		0.999		0.950				0.999			0.993	
Satd. Flow (prot)	0	1863	0	1825	1838	0	0	1721	0	0	1844	0
Flt Permitted		0.994		0.570				0.993			0.875	
Satd. Flow (perm)	0	1853	0	1095	1838	0	0	1711	0	0	1625	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			10			74			1	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		867.8			490.2			298.8			716.9	
Travel Time (s)		44.6			25.2			13.4			32.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	4	238	2	249	320	47	12	328	285	36	215	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	244	0	249	367	0	0	625	0	0	255	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	35.0	35.0		35.0	35.0		45.0	45.0		45.0	45.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%		56.3%	56.3%		56.3%	56.3%	
Maximum Green (s)	29.0	29.0		29.0	29.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		29.0		29.0	29.0			39.0			39.0	
Actuated g/C Ratio		0.36		0.36	0.36			0.49			0.49	

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2029 - PM  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.36		0.63	0.55			0.72			0.32	
Control Delay		20.6		29.5	23.4			19.8			13.8	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		20.6		29.5	23.4			19.8			13.8	
LOS		C		C	C			B			B	
Approach Delay		20.6			25.9			19.8			13.8	
Approach LOS		C			C			B			B	

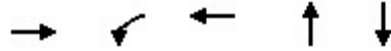
Intersection Summary	
Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	50
Control Type:	Pretimed
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	21.2
Intersection LOS:	C
Intersection Capacity Utilization	80.0%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road



Queues  
1: Chinguacousy Road & Old School Road


















Future Background 2029 - PM  
PM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	244	249	367	625	255
v/c Ratio	0.36	0.63	0.55	0.72	0.32
Control Delay	20.6	29.5	23.4	19.8	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.6	29.5	23.4	19.8	13.8
Queue Length 50th (m)	26.6	30.7	42.2	62.8	22.3
Queue Length 95th (m)	44.4	55.6	67.5	101.7	37.6
Internal Link Dist (m)	843.8		466.2	274.8	692.9
Turn Bay Length (m)		30.0			
Base Capacity (vph)	672	396	672	872	792
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.36	0.63	0.55	0.72	0.32
<b>Intersection Summary</b>					

HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Background 2029 - PM  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	224	2	234	301	44	11	308	268	34	202	4
Future Volume (vph)	4	224	2	234	301	44	11	308	268	34	202	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.98			0.94			1.00	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		1863		1825	1838			1722			1844	
Flt Permitted		0.99		0.57	1.00			0.99			0.87	
Satd. Flow (perm)		1853		1095	1838			1712			1624	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	4	238	2	249	320	47	12	328	285	36	215	4
RTOR Reduction (vph)	0	1	0	0	6	0	0	38	0	0	1	0
Lane Group Flow (vph)	0	243	0	249	361	0	0	587	0	0	254	0
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.0		29.0	29.0			39.0			39.0	
Effective Green, g (s)		29.0		29.0	29.0			39.0			39.0	
Actuated g/C Ratio		0.36		0.36	0.36			0.49			0.49	
Clearance Time (s)		6.0		6.0	6.0			6.0			6.0	
Lane Grp Cap (vph)		671		396	666			834			791	
v/s Ratio Prot					0.20							
v/s Ratio Perm		0.13		c0.23				c0.34			0.16	
v/c Ratio		0.36		0.63	0.54			0.70			0.32	
Uniform Delay, d1		18.7		21.1	20.2			16.0			12.5	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		1.5		7.4	3.1			4.9			1.1	
Delay (s)		20.2		28.4	23.4			20.9			13.5	
Level of Service		C		C	C			C			B	
Approach Delay (s)		20.2			25.4			20.9			13.5	
Approach LOS		C			C			C			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			21.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			80.0%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Background 2029 - PM  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖	↗			↖	↗		↕	
Traffic Volume (vph)	9	489	31	366	533	25	40	132	374	20	56	6
Future Volume (vph)	9	489	31	366	533	25	40	132	374	20	56	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.993				0.850		0.991	
Flt Protected		0.999		0.950				0.988			0.988	
Satd. Flow (prot)	0	1826	0	1755	1886	0	0	1827	1555	0	1806	0
Flt Permitted		0.988		0.341				0.910			0.886	
Satd. Flow (perm)	0	1806	0	630	1886	0	0	1683	1555	0	1620	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			3				398			4
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			755.6	
Travel Time (s)		45.9			18.0			26.5			34.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	10	520	33	389	567	27	43	140	398	21	60	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	563	0	389	594	0	0	183	398	0	87	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6



Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

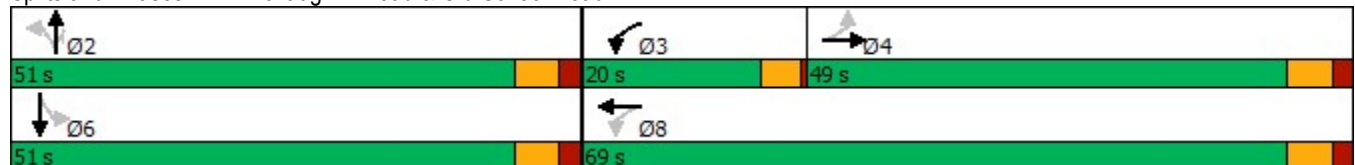
Future Background 2029 - PM  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	24.0	24.0		8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	49.0	49.0		20.0	69.0		51.0	51.0	51.0	51.0	51.0	
Total Split (%)	40.8%	40.8%		16.7%	57.5%		42.5%	42.5%	42.5%	42.5%	42.5%	
Maximum Green (s)	43.0	43.0		16.0	63.0		45.0	45.0	45.0	45.0	45.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		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	
Total Lost Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	Max	Max		None	Max		None	None	None	None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		43.8		65.1	63.1			15.6	15.6		15.6	
Actuated g/C Ratio		0.48		0.72	0.69			0.17	0.17		0.17	
v/c Ratio		0.65		0.61	0.45			0.63	0.67		0.31	
Control Delay		23.1		9.6	8.2			44.9	9.5		33.7	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		23.1		9.6	8.2			44.9	9.5		33.7	
LOS		C		A	A			D	A		C	
Approach Delay		23.1			8.7			20.6			33.7	
Approach LOS		C			A			C			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 90.8  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.67  
 Intersection Signal Delay: 16.5  
 Intersection LOS: B  
 Intersection Capacity Utilization 91.3%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road



















Future Background 2029 - PM  
PM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	563	389	594	183	398	87
v/c Ratio	0.65	0.61	0.45	0.63	0.67	0.31
Control Delay	23.1	9.6	8.2	44.9	9.5	33.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.1	9.6	8.2	44.9	9.5	33.7
Queue Length 50th (m)	71.8	20.9	39.8	29.9	0.0	12.8
Queue Length 95th (m)	122.7	42.5	75.7	50.2	23.3	25.5
Internal Link Dist (m)	869.1		325.1	564.2		731.6
Turn Bay Length (m)		30.0				
Base Capacity (vph)	871	650	1312	836	972	806
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.60	0.45	0.22	0.41	0.11
<b>Intersection Summary</b>						
























HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road

Future Background 2029 - PM  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	489	31	366	533	25	40	132	374	20	56	6
Future Volume (vph)	9	489	31	366	533	25	40	132	374	20	56	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Frt		0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	
Satd. Flow (prot)		1826		1755	1887			1828	1555		1806	
Flt Permitted		0.99		0.34	1.00			0.91	1.00		0.89	
Satd. Flow (perm)		1806		629	1887			1683	1555		1619	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	10	520	33	389	567	27	43	140	398	21	60	6
RTOR Reduction (vph)	0	2	0	0	1	0	0	0	330	0	3	0
Lane Group Flow (vph)	0	561	0	389	593	0	0	183	68	0	84	0
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		43.8		63.2	63.2			15.6	15.6		15.6	
Effective Green, g (s)		43.8		63.2	63.2			15.6	15.6		15.6	
Actuated g/C Ratio		0.48		0.70	0.70			0.17	0.17		0.17	
Clearance Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		871		628	1313			289	267		278	
v/s Ratio Prot				c0.10	0.31							
v/s Ratio Perm		0.31		c0.33				c0.11	0.04		0.05	
v/c Ratio		0.64		0.62	0.45			0.63	0.26		0.30	
Uniform Delay, d1		17.7		7.9	6.1			34.9	32.6		32.8	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		3.7		1.8	1.1			4.5	0.5		0.6	
Delay (s)		21.3		9.8	7.2			39.4	33.1		33.5	
Level of Service		C		A	A			D	C		C	
Approach Delay (s)		21.3			8.2			35.1			33.5	
Approach LOS		C			A			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			19.6			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			90.8			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			91.3%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2029 - PM  
PM Peak Hour

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	554	217	102	295	261	50	182	2859	438	35	1678	476	
Future Volume (vph)	554	217	102	295	261	50	182	2859	438	35	1678	476	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0	
Storage Lanes	1		0	1		0	1		1	1		1	
Taper Length (m)	2.5			2.5			2.5			2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	
Frt		0.952			0.976				0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1825	1743	0	1789	1859	0	1807	5043	1633	1825	4812	1541	
Flt Permitted	0.164			0.184			0.072			0.078			
Satd. Flow (perm)	315	1743	0	347	1859	0	137	5043	1633	150	4812	1541	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		18			7				194			340	
Link Speed (k/h)		70			70			80				80	
Link Distance (m)		1007.8			739.5			855.3				752.1	
Travel Time (s)		51.8			38.0			38.5				33.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%	
Adj. Flow (vph)	571	224	105	304	269	52	188	2947	452	36	1730	491	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	571	329	0	304	321	0	188	2947	452	36	1730	491	
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)		3.7			3.7			3.7				3.7	
Link Offset(m)		0.0			0.0			0.0				0.0	
Crosswalk Width(m)		1.6			1.6			1.6				1.6	
Two way Left Turn Lane								Yes					
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Number of Detectors	1	2		1	2		1	2	1	1	2	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7				28.7	
Detector 2 Size(m)		1.8			1.8			1.8				1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex	
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0				0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8		5	2		1		6	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2029 - PM  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0	29.0	10.0	29.0	29.0
Total Split (s)	24.0	31.0		22.0	29.0		14.0	57.0	57.0	10.0	53.0	53.0
Total Split (%)	20.0%	25.8%		18.3%	24.2%		11.7%	47.5%	47.5%	8.3%	44.2%	44.2%
Maximum Green (s)	20.0	25.0		18.0	23.0		8.0	51.0	51.0	4.0	47.0	47.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	-2.0		0.0	-2.0		-2.0	-2.0	0.0	-2.0	-2.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lead/Lag	Lead	Lag		Lead	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
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Walk Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	46.3	26.4		41.4	23.9		63.0	57.1	55.1	55.0	49.0	47.0
Actuated g/C Ratio	0.39	0.22		0.35	0.20		0.53	0.48	0.46	0.46	0.41	0.40
v/c Ratio	1.51	0.82		0.91	0.85		0.88	1.22	0.53	0.24	0.87	0.60
Control Delay	272.9	59.4		62.3	65.7		65.6	131.6	15.7	18.0	38.3	11.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	272.9	59.4		62.3	65.7		65.6	131.6	15.7	18.0	38.3	11.8
LOS	F	E		E	E		E	F	B	B	D	B
Approach Delay		194.9			64.1			113.5			32.2	
Approach LOS		F			E			F			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 118.9  
 Natural Cycle: 150  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.51  
 Intersection Signal Delay: 94.4  
 Intersection Capacity Utilization 119.4%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service H

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Background 2029 - PM  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	571	329	304	321	188	2947	452	36	1730	491
v/c Ratio	1.51	0.82	0.91	0.85	0.88	1.22	0.53	0.24	0.87	0.60
Control Delay	272.9	59.4	62.3	65.7	65.6	131.6	15.7	18.0	38.3	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	272.9	59.4	62.3	65.7	65.6	131.6	15.7	18.0	38.3	11.8
Queue Length 50th (m)	~171.6	70.1	52.0	71.2	28.9	~329.0	44.0	4.0	135.8	25.1
Queue Length 95th (m)	#239.4	#114.4	#102.2	#115.4	#71.2	#355.0	75.8	9.1	157.1	59.8
Internal Link Dist (m)		983.8		715.5		831.3			728.1	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	377	410	340	396	213	2420	860	153	1983	814
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.51	0.80	0.89	0.81	0.88	1.22	0.53	0.24	0.87	0.60

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Background 2029 - PM  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	554	217	102	295	261	50	182	2859	438	35	1678	476
Future Volume (vph)	554	217	102	295	261	50	182	2859	438	35	1678	476
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.95		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1825	1743		1789	1859		1807	5043	1633	1825	4812	1541
Flt Permitted	0.16	1.00		0.18	1.00		0.07	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	315	1743		346	1859		137	5043	1633	149	4812	1541
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	571	224	105	304	269	52	188	2947	452	36	1730	491
RTOR Reduction (vph)	0	14	0	0	6	0	0	0	106	0	0	201
Lane Group Flow (vph)	571	315	0	304	315	0	188	2947	346	36	1730	290
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	44.4	24.4		39.4	21.9		63.1	55.1	55.1	51.9	49.5	49.5
Effective Green, g (s)	44.4	26.4		39.4	23.9		65.5	57.1	55.1	55.9	51.5	49.5
Actuated g/C Ratio	0.37	0.22		0.32	0.20		0.54	0.47	0.45	0.46	0.42	0.41
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	363	379		320	365		211	2371	741	129	2041	628
v/s Ratio Prot	c0.26	0.18		0.14	0.17		c0.07	c0.58		0.01	0.36	
v/s Ratio Perm	c0.32			0.17			0.41		0.21	0.12		0.19
v/c Ratio	1.57	0.83		0.95	0.86		0.89	1.24	0.47	0.28	0.85	0.46
Uniform Delay, d1	35.1	45.4		34.6	47.2		32.0	32.2	23.0	27.5	31.4	26.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	270.8	14.3		36.7	18.6		34.0	113.1	2.1	1.2	4.6	2.4
Delay (s)	305.9	59.7		71.3	65.8		65.9	145.2	25.1	28.7	36.0	28.7
Level of Service	F	E		E	E		E	F	C	C	D	C
Approach Delay (s)		215.9			68.5			125.9			34.3	
Approach LOS		F			E			F			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			104.0									F
HCM 2000 Volume to Capacity ratio			1.38									
Actuated Cycle Length (s)			121.4								16.0	
Intersection Capacity Utilization			119.4%									H
ICU Level of Service												
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2029 - PM  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕			↕↕↕			↕			↕	
Traffic Volume (vph)	40	677	49	178	638	64	33	262	152	32	159	28
Future Volume (vph)	40	677	49	178	638	64	33	262	152	32	159	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.990			0.989			0.954			0.983	
Flt Protected		0.997			0.990			0.996			0.993	
Satd. Flow (prot)	0	5037	0	0	5026	0	0	1785	0	0	1835	0
Flt Permitted		0.834			0.667			0.963			0.893	
Satd. Flow (perm)	0	4213	0	0	3386	0	0	1725	0	0	1651	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			14			29			8	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		800.0			1419.4			707.2			2784.8	
Travel Time (s)		41.1			73.0			31.8			125.3	
Confl. Peds. (#/hr)							1					1
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
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Adj. Flow (vph)	43	736	53	193	693	70	36	285	165	35	173	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	832	0	0	956	0	0	486	0	0	238	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	59.0	59.0		59.0	59.0		61.0	61.0		61.0	61.0	
Total Split (%)	49.2%	49.2%		49.2%	49.2%		50.8%	50.8%		50.8%	50.8%	
Maximum Green (s)	55.0	55.0		55.0	55.0		57.0	57.0		57.0	57.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		55.0			55.0			57.0			57.0	
Actuated g/C Ratio		0.46			0.46			0.48			0.48	
v/c Ratio		0.43			0.61			0.58			0.30	



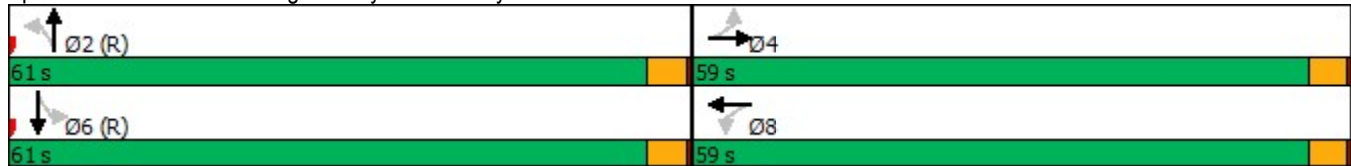
Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2029 - PM  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		22.4			38.2			24.8			19.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		22.4			38.2			24.8			19.9	
LOS		C			D			C			B	
Approach Delay		22.4			38.2			24.8			19.9	
Approach LOS		C			D			C			B	

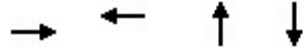
Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	40
Control Type:	Pretimed
Maximum v/c Ratio:	0.61
Intersection Signal Delay:	28.7
Intersection LOS:	C
Intersection Capacity Utilization	71.0%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

























Future Background 2029 - PM  
PM Peak Hour



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	832	956	486	238
v/c Ratio	0.43	0.61	0.58	0.30
Control Delay	22.4	38.2	24.8	19.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	22.4	38.2	24.8	19.9
Queue Length 50th (m)	46.5	83.6	76.1	32.2
Queue Length 95th (m)	57.7	98.6	109.7	50.0
Internal Link Dist (m)	776.0	1395.4	683.2	2760.8
Turn Bay Length (m)				
Base Capacity (vph)	1937	1559	834	788
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.43	0.61	0.58	0.30
<b>Intersection Summary</b>				

HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road

Future Background 2029 - PM  
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  			  			  				  	
Traffic Volume (vph)	40	677	49	178	638	64	33	262	152	32	159	28	
Future Volume (vph)	40	677	49	178	638	64	33	262	152	32	159	28	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0			4.0			4.0			4.0		
Lane Util. Factor		0.91			0.91			1.00			1.00		
Frbp, ped/bikes		1.00			1.00			1.00			1.00		
Flpb, ped/bikes		1.00			1.00			1.00			1.00		
Frt		0.99			0.99			0.95			0.98		
Flt Protected		1.00			0.99			1.00			0.99		
Satd. Flow (prot)		5041			5026			1785			1835		
Flt Permitted		0.83			0.67			0.96			0.89		
Satd. Flow (perm)		4213			3387			1726			1650		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	43	736	53	193	693	70	36	285	165	35	173	30	
RTOR Reduction (vph)	0	7	0	0	8	0	0	15	0	0	4	0	
Lane Group Flow (vph)	0	826	0	0	948	0	0	471	0	0	234	0	
Confl. Peds. (#/hr)							1					1	
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		55.0			55.0			57.0			57.0		
Effective Green, g (s)		55.0			55.0			57.0			57.0		
Actuated g/C Ratio		0.46			0.46			0.48			0.48		
Clearance Time (s)		4.0			4.0			4.0			4.0		
Lane Grp Cap (vph)		1930			1552			819			783		
v/s Ratio Prot													
v/s Ratio Perm		0.20			c0.28			c0.27			0.14		
v/c Ratio		0.43			0.61			0.57			0.30		
Uniform Delay, d1		21.9			24.5			22.7			19.3		
Progression Factor		1.00			1.50			1.00			1.00		
Incremental Delay, d2		0.7			1.5			2.9			1.0		
Delay (s)		22.6			38.3			25.7			20.2		
Level of Service		C			D			C			C		
Approach Delay (s)		22.6			38.3			25.7			20.2		
Approach LOS		C			D			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			28.9									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.59										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			71.0%									ICU Level of Service	C
Analysis Period (min)			15										
c	Critical Lane Group												

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2029 - PM  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	833	65	109	973	248	111	383	112	189	223	75
Future Volume (vph)	41	833	65	109	973	248	111	383	112	189	223	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.989			0.970			0.966			0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	5036	0	1755	4892	0	1825	3475	0	1738	3393	0
Flt Permitted	0.130			0.232			0.562			0.421		
Satd. Flow (perm)	238	5036	0	429	4892	0	1080	3475	0	770	3393	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			64			44			41	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			699.5			2496.3	
Travel Time (s)		73.0			65.0			31.5			112.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	43	868	68	114	1014	258	116	399	117	197	232	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	936	0	114	1272	0	116	516	0	197	310	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	56.0	56.0		56.0	56.0		64.0	64.0		64.0	64.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	50.0	50.0		50.0	50.0		58.0	58.0		58.0	58.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	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	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)	50.0	50.0		50.0	50.0		58.0	58.0		58.0	58.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.48	0.48		0.48	0.48	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2029 - PM  
PM Peak Hour

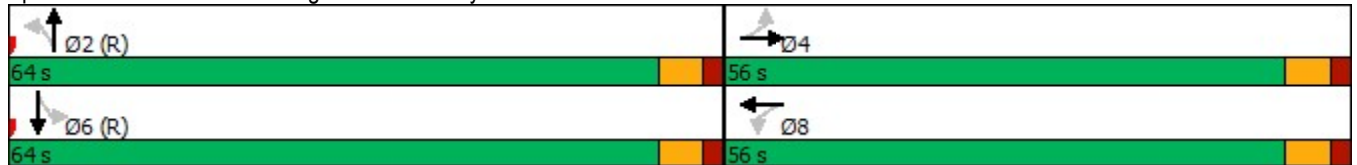


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.43	0.44		0.64	0.61		0.22	0.30		0.53	0.19	
Control Delay	51.8	35.4		47.0	27.4		19.4	17.6		28.0	15.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	51.8	35.4		47.0	27.4		19.4	17.6		28.0	15.5	
LOS	D	D		D	C		B	B		C	B	
Approach Delay		36.2			29.0			17.9			20.4	
Approach LOS		D			C			B			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:	50
Control Type:	Pretimed
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	27.8
Intersection LOS:	C
Intersection Capacity Utilization	72.3%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Background 2029 - PM  
PM Peak Hour























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	43	936	114	1272	116	516	197	310
v/c Ratio	0.43	0.44	0.64	0.61	0.22	0.30	0.53	0.19
Control Delay	51.8	35.4	47.0	27.4	19.4	17.6	28.0	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.8	35.4	47.0	27.4	19.4	17.6	28.0	15.5
Queue Length 50th (m)	9.0	71.9	21.0	80.4	15.4	34.1	31.4	18.2
Queue Length 95th (m)	m21.3	85.2	#48.8	95.4	27.6	45.8	55.3	26.7
Internal Link Dist (m)		1395.4		1239.7		675.5		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	99	2105	178	2075	522	1702	372	1661
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.44	0.64	0.61	0.22	0.30	0.53	0.19

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Future Background 2029 - PM  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	833	65	109	973	248	111	383	112	189	223	75
Future Volume (vph)	41	833	65	109	973	248	111	383	112	189	223	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1738	5036		1755	4890		1825	3475		1738	3393	
Flt Permitted	0.13	1.00		0.23	1.00		0.56	1.00		0.42	1.00	
Satd. Flow (perm)	238	5036		428	4890		1079	3475		771	3393	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	43	868	68	114	1014	258	116	399	117	197	232	78
RTOR Reduction (vph)	0	8	0	0	37	0	0	23	0	0	21	0
Lane Group Flow (vph)	43	928	0	114	1235	0	116	493	0	197	289	0
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	50.0	50.0		50.0	50.0		58.0	58.0		58.0	58.0	
Effective Green, g (s)	50.0	50.0		50.0	50.0		58.0	58.0		58.0	58.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.48	0.48		0.48	0.48	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	99	2098		178	2037		521	1679		372	1639	
v/s Ratio Prot		0.18			0.25			0.14			0.09	
v/s Ratio Perm	0.18			c0.27			0.11			c0.26		
v/c Ratio	0.43	0.44		0.64	0.61		0.22	0.29		0.53	0.18	
Uniform Delay, d1	24.9	25.0		27.8	27.3		17.9	18.7		21.5	17.5	
Progression Factor	1.39	1.40		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.2	0.6		16.4	1.3		1.0	0.4		5.3	0.2	
Delay (s)	46.8	35.7		44.2	28.7		18.9	19.1		26.8	17.7	
Level of Service	D	D		D	C		B	B		C	B	
Approach Delay (s)		36.2			29.9			19.1			21.3	
Approach LOS		D			C			B			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			28.5				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			72.3%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2029 - PM  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	579	579	99	266	745	149	187	661	253	214	758	819
Future Volume (vph)	579	579	99	266	745	149	187	661	253	214	758	819
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.96	0.98		0.99	1.00		0.96			0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	4995	1601	3404	5092	1585	1789	3614	1555	1825	3510	1585
Fl <sub>t</sub> Permitted	0.160			0.950			0.303			0.275		
Satd. Flow (perm)	296	4995	1538	3335	5092	1562	570	3614	1486	528	3510	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			145			254			680
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			871.1			746.1			609.4	
Travel Time (s)		7.3			44.8			38.4			31.3	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Adj. Flow (vph)	597	597	102	274	768	154	193	681	261	221	781	844
Shared Lane Traffic (%)												
Lane Group Flow (vph)	597	597	102	274	768	154	193	681	261	221	781	844
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
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)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	



Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

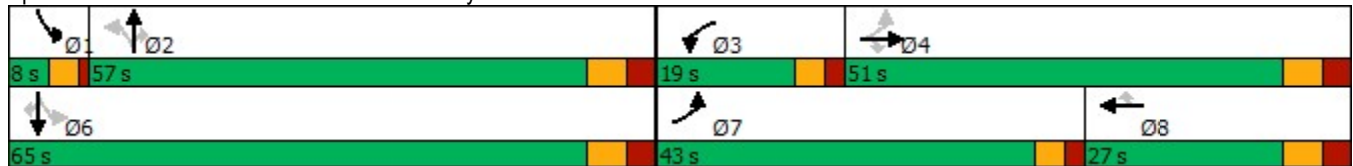
Future Background 2029 - PM  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	43.0	51.0	51.0	19.0	27.0	27.0	57.0	57.0	57.0	8.0	65.0	65.0
Total Split (%)	31.9%	37.8%	37.8%	14.1%	20.0%	20.0%	42.2%	42.2%	42.2%	5.9%	48.1%	48.1%
Maximum Green (s)	38.0	44.0	44.0	14.0	20.0	20.0	50.0	50.0	50.0	4.0	58.0	58.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-2.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
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	None	Max	Max	None	None	None	None	Max	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)		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)	67.0	44.4	44.4	15.6	20.0	20.0	52.0	50.0	50.0	63.0	58.0	58.0
Actuated g/C Ratio	0.50	0.33	0.33	0.12	0.15	0.15	0.39	0.37	0.37	0.47	0.43	0.43
v/c Ratio	1.03	0.36	0.18	0.70	1.02	0.44	0.88	0.51	0.37	0.73	0.52	0.80
Control Delay	82.2	35.4	6.2	67.6	93.7	13.4	76.5	34.6	5.3	40.2	29.8	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.2	35.4	6.2	67.6	93.7	13.4	76.5	34.6	5.3	40.2	29.8	12.8
LOS	F	D	A	E	F	B	E	C	A	D	C	B
Approach Delay		54.6			77.4			35.0			23.3	
Approach LOS		D			E			D			C	

Intersection Summary

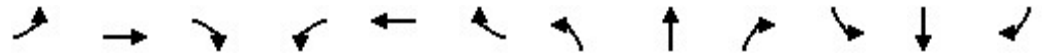
Area Type: Other  
 Cycle Length: 135  
 Actuated Cycle Length: 135  
 Natural Cycle: 90  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.03  
 Intersection Signal Delay: 45.0  
 Intersection LOS: D  
 Intersection Capacity Utilization 97.0%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Background 2029 - PM  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	597	597	102	274	768	154	193	681	261	221	781	844
v/c Ratio	1.03	0.36	0.18	0.70	1.02	0.44	0.88	0.51	0.37	0.73	0.52	0.80
Control Delay	82.2	35.4	6.2	67.6	93.7	13.4	76.5	34.6	5.3	40.2	29.8	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.2	35.4	6.2	67.6	93.7	13.4	76.5	34.6	5.3	40.2	29.8	12.8
Queue Length 50th (m)	~153.4	44.5	0.0	36.6	~79.2	2.1	47.5	73.6	1.2	35.1	79.2	35.0
Queue Length 95th (m)	#225.3	55.7	12.0	51.6	#106.5	21.7	#94.2	92.1	18.7	#54.9	97.7	99.6
Internal Link Dist (m)		118.1			847.1			722.1			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	579	1644	577	403	754	354	219	1338	710	304	1508	1055
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.36	0.18	0.68	1.02	0.44	0.88	0.51	0.37	0.73	0.52	0.80

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

























Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road


















Future Background 2029 - PM  
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	579	579	99	266	745	149	187	661	253	214	758	819	
Future Volume (vph)	579	579	99	266	745	149	187	661	253	214	758	819	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1755	4995	1538	3404	5092	1562	1786	3614	1486	1825	3510	1555	
Flt Permitted	0.16	1.00	1.00	0.95	1.00	1.00	0.30	1.00	1.00	0.28	1.00	1.00	
Satd. Flow (perm)	296	4995	1538	3404	5092	1562	569	3614	1486	529	3510	1555	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	597	597	102	274	768	154	193	681	261	221	781	844	
RTOR Reduction (vph)	0	0	68	0	0	124	0	0	160	0	0	388	
Lane Group Flow (vph)	597	597	34	274	768	30	193	681	101	221	781	456	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3	
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8			2		1	6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	63.0	44.4	44.4	13.6	20.0	20.0	50.0	50.0	50.0	58.0	58.0	58.0	
Effective Green, g (s)	65.0	44.4	44.4	15.6	20.0	20.0	52.0	50.0	50.0	60.0	58.0	58.0	
Actuated g/C Ratio	0.48	0.33	0.33	0.12	0.15	0.15	0.39	0.37	0.37	0.44	0.43	0.43	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
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	
Lane Grp Cap (vph)	574	1642	505	393	754	231	219	1338	550	292	1508	668	
v/s Ratio Prot	c0.31	0.12		0.08	0.15			0.19		c0.03	0.22		
v/s Ratio Perm	c0.19		0.02			0.02	c0.34		0.07	0.30		0.29	
v/c Ratio	1.04	0.36	0.07	0.70	1.02	0.13	0.88	0.51	0.18	0.76	0.52	0.68	
Uniform Delay, d1	38.5	34.5	31.1	57.4	57.5	50.0	38.6	33.0	28.7	31.4	28.2	31.1	
Progression 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	
Incremental Delay, d2	48.4	0.6	0.3	5.3	37.5	1.2	31.1	0.3	0.2	10.7	1.3	5.6	
Delay (s)	86.9	35.2	31.3	62.7	95.0	51.1	69.8	33.3	28.9	42.1	29.5	36.7	
Level of Service	F	D	C	E	F	D	E	C	C	D	C	D	
Approach Delay (s)		58.7			82.0			38.5			34.3		
Approach LOS		E			F			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			51.4									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			1.01										
Actuated Cycle Length (s)			135.0									Sum of lost time (s)	19.0
Intersection Capacity Utilization			97.0%									ICU Level of Service	F
Analysis Period (min)			15										

c Critical Lane Group

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Total 2029  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	251	3	120	189	39	2	187	245	33	181	8
Future Volume (vph)	2	251	3	120	189	39	2	187	245	33	181	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.975			0.924				0.995
Flt Protected				0.950								0.993
Satd. Flow (prot)	0	1919	0	1772	1812	0	0	1709	0	0	1789	0
Flt Permitted		0.997		0.565				0.999			0.914	
Satd. Flow (perm)	0	1913	0	1054	1812	0	0	1708	0	0	1647	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			31			195				6
Link Speed (k/h)		70			70			80				80
Link Distance (m)		590.7			490.2			298.8				342.6
Travel Time (s)		30.4			25.2			13.4				15.4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Adj. Flow (vph)	2	267	3	128	201	41	2	199	261	35	193	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	272	0	128	242	0	0	462	0	0	237	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)		3.7			3.7			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

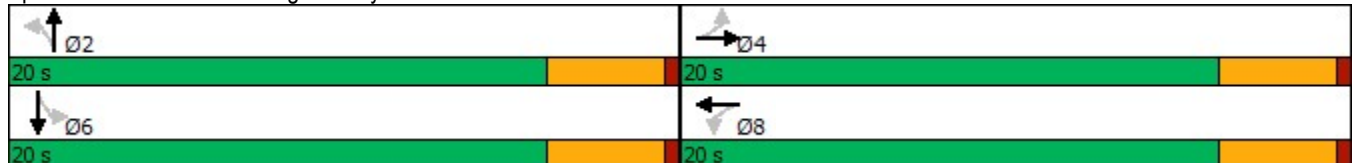
Future Total 2029  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		10.0		9.8	9.8			19.7			19.7	
Actuated g/C Ratio		0.29		0.28	0.28			0.57			0.57	
v/c Ratio		0.49		0.43	0.45			0.44			0.25	
Control Delay		13.0		14.3	11.2			5.7			7.1	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		13.0		14.3	11.2			5.7			7.1	
LOS		B		B	B			A			A	
Approach Delay		13.0			12.3			5.7			7.1	
Approach LOS		B			B			A			A	

Intersection Summary

Area Type: Other  
 Cycle Length: 40  
 Actuated Cycle Length: 34.7  
 Natural Cycle: 40  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.49  
 Intersection Signal Delay: 9.3  
 Intersection Capacity Utilization 71.0%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service C

Splits and Phases: 1: Chinguacousy Road & Old School Road

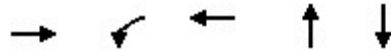


Queues

Future Total 2029

1: Chinguacousy Road & Old School Road

AM Peak Hour




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	272	128	242	462	237
v/c Ratio	0.49	0.43	0.45	0.44	0.25
Control Delay	13.0	14.3	11.2	5.7	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.0	14.3	11.2	5.7	7.1
Queue Length 50th (m)	11.9	5.6	9.1	7.9	6.7
Queue Length 95th (m)	24.0	14.1	19.9	26.9	19.7
Internal Link Dist (m)	566.7		466.2	274.8	318.6
Turn Bay Length (m)		30.0			
Base Capacity (vph)	887	488	856	1053	937
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.31	0.26	0.28	0.44	0.25

Intersection Summary



















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Total 2029  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	251	3	120	189	39	2	187	245	33	181	8
Future Volume (vph)	2	251	3	120	189	39	2	187	245	33	181	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.97			0.92			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		1918		1772	1812			1708			1789	
Flt Permitted		1.00		0.56	1.00			1.00			0.91	
Satd. Flow (perm)		1912		1053	1812			1707			1646	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	2	267	3	128	201	41	2	199	261	35	193	9
RTOR Reduction (vph)	0	2	0	0	23	0	0	91	0	0	3	0
Lane Group Flow (vph)	0	270	0	128	219	0	0	371	0	0	234	0
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		8.6		8.6	8.6			18.8			18.8	
Effective Green, g (s)		8.6		8.6	8.6			18.8			18.8	
Actuated g/C Ratio		0.24		0.24	0.24			0.53			0.53	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		464		255	440			906			874	
v/s Ratio Prot					0.12						0.14	
v/s Ratio Perm		c0.14		0.12				c0.22			0.14	
v/c Ratio		0.58		0.50	0.50			0.41			0.27	
Uniform Delay, d1		11.8		11.6	11.5			5.0			4.5	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		1.9		1.6	0.9			1.4			0.8	
Delay (s)		13.7		13.1	12.4			6.3			5.3	
Level of Service		B		B	B			A			A	
Approach Delay (s)		13.7			12.7			6.3			5.3	
Approach LOS		B			B			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			9.4									A
HCM 2000 Volume to Capacity ratio			0.46									
Actuated Cycle Length (s)			35.4						8.0			
Intersection Capacity Utilization			71.0%									C
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Total 2029  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	497	35	213	297	27	55	87	372	42	130	11
Future Volume (vph)	6	497	35	213	297	27	55	87	372	42	130	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.987				0.850		0.992	
Flt Protected		0.999		0.950				0.981			0.989	
Satd. Flow (prot)	0	1868	0	1789	1830	0	0	1862	1617	0	1860	0
Flt Permitted		0.996		0.251				0.821			0.902	
Satd. Flow (perm)	0	1862	0	473	1830	0	0	1558	1617	0	1697	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			8				349		4	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Adj. Flow (vph)	6	529	37	227	316	29	59	93	396	45	138	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	572	0	227	345	0	0	152	396	0	195	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6



Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

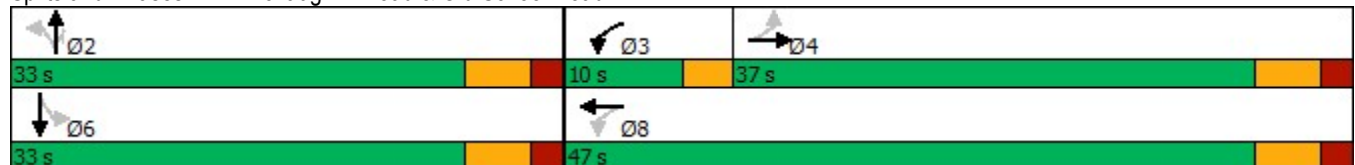
Future Total 2029  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	37.0	37.0		10.0	47.0		33.0	33.0	33.0	33.0	33.0	
Total Split (%)	46.3%	46.3%		12.5%	58.8%		41.3%	41.3%	41.3%	41.3%	41.3%	
Maximum Green (s)	31.0	31.0		7.0	41.0		27.0	27.0	27.0	27.0	27.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		0.0	2.0		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	
Total Lost Time (s)		6.0		3.0	6.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		26.8		39.8	36.8			27.1	27.1		27.1	
Actuated g/C Ratio		0.35		0.52	0.48			0.36	0.36		0.36	
v/c Ratio		0.87		0.62	0.39			0.27	0.49		0.32	
Control Delay		37.9		17.6	13.4			20.4	6.1		20.4	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		37.9		17.6	13.4			20.4	6.1		20.4	
LOS		D		B	B			C	A		C	
Approach Delay		37.9			15.0			10.1			20.4	
Approach LOS		D			B			B			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 76  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 21.1  
 Intersection Capacity Utilization 77.4%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service D

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road

Future Total 2029  
AM Peak Hour





















Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	572	227	345	152	396	195
v/c Ratio	0.87	0.62	0.39	0.27	0.49	0.32
Control Delay	37.9	17.6	13.4	20.4	6.1	20.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	17.6	13.4	20.4	6.1	20.4
Queue Length 50th (m)	74.3	16.5	28.8	16.4	4.7	20.8
Queue Length 95th (m)	#124.8	28.0	46.4	30.8	24.3	37.7
Internal Link Dist (m)	869.1		325.1	564.2		239.1
Turn Bay Length (m)		30.0				
Base Capacity (vph)	766	369	995	556	801	608
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.62	0.35	0.27	0.49	0.32

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
























HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road

Future Total 2029  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	497	35	213	297	27	55	87	372	42	130	11
Future Volume (vph)	6	497	35	213	297	27	55	87	372	42	130	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		3.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Frt		0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	
Satd. Flow (prot)		1869		1789	1831			1862	1617		1859	
Flt Permitted		1.00		0.25	1.00			0.82	1.00		0.90	
Satd. Flow (perm)		1862		474	1831			1558	1617		1697	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	6	529	37	227	316	29	59	93	396	45	138	12
RTOR Reduction (vph)	0	3	0	0	4	0	0	0	224	0	3	0
Lane Group Flow (vph)	0	569	0	227	341	0	0	152	172	0	192	0
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2		6		6
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		26.8		36.8	36.8			27.1	27.1		27.1	
Effective Green, g (s)		26.8		36.8	36.8			27.1	27.1		27.1	
Actuated g/C Ratio		0.35		0.48	0.48			0.36	0.36		0.36	
Clearance Time (s)		6.0		3.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		657		351	887			556	577		605	
v/s Ratio Prot				c0.06	0.19							
v/s Ratio Perm		c0.31		0.25				0.10	0.11		c0.11	
v/c Ratio		0.87		0.65	0.38			0.27	0.30		0.32	
Uniform Delay, d1		22.9		14.1	12.4			17.4	17.6		17.7	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		11.5		4.1	0.3			1.2	1.3		1.4	
Delay (s)		34.4		18.2	12.7			18.6	18.9		19.1	
Level of Service		C		B	B			B	B		B	
Approach Delay (s)		34.4			14.8			18.8			19.1	
Approach LOS		C			B			B			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			22.4			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			75.9			Sum of lost time (s)		15.0				
Intersection Capacity Utilization			77.4%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2029  
AM Peak Hour

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	455	222	167	372	185	39	54	1662	174	33	2321	245	
Future Volume (vph)	455	222	167	372	185	39	54	1662	174	33	2321	245	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0	
Storage Lanes	1		0	1		0	1		1	1		1	
Taper Length (m)	2.5			2.5			2.5			2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	
Frt		0.936			0.974				0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1755	1751	0	1722	1788	0	1722	4445	1471	1615	5043	1633	
Flt Permitted	0.283			0.222			0.070			0.070			
Satd. Flow (perm)	523	1751	0	402	1788	0	127	4445	1471	119	5043	1633	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		20			7				145			146	
Link Speed (k/h)		70			70			80			80		
Link Distance (m)		1007.8			440.4			855.3			282.2		
Travel Time (s)		51.8			22.6			38.5			12.7		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%	
Adj. Flow (vph)	489	239	180	400	199	42	58	1787	187	35	2496	263	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	489	419	0	400	241	0	58	1787	187	35	2496	263	
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)		3.7			3.7			3.7			3.7		
Link Offset(m)		0.0			0.0			0.0			0.0		
Crosswalk Width(m)		1.6			1.6			1.6			1.6		
Two way Left Turn Lane								Yes					
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Number of Detectors	1	2		1	2		1	2	1	1	2	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7		
Detector 2 Size(m)		1.8			1.8			1.8			1.8		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0			0.0		
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm	
Protected Phases	7	4		3	8			2			6		

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

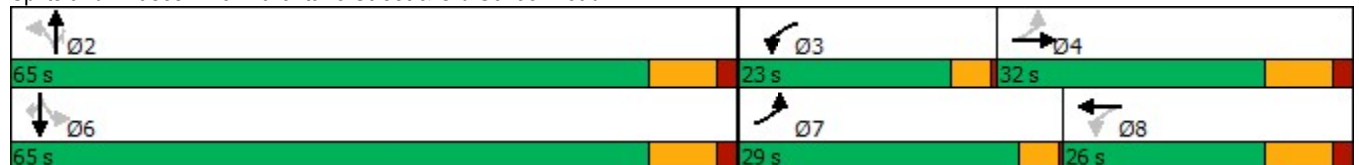
Future Total 2029  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	24.0		8.0	24.0		29.0	29.0	29.0	29.0	29.0	29.0
Total Split (s)	29.0	32.0		23.0	26.0		65.0	65.0	65.0	65.0	65.0	65.0
Total Split (%)	24.2%	26.7%		19.2%	21.7%		54.2%	54.2%	54.2%	54.2%	54.2%	54.2%
Maximum Green (s)	25.0	24.0		19.0	18.0		57.0	57.0	57.0	57.0	57.0	57.0
Yellow Time (s)	3.5	6.0		3.5	6.0		6.0	6.0	6.0	6.0	6.0	6.0
All-Red Time (s)	0.5	2.0		0.5	2.0		2.0	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	0.0
Total Lost Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lead/Lag	Lead	Lag		Lead	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	None		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		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
Act Effct Green (s)	51.0	24.0		41.0	18.0		57.0	57.0	57.0	57.0	57.0	57.0
Actuated g/C Ratio	0.42	0.20		0.34	0.15		0.48	0.48	0.48	0.48	0.48	0.48
v/c Ratio	1.02	1.14		1.16	0.88		0.97	0.85	0.24	0.62	1.04	0.31
Control Delay	76.6	133.9		128.7	79.7		143.9	32.5	5.8	74.1	61.9	9.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.6	133.9		128.7	79.7		143.9	32.5	5.8	74.1	61.9	9.2
LOS	E	F		F	E		F	C	A	E	E	A
Approach Delay		103.1			110.3			33.2			57.1	
Approach LOS		F			F			C			E	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.16  
 Intersection Signal Delay: 61.4  
 Intersection Capacity Utilization 104.0%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service G

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Total 2029  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	489	419	400	241	58	1787	187	35	2496	263
v/c Ratio	1.02	1.14	1.16	0.88	0.97	0.85	0.24	0.62	1.04	0.31
Control Delay	76.6	133.9	128.7	79.7	143.9	32.5	5.8	74.1	61.9	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.6	133.9	128.7	79.7	143.9	32.5	5.8	74.1	61.9	9.2
Queue Length 50th (m)	~93.6	~112.0	~91.9	54.7	12.9	131.7	5.2	6.0	~233.0	15.2
Queue Length 95th (m)	#158.4	#173.8	#153.7	#100.0	#41.1	153.3	17.8	#24.9	#260.8	32.1
Internal Link Dist (m)		983.8		416.4		831.3			258.2	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	478	366	346	274	60	2111	774	56	2395	852
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	1.14	1.16	0.88	0.97	0.85	0.24	0.63	1.04	0.31

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

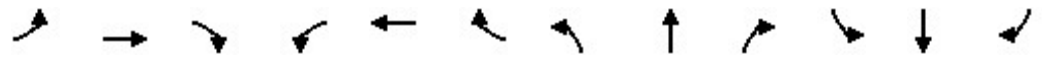
HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Total 2029  
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	455	222	167	372	185	39	54	1662	174	33	2321	245
Future Volume (vph)	455	222	167	372	185	39	54	1662	174	33	2321	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.94		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	1750		1722	1788		1722	4445	1471	1615	5043	1633
Flt Permitted	0.28	1.00		0.22	1.00		0.07	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	523	1750		403	1788		127	4445	1471	119	5043	1633
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	489	239	180	400	199	42	58	1787	187	35	2496	263
RTOR Reduction (vph)	0	16	0	0	6	0	0	0	76	0	0	77
Lane Group Flow (vph)	489	403	0	400	235	0	58	1787	111	35	2496	186
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	47.0	24.0		37.0	18.0		57.0	57.0	57.0	57.0	57.0	57.0
Effective Green, g (s)	47.0	24.0		37.0	18.0		57.0	57.0	57.0	57.0	57.0	57.0
Actuated g/C Ratio	0.39	0.20		0.31	0.15		0.48	0.48	0.48	0.48	0.48	0.48
Clearance Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	461	350		333	268		60	2111	698	56	2395	775
v/s Ratio Prot	c0.22	c0.23		c0.19	0.13			0.40			c0.49	
v/s Ratio Perm	0.19			0.18			0.46		0.08	0.29		0.11
v/c Ratio	1.06	1.15		1.20	0.88		0.97	0.85	0.16	0.62	1.04	0.24
Uniform Delay, d1	31.6	48.0		37.1	49.9		30.6	27.7	17.9	23.5	31.5	18.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	58.9	95.9		115.8	25.9		107.0	4.4	0.5	42.7	30.5	0.7
Delay (s)	90.5	143.9		152.9	75.8		137.6	32.1	18.4	66.3	62.0	19.4
Level of Service	F	F		F	E		F	C	B	E	E	B
Approach Delay (s)		115.2			123.9			33.8			58.1	
Approach LOS		F			F			C			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			65.1				HCM 2000 Level of Service				E	
HCM 2000 Volume to Capacity ratio			1.11									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			104.0%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2029  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔↔			↔↔↔			↔			↔	
Traffic Volume (vph)	41	653	48	215	567	24	24	184	165	80	224	36
Future Volume (vph)	41	653	48	215	567	24	24	184	165	80	224	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.990			0.996			0.940			0.986	
Fl <sub>t</sub> Protected		0.997			0.987			0.997			0.988	
Satd. Flow (prot)	0	4861	0	0	4833	0	0	1733	0	0	1782	0
Fl <sub>t</sub> Permitted		0.847			0.664			0.966			0.830	
Satd. Flow (perm)	0	4130	0	0	3251	0	0	1679	0	0	1497	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			5			48			7	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		551.3			1419.4			731.8			2784.8	
Travel Time (s)		28.4			73.0			32.9			125.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Adj. Flow (vph)	41	660	48	217	573	24	24	186	167	81	226	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	749	0	0	814	0	0	377	0	0	343	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	56.0	56.0		56.0	56.0		64.0	64.0		64.0	64.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	52.0	52.0		52.0	52.0		60.0	60.0		60.0	60.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		52.0			52.0			60.0			60.0	
Actuated g/C Ratio		0.43			0.43			0.50			0.50	
v/c Ratio		0.42			0.95dl			0.44			0.46	
Control Delay		24.0			42.7			18.4			21.5	
Queue Delay		0.0			0.0			0.0			0.0	



Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2029  
AM Peak Hour

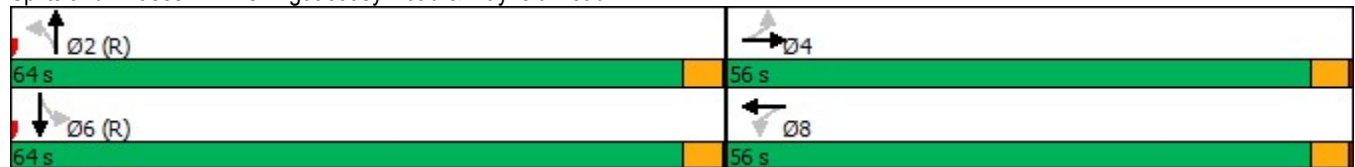
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		24.0			42.7			18.4			21.5	
LOS		C			D			B			C	
Approach Delay		24.0			42.7			18.4			21.5	
Approach LOS		C			D			B			C	

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:	40
Control Type:	Pretimed
Maximum v/c Ratio:	0.58
Intersection Signal Delay:	29.4
Intersection LOS:	C
Intersection Capacity Utilization	82.0%
ICU Level of Service	D
Analysis Period (min)	15

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 4: Chinguacousy Road & Mayfield Road

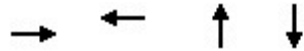


Queues

Future Total 2029

4: Chinguacousy Road & Mayfield Road

AM Peak Hour



























Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	749	814	377	343
v/c Ratio	0.42	0.95dl	0.44	0.46
Control Delay	24.0	42.7	18.4	21.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.0	42.7	18.4	21.5
Queue Length 50th (m)	43.1	69.8	47.6	49.6
Queue Length 95th (m)	54.2	84.2	71.8	74.3
Internal Link Dist (m)	527.3	1395.4	707.8	2760.8
Turn Bay Length (m)				
Base Capacity (vph)	1795	1411	863	752
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.42	0.58	0.44	0.46

Intersection Summary

dl Defacto Left Lane. Recode with 1 though lane as a left lane.





















HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road

Future Total 2029  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  			  			  				  	
Traffic Volume (vph)	41	653	48	215	567	24	24	184	165	80	224	36	
Future Volume (vph)	41	653	48	215	567	24	24	184	165	80	224	36	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0			4.0			4.0			4.0		
Lane Util. Factor		0.91			0.91			1.00			1.00		
Frt		0.99			1.00			0.94			0.99		
Flt Protected		1.00			0.99			1.00			0.99		
Satd. Flow (prot)		4864			4830			1733			1783		
Flt Permitted		0.85			0.66			0.97			0.83		
Satd. Flow (perm)		4132			3252			1679			1497		
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Adj. Flow (vph)	41	660	48	217	573	24	24	186	167	81	226	36	
RTOR Reduction (vph)	0	6	0	0	3	0	0	24	0	0	4	0	
Lane Group Flow (vph)	0	743	0	0	811	0	0	353	0	0	340	0	
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		52.0			52.0			60.0			60.0		
Effective Green, g (s)		52.0			52.0			60.0			60.0		
Actuated g/C Ratio		0.43			0.43			0.50			0.50		
Clearance Time (s)		4.0			4.0			4.0			4.0		
Lane Grp Cap (vph)		1790			1409			839			748		
v/s Ratio Prot													
v/s Ratio Perm		0.18			c0.25			0.21			c0.23		
v/c Ratio		0.41			0.95dl			0.42			0.45		
Uniform Delay, d1		23.5			25.7			19.0			19.4		
Progression Factor		1.00			1.59			1.00			1.00		
Incremental Delay, d2		0.7			1.6			1.5			2.0		
Delay (s)		24.2			42.5			20.5			21.4		
Level of Service		C			D			C			C		
Approach Delay (s)		24.2			42.5			20.5			21.4		
Approach LOS		C			D			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			29.7									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.51										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			82.0%									ICU Level of Service	D
Analysis Period (min)			15										
dl Defacto Left Lane. Recode with 1 though lane as a left lane.													
c Critical Lane Group													

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Total 2029  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	877	104	123	696	109	46	255	92	264	443	151
Future Volume (vph)	51	877	104	123	696	109	46	255	92	264	443	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.984			0.980			0.960			0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4888	0	1706	4770	0	1644	3418	0	1690	3375	0
Flt Permitted	0.294			0.227			0.346			0.517		
Satd. Flow (perm)	565	4888	0	408	4770	0	599	3418	0	920	3375	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			34			53			48	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			823.5			2496.3	
Travel Time (s)		73.0			65.0			37.1			112.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Adj. Flow (vph)	52	895	106	126	710	111	47	260	94	269	452	154
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	1001	0	126	821	0	47	354	0	269	606	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		23.0	23.0	
Total Split (s)	64.0	64.0		64.0	64.0		56.0	56.0		56.0	56.0	
Total Split (%)	53.3%	53.3%		53.3%	53.3%		46.7%	46.7%		46.7%	46.7%	
Maximum Green (s)	58.0	58.0		58.0	58.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	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	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)	58.0	58.0		58.0	58.0		50.0	50.0		50.0	50.0	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.42	0.42		0.42	0.42	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

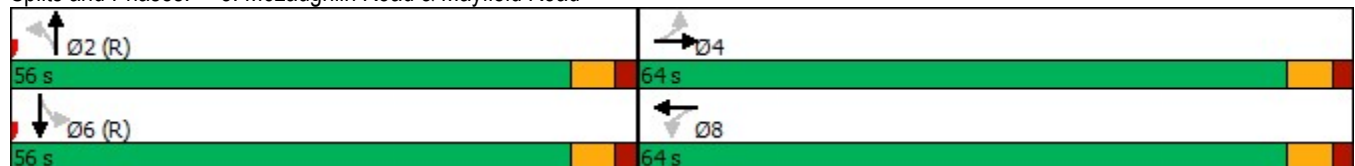
Future Total 2029  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.19	0.42		0.64	0.35		0.19	0.24		0.70	0.42	
Control Delay	24.8	26.0		40.9	19.0		24.8	19.6		40.6	23.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	24.8	26.0		40.9	19.0		24.8	19.6		40.6	23.7	
LOS	C	C		D	B		C	B		D	C	
Approach Delay		25.9			21.9			20.2			28.9	
Approach LOS		C			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:	50
Control Type:	Pretimed
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	24.9
Intersection LOS:	C
Intersection Capacity Utilization	70.7%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Total 2029  
AM Peak Hour





























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	52	1001	126	821	47	354	269	606
v/c Ratio	0.19	0.42	0.64	0.35	0.19	0.24	0.70	0.42
Control Delay	24.8	26.0	40.9	19.0	24.8	19.6	40.6	23.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.8	26.0	40.9	19.0	24.8	19.6	40.6	23.7
Queue Length 50th (m)	8.9	68.7	21.6	41.0	6.9	23.4	51.4	48.0
Queue Length 95th (m)	19.6	80.1	#51.7	50.7	15.8	34.2	85.6	63.2
Internal Link Dist (m)		1395.4		1239.7		799.5		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	273	2374	197	2323	249	1455	383	1434
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.42	0.64	0.35	0.19	0.24	0.70	0.42

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

































Future Total 2029  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (vph)	51	877	104	123	696	109	46	255	92	264	443	151
Future Volume (vph)	51	877	104	123	696	109	46	255	92	264	443	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	4889		1706	4768		1644	3418		1690	3375	
Flt Permitted	0.29	1.00		0.23	1.00		0.35	1.00		0.52	1.00	
Satd. Flow (perm)	564	4889		408	4768		599	3418		920	3375	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	52	895	106	126	710	111	47	260	94	269	452	154
RTOR Reduction (vph)	0	12	0	0	18	0	0	31	0	0	28	0
Lane Group Flow (vph)	52	989	0	126	803	0	47	323	0	269	578	0
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	58.0	58.0		58.0	58.0		50.0	50.0		50.0	50.0	
Effective Green, g (s)	58.0	58.0		58.0	58.0		50.0	50.0		50.0	50.0	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.42	0.42		0.42	0.42	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	272	2363		197	2304		249	1424		383	1406	
v/s Ratio Prot		0.20			0.17			0.09			0.17	
v/s Ratio Perm	0.09			c0.31			0.08			c0.29		
v/c Ratio	0.19	0.42		0.64	0.35		0.19	0.23		0.70	0.41	
Uniform Delay, d1	17.6	20.1		23.2	19.3		22.2	22.5		28.9	24.6	
Progression Factor	1.26	1.29		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.5	0.5		14.9	0.4		1.7	0.4		10.3	0.9	
Delay (s)	23.7	26.5		38.0	19.7		23.8	22.9		39.2	25.5	
Level of Service	C	C		D	B		C	C		D	C	
Approach Delay (s)		26.3			22.1			23.0			29.7	
Approach LOS		C			C			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			25.6				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			70.7%				ICU Level of Service			C		
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2029  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	236	865	94	199	556	148	78	389	203	315	909	315
Future Volume (vph)	236	865	94	199	556	148	78	389	203	315	909	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	1.00		0.98			0.97	0.99		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	4902	1541	3340	4948	1420	1807	3476	1512	1706	3544	1585
Flt Permitted	0.198			0.950			0.226			0.494		
Satd. Flow (perm)	362	4902	1508	3326	4948	1395	430	3476	1467	879	3544	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			100			157			216			335
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			749.9			808.0			609.4	
Travel Time (s)		7.3			38.6			41.6			31.3	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Adj. Flow (vph)	251	920	100	212	591	157	83	414	216	335	967	335
Shared Lane Traffic (%)												
Lane Group Flow (vph)	251	920	100	212	591	157	83	414	216	335	967	335
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	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)	9.0	23.0	23.0	9.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	31.0	44.0	44.0	20.0	33.0	33.0	96.0	96.0	96.0	96.0	96.0	96.0
Total Split (%)	19.4%	27.5%	27.5%	12.5%	20.6%	20.6%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%
Maximum Green (s)	26.0	37.0	37.0	15.0	26.0	26.0	89.0	89.0	89.0	89.0	89.0	89.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	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	0



Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

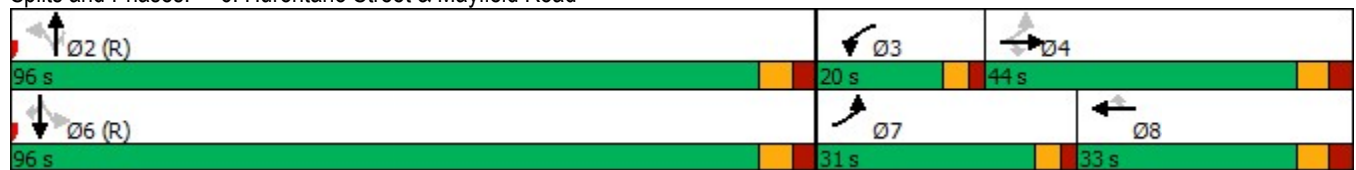
Future Total 2029  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	59.0	37.0	37.0	15.0	26.0	26.0	89.0	89.0	89.0	89.0	89.0	89.0
Actuated g/C Ratio	0.37	0.23	0.23	0.09	0.16	0.16	0.56	0.56	0.56	0.56	0.56	0.56
v/c Ratio	0.70	0.81	0.24	0.68	0.74	0.44	0.35	0.21	0.24	0.69	0.49	0.33
Control Delay	48.8	64.9	9.7	81.8	69.9	11.9	24.7	18.2	2.6	34.5	22.7	2.5
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	48.8	64.9	9.7	81.8	69.9	11.9	24.7	18.2	2.6	34.5	22.7	2.5
LOS	D	E	A	F	E	B	C	B	A	C	C	A
Approach Delay		57.4			63.0			14.2			21.0	
Approach LOS		E			E			B			C	

Intersection Summary













Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	122 (76%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.81
Intersection Signal Delay:	38.8
Intersection LOS:	D
Intersection Capacity Utilization	78.9%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road




































Queues  
6: Hurontario Street & Mayfield Road

Future Total 2029  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	251	920	100	212	591	157	83	414	216	335	967	335
v/c Ratio	0.70	0.81	0.24	0.68	0.74	0.44	0.35	0.21	0.24	0.69	0.49	0.33
Control Delay	48.8	64.9	9.7	81.8	69.9	11.9	24.7	18.2	2.6	34.5	22.7	2.5
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	48.8	64.9	9.7	81.8	69.9	11.9	24.7	18.2	2.6	34.5	22.7	2.5
Queue Length 50th (m)	58.9	102.4	0.0	34.2	66.4	0.0	14.1	33.9	0.0	74.4	96.1	0.0
Queue Length 95th (m)	84.2	119.5	15.4	48.6	81.0	21.2	28.2	43.7	11.9	115.5	113.5	13.9
Internal Link Dist (m)		118.1			725.9			784.0			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	357	1133	425	313	804	358	239	1933	911	488	1971	1014
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.81	0.24	0.68	0.74	0.44	0.35	0.21	0.24	0.69	0.49	0.33
Intersection Summary												










HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Total 2029  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 		 	 	
Traffic Volume (vph)	236	865	94	199	556	148	78	389	203	315	909	315
Future Volume (vph)	236	865	94	199	556	148	78	389	203	315	909	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1738	4902	1508	3340	4948	1395	1807	3476	1467	1690	3544	1557
Flt Permitted	0.20	1.00	1.00	0.95	1.00	1.00	0.23	1.00	1.00	0.49	1.00	1.00
Satd. Flow (perm)	362	4902	1508	3340	4948	1395	430	3476	1467	878	3544	1557
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	251	920	100	212	591	157	83	414	216	335	967	335
RTOR Reduction (vph)	0	0	77	0	0	131	0	0	96	0	0	149
Lane Group Flow (vph)	251	920	23	212	591	26	83	414	120	335	967	186
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4			8	2		2	6		6
Actuated Green, G (s)	57.0	37.0	37.0	15.0	26.0	26.0	89.0	89.0	89.0	89.0	89.0	89.0
Effective Green, g (s)	57.0	37.0	37.0	15.0	26.0	26.0	89.0	89.0	89.0	89.0	89.0	89.0
Actuated g/C Ratio	0.36	0.23	0.23	0.09	0.16	0.16	0.56	0.56	0.56	0.56	0.56	0.56
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lane Grp Cap (vph)	352	1133	348	313	804	226	239	1933	816	488	1971	866
v/s Ratio Prot	c0.12	c0.19		0.06	0.12			0.12			0.27	
v/s Ratio Perm	0.14		0.02			0.02	0.19		0.08	c0.38		0.12
v/c Ratio	0.71	0.81	0.07	0.68	0.74	0.11	0.35	0.21	0.15	0.69	0.49	0.22
Uniform Delay, d1	40.0	58.2	48.0	70.2	63.7	57.2	19.5	17.9	17.2	25.5	21.7	17.9
Progression 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
Incremental Delay, d2	11.7	6.4	0.4	11.2	5.9	1.0	4.0	0.3	0.4	7.7	0.9	0.6
Delay (s)	51.6	64.6	48.4	81.4	69.6	58.2	23.5	18.1	17.5	33.1	22.5	18.5
Level of Service	D	E	D	F	E	E	C	B	B	C	C	B
Approach Delay (s)		60.8			70.4			18.6			23.9	
Approach LOS		E			E			B			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			43.0				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			19.0		
Intersection Capacity Utilization			78.9%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												










Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C

Future Total 2029  
AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	6	429	0	4	301
Future Volume (vph)	0	6	429	0	4	301
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected						0.999
Satd. Flow (prot)	1629	0	1883	0	0	1882
Flt Permitted						0.999
Satd. Flow (perm)	1629	0	1883	0	0	1882
Link Speed (k/h)	48		80		80	
Link Distance (m)	204.9		2784.8		298.8	
Travel Time (s)	15.4		125.3		13.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	7	466	0	4	327
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	0	466	0	0	331
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0		0.0	
Link Offset(m)	0.0		0.0		0.0	
Crosswalk Width(m)	1.6		1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free		Free	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	32.6%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
7: Chinguacousy Road & Street C

Future Total 2029  
AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	6	429	0	4	301
Future Volume (Veh/h)	0	6	429	0	4	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)	0	7	466	0	4	327
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	299					
pX, platoon unblocked						
vC, conflicting volume	801	466				466
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	801	466				466
tC, single (s)	6.4	6.2				4.1
tC, 2 stage (s)						
tF (s)	3.5	3.3				2.2
p0 queue free %	100	99				100
cM capacity (veh/h)	352	597				1095
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	7	466	331			
Volume Left	0	0	4			
Volume Right	7	0	0			
cSH	597	1700	1095			
Volume to Capacity	0.01	0.27	0.00			
Queue Length 95th (m)	0.3	0.0	0.1			
Control Delay (s)	11.1	0.0	0.1			
Lane LOS	B		A			
Approach Delay (s)	11.1	0.0	0.1			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			0.2			
Intersection Capacity Utilization			32.6%	ICU Level of Service		A
Analysis Period (min)			15			










Lanes, Volumes, Timings  
8: Street B & Old School Road

Future Total 2029  
AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	↗
Traffic Volume (vph)	524	0	4	327	0	6
Future Volume (vph)	524	0	4	327	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>						0.865
Fl <sub>t</sub> Protected						0.999
Satd. Flow (prot)	1883	0	0	1882	1629	0
Fl <sub>t</sub> Permitted						0.999
Satd. Flow (perm)	1883	0	0	1882	1629	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	570	0	4	355	0	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	570	0	0	359	7	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	14		24	24		14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	37.6%			ICU Level of Service A		
Analysis Period (min)	15					


















HCM Unsignalized Intersection Capacity Analysis  
8: Street B & Old School Road

Future Total 2029  
AM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	524	0	4	327	0	6
Future Volume (Veh/h)	524	0	4	327	0	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	570	0	4	355	0	7
<b>Pedestrians</b>						
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			570			933 570
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			570			933 570
tC, single (s)			4.1			6.4 6.2
tC, 2 stage (s)						
tF (s)			2.2			3.5 3.3
p0 queue free %			100			100 99
cM capacity (veh/h)			1002			294 521
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	570	359	7			
Volume Left	0	4	0			
Volume Right	0	0	7			
cSH	1700	1002	521			
Volume to Capacity	0.34	0.00	0.01			
Queue Length 95th (m)	0.0	0.1	0.3			
Control Delay (s)	0.0	0.1	12.0			
Lane LOS			A	B		
Approach Delay (s)	0.0	0.1	12.0			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			0.1			
Intersection Capacity Utilization			37.6%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2029  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	149	0	58	0	456	59	26	354	0
Future Volume (vph)	0	0	0	149	0	58	0	456	59	26	354	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.850			0.983				
Flt Protected				0.950							0.997	
Satd. Flow (prot)	0	1883	0	1789	1601	0	0	3518	0	0	3568	0
Flt Permitted				0.950							0.997	
Satd. Flow (perm)	0	1883	0	1789	1601	0	0	3518	0	0	3568	0
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			403.1			2496.3			588.2	
Travel Time (s)		15.4			30.2			112.3			26.5	
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
Adj. Flow (vph)	0	0	0	162	0	63	0	496	64	28	385	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	162	63	0	0	560	0	0	413	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	


















Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	43.3%
ICU Level of Service	A
Analysis Period (min)	15



HCM Unsignalized Intersection Capacity Analysis  
 9: McLaughlin Road & Street A

Future Total 2029  
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	149	0	58	0	456	59	26	354	0
Future Volume (Veh/h)	0	0	0	149	0	58	0	456	59	26	354	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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	0	0	162	0	63	0	496	64	28	385	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	752	1001	192	776	969	280	385			560		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	752	1001	192	776	969	280	385			560		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	42	100	91	100			97		
cM capacity (veh/h)	267	235	817	281	245	717	1170			1007		
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total	0	162	63	248	312	220	192					
Volume Left	0	162	0	0	0	28	0					
Volume Right	0	0	63	0	64	0	0					
cSH	1700	281	717	1170	1700	1007	1700					
Volume to Capacity	0.00	0.58	0.09	0.00	0.18	0.03	0.11					
Queue Length 95th (m)	0.0	25.4	2.2	0.0	0.0	0.7	0.0					
Control Delay (s)	0.0	33.9	10.5	0.0	0.0	1.3	0.0					
Lane LOS	A	D	B			A						
Approach Delay (s)	0.0	27.4		0.0		0.7						
Approach LOS	A	D										
Intersection Summary												
Average Delay			5.4									
Intersection Capacity Utilization			43.3%		ICU Level of Service				A			
Analysis Period (min)			15									











Lanes, Volumes, Timings  
 10: Street D & Old School Road

Future Total 2029  
 AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	
Traffic Volume (vph)	854	12	0	504	18	0
Future Volume (vph)	854	12	0	504	18	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.998					
Flt Protected					0.950	
Satd. Flow (prot)	1880	0	0	1883	1789	0
Flt Permitted					0.950	
Satd. Flow (perm)	1880	0	0	1883	1789	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	928	13	0	548	20	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	941	0	0	548	20	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	14		24	24		14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	55.7%			ICU Level of Service B		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 10: Street D & Old School Road

Future Total 2029  
 AM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	854	12	0	504	18	0
Future Volume (Veh/h)	854	12	0	504	18	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	928	13	0	548	20	0
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)	349					
pX, platoon unblocked			0.72		0.72	0.72
vC, conflicting volume			941		1482	934
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			723		1476	714
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		80	100
cM capacity (veh/h)			633		100	310
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	941	548	20			
Volume Left	0	0	20			
Volume Right	13	0	0			
cSH	1700	633	100			
Volume to Capacity	0.55	0.00	0.20			
Queue Length 95th (m)	0.0	0.0	5.3			
Control Delay (s)	0.0	0.0	49.7			
Lane LOS			E			
Approach Delay (s)	0.0	0.0	49.7			
Approach LOS			E			
<b>Intersection Summary</b>						
Average Delay			0.7			
Intersection Capacity Utilization			55.7%	ICU Level of Service		B
Analysis Period (min)			15			

Lanes, Volumes, Timings  
11: Street A & Street D

Future Total 2029  
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	0	1883	1883	0	1883	0
Flt Permitted						
Satd. Flow (perm)	0	1883	1883	0	1883	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	97			97	97	97
Sign Control		Free	Free		Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	0.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 11: Street A & Street D

Future Total 2029  
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
<b>Pedestrians</b>						
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	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1623				1023	1085
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2029  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	33	352	95	1858	2835	26
Future Volume (vph)	33	352	95	1858	2835	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt		0.850			0.999	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	5142	5137	0
Flt Permitted	0.950		0.053			
Satd. Flow (perm)	1789	1601	100	5142	5137	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		203			2	
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	383	103	2020	3082	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	383	103	2020	3110	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Perm	Over	pm+pt	NA	NA	
Protected Phases		5	5	2	6	
Permitted Phases	4		2			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2029  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	8.0	8.0	22.0	22.0	
Total Split (s)	22.0	22.0	22.0	98.0	76.0	
Total Split (%)	18.3%	18.3%	18.3%	81.7%	63.3%	
Maximum Green (s)	16.0	18.0	18.0	92.0	70.0	
Yellow Time (s)	4.0	3.5	3.5	4.0	4.0	
All-Red Time (s)	2.0	0.5	0.5	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	4.0	4.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	7.7	17.0	94.4	95.0	71.4	
Actuated g/C Ratio	0.07	0.16	0.88	0.89	0.67	
v/c Ratio	0.28	0.90	0.29	0.44	0.91	
Control Delay	54.3	46.8	12.5	2.5	21.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	54.3	46.8	12.5	2.5	21.8	
LOS	D	D	B	A	C	
Approach Delay	47.4			3.0	21.8	
Approach LOS	D			A	C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	106.9
Natural Cycle:	120
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.91
Intersection Signal Delay:	16.6
Intersection LOS:	B
Intersection Capacity Utilization	85.5%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 12: Hurontario Street & Street A



Queues  
12: Hurontario Street & Street A

Future Total 2029  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	36	383	103	2020	3110
v/c Ratio	0.28	0.90	0.29	0.44	0.91
Control Delay	54.3	46.8	12.5	2.5	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	46.8	12.5	2.5	21.8
Queue Length 50th (m)	7.6	40.4	3.2	35.0	216.9
Queue Length 95th (m)	17.8	#97.6	19.7	48.2	#288.6
Internal Link Dist (m)	932.1			904.0	831.3
Turn Bay Length (m)	30.0		50.0		
Base Capacity (vph)	269	439	374	4571	3433
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.13	0.87	0.28	0.44	0.91

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.



HCM Signalized Intersection Capacity Analysis  
 12: Hurontario Street & Street A

Future Total 2029  
 AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	33	352	95	1858	2835	26
Future Volume (vph)	33	352	95	1858	2835	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1789	1601	1789	5142	5135	
Flt Permitted	0.95	1.00	0.05	1.00	1.00	
Satd. Flow (perm)	1789	1601	100	5142	5135	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	36	383	103	2020	3082	28
RTOR Reduction (vph)	0	171	0	0	1	0
Lane Group Flow (vph)	36	212	103	2020	3109	0
Turn Type	Perm	Over	pm+pt	NA	NA	
Protected Phases		5	5	2	6	
Permitted Phases	4		2			
Actuated Green, G (s)	5.0	17.0	92.5	92.5	71.5	
Effective Green, g (s)	5.0	17.0	92.5	92.5	71.5	
Actuated g/C Ratio	0.05	0.16	0.84	0.84	0.65	
Clearance Time (s)	6.0	4.0	4.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	81	248	346	4343	3352	
v/s Ratio Prot		c0.13	0.05	0.39	c0.61	
v/s Ratio Perm	c0.02		0.21			
v/c Ratio	0.44	0.85	0.30	0.47	0.93	
Uniform Delay, d1	50.9	45.0	23.8	2.2	16.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.9	23.6	0.5	0.4	5.8	
Delay (s)	54.7	68.6	24.3	2.5	22.6	
Level of Service	D	E	C	A	C	
Approach Delay (s)	67.4			3.6	22.6	
Approach LOS	E			A	C	

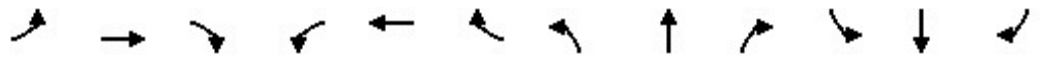
Intersection Summary

HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	109.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Total 2029  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	258	2	256	330	55	11	308	287	44	202	4
Future Volume (vph)	4	258	2	256	330	55	11	308	287	44	202	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.978			0.936			0.998	
Flt Protected		0.999		0.950				0.999			0.991	
Satd. Flow (prot)	0	1863	0	1825	1829	0	0	1719	0	0	1835	0
Flt Permitted		0.994		0.529				0.993			0.845	
Satd. Flow (perm)	0	1853	0	1016	1829	0	0	1709	0	0	1565	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			12			79			1	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			342.6	
Travel Time (s)		30.4			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	4	274	2	272	351	59	12	328	305	47	215	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	280	0	272	410	0	0	645	0	0	266	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	35.0	35.0		35.0	35.0		45.0	45.0		45.0	45.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%		56.3%	56.3%		56.3%	56.3%	
Maximum Green (s)	29.0	29.0		29.0	29.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		29.0		29.0	29.0			39.0			39.0	
Actuated g/C Ratio		0.36		0.36	0.36			0.49			0.49	

Lanes, Volumes, Timings  
 1: Chinguacousy Road & Old School Road

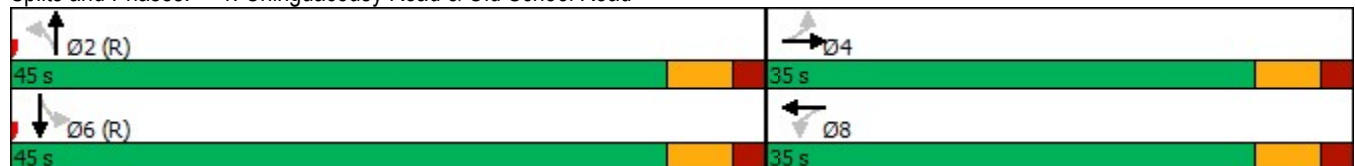
Future Total 2029  
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.42		0.74	0.61			0.74			0.35	
Control Delay		21.4		36.7	25.0			20.5			14.3	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		21.4		36.7	25.0			20.5			14.3	
LOS		C		D	C			C			B	
Approach Delay		21.4			29.7			20.5			14.3	
Approach LOS		C			C			C			B	

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	50
Control Type:	Pretimed
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	23.1
Intersection LOS:	C
Intersection Capacity Utilization	86.4%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road

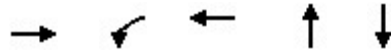


Queues

Future Total 2029

1: Chinguacousy Road & Old School Road

PM Peak Hour




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	280	272	410	645	266
v/c Ratio	0.42	0.74	0.61	0.74	0.35
Control Delay	21.4	36.7	25.0	20.5	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	36.7	25.0	20.5	14.3
Queue Length 50th (m)	31.3	35.3	48.6	65.7	23.6
Queue Length 95th (m)	51.3	#72.2	76.9	106.9	39.8
Internal Link Dist (m)	566.7		466.2	274.8	318.6
Turn Bay Length (m)		30.0			
Base Capacity (vph)	672	368	670	873	763
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	0.74	0.61	0.74	0.35

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 1: Chinguacousy Road & Old School Road



















Future Total 2029  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	258	2	256	330	55	11	308	287	44	202	4
Future Volume (vph)	4	258	2	256	330	55	11	308	287	44	202	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.98			0.94			1.00	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		1863		1825	1830			1719			1836	
Flt Permitted		0.99		0.53	1.00			0.99			0.84	
Satd. Flow (perm)		1854		1017	1830			1709			1564	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	4	274	2	272	351	59	12	328	305	47	215	4
RTOR Reduction (vph)	0	1	0	0	8	0	0	40	0	0	1	0
Lane Group Flow (vph)	0	279	0	272	402	0	0	605	0	0	265	0
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.0		29.0	29.0			39.0			39.0	
Effective Green, g (s)		29.0		29.0	29.0			39.0			39.0	
Actuated g/C Ratio		0.36		0.36	0.36			0.49			0.49	
Clearance Time (s)		6.0		6.0	6.0			6.0			6.0	
Lane Grp Cap (vph)		672		368	663			833			762	
v/s Ratio Prot					0.22							
v/s Ratio Perm		0.15		c0.27				c0.35			0.17	
v/c Ratio		0.42		0.74	0.61			0.73			0.35	
Uniform Delay, d1		19.1		22.2	20.8			16.3			12.7	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		1.9		12.5	4.1			5.5			1.3	
Delay (s)		21.0		34.7	24.9			21.7			13.9	
Level of Service		C		C	C			C			B	
Approach Delay (s)		21.0			28.8			21.7			13.9	
Approach LOS		C			C			C			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			23.1									C
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			80.0								12.0	
Intersection Capacity Utilization			86.4%									E
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Total 2029  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	538	55	410	588	36	58	150	413	30	80	6
Future Volume (vph)	9	538	55	410	588	36	58	150	413	30	80	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.991				0.850		0.993	
Flt Protected		0.999		0.950				0.986			0.987	
Satd. Flow (prot)	0	1815	0	1755	1882	0	0	1817	1555	0	1808	0
Flt Permitted		0.988		0.288				0.863			0.772	
Satd. Flow (perm)	0	1795	0	532	1882	0	0	1591	1555	0	1414	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			4				393		2	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	10	572	59	436	626	38	62	160	439	32	85	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	641	0	436	664	0	0	222	439	0	123	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

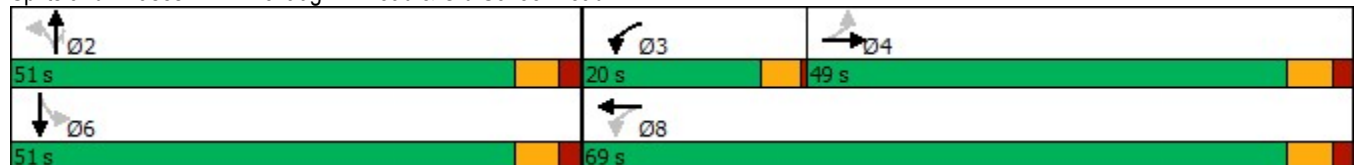
Future Total 2029  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	24.0	24.0		8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	49.0	49.0		20.0	69.0		51.0	51.0	51.0	51.0	51.0	
Total Split (%)	40.8%	40.8%		16.7%	57.5%		42.5%	42.5%	42.5%	42.5%	42.5%	
Maximum Green (s)	43.0	43.0		16.0	63.0		45.0	45.0	45.0	45.0	45.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		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	
Total Lost Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	Max	Max		None	Max		None	None	None	None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		43.1		65.2	63.2			18.5	18.5		18.5	
Actuated g/C Ratio		0.46		0.70	0.67			0.20	0.20		0.20	
v/c Ratio		0.77		0.75	0.52			0.71	0.71		0.44	
Control Delay		30.2		17.0	10.4			47.6	12.1		37.0	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		30.2		17.0	10.4			47.6	12.1		37.0	
LOS		C		B	B			D	B		D	
Approach Delay		30.2			13.0			24.0			37.0	
Approach LOS		C			B			C			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 93.8  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.77  
 Intersection Signal Delay: 21.4  
 Intersection LOS: C  
 Intersection Capacity Utilization 102.6%  
 ICU Level of Service G  
 Analysis Period (min) 15

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road

Future Total 2029  
PM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	641	436	664	222	439	123
v/c Ratio	0.77	0.75	0.52	0.71	0.71	0.44
Control Delay	30.2	17.0	10.4	47.6	12.1	37.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.2	17.0	10.4	47.6	12.1	37.0
Queue Length 50th (m)	93.3	27.8	53.2	37.6	6.9	19.3
Queue Length 95th (m)	#173.3	#68.3	101.7	60.9	35.5	35.2
Internal Link Dist (m)	869.1		325.1	564.2		239.1
Turn Bay Length (m)		30.0				
Base Capacity (vph)	828	578	1269	765	952	681
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.75	0.52	0.29	0.46	0.18



















Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.


























HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road

Future Total 2029  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	538	55	410	588	36	58	150	413	30	80	6
Future Volume (vph)	9	538	55	410	588	36	58	150	413	30	80	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Frt		0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	
Satd. Flow (prot)		1814		1755	1883			1818	1555		1809	
Flt Permitted		0.99		0.29	1.00			0.86	1.00		0.77	
Satd. Flow (perm)		1795		533	1883			1590	1555		1414	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	10	572	59	436	626	38	62	160	439	32	85	6
RTOR Reduction (vph)	0	3	0	0	1	0	0	0	315	0	2	0
Lane Group Flow (vph)	0	638	0	436	663	0	0	222	124	0	121	0
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		43.1		63.2	63.2			18.5	18.5		18.5	
Effective Green, g (s)		43.1		63.2	63.2			18.5	18.5		18.5	
Actuated g/C Ratio		0.46		0.67	0.67			0.20	0.20		0.20	
Clearance Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		825		569	1270			313	307		279	
v/s Ratio Prot				c0.13	0.35							
v/s Ratio Perm		0.36		c0.39				c0.14	0.08		0.09	
v/c Ratio		0.77		0.77	0.52			0.71	0.40		0.44	
Uniform Delay, d1		21.2		10.6	7.7			35.1	32.8		33.0	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		7.0		6.1	1.5			7.2	0.9		1.1	
Delay (s)		28.2		16.7	9.2			42.3	33.6		34.1	
Level of Service		C		B	A			D	C		C	
Approach Delay (s)		28.2			12.2			36.5			34.1	
Approach LOS		C			B			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			23.7									C
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			93.7							16.0		
Intersection Capacity Utilization			102.6%									G
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2029  
PM Peak Hour

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	554	228	102	295	271	50	182	2891	442	35	1712	476	
Future Volume (vph)	554	228	102	295	271	50	182	2891	442	35	1712	476	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0	
Storage Lanes	1		0	1		0	1		1	1		1	
Taper Length (m)	2.5			2.5			2.5			2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	
Frt		0.954			0.976				0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1825	1748	0	1789	1859	0	1807	5043	1633	1825	4812	1541	
Flt Permitted	0.163			0.181			0.072			0.078			
Satd. Flow (perm)	313	1748	0	341	1859	0	137	5043	1633	150	4812	1541	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		17			7				194			333	
Link Speed (k/h)		70			70			80				80	
Link Distance (m)		1007.8			440.4			855.3				282.2	
Travel Time (s)		51.8			22.6			38.5				12.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%	
Adj. Flow (vph)	571	235	105	304	279	52	188	2980	456	36	1765	491	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	571	340	0	304	331	0	188	2980	456	36	1765	491	
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)		3.7			3.7			3.7				3.7	
Link Offset(m)		0.0			0.0			0.0				0.0	
Crosswalk Width(m)		1.6			1.6			1.6				1.6	
Two way Left Turn Lane								Yes					
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Number of Detectors	1	2		1	2		1	2	1	1	2	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7				28.7	
Detector 2 Size(m)		1.8			1.8			1.8				1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex	
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0				0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8		5	2		1		6	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2029  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0	29.0	10.0	29.0	29.0
Total Split (s)	24.0	31.0		22.0	29.0		14.0	57.0	57.0	10.0	53.0	53.0
Total Split (%)	20.0%	25.8%		18.3%	24.2%		11.7%	47.5%	47.5%	8.3%	44.2%	44.2%
Maximum Green (s)	20.0	25.0		18.0	23.0		8.0	51.0	51.0	4.0	47.0	47.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	-2.0		0.0	-2.0		-2.0	-2.0	0.0	-2.0	-2.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lead/Lag	Lead	Lag		Lead	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
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Walk Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	46.5	26.5		41.7	24.1		63.0	57.0	55.0	55.0	49.0	47.0
Actuated g/C Ratio	0.39	0.22		0.35	0.20		0.53	0.48	0.46	0.46	0.41	0.39
v/c Ratio	1.52	0.85		0.91	0.87		0.88	1.23	0.53	0.24	0.89	0.61
Control Delay	274.7	62.2		62.4	68.1		65.8	138.5	15.9	18.0	39.7	12.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	274.7	62.2		62.4	68.1		65.8	138.5	15.9	18.0	39.7	12.2
LOS	F	E		E	E		E	F	B	B	D	B
Approach Delay		195.4			65.4			119.3			33.5	
Approach LOS		F			E			F			C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	119.1
Natural Cycle:	150
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.52
Intersection Signal Delay:	97.6
Intersection LOS:	F
Intersection Capacity Utilization:	120.5%
ICU Level of Service:	H
Analysis Period (min):	15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Total 2029  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	571	340	304	331	188	2980	456	36	1765	491
v/c Ratio	1.52	0.85	0.91	0.87	0.88	1.23	0.53	0.24	0.89	0.61
Control Delay	274.7	62.2	62.4	68.1	65.8	138.5	15.9	18.0	39.7	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	274.7	62.2	62.4	68.1	65.8	138.5	15.9	18.0	39.7	12.2
Queue Length 50th (m)	~171.8	73.4	52.4	74.0	28.9	~334.9	45.0	4.0	140.2	26.7
Queue Length 95th (m)	#239.6	#120.4	#102.8	#121.3	#71.2	#361.0	76.7	9.1	162.0	61.6
Internal Link Dist (m)		983.8		416.4		831.3			258.2	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	376	409	339	395	213	2415	859	153	1979	810
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.52	0.83	0.90	0.84	0.88	1.23	0.53	0.24	0.89	0.61

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 3: Hurontario Street & Old School Road

Future Total 2029  
 PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	554	228	102	295	271	50	182	2891	442	35	1712	476
Future Volume (vph)	554	228	102	295	271	50	182	2891	442	35	1712	476
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.95		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1825	1747		1789	1860		1807	5043	1633	1825	4812	1541
Flt Permitted	0.16	1.00		0.18	1.00		0.07	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	314	1747		341	1860		137	5043	1633	149	4812	1541
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	571	235	105	304	279	52	188	2980	456	36	1765	491
RTOR Reduction (vph)	0	13	0	0	6	0	0	0	106	0	0	197
Lane Group Flow (vph)	571	327	0	304	325	0	188	2980	350	36	1765	294
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	44.5	24.5		39.7	22.1		63.1	55.1	55.1	51.9	49.5	49.5
Effective Green, g (s)	44.5	26.5		39.7	24.1		65.5	57.1	55.1	55.9	51.5	49.5
Actuated g/C Ratio	0.37	0.22		0.33	0.20		0.54	0.47	0.45	0.46	0.42	0.41
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	363	380		320	368		211	2368	739	129	2037	627
v/s Ratio Prot	c0.26	0.19		0.14	0.17		c0.07	c0.59		0.01	0.37	
v/s Ratio Perm	c0.32			0.17			0.41		0.21	0.12		0.19
v/c Ratio	1.57	0.86		0.95	0.88		0.89	1.26	0.47	0.28	0.87	0.47
Uniform Delay, d1	35.3	45.8		34.6	47.4		32.3	32.2	23.2	27.6	31.9	26.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	270.8	17.3		36.7	21.4		34.0	119.9	2.2	1.2	5.3	2.5
Delay (s)	306.1	63.1		71.3	68.8		66.2	152.1	25.3	28.7	37.2	28.9
Level of Service	F	E		E	E		E	F	C	C	D	C
Approach Delay (s)		215.4			70.0			131.7			35.3	
Approach LOS		F			E			F			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			107.1									F
HCM 2000 Volume to Capacity ratio			1.39									
Actuated Cycle Length (s)			121.6							16.0		
Intersection Capacity Utilization			120.5%									H
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2029  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕			↕↕↕			↕				↕
Traffic Volume (vph)	40	687	49	178	649	64	33	272	236	32	170	28
Future Volume (vph)	40	687	49	178	649	64	33	272	236	32	170	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.991			0.989			0.941			0.984	
Flt Protected		0.997			0.990			0.997			0.993	
Satd. Flow (prot)	0	5041	0	0	5025	0	0	1755	0	0	1838	0
Flt Permitted		0.833			0.666			0.968			0.887	
Satd. Flow (perm)	0	4212	0	0	3381	0	0	1704	0	0	1642	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			14			44			8	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		551.3			1419.4			731.8			2784.8	
Travel Time (s)		28.4			73.0			32.9			125.3	
Confl. Peds. (#/hr)							1					1
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
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Adj. Flow (vph)	43	747	53	193	705	70	36	296	257	35	185	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	843	0	0	968	0	0	589	0	0	250	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	59.0	59.0		59.0	59.0		61.0	61.0		61.0	61.0	
Total Split (%)	49.2%	49.2%		49.2%	49.2%		50.8%	50.8%		50.8%	50.8%	
Maximum Green (s)	55.0	55.0		55.0	55.0		57.0	57.0		57.0	57.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		55.0			55.0			57.0			57.0	
Actuated g/C Ratio		0.46			0.46			0.48			0.48	
v/c Ratio		0.44			0.62			0.71			0.32	

Lanes, Volumes, Timings  
 4: Chinguacousy Road & Mayfield Road

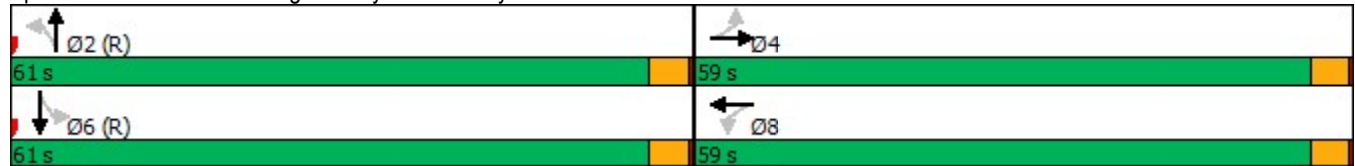
Future Total 2029  
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		22.6			26.4			28.6			20.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		22.6			26.4			28.6			20.2	
LOS		C			C			C			C	
Approach Delay		22.6			26.4			28.6			20.2	
Approach LOS		C			C			C			C	

Intersection Summary

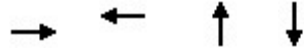
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	40
Control Type:	Pretimed
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	25.1
Intersection LOS:	C
Intersection Capacity Utilization	77.3%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Total 2029  
PM Peak Hour



























Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	843	968	589	250
v/c Ratio	0.44	0.62	0.71	0.32
Control Delay	22.6	26.4	28.6	20.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	22.6	26.4	28.6	20.2
Queue Length 50th (m)	47.3	60.8	99.4	34.2
Queue Length 95th (m)	58.7	75.6	142.5	52.8
Internal Link Dist (m)	527.3	1395.4	707.8	2760.8
Turn Bay Length (m)				
Base Capacity (vph)	1936	1557	832	784
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.44	0.62	0.71	0.32
Intersection Summary				























HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road

Future Total 2029  
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  			  			  				  	
Traffic Volume (vph)	40	687	49	178	649	64	33	272	236	32	170	28	
Future Volume (vph)	40	687	49	178	649	64	33	272	236	32	170	28	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0			4.0			4.0			4.0		
Lane Util. Factor		0.91			0.91			1.00			1.00		
Frbp, ped/bikes		1.00			1.00			1.00			1.00		
Flpb, ped/bikes		1.00			1.00			1.00			1.00		
Frt		0.99			0.99			0.94			0.98		
Flt Protected		1.00			0.99			1.00			0.99		
Satd. Flow (prot)		5042			5027			1755			1838		
Flt Permitted		0.83			0.67			0.97			0.89		
Satd. Flow (perm)		4211			3383			1705			1642		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	43	747	53	193	705	70	36	296	257	35	185	30	
RTOR Reduction (vph)	0	6	0	0	8	0	0	23	0	0	4	0	
Lane Group Flow (vph)	0	837	0	0	960	0	0	566	0	0	246	0	
Confl. Peds. (#/hr)							1					1	
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		55.0			55.0			57.0			57.0		
Effective Green, g (s)		55.0			55.0			57.0			57.0		
Actuated g/C Ratio		0.46			0.46			0.48			0.48		
Clearance Time (s)		4.0			4.0			4.0			4.0		
Lane Grp Cap (vph)		1930			1550			809			779		
v/s Ratio Prot													
v/s Ratio Perm		0.20			c0.28			c0.33			0.15		
v/c Ratio		0.43			0.62			0.70			0.32		
Uniform Delay, d1		22.0			24.6			24.8			19.5		
Progression Factor		1.00			1.00			1.00			1.00		
Incremental Delay, d2		0.7			1.9			5.0			1.1		
Delay (s)		22.7			26.5			29.8			20.5		
Level of Service		C			C			C			C		
Approach Delay (s)		22.7			26.5			29.8			20.5		
Approach LOS		C			C			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			25.4									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.66										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			77.3%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Total 2029  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	833	65	109	973	248	111	486	112	189	302	143
Future Volume (vph)	135	833	65	109	973	248	111	486	112	189	302	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.989			0.970			0.972			0.952	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	5036	0	1755	4892	0	1825	3500	0	1738	3353	0
Flt Permitted	0.109			0.293			0.485			0.211		
Satd. Flow (perm)	199	5036	0	541	4892	0	932	3500	0	386	3353	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			60			22			80	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			823.5			2496.3	
Travel Time (s)		73.0			65.0			37.1			112.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	141	868	68	114	1014	258	116	506	117	197	315	149
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	936	0	114	1272	0	116	623	0	197	464	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

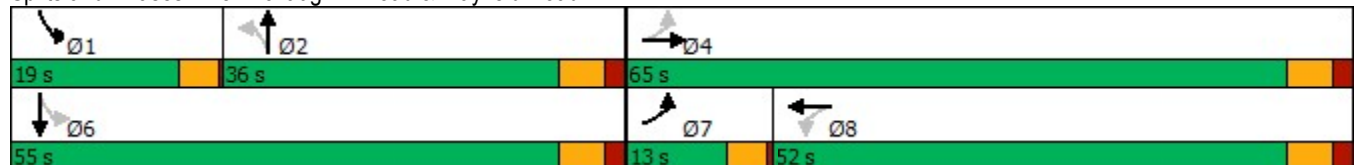
Future Total 2029  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	22.0		22.0	22.0		22.0	22.0		8.0	22.0	
Total Split (s)	13.0	65.0		52.0	52.0		36.0	36.0		19.0	55.0	
Total Split (%)	10.8%	54.2%		43.3%	43.3%		30.0%	30.0%		15.8%	45.8%	
Maximum Green (s)	9.0	59.0		46.0	46.0		30.0	30.0		15.0	49.0	
Yellow Time (s)	3.5	4.0		4.0	4.0		4.0	4.0		3.5	4.0	
All-Red Time (s)	0.5	2.0		2.0	2.0		2.0	2.0		0.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		6.0	6.0		6.0	6.0		4.0	6.0	
Lead/Lag	Lead			Lag		Lag		Lag		Lag		Lead
Lead-Lag Optimize?	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	
Recall Mode	None	Max		Max	Max		Max	Max		None	Max	
Walk Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Flash Dont Walk (s)		11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)		0		0	0		0	0			0	
Act Effct Green (s)	61.0	59.0		46.3	46.3		31.8	31.8		51.0	49.0	
Actuated g/C Ratio	0.51	0.49		0.39	0.39		0.26	0.26		0.42	0.41	
v/c Ratio	0.67	0.38		0.55	0.66		0.47	0.66		0.63	0.33	
Control Delay	32.7	19.2		40.8	30.9		45.4	42.2		32.0	20.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	32.7	19.2		40.8	30.9		45.4	42.2		32.0	20.5	
LOS	C	B		D	C		D	D		C	C	
Approach Delay		21.0			31.7			42.7			23.9	
Approach LOS		C			C			D			C	

Intersection Summary

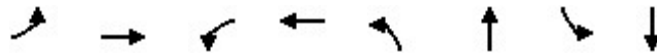
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.67  
 Intersection Signal Delay: 29.5  
 Intersection LOS: C  
 Intersection Capacity Utilization 76.0%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Total 2029  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	141	936	114	1272	116	623	197	464
v/c Ratio	0.67	0.38	0.55	0.66	0.47	0.66	0.63	0.33
Control Delay	32.7	19.2	40.8	30.9	45.4	42.2	32.0	20.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.7	19.2	40.8	30.9	45.4	42.2	32.0	20.5
Queue Length 50th (m)	17.2	48.0	20.7	85.7	23.3	67.4	29.6	31.5
Queue Length 95th (m)	#34.4	58.3	41.7	101.8	42.9	88.2	46.5	44.2
Internal Link Dist (m)		1395.4		1239.7		799.5		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	216	2483	208	1923	246	942	333	1416
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.38	0.55	0.66	0.47	0.66	0.59	0.33

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

























HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Future Total 2029  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	833	65	109	973	248	111	486	112	189	302	143
Future Volume (vph)	135	833	65	109	973	248	111	486	112	189	302	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0		6.0	6.0		6.0	6.0		4.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1738	5036		1755	4890		1825	3499		1738	3352	
Flt Permitted	0.11	1.00		0.29	1.00		0.49	1.00		0.21	1.00	
Satd. Flow (perm)	199	5036		542	4890		932	3499		386	3352	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	141	868	68	114	1014	258	116	506	117	197	315	149
RTOR Reduction (vph)	0	8	0	0	37	0	0	16	0	0	47	0
Lane Group Flow (vph)	141	928	0	114	1235	0	116	607	0	197	417	0
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	59.0	59.0		46.3	46.3		31.8	31.8		49.0	49.0	
Effective Green, g (s)	59.0	59.0		46.3	46.3		31.8	31.8		49.0	49.0	
Actuated g/C Ratio	0.49	0.49		0.39	0.39		0.27	0.27		0.41	0.41	
Clearance Time (s)	4.0	6.0		6.0	6.0		6.0	6.0		4.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	209	2476		209	1886		246	927		306	1368	
v/s Ratio Prot	c0.05	0.18			0.25			0.17		c0.07	0.12	
v/s Ratio Perm	c0.28			0.21			0.12			c0.19		
v/c Ratio	0.67	0.37		0.55	0.65		0.47	0.65		0.64	0.30	
Uniform Delay, d1	20.6	19.0		28.7	30.3		37.0	39.2		25.4	24.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.3	0.4		9.9	1.8		6.4	3.6		4.6	0.6	
Delay (s)	28.9	19.4		38.5	32.1		43.4	42.8		30.0	24.6	
Level of Service	C	B		D	C		D	D		C	C	
Approach Delay (s)		20.7			32.6			42.9			26.2	
Approach LOS		C			C			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			30.2				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			76.0%				ICU Level of Service			D		
Analysis Period (min)			15									
c	Critical Lane Group											

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2029  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	579	579	99	266	745	149	187	770	253	214	837	819
Future Volume (vph)	579	579	99	266	745	149	187	770	253	214	837	819
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.96	0.98		0.99	1.00		0.96			0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	4995	1601	3404	5092	1585	1789	3614	1555	1825	3510	1585
Fl <sub>t</sub> Permitted	0.160			0.950			0.259			0.217		
Satd. Flow (perm)	296	4995	1538	3335	5092	1562	487	3614	1486	417	3510	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			145			218			680
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			749.9			808.0			609.4	
Travel Time (s)		7.3			38.6			41.6			31.3	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Adj. Flow (vph)	597	597	102	274	768	154	193	794	261	221	863	844
Shared Lane Traffic (%)												
Lane Group Flow (vph)	597	597	102	274	768	154	193	794	261	221	863	844
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
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)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2029  
PM Peak Hour

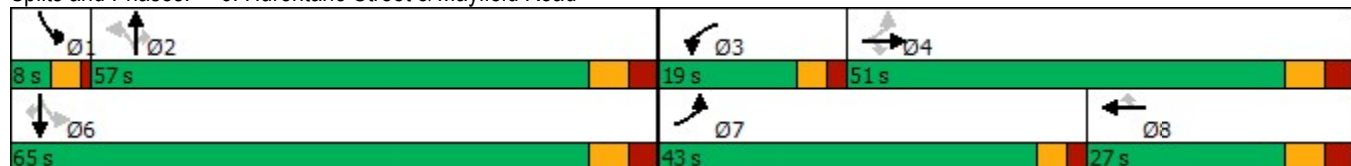


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	43.0	51.0	51.0	19.0	27.0	27.0	57.0	57.0	57.0	8.0	65.0	65.0
Total Split (%)	31.9%	37.8%	37.8%	14.1%	20.0%	20.0%	42.2%	42.2%	42.2%	5.9%	48.1%	48.1%
Maximum Green (s)	38.0	44.0	44.0	14.0	20.0	20.0	50.0	50.0	50.0	4.0	58.0	58.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-2.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
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	None	Max	Max	None	None	None	None	Max	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)		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)	67.0	44.4	44.4	15.6	20.0	20.0	52.0	50.0	50.0	63.0	58.0	58.0
Actuated g/C Ratio	0.50	0.33	0.33	0.12	0.15	0.15	0.39	0.37	0.37	0.47	0.43	0.43
v/c Ratio	1.03	0.36	0.18	0.70	1.02	0.44	1.03	0.59	0.38	0.86	0.57	0.80
Control Delay	82.2	35.4	6.2	67.6	93.7	13.4	115.8	36.5	7.9	57.3	31.0	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.2	35.4	6.2	67.6	93.7	13.4	115.8	36.5	7.9	57.3	31.0	12.8
LOS	F	D	A	E	F	B	F	D	A	E	C	B
Approach Delay		54.6			77.4			42.8			26.0	
Approach LOS		D			E			D			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 135  
 Actuated Cycle Length: 135  
 Natural Cycle: 100  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.03  
 Intersection Signal Delay: 47.1  
 Intersection LOS: D  
 Intersection Capacity Utilization 99.1%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Total 2029  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	597	597	102	274	768	154	193	794	261	221	863	844
v/c Ratio	1.03	0.36	0.18	0.70	1.02	0.44	1.03	0.59	0.38	0.86	0.57	0.80
Control Delay	82.2	35.4	6.2	67.6	93.7	13.4	115.8	36.5	7.9	57.3	31.0	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.2	35.4	6.2	67.6	93.7	13.4	115.8	36.5	7.9	57.3	31.0	12.8
Queue Length 50th (m)	~153.4	44.5	0.0	36.6	~79.2	2.1	~54.9	89.3	7.4	35.1	90.3	35.0
Queue Length 95th (m)	#225.3	55.7	12.0	51.6	#106.5	21.7	#103.0	110.0	27.1	#69.8	110.6	99.6
Internal Link Dist (m)		118.1			725.9			784.0			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	579	1644	577	403	754	354	187	1338	687	257	1508	1055
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.36	0.18	0.68	1.02	0.44	1.03	0.59	0.38	0.86	0.57	0.80

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

























# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road










Future Total 2029  
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	579	579	99	266	745	149	187	770	253	214	837	819	
Future Volume (vph)	579	579	99	266	745	149	187	770	253	214	837	819	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1755	4995	1538	3404	5092	1562	1787	3614	1486	1825	3510	1555	
Flt Permitted	0.16	1.00	1.00	0.95	1.00	1.00	0.26	1.00	1.00	0.22	1.00	1.00	
Satd. Flow (perm)	296	4995	1538	3404	5092	1562	487	3614	1486	416	3510	1555	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	597	597	102	274	768	154	193	794	261	221	863	844	
RTOR Reduction (vph)	0	0	68	0	0	124	0	0	137	0	0	388	
Lane Group Flow (vph)	597	597	34	274	768	30	193	794	124	221	863	456	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3	
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8			2		1	6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	63.0	44.4	44.4	13.6	20.0	20.0	50.0	50.0	50.0	58.0	58.0	58.0	
Effective Green, g (s)	65.0	44.4	44.4	15.6	20.0	20.0	52.0	50.0	50.0	60.0	58.0	58.0	
Actuated g/C Ratio	0.48	0.33	0.33	0.12	0.15	0.15	0.39	0.37	0.37	0.44	0.43	0.43	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
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	
Lane Grp Cap (vph)	574	1642	505	393	754	231	187	1338	550	247	1508	668	
v/s Ratio Prot	c0.31	0.12		0.08	0.15			0.22		c0.04	0.25		
v/s Ratio Perm	c0.19		0.02			0.02	c0.40		0.08	0.36		0.29	
v/c Ratio	1.04	0.36	0.07	0.70	1.02	0.13	1.03	0.59	0.22	0.89	0.57	0.68	
Uniform Delay, d1	38.5	34.5	31.1	57.4	57.5	50.0	41.5	34.3	29.2	34.5	29.1	31.1	
Progression 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	
Incremental Delay, d2	48.4	0.6	0.3	5.3	37.5	1.2	74.5	0.7	0.2	30.9	1.6	5.6	
Delay (s)	86.9	35.2	31.3	62.7	95.0	51.1	116.0	35.0	29.4	65.4	30.7	36.7	
Level of Service	F	D	C	E	F	D	F	D	C	E	C	D	
Approach Delay (s)		58.7			82.0			46.4			37.3		
Approach LOS		E			F			D			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			53.6									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			1.08										
Actuated Cycle Length (s)			135.0									Sum of lost time (s)	19.0
Intersection Capacity Utilization			99.1%									ICU Level of Service	F
Analysis Period (min)			15										

c Critical Lane Group










Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C

Future Total 2029  
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	10	597	0	11	450
Future Volume (vph)	0	10	597	0	11	450
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	0.865					
Fl <sub>t</sub> Protected						0.999
Satd. Flow (prot)	1629	0	1883	0	0	1882
Fl <sub>t</sub> Permitted						0.999
Satd. Flow (perm)	1629	0	1883	0	0	1882
Link Speed (k/h)	48		80		80	
Link Distance (m)	204.9		2784.8		298.8	
Travel Time (s)	15.4		125.3		13.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	11	649	0	12	489
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	0	649	0	0	501
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0		0.0	
Link Offset(m)	0.0		0.0		0.0	
Crosswalk Width(m)	1.6		1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free		Free	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	42.5%			ICU Level of Service A		
Analysis Period (min)	15					

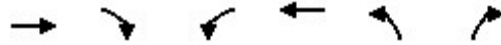
HCM Unsignalized Intersection Capacity Analysis  
7: Chinguacousy Road & Street C

Future Total 2029  
PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	10	597	0	11	450
Future Volume (Veh/h)	0	10	597	0	11	450
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)	0	11	649	0	12	489
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	299					
pX, platoon unblocked	0.86					
vC, conflicting volume	1162	649				649
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1107	649				649
tC, single (s)	6.4	6.2				4.1
tC, 2 stage (s)						
tF (s)	3.5	3.3				2.2
p0 queue free %	100	98				99
cM capacity (veh/h)	198	470				937
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	11	649	501			
Volume Left	0	0	12			
Volume Right	11	0	0			
cSH	470	1700	937			
Volume to Capacity	0.02	0.38	0.01			
Queue Length 95th (m)	0.5	0.0	0.3			
Control Delay (s)	12.8	0.0	0.4			
Lane LOS	B		A			
Approach Delay (s)	12.8	0.0	0.4			
Approach LOS	B					
<b>Intersection Summary</b>						
Average Delay			0.3			
Intersection Capacity Utilization			42.5%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
8: Street B & Old School Road

Future Total 2029  
PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	565	0	11	623	0	10
Future Volume (vph)	565	0	11	623	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>					0.865	
Fl <sub>t</sub> Protected				0.999		
Satd. Flow (prot)	1883	0	0	1882	1629	0
Fl <sub>t</sub> Permitted				0.999		
Satd. Flow (perm)	1883	0	0	1882	1629	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	614	0	12	677	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	614	0	0	689	11	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	51.6%
Analysis Period (min)	15
	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis  
8: Street B & Old School Road


















Future Total 2029  
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	←	↗
Traffic Volume (veh/h)	565	0	11	623	0	10
Future Volume (Veh/h)	565	0	11	623	0	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	614	0	12	677	0	11
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			614		1315	614
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			614		1315	614
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	98
cM capacity (veh/h)			965		172	492
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	614	689	11			
Volume Left	0	12	0			
Volume Right	0	0	11			
cSH	1700	965	492			
Volume to Capacity	0.36	0.01	0.02			
Queue Length 95th (m)	0.0	0.3	0.5			
Control Delay (s)	0.0	0.3	12.5			
Lane LOS			A	B		
Approach Delay (s)	0.0	0.3	12.5			
Approach LOS			B			
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			51.6%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2029  
PM Peak Hour


















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	114	0	46	0	576	169	59	486	0
Future Volume (vph)	0	0	0	114	0	46	0	576	169	59	486	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.850			0.966				
Flt Protected				0.950							0.995	
Satd. Flow (prot)	0	1883	0	1789	1601	0	0	3457	0	0	3561	0
Flt Permitted				0.950							0.995	
Satd. Flow (perm)	0	1883	0	1789	1601	0	0	3457	0	0	3561	0
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			403.1			2496.3			588.2	
Travel Time (s)		15.4			30.2			112.3			26.5	
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
Adj. Flow (vph)	0	0	0	124	0	50	0	626	184	64	528	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	124	50	0	0	810	0	0	592	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	52.8%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 9: McLaughlin Road & Street A

Future Total 2029  
 PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	0	0	0	114	0	46	0	576	169	59	486	0	
Future Volume (Veh/h)	0	0	0	114	0	46	0	576	169	59	486	0	
Sign Control		Stop			Stop			Free			Free		
Grade		0%			0%			0%			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	0	0	124	0	50	0	626	184	64	528	0	
Pedestrians													
Lane Width (m)													
Walking Speed (m/s)													
Percent Blockage													
Right turn flare (veh)													
Median type													
								None			None		
Median storage veh													
Upstream signal (m)													
pX, platoon unblocked													
vC, conflicting volume	1019	1466	264	1110	1374	405	528			810			
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1019	1466	264	1110	1374	405	528			810			
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1			
tC, 2 stage (s)													
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2			
p0 queue free %	100	100	100	20	100	92	100			92			
cM capacity (veh/h)	165	117	734	154	133	595	1035			812			
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2						
Volume Total	0	124	50	313	497	328	264						
Volume Left	0	124	0	0	0	64	0						
Volume Right	0	0	50	0	184	0	0						
cSH	1700	154	595	1035	1700	812	1700						
Volume to Capacity	0.00	0.80	0.08	0.00	0.29	0.08	0.16						
Queue Length 95th (m)	0.0	39.5	2.1	0.0	0.0	1.9	0.0						
Control Delay (s)	0.0	86.4	11.6	0.0	0.0	2.7	0.0						
Lane LOS	A	F	B			A							
Approach Delay (s)	0.0	64.9		0.0		1.5							
Approach LOS	A	F											
Intersection Summary													
Average Delay			7.7										
Intersection Capacity Utilization		52.8%		ICU Level of Service									A
Analysis Period (min)		15											

Lanes, Volumes, Timings  
 10: Street D & Old School Road

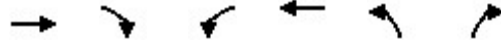
Future Total 2029  
 PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	↗
Traffic Volume (vph)	895	33	0	935	29	0
Future Volume (vph)	895	33	0	935	29	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>	0.995					
Fl <sub>t</sub> Protected					0.950	
Satd. Flow (prot)	1874	0	0	1883	1789	0
Fl <sub>t</sub> Permitted					0.950	
Satd. Flow (perm)	1874	0	0	1883	1789	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	973	36	0	1016	32	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1009	0	0	1016	32	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	14		24	24		14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	59.2%			ICU Level of Service B		
Analysis Period (min)	15					



HCM Unsignalized Intersection Capacity Analysis  
 10: Street D & Old School Road

Future Total 2029  
 PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↘	↙
Traffic Volume (veh/h)	895	33	0	935	29	0
Future Volume (Veh/h)	895	33	0	935	29	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	973	36	0	1016	32	0
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	349					
pX, platoon unblocked				0.72	0.72	0.72
vC, conflicting volume				1009	2007	991
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol				816	2206	791
tC, single (s)				4.1	6.4	6.2
tC, 2 stage (s)						
tF (s)				2.2	3.5	3.3
p0 queue free %				100	9	100
cM capacity (veh/h)				583	35	280
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	1009	1016	32			
Volume Left	0	0	32			
Volume Right	36	0	0			
cSH	1700	583	35			
Volume to Capacity	0.59	0.00	0.91			
Queue Length 95th (m)	0.0	0.0	24.9			
Control Delay (s)	0.0	0.0	295.0			
Lane LOS				F		
Approach Delay (s)	0.0	0.0	295.0			
Approach LOS				F		
<b>Intersection Summary</b>						
Average Delay				4.6		
Intersection Capacity Utilization				59.2%	ICU Level of Service	B
Analysis Period (min)				15		

Lanes, Volumes, Timings  
11: Street A & Street D

Future Total 2029  
PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	0	1883	1883	0	1883	0
Flt Permitted						
Satd. Flow (perm)	0	1883	1883	0	1883	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Stop	Stop		Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	0.0%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 11: Street A & Street D

Future Total 2029  
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total (vph)	0	0	0			
Volume Left (vph)	0	0	0			
Volume Right (vph)	0	0	0			
Hadj (s)	0.00	0.00	0.00			
Departure Headway (s)	3.9	3.9	3.9			
Degree Utilization, x	0.00	0.00	0.00			
Capacity (veh/h)	917	917	917			
Control Delay (s)	6.9	6.9	6.9			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A	A	A			
Intersection Summary						
Delay			0.0			
Level of Service			A			
Intersection Capacity Utilization			0.0%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2029  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	36	204	380	3480	2076	34
Future Volume (vph)	36	204	380	3480	2076	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt		0.850			0.998	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	5142	5132	0
Flt Permitted	0.950		0.058			
Satd. Flow (perm)	1789	1601	109	5142	5132	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		2			3	
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	222	413	3783	2257	37
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	222	413	3783	2294	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2029  
PM Peak Hour

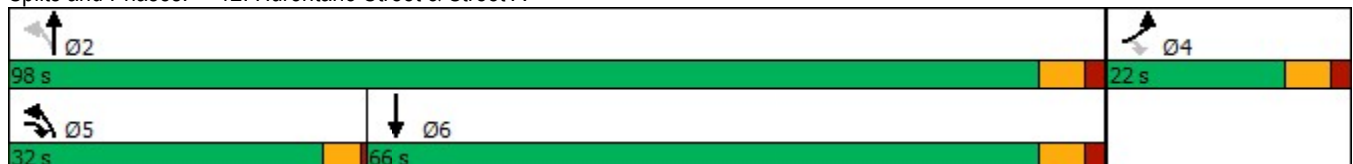


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	8.0	8.0	22.0	22.0	
Total Split (s)	22.0	32.0	32.0	98.0	66.0	
Total Split (%)	18.3%	26.7%	26.7%	81.7%	55.0%	
Maximum Green (s)	16.0	28.0	28.0	92.0	60.0	
Yellow Time (s)	4.0	3.5	3.5	4.0	4.0	
All-Red Time (s)	2.0	0.5	0.5	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	4.0	4.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	7.8	32.1	94.5	95.1	65.0	
Actuated g/C Ratio	0.07	0.30	0.88	0.89	0.61	
v/c Ratio	0.30	0.46	0.89	0.83	0.74	
Control Delay	54.7	31.6	52.7	7.8	19.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	54.7	31.6	52.7	7.8	19.4	
LOS	D	C	D	A	B	
Approach Delay	35.1			12.2	19.4	
Approach LOS	D			B	B	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	107.1
Natural Cycle:	100
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.89
Intersection Signal Delay:	15.5
Intersection LOS:	B
Intersection Capacity Utilization:	80.6%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 12: Hurontario Street & Street A



Queues  
12: Hurontario Street & Street A

Future Total 2029  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	39	222	413	3783	2294
v/c Ratio	0.30	0.46	0.89	0.83	0.74
Control Delay	54.7	31.6	52.7	7.8	19.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	31.6	52.7	7.8	19.4
Queue Length 50th (m)	8.3	34.8	68.9	153.4	144.9
Queue Length 95th (m)	18.9	54.3	#120.7	211.4	177.6
Internal Link Dist (m)	932.1			904.0	831.3
Turn Bay Length (m)	30.0		50.0		
Base Capacity (vph)	268	550	537	4566	3114
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.40	0.77	0.83	0.74

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 12: Hurontario Street & Street A

Future Total 2029  
 PM Peak Hour




















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	36	204	380	3480	2076	34
Future Volume (vph)	36	204	380	3480	2076	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1789	1601	1789	5142	5129	
Flt Permitted	0.95	1.00	0.06	1.00	1.00	
Satd. Flow (perm)	1789	1601	109	5142	5129	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	222	413	3783	2257	37
RTOR Reduction (vph)	0	1	0	0	1	0
Lane Group Flow (vph)	39	221	413	3783	2293	0
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	5.2	28.7	92.5	92.5	65.0	
Effective Green, g (s)	5.2	28.7	92.5	92.5	65.0	
Actuated g/C Ratio	0.05	0.26	0.84	0.84	0.59	
Clearance Time (s)	6.0	4.0	4.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	84	418	451	4335	3039	
v/s Ratio Prot	0.02	c0.11	0.20	c0.74	0.45	
v/s Ratio Perm		0.02	c0.57			
v/c Ratio	0.46	0.53	0.92	0.87	0.75	
Uniform Delay, d1	50.9	34.7	34.7	5.1	16.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.0	1.2	23.1	2.7	1.8	
Delay (s)	54.9	35.9	57.8	7.8	18.3	
Level of Service	D	D	E	A	B	
Approach Delay (s)	38.7			12.7	18.3	
Approach LOS	D			B	B	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	109.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2031  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	247	3	133	167	43	2	225	278	32	209	9
Future Volume (vph)	2	247	3	133	167	43	2	225	278	32	209	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.998			0.969			0.926			0.995	
Fl <sub>t</sub> Protected				0.950							0.994	
Satd. Flow (prot)	0	1917	0	1772	1796	0	0	1713	0	0	1789	0
Fl <sub>t</sub> Permitted		0.997		0.279				0.999			0.900	
Satd. Flow (perm)	0	1912	0	520	1796	0	0	1711	0	0	1620	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			15			92			3	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1121.0			490.2			298.8			781.3	
Travel Time (s)		57.7			25.2			13.4			35.2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Adj. Flow (vph)	2	263	3	141	178	46	2	239	296	34	222	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	268	0	141	224	0	0	537	0	0	266	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

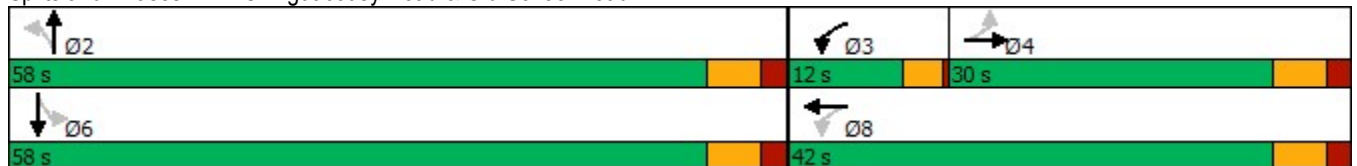
Future Background 2031  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	30.0	30.0		12.0	42.0		58.0	58.0		58.0	58.0	
Total Split (%)	30.0%	30.0%		12.0%	42.0%		58.0%	58.0%		58.0%	58.0%	
Maximum Green (s)	24.0	24.0		8.5	36.0		52.0	52.0		52.0	52.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		3.5	6.0			6.0			6.0	
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	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		17.9		32.2	29.6			52.1			52.1	
Actuated g/C Ratio		0.19		0.34	0.32			0.56			0.56	
v/c Ratio		0.73		0.49	0.39			0.54			0.30	
Control Delay		47.9		27.7	25.1			14.0			12.9	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		47.9		27.7	25.1			14.0			12.9	
LOS		D		C	C			B			B	
Approach Delay		47.9			26.1			14.0			12.9	
Approach LOS		D			C			B			B	

Intersection Summary

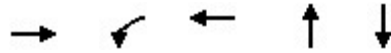
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	93.8
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.73
Intersection Signal Delay:	23.2
Intersection LOS:	C
Intersection Capacity Utilization:	75.8%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 1: Chinguacousy Road & Old School Road



Queues

1: Chinguacousy Road & Old School Road




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	268	141	224	537	266
v/c Ratio	0.73	0.49	0.39	0.54	0.30
Control Delay	47.9	27.7	25.1	14.0	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.9	27.7	25.1	14.0	12.9
Queue Length 50th (m)	45.9	18.0	29.1	47.9	24.0
Queue Length 95th (m)	71.5	31.3	47.9	86.8	44.3
Internal Link Dist (m)	1097.0		466.2	274.8	757.3
Turn Bay Length (m)					
Base Capacity (vph)	490	291	700	991	901
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.55	0.48	0.32	0.54	0.30

Intersection Summary



















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Background 2031  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	247	3	133	167	43	2	225	278	32	209	9
Future Volume (vph)	2	247	3	133	167	43	2	225	278	32	209	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		3.5	6.0			6.0			6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.97			0.93			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		1917		1772	1796			1711			1788	
Flt Permitted		1.00		0.28	1.00			1.00			0.90	
Satd. Flow (perm)		1913		521	1796			1711			1620	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	2	263	3	141	178	46	2	239	296	34	222	10
RTOR Reduction (vph)	0	1	0	0	10	0	0	41	0	0	1	0
Lane Group Flow (vph)	0	267	0	141	214	0	0	496	0	0	265	0
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.0		29.7	29.7			52.1			52.1	
Effective Green, g (s)		18.0		29.7	29.7			52.1			52.1	
Actuated g/C Ratio		0.19		0.32	0.32			0.56			0.56	
Clearance Time (s)		6.0		3.5	6.0			6.0			6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		367		274	568			950			899	
v/s Ratio Prot				c0.04	0.12							
v/s Ratio Perm		c0.14		0.12				0.29			0.16	
v/c Ratio		0.73		0.51	0.38			0.52			0.29	
Uniform Delay, d1		35.6		25.1	24.9			13.1			11.1	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		7.1		1.6	0.4			2.1			0.8	
Delay (s)		42.7		26.7	25.3			15.1			11.9	
Level of Service		D		C	C			B			B	
Approach Delay (s)		42.7			25.8			15.1			11.9	
Approach LOS		D			C			B			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			22.4									C
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			93.8						15.5			
Intersection Capacity Utilization			75.8%									D
Analysis Period (min)			15									
c	Critical Lane Group											

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Background 2031  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	519	34	233	303	24	40	60	413	37	120	11
Future Volume (vph)	6	519	34	233	303	24	40	60	413	37	120	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.989				0.850		0.991	
Flt Protected		0.999		0.950				0.980			0.989	
Satd. Flow (prot)	0	3551	0	1789	3487	0	0	1860	1617	0	1858	0
Flt Permitted		0.952		0.428				0.797			0.904	
Satd. Flow (perm)	0	3383	0	806	3487	0	0	1513	1617	0	1699	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			12				266			4
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			750.6	
Travel Time (s)		45.9			18.0			26.5			33.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Adj. Flow (vph)	6	552	36	248	322	26	43	64	439	39	128	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	594	0	248	348	0	0	107	439	0	179	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
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
Protected Phases		4			8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

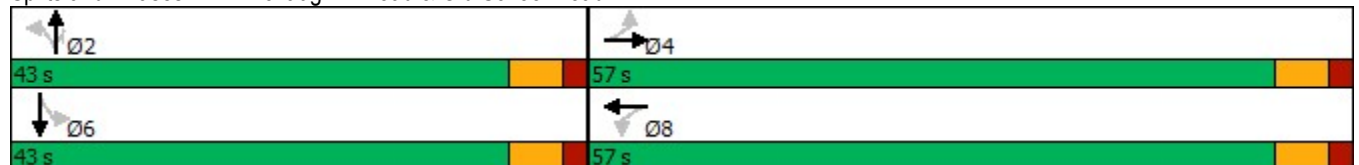
Future Background 2031  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	57.0	57.0		57.0	57.0		43.0	43.0	43.0	43.0	43.0	
Total Split (%)	57.0%	57.0%		57.0%	57.0%		43.0%	43.0%	43.0%	43.0%	43.0%	
Maximum Green (s)	51.0	51.0		51.0	51.0		37.0	37.0	37.0	37.0	37.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		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	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
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	Max	Max		Max	Max		None	None	None	None	None	
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)	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)		51.4		51.4	51.4			16.3	16.3		16.3	
Actuated g/C Ratio		0.64		0.64	0.64			0.20	0.20		0.20	
v/c Ratio		0.27		0.48	0.15			0.35	0.81		0.51	
Control Delay		7.5		13.3	6.7			29.2	23.9		32.0	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		7.5		13.3	6.7			29.2	23.9		32.0	
LOS		A		B	A			C	C		C	
Approach Delay		7.5			9.5			24.9			32.0	
Approach LOS		A			A			C			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 79.8  
 Natural Cycle: 55  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.81  
 Intersection Signal Delay: 15.4  
 Intersection Capacity Utilization 65.2%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service C

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road

Future Background 2031  
AM Peak Hour





















Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	594	248	348	107	439	179
v/c Ratio	0.27	0.48	0.15	0.35	0.81	0.51
Control Delay	7.5	13.3	6.7	29.2	23.9	32.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.5	13.3	6.7	29.2	23.9	32.0
Queue Length 50th (m)	16.5	16.0	8.7	13.9	24.0	23.5
Queue Length 95th (m)	37.6	50.4	21.3	26.5	56.1	40.6
Internal Link Dist (m)	869.1		325.1	564.2		726.6
Turn Bay Length (m)		50.0				
Base Capacity (vph)	2183	519	2251	707	897	796
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.48	0.15	0.15	0.49	0.22
<b>Intersection Summary</b>						

# HCM Signalized Intersection Capacity Analysis

## 2: McLaughlin Road & Old School Road

Future Background 2031  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	519	34	233	303	24	40	60	413	37	120	11
Future Volume (vph)	6	519	34	233	303	24	40	60	413	37	120	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00	
Frt		0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	
Satd. Flow (prot)		3552		1789	3486			1861	1617		1859	
Flt Permitted		0.95		0.43	1.00			0.80	1.00		0.90	
Satd. Flow (perm)		3383		805	3486			1513	1617		1698	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	6	552	36	248	322	26	43	64	439	39	128	12
RTOR Reduction (vph)	0	4	0	0	4	0	0	0	212	0	3	0
Lane Group Flow (vph)	0	590	0	248	344	0	0	107	227	0	176	0
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		6		
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		51.4		51.4	51.4			16.3	16.3		16.3	
Effective Green, g (s)		51.4		51.4	51.4			16.3	16.3		16.3	
Actuated g/C Ratio		0.64		0.64	0.64			0.20	0.20		0.20	
Clearance Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		2181		519	2248			309	330		347	
v/s Ratio Prot					0.10							
v/s Ratio Perm		0.17		c0.31				0.07	c0.14		0.10	
v/c Ratio		0.27		0.48	0.15			0.35	0.69		0.51	
Uniform Delay, d1		6.1		7.3	5.6			27.1	29.4		28.1	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.3		3.1	0.1			0.7	5.9		1.2	
Delay (s)		6.4		10.4	5.7			27.8	35.2		29.3	
Level of Service		A		B	A			C	D		C	
Approach Delay (s)		6.4			7.7			33.8			29.3	
Approach LOS		A			A			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			16.7									B
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			79.7								12.0	
Intersection Capacity Utilization			65.2%									C
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2031  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	557	229	174	391	186	40	55	1812	182	34	2486	297
Future Volume (vph)	557	229	174	391	186	40	55	1812	182	34	2486	297
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.935			0.973				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	3323	0	1722	3394	0	1722	4445	1471	1615	5043	1633
Flt Permitted	0.531			0.344			0.067			0.067		
Satd. Flow (perm)	981	3323	0	623	3394	0	121	4445	1471	114	5043	1633
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			18				147			174
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			1143.9			855.3			711.9	
Travel Time (s)		51.8			58.8			38.5			32.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Adj. Flow (vph)	599	246	187	420	200	43	59	1948	196	37	2673	319
Shared Lane Traffic (%)												
Lane Group Flow (vph)	599	433	0	420	243	0	59	1948	196	37	2673	319
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2031  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	24.0		8.0	24.0		29.0	29.0	29.0	29.0	29.0	29.0
Total Split (s)	28.0	26.0		26.0	24.0		68.0	68.0	68.0	68.0	68.0	68.0
Total Split (%)	23.3%	21.7%		21.7%	20.0%		56.7%	56.7%	56.7%	56.7%	56.7%	56.7%
Maximum Green (s)	24.0	18.0		22.0	16.0		60.0	60.0	60.0	60.0	60.0	60.0
Yellow Time (s)	3.5	6.0		3.5	6.0		6.0	6.0	6.0	6.0	6.0	6.0
All-Red Time (s)	0.5	2.0		0.5	2.0		2.0	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	0.0
Total Lost Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lead/Lag	Lead	Lag		Lead	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	None		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		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
Act Effct Green (s)	45.4	17.4		41.4	15.4		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.38	0.15		0.35	0.13		0.50	0.50	0.50	0.50	0.50	0.50
v/c Ratio	1.13	0.85		1.00	0.54		0.98	0.87	0.24	0.65	1.05	0.35
Control Delay	113.9	63.0		77.1	49.7		145.4	31.9	5.6	75.4	64.1	8.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	113.9	63.0		77.1	49.7		145.4	31.9	5.6	75.4	64.1	8.9
LOS	F	E		E	D		F	C	A	E	E	A
Approach Delay		92.5			67.0			32.6				58.4
Approach LOS		F			E			C				E

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 119.4  
 Natural Cycle: 130  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.13  
 Intersection Signal Delay: 56.1  
 Intersection Capacity Utilization 102.0%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service G

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Background 2031  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	599	433	420	243	59	1948	196	37	2673	319
v/c Ratio	1.13	0.85	1.00	0.54	0.98	0.87	0.24	0.65	1.05	0.35
Control Delay	113.9	63.0	77.1	49.7	145.4	31.9	5.6	75.4	64.1	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	113.9	63.0	77.1	49.7	145.4	31.9	5.6	75.4	64.1	8.9
Queue Length 50th (m)	~118.4	49.2	~77.6	26.2	13.1	144.9	5.8	6.3	~253.4	18.2
Queue Length 95th (m)	#185.9	#73.1	#137.5	39.4	#41.5	167.9	18.1	#26.7	#280.7	37.0
Internal Link Dist (m)		983.8		1119.9		831.3			687.9	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	528	526	418	470	60	2234	813	57	2535	907
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.13	0.82	1.00	0.52	0.98	0.87	0.24	0.65	1.05	0.35

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.





























Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Background 2031  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			  			  	
Traffic Volume (vph)	557	229	174	391	186	40	55	1812	182	34	2486	297
Future Volume (vph)	557	229	174	391	186	40	55	1812	182	34	2486	297
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.94		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	3324		1722	3395		1722	4445	1471	1615	5043	1633
Flt Permitted	0.53	1.00		0.34	1.00		0.07	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	982	3324		623	3395		121	4445	1471	113	5043	1633
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	599	246	187	420	200	43	59	1948	196	37	2673	319
RTOR Reduction (vph)	0	26	0	0	16	0	0	0	73	0	0	86
Lane Group Flow (vph)	599	407	0	420	227	0	59	1948	123	37	2673	233
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	41.3	17.3		37.3	15.3		60.0	60.0	60.0	60.0	60.0	60.0
Effective Green, g (s)	41.3	17.3		37.3	15.3		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.35	0.15		0.31	0.13		0.50	0.50	0.50	0.50	0.50	0.50
Clearance Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	495	482		397	435		60	2235	739	56	2536	821
v/s Ratio Prot	c0.24	0.12		0.19	0.07			0.44			c0.53	
v/s Ratio Perm	c0.18			0.14			0.49		0.08	0.33		0.14
v/c Ratio	1.21	0.85		1.06	0.52		0.98	0.87	0.17	0.66	1.05	0.28
Uniform Delay, d1	36.6	49.7		37.6	48.6		29.2	26.2	16.1	22.1	29.6	17.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	112.2	12.8		61.3	1.1		111.5	5.0	0.5	47.7	34.2	0.9
Delay (s)	148.7	62.5		98.8	49.7		140.7	31.3	16.6	69.8	63.8	18.0
Level of Service	F	E		F	D		F	C	B	E	E	B
Approach Delay (s)		112.6			80.8			32.9			59.1	
Approach LOS		F			F			C			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			60.8				HCM 2000 Level of Service			E		
HCM 2000 Volume to Capacity ratio			1.14									
Actuated Cycle Length (s)			119.3				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			102.0%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2031  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↕↔		↔	↕↕↕			↕			↕	
Traffic Volume (vph)	45	674	50	151	585	28	25	200	143	99	251	39
Future Volume (vph)	45	674	50	151	585	28	25	200	143	99	251	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.993			0.948			0.987	
Flt Protected		0.997		0.950				0.997			0.987	
Satd. Flow (prot)	0	4862	0	1659	4934	0	0	1747	0	0	1780	0
Flt Permitted		0.859		0.215				0.960			0.795	
Satd. Flow (perm)	0	4189	0	375	4934	0	0	1682	0	0	1434	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			8			37			7	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1018.8			1419.4			782.5			2784.8	
Travel Time (s)		52.4			73.0			35.2			125.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Adj. Flow (vph)	45	681	51	153	591	28	25	202	144	100	254	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	777	0	153	619	0	0	371	0	0	393	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	



Queues  
4: Chinguacousy Road & Mayfield Road

























Future Background 2031  
AM Peak Hour

	→	↙	←	↑	↓
Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	777	153	619	371	393
v/c Ratio	0.60	0.53	0.28	0.44	0.56
Control Delay	37.3	27.6	21.5	19.6	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.3	27.6	21.5	19.6	24.6
Queue Length 50th (m)	56.3	21.7	32.9	49.2	61.7
Queue Length 95th (m)	71.7	35.8	41.8	73.9	92.0
Internal Link Dist (m)	994.8		1395.4	758.5	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	1305	315	2183	845	708
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.60	0.49	0.28	0.44	0.56
<b>Intersection Summary</b>					

# HCM Signalized Intersection Capacity Analysis

## 4: Chinguacousy Road & Mayfield Road

Future Background 2031  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  				  			  	
Traffic Volume (vph)	45	674	50	151	585	28	25	200	143	99	251	39
Future Volume (vph)	45	674	50	151	585	28	25	200	143	99	251	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frt		0.99		1.00	0.99			0.95			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		4864		1659	4935			1745			1780	
Flt Permitted		0.86		0.22	1.00			0.96			0.79	
Satd. Flow (perm)		4191		376	4935			1680			1433	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	45	681	51	153	591	28	25	202	144	100	254	39
RTOR Reduction (vph)	0	6	0	0	4	0	0	19	0	0	4	0
Lane Group Flow (vph)	0	771	0	153	615	0	0	352	0	0	389	0
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		37.2		53.0	53.0			59.0			59.0	
Effective Green, g (s)		37.2		53.0	53.0			59.0			59.0	
Actuated g/C Ratio		0.31		0.44	0.44			0.49			0.49	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1299		292	2179			826			704	
v/s Ratio Prot				c0.05	0.12							
v/s Ratio Perm		c0.18		0.18				0.21			c0.27	
v/c Ratio		0.59		0.52	0.28			0.43			0.55	
Uniform Delay, d1		35.0		22.0	21.4			19.6			21.3	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		2.0		1.7	0.3			1.6			3.1	
Delay (s)		37.0		23.7	21.7			21.2			24.4	
Level of Service		D		C	C			C			C	
Approach Delay (s)		37.0			22.1			21.2			24.4	
Approach LOS		D			C			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			27.4			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)		12.0				
Intersection Capacity Utilization			82.0%			ICU Level of Service			D			
Analysis Period (min)			15									
c	Critical Lane Group											

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2031  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	938	116	129	732	123	51	243	97	303	403	86
Future Volume (vph)	17	938	116	129	732	123	51	243	97	303	403	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.984			0.978			0.957			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4889	0	1706	4755	0	1644	3406	0	1690	3438	0
Flt Permitted	0.269			0.200			0.418			0.526		
Satd. Flow (perm)	517	4889	0	359	4755	0	723	3406	0	936	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			37			62			27	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			816.0			2496.3	
Travel Time (s)		73.0			65.0			36.7			112.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Adj. Flow (vph)	17	957	118	132	747	126	52	248	99	309	411	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	1075	0	132	873	0	52	347	0	309	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		23.0	23.0	
Total Split (s)	62.0	62.0		62.0	62.0		58.0	58.0		58.0	58.0	
Total Split (%)	51.7%	51.7%		51.7%	51.7%		48.3%	48.3%		48.3%	48.3%	
Maximum Green (s)	56.0	56.0		56.0	56.0		52.0	52.0		52.0	52.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	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	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)	56.0	56.0		56.0	56.0		52.0	52.0		52.0	52.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47		0.43	0.43		0.43	0.43	



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

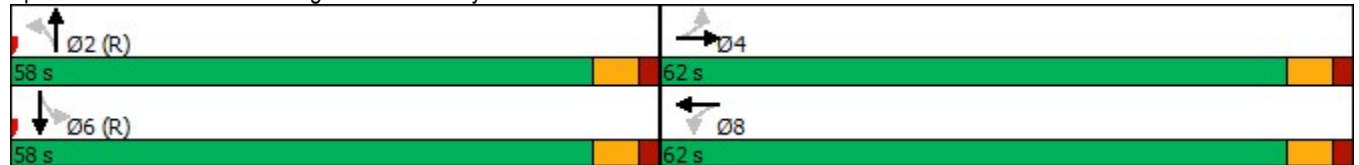
Future Background 2031  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.07	0.47		0.79	0.39		0.17	0.23		0.76	0.33	
Control Delay	18.8	22.1		61.3	20.5		22.7	17.8		43.1	21.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	18.8	22.1		61.3	20.5		22.7	17.8		43.1	21.9	
LOS	B	C		E	C		C	B		D	C	
Approach Delay		22.1			25.9			18.4			30.0	
Approach LOS		C			C			B			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:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.79
Intersection Signal Delay:	24.7
Intersection LOS:	C
Intersection Capacity Utilization	74.5%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Background 2031  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	17	1075	132	873	52	347	309	499
v/c Ratio	0.07	0.47	0.79	0.39	0.17	0.23	0.76	0.33
Control Delay	18.8	22.1	61.3	20.5	22.7	17.8	43.1	21.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	22.1	61.3	20.5	22.7	17.8	43.1	21.9
Queue Length 50th (m)	2.2	60.2	25.6	45.7	7.3	21.4	60.4	37.8
Queue Length 95th (m)	6.6	72.3	#62.8	56.3	16.1	31.5	#106.4	50.7
Internal Link Dist (m)		1395.4		1239.7		792.0		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	241	2294	167	2238	313	1511	405	1505
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.47	0.79	0.39	0.17	0.23	0.76	0.33






















Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 5: McLaughlin Road & Mayfield Road

































Future Background 2031  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	938	116	129	732	123	51	243	97	303	403	86
Future Volume (vph)	17	938	116	129	732	123	51	243	97	303	403	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	4887		1706	4756		1644	3406		1690	3436	
Flt Permitted	0.27	1.00		0.20	1.00		0.42	1.00		0.53	1.00	
Satd. Flow (perm)	517	4887		359	4756		724	3406		936	3436	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	17	957	118	132	747	126	52	248	99	309	411	88
RTOR Reduction (vph)	0	13	0	0	20	0	0	35	0	0	15	0
Lane Group Flow (vph)	17	1062	0	132	853	0	52	312	0	309	484	0
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	56.0	56.0		56.0	56.0		52.0	52.0		52.0	52.0	
Effective Green, g (s)	56.0	56.0		56.0	56.0		52.0	52.0		52.0	52.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47		0.43	0.43		0.43	0.43	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	241	2280		167	2219		313	1475		405	1488	
v/s Ratio Prot		0.22			0.18			0.09			0.14	
v/s Ratio Perm	0.03			c0.37			0.07			c0.33		
v/c Ratio	0.07	0.47		0.79	0.38		0.17	0.21		0.76	0.33	
Uniform Delay, d1	17.6	21.8		27.0	20.8		20.8	21.2		28.8	22.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.7		30.7	0.5		1.1	0.3		12.8	0.6	
Delay (s)	18.2	22.5		57.7	21.3		21.9	21.5		41.6	23.0	
Level of Service	B	C		E	C		C	C		D	C	
Approach Delay (s)		22.4			26.1			21.6			30.1	
Approach LOS		C			C			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			25.3				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			74.5%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2031  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	247	954	98	207	595	173	81	364	211	375	848	330
Future Volume (vph)	247	954	98	207	595	173	81	364	211	375	848	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	1.00		0.98			0.97	0.99		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	4902	1541	3340	4948	1420	1807	3476	1512	1706	3544	1585
Flt Permitted	0.179			0.950			0.252			0.512		
Satd. Flow (perm)	328	4902	1508	3328	4948	1395	479	3476	1467	910	3544	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			104			177			224			351
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			1489.5			825.7			609.4	
Travel Time (s)		7.3			76.6			42.5			31.3	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Adj. Flow (vph)	263	1015	104	220	633	184	86	387	224	399	902	351
Shared Lane Traffic (%)												
Lane Group Flow (vph)	263	1015	104	220	633	184	86	387	224	399	902	351
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	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)	9.0	23.0	23.0	9.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	29.0	45.0	45.0	18.0	34.0	34.0	97.0	97.0	97.0	97.0	97.0	97.0
Total Split (%)	18.1%	28.1%	28.1%	11.3%	21.3%	21.3%	60.6%	60.6%	60.6%	60.6%	60.6%	60.6%
Maximum Green (s)	24.0	38.0	38.0	13.0	27.0	27.0	90.0	90.0	90.0	90.0	90.0	90.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	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	0



Queues  
6: Hurontario Street & Mayfield Road

Future Background 2031  
AM Peak Hour




































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	263	1015	104	220	633	184	86	387	224	399	902	351
v/c Ratio	0.80	0.87	0.24	0.81	0.76	0.48	0.32	0.20	0.24	0.78	0.45	0.34
Control Delay	57.0	67.9	9.4	94.6	70.1	13.0	22.8	17.6	2.5	40.1	21.5	2.4
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	57.0	67.9	9.4	94.6	70.1	13.0	22.8	17.6	2.5	40.1	21.5	2.4
Queue Length 50th (m)	62.8	114.8	0.0	36.1	71.2	1.9	14.2	31.0	0.0	96.1	86.0	0.0
Queue Length 95th (m)	#99.1	132.9	15.8	#56.4	86.2	25.0	27.3	40.3	11.9	150.0	102.1	13.8
Internal Link Dist (m)		118.1			1465.5			801.7			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	330	1164	437	271	834	382	269	1955	923	511	1993	1029
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.87	0.24	0.81	0.76	0.48	0.32	0.20	0.24	0.78	0.45	0.34

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.


















HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Background 2031  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		  	  			 		 	 		
Traffic Volume (vph)	247	954	98	207	595	173	81	364	211	375	848	330	
Future Volume (vph)	247	954	98	207	595	173	81	364	211	375	848	330	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1738	4902	1508	3340	4948	1395	1807	3476	1467	1689	3544	1557	
Flt Permitted	0.18	1.00	1.00	0.95	1.00	1.00	0.25	1.00	1.00	0.51	1.00	1.00	
Satd. Flow (perm)	328	4902	1508	3340	4948	1395	480	3476	1467	910	3544	1557	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	263	1015	104	220	633	184	86	387	224	399	902	351	
RTOR Reduction (vph)	0	0	79	0	0	147	0	0	98	0	0	154	
Lane Group Flow (vph)	263	1015	25	220	633	37	86	387	126	399	902	197	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2	
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	
Protected Phases	7	4		3	8			2			6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	56.0	38.0	38.0	13.0	27.0	27.0	90.0	90.0	90.0	90.0	90.0	90.0	
Effective Green, g (s)	56.0	38.0	38.0	13.0	27.0	27.0	90.0	90.0	90.0	90.0	90.0	90.0	
Actuated g/C Ratio	0.35	0.24	0.24	0.08	0.17	0.17	0.56	0.56	0.56	0.56	0.56	0.56	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Lane Grp Cap (vph)	326	1164	358	271	834	235	270	1955	825	511	1993	875	
v/s Ratio Prot	c0.12	c0.21		0.07	0.13			0.11			0.25		
v/s Ratio Perm	0.16		0.02			0.03	0.18		0.09	c0.44		0.13	
v/c Ratio	0.81	0.87	0.07	0.81	0.76	0.16	0.32	0.20	0.15	0.78	0.45	0.23	
Uniform Delay, d1	41.3	58.7	47.3	72.3	63.4	56.8	18.7	17.2	16.8	27.3	20.5	17.5	
Progression 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	
Incremental Delay, d2	18.9	9.1	0.4	22.6	6.4	1.4	3.1	0.2	0.4	11.3	0.7	0.6	
Delay (s)	60.3	67.8	47.7	94.9	69.8	58.2	21.7	17.5	17.1	38.6	21.3	18.1	
Level of Service	E	E	D	F	E	E	C	B	B	D	C	B	
Approach Delay (s)		64.8			73.1			17.9			24.8		
Approach LOS		E			E			B			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			45.9									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.82										
Actuated Cycle Length (s)			160.0									Sum of lost time (s)	19.0
Intersection Capacity Utilization			82.8%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2031

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	231	2	282	312	53	11	371	322	41	240	4
Future Volume (vph)	4	231	2	282	312	53	11	371	322	41	240	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.999			0.978			0.938			0.998	
Fl <sub>t</sub> Protected		0.999		0.950				0.999			0.993	
Satd. Flow (prot)	0	1863	0	1825	1829	0	0	1721	0	0	1844	0
Fl <sub>t</sub> Permitted		0.991		0.245				0.994			0.847	
Satd. Flow (perm)	0	1848	0	471	1829	0	0	1712	0	0	1573	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					9			65			1	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1121.0			490.2			298.8			781.3	
Travel Time (s)		57.7			25.2			13.4			35.2	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	4	246	2	300	332	56	12	395	343	44	255	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	252	0	300	388	0	0	750	0	0	303	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

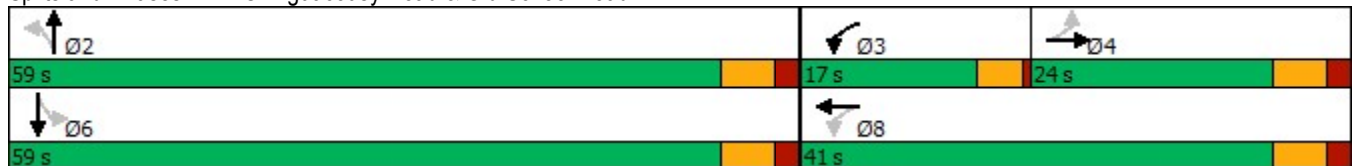
Future Background 2031

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	24.0	24.0		17.0	41.0		59.0	59.0		59.0	59.0	
Total Split (%)	24.0%	24.0%		17.0%	41.0%		59.0%	59.0%		59.0%	59.0%	
Maximum Green (s)	18.0	18.0		13.0	35.0		53.0	53.0		53.0	53.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		4.0	6.0			6.0			6.0	
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	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		16.6		35.6	33.6			53.0			53.0	
Actuated g/C Ratio		0.17		0.36	0.34			0.54			0.54	
v/c Ratio		0.81		0.86	0.62			0.79			0.36	
Control Delay		60.7		49.9	31.4			24.4			14.8	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		60.7		49.9	31.4			24.4			14.8	
LOS		E		D	C			C			B	
Approach Delay		60.7			39.5			24.4			14.8	
Approach LOS		E			D			C			B	

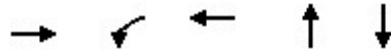
Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	98.6
Natural Cycle:	65
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.86
Intersection Signal Delay:	32.8
Intersection LOS:	C
Intersection Capacity Utilization	88.1%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road



1: Chinguacousy Road & Old School Road




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	252	300	388	750	303
v/c Ratio	0.81	0.86	0.62	0.79	0.36
Control Delay	60.7	49.9	31.4	24.4	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	60.7	49.9	31.4	24.4	14.8
Queue Length 50th (m)	46.9	43.2	59.8	104.2	32.4
Queue Length 95th (m)	#81.8	#77.0	89.8	157.4	50.8
Internal Link Dist (m)	1097.0		466.2	274.8	757.3
Turn Bay Length (m)					
Base Capacity (vph)	337	348	655	950	846
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	0.86	0.59	0.79	0.36

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.


















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Background 2031

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	4	231	2	282	312	53	11	371	322	41	240	4	
Future Volume (vph)	4	231	2	282	312	53	11	371	322	41	240	4	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.0		4.0	6.0			6.0			6.0		
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00		
Frt		1.00		1.00	0.98			0.94			1.00		
Flt Protected		1.00		0.95	1.00			1.00			0.99		
Satd. Flow (prot)		1863		1825	1830			1722			1844		
Flt Permitted		0.99		0.25	1.00			0.99			0.85		
Satd. Flow (perm)		1847		472	1830			1712			1573		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	4	246	2	300	332	56	12	395	343	44	255	4	
RTOR Reduction (vph)	0	0	0	0	6	0	0	30	0	0	0	0	
Lane Group Flow (vph)	0	252	0	300	382	0	0	720	0	0	303	0	
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA		
Protected Phases		4		3	8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		16.6		33.6	33.6			53.0			53.0		
Effective Green, g (s)		16.6		33.6	33.6			53.0			53.0		
Actuated g/C Ratio		0.17		0.34	0.34			0.54			0.54		
Clearance Time (s)		6.0		4.0	6.0			6.0			6.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0		
Lane Grp Cap (vph)		310		339	623			920			845		
v/s Ratio Prot				c0.12	0.21								
v/s Ratio Perm		0.14		c0.18				c0.42			0.19		
v/c Ratio		0.81		0.88	0.61			0.78			0.36		
Uniform Delay, d1		39.5		27.1	27.1			18.2			13.1		
Progression Factor		1.00		1.00	1.00			1.00			1.00		
Incremental Delay, d2		14.9		22.9	1.8			6.6			1.2		
Delay (s)		54.4		50.0	28.9			24.8			14.2		
Level of Service		D		D	C			C			B		
Approach Delay (s)		54.4			38.1			24.8			14.2		
Approach LOS		D			D			C			B		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			31.5									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.85										
Actuated Cycle Length (s)			98.6									Sum of lost time (s)	16.0
Intersection Capacity Utilization			88.1%									ICU Level of Service	E
Analysis Period (min)			15										
c	Critical Lane Group												

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Background 2031

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	550	37	439	592	26	49	137	449	21	58	6
Future Volume (vph)	10	550	37	439	592	26	49	137	449	21	58	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.994				0.850		0.991	
Flt Protected		0.999		0.950				0.987			0.988	
Satd. Flow (prot)	0	3465	0	1755	3588	0	0	1821	1555	0	1806	0
Flt Permitted		0.938		0.276				0.886			0.882	
Satd. Flow (perm)	0	3253	0	510	3588	0	0	1635	1555	0	1613	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			6				478			4
Link Speed (k/h)		70			70			80				80
Link Distance (m)		893.1			349.1			588.2				750.6
Travel Time (s)		45.9			18.0			26.5				33.8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	11	585	39	467	630	28	52	146	478	22	62	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	635	0	467	658	0	0	198	478	0	90	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)		3.7			3.7			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

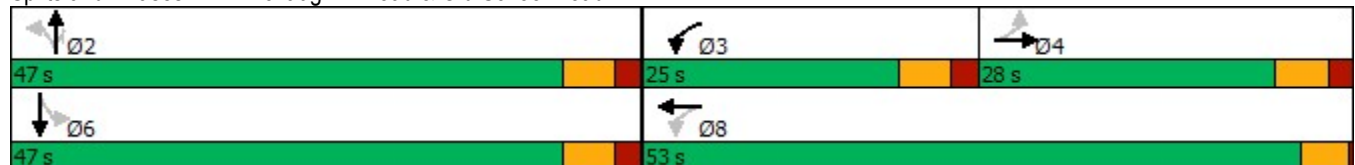
Future Background 2031

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		10.0	20.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	28.0	28.0		25.0	53.0		47.0	47.0	47.0	47.0	47.0	
Total Split (%)	28.0%	28.0%		25.0%	53.0%		47.0%	47.0%	47.0%	47.0%	47.0%	
Maximum Green (s)	22.0	22.0		19.0	49.0		41.0	41.0	41.0	41.0	41.0	
Yellow Time (s)	4.0	4.0		4.0	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	0.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		-2.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		4.0	4.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	Max	Max		None	Max		None	None	None	None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		22.1		49.2	49.2			14.9	14.9		14.9	
Actuated g/C Ratio		0.30		0.66	0.66			0.20	0.20		0.20	
v/c Ratio		0.65		0.67	0.28			0.60	0.69		0.28	
Control Delay		27.1		13.9	6.1			34.7	8.4		25.5	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		27.1		13.9	6.1			34.7	8.4		25.5	
LOS		C		B	A			C	A		C	
Approach Delay		27.1			9.3			16.1			25.5	
Approach LOS		C			A			B			C	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	74.1
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	16.2
Intersection LOS:	B
Intersection Capacity Utilization:	73.8%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 2: McLaughlin Road & Old School Road



## 2: McLaughlin Road &amp; Old School Road



Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	635	467	658	198	478	90
v/c Ratio	0.65	0.67	0.28	0.60	0.69	0.28
Control Delay	27.1	13.9	6.1	34.7	8.4	25.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	13.9	6.1	34.7	8.4	25.5
Queue Length 50th (m)	39.6	25.1	16.5	25.2	0.0	10.2
Queue Length 95th (m)	64.4	#68.1	32.0	44.0	21.7	21.4
Internal Link Dist (m)	869.1		325.1	564.2		726.6
Turn Bay Length (m)		50.0				
Base Capacity (vph)	973	692	2383	907	1076	897
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.67	0.28	0.22	0.44	0.10



















## Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis























## 2: McLaughlin Road & Old School Road

Future Background 2031

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	10	550	37	439	592	26	49	137	449	21	58	6	
Future Volume (vph)	10	550	37	439	592	26	49	137	449	21	58	6	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.0		4.0	4.0			6.0	6.0		6.0		
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00		
Frt		0.99		1.00	0.99			1.00	0.85		0.99		
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99		
Satd. Flow (prot)		3464		1755	3586			1822	1555		1806		
Flt Permitted		0.94		0.28	1.00			0.89	1.00		0.88		
Satd. Flow (perm)		3253		510	3586			1636	1555		1613		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	11	585	39	467	630	28	52	146	478	22	62	6	
RTOR Reduction (vph)	0	4	0	0	2	0	0	0	382	0	3	0	
Lane Group Flow (vph)	0	631	0	467	656	0	0	198	96	0	87	0	
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		4		3	8			2			6		
Permitted Phases	4			8			2		2	6			
Actuated Green, G (s)		22.1		49.2	49.2			14.9	14.9		14.9		
Effective Green, g (s)		22.1		51.2	49.2			14.9	14.9		14.9		
Actuated g/C Ratio		0.30		0.69	0.66			0.20	0.20		0.20		
Clearance Time (s)		6.0		6.0	4.0			6.0	6.0		6.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0		
Lane Grp Cap (vph)		970		706	2380			328	312		324		
v/s Ratio Prot				c0.19	0.18								
v/s Ratio Perm		0.19		c0.27				c0.12	0.06		0.05		
v/c Ratio		0.65		0.66	0.28			0.60	0.31		0.27		
Uniform Delay, d1		22.6		6.5	5.1			26.9	25.2		25.0		
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00		
Incremental Delay, d2		3.4		2.3	0.3			3.1	0.6		0.4		
Delay (s)		26.0		8.9	5.4			30.0	25.8		25.4		
Level of Service		C		A	A			C	C		C		
Approach Delay (s)		26.0			6.8			27.0			25.4		
Approach LOS		C			A			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			17.7									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.72										
Actuated Cycle Length (s)			74.1									Sum of lost time (s)	16.0
Intersection Capacity Utilization			73.8%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2031

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	677	227	106	317	275	52	186	3192	451	36	1867	587
Future Volume (vph)	677	227	106	317	275	52	186	3192	451	36	1867	587
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.952			0.976				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3312	0	1789	3533	0	1807	5043	1633	1825	4812	1541
Flt Permitted	0.277			0.333			0.066			0.071		
Satd. Flow (perm)	532	3312	0	627	3533	0	126	5043	1633	136	4812	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		54			15				196			404
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			1143.9			855.3			711.9	
Travel Time (s)		51.8			58.8			38.5			32.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Adj. Flow (vph)	698	234	109	327	284	54	192	3291	465	37	1925	605
Shared Lane Traffic (%)												
Lane Group Flow (vph)	698	343	0	327	338	0	192	3291	465	37	1925	605
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

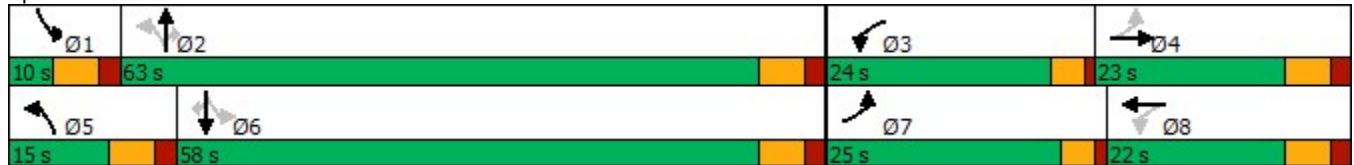
Future Background 2031

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	22.0		8.0	22.0		10.0	29.0	29.0	10.0	29.0	29.0
Total Split (s)	25.0	23.0		24.0	22.0		15.0	63.0	63.0	10.0	58.0	58.0
Total Split (%)	20.8%	19.2%		20.0%	18.3%		12.5%	52.5%	52.5%	8.3%	48.3%	48.3%
Maximum Green (s)	21.0	17.0		20.0	16.0		9.0	57.0	57.0	4.0	52.0	52.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		0.0	-2.0		-2.0	-2.0	0.0	-2.0	-2.0	0.0
Total Lost Time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lead/Lag	Lead	Lag		Lead	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
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Walk Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	43.0	18.5		36.0	16.8		69.0	63.1	61.1	60.0	54.0	52.0
Actuated g/C Ratio	0.36	0.16		0.30	0.14		0.58	0.53	0.51	0.51	0.45	0.44
v/c Ratio	1.58	0.61		0.87	0.66		0.84	1.23	0.50	0.24	0.88	0.67
Control Delay	297.6	44.5		54.5	52.9		57.9	134.1	13.2	15.4	35.5	12.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	297.6	44.5		54.5	52.9		57.9	134.1	13.2	15.4	35.5	12.4
LOS	F	D		D	D		E	F	B	B	D	B
Approach Delay		214.2			53.6			116.1			29.8	
Approach LOS		F			D			F			C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	118.8
Natural Cycle:	150
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.58
Intersection Signal Delay:	96.5
Intersection LOS:	F
Intersection Capacity Utilization:	125.1%
ICU Level of Service:	H
Analysis Period (min):	15

Splits and Phases: 3: Hurontario Street & Old School Road



## 3: Hurontario Street &amp; Old School Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	698	343	327	338	192	3291	465	37	1925	605
v/c Ratio	1.58	0.61	0.87	0.66	0.84	1.23	0.50	0.24	0.88	0.67
Control Delay	297.6	44.5	54.5	52.9	57.9	134.1	13.2	15.4	35.5	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	297.6	44.5	54.5	52.9	57.9	134.1	13.2	15.4	35.5	12.4
Queue Length 50th (m)	~212.1	33.6	60.0	38.0	29.5	~368.1	41.8	3.6	149.0	35.1
Queue Length 95th (m)	#283.8	49.2	#96.2	53.6	#69.2	#392.6	71.2	8.3	171.0	76.4
Internal Link Dist (m)		983.8		1119.9		831.3			687.9	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	442	575	389	548	228	2677	934	154	2187	901
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.58	0.60	0.84	0.62	0.84	1.23	0.50	0.24	0.88	0.67

## Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.































Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.


















HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Background 2031

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 			   			   		
Traffic Volume (vph)	677	227	106	317	275	52	186	3192	451	36	1867	587	
Future Volume (vph)	677	227	106	317	275	52	186	3192	451	36	1867	587	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00	
Frt	1.00	0.95		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1825	3314		1789	3533		1807	5043	1633	1825	4812	1541	
Flt Permitted	0.28	1.00		0.33	1.00		0.07	1.00	1.00	0.07	1.00	1.00	
Satd. Flow (perm)	532	3314		628	3533		126	5043	1633	136	4812	1541	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	698	234	109	327	284	54	192	3291	465	37	1925	605	
RTOR Reduction (vph)	0	46	0	0	13	0	0	0	97	0	0	222	
Lane Group Flow (vph)	698	297	0	327	325	0	192	3291	368	37	1925	383	
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8		5	2		1	6		
Permitted Phases	4			8			2		2	6		6	
Actuated Green, G (s)	37.5	16.5		34.1	14.8		69.5	61.1	61.1	56.9	54.5	54.5	
Effective Green, g (s)	41.5	18.5		34.1	16.8		71.5	63.1	61.1	60.9	56.5	54.5	
Actuated g/C Ratio	0.34	0.15		0.28	0.14		0.59	0.52	0.50	0.50	0.47	0.45	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	427	505		361	489		226	2623	822	129	2241	692	
v/s Ratio Prot	c0.31	0.09		0.14	0.09		c0.08	c0.65		0.01	0.40		
v/s Ratio Perm	0.25			c0.11			0.42		0.23	0.13		0.25	
v/c Ratio	1.63	0.59		0.91	0.66		0.85	1.25	0.45	0.29	0.86	0.55	
Uniform Delay, d1	35.5	47.9		38.6	49.6		33.3	29.1	19.3	26.9	28.9	24.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	296.1	1.8		25.2	3.4		24.6	117.9	1.8	1.2	4.6	3.2	
Delay (s)	331.5	49.6		63.9	53.0		57.8	147.0	21.0	28.2	33.4	27.6	
Level of Service	F	D		E	D		E	F	C	C	C	C	
Approach Delay (s)		238.6			58.3			127.8			32.0		
Approach LOS		F			E			F			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			106.3									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.28										
Actuated Cycle Length (s)			121.3									Sum of lost time (s)	16.0
Intersection Capacity Utilization			125.1%									ICU Level of Service	H
Analysis Period (min)			15										
c	Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2031

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	706	51	186	664	78	34	305	166	37	174	30
Future Volume (vph)	43	706	51	186	664	78	34	305	166	37	174	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00				1.00
Frt		0.991			0.984			0.956				0.983
Flt Protected		0.997		0.950				0.997				0.992
Satd. Flow (prot)	0	5042	0	1825	5026	0	0	1791	0	0	1834	0
Flt Permitted		0.844		0.276				0.963				0.837
Satd. Flow (perm)	0	4268	0	530	5026	0	0	1730	0	0	1547	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			26			24				7
Link Speed (k/h)		70			70			80				80
Link Distance (m)		1018.8			1419.4			782.5				2784.8
Travel Time (s)		52.4			73.0			35.2				125.3
Confl. Peds. (#/hr)							1					1
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
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Adj. Flow (vph)	47	767	55	202	722	85	37	332	180	40	189	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	869	0	202	807	0	0	549	0	0	262	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)		3.7			3.7			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2				6
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	69.0	69.0		69.0	69.0		51.0	51.0		51.0	51.0	
Total Split (%)	57.5%	57.5%		57.5%	57.5%		42.5%	42.5%		42.5%	42.5%	
Maximum Green (s)	65.0	65.0		65.0	65.0		47.0	47.0		47.0	47.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

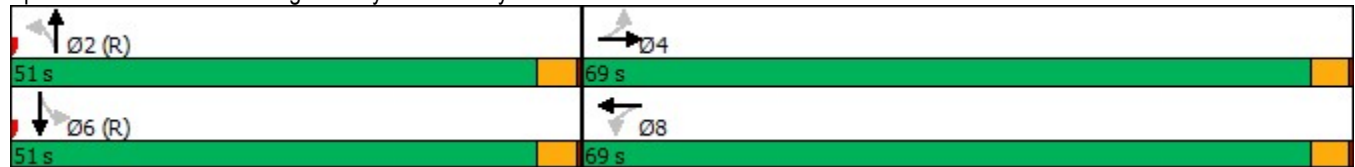
Future Background 2031

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)		65.0		65.0	65.0			47.0			47.0	
Actuated g/C Ratio		0.54		0.54	0.54			0.39			0.39	
v/c Ratio		0.37		0.70	0.30			0.79			0.43	
Control Delay		16.1		47.3	22.5			40.7			28.7	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		16.1		47.3	22.5			40.7			28.7	
LOS		B		D	C			D			C	
Approach Delay		16.1			27.5			40.7			28.7	
Approach LOS		B			C			D			C	

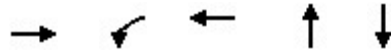
Intersection Summary

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:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.79
Intersection Signal Delay:	26.6
Intersection LOS:	C
Intersection Capacity Utilization	71.9%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



## 4: Chinguacousy Road &amp; Mayfield Road



























Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	869	202	807	549	262
v/c Ratio	0.37	0.70	0.30	0.79	0.43
Control Delay	16.1	47.3	22.5	40.7	28.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.1	47.3	22.5	40.7	28.7
Queue Length 50th (m)	40.6	48.7	57.3	108.3	43.3
Queue Length 95th (m)	50.1	#76.8	70.4	153.9	66.7
Internal Link Dist (m)	994.8		1395.4	758.5	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	2318	287	2734	692	610
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.37	0.70	0.30	0.79	0.43

## Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.





















HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road

Future Background 2031

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		  				  			  		
Traffic Volume (vph)	43	706	51	186	664	78	34	305	166	37	174	30	
Future Volume (vph)	43	706	51	186	664	78	34	305	166	37	174	30	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0		
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00		
Frbp, ped/bikes		1.00		1.00	1.00			1.00			1.00		
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00		
Frt		0.99		1.00	0.98			0.96			0.98		
Flt Protected		1.00		0.95	1.00			1.00			0.99		
Satd. Flow (prot)		5041		1825	5027			1790			1834		
Flt Permitted		0.84		0.28	1.00			0.96			0.84		
Satd. Flow (perm)		4264		531	5027			1730			1546		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	47	767	55	202	722	85	37	332	180	40	189	33	
RTOR Reduction (vph)	0	6	0	0	12	0	0	15	0	0	4	0	
Lane Group Flow (vph)	0	863	0	202	795	0	0	534	0	0	258	0	
Confl. Peds. (#/hr)							1					1	
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		65.0		65.0	65.0			47.0			47.0		
Effective Green, g (s)		65.0		65.0	65.0			47.0			47.0		
Actuated g/C Ratio		0.54		0.54	0.54			0.39			0.39		
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0		
Lane Grp Cap (vph)		2309		287	2722			677			605		
v/s Ratio Prot					0.16								
v/s Ratio Perm		0.20		c0.38				c0.31			0.17		
v/c Ratio		0.37		0.70	0.29			0.79			0.43		
Uniform Delay, d1		15.8		20.4	15.0			32.1			26.7		
Progression Factor		1.00		1.59	1.53			1.00			1.00		
Incremental Delay, d2		0.5		11.5	0.2			9.1			2.2		
Delay (s)		16.3		43.9	23.1			41.2			28.8		
Level of Service		B		D	C			D			C		
Approach Delay (s)		16.3			27.3			41.2			28.8		
Approach LOS		B			C			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			26.7									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.74										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			71.9%									ICU Level of Service	C
Analysis Period (min)			15										
c	Critical Lane Group												

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2031

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	886	73	114	1043	295	125	436	118	213	247	89
Future Volume (vph)	46	886	73	114	1043	295	125	436	118	213	247	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.989			0.967			0.968			0.960	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	5036	0	1755	4881	0	1825	3484	0	1738	3385	0
Flt Permitted	0.114			0.219			0.527			0.375		
Satd. Flow (perm)	209	5036	0	405	4881	0	1012	3484	0	686	3385	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			77			37			42	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			816.0			2496.3	
Travel Time (s)		73.0			65.0			36.7			112.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	48	923	76	119	1086	307	130	454	123	222	257	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	999	0	119	1393	0	130	577	0	222	350	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	60.0	60.0		60.0	60.0		60.0	60.0		60.0	60.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	54.0	54.0		54.0	54.0		54.0	54.0		54.0	54.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	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	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)	54.0	54.0		54.0	54.0		54.0	54.0		54.0	54.0	
Actuated g/C Ratio	0.45	0.45		0.45	0.45		0.45	0.45		0.45	0.45	



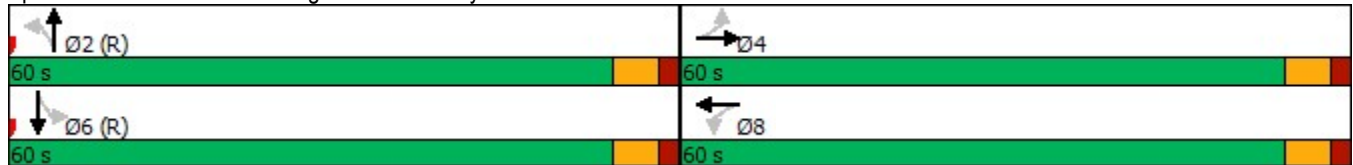
Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2031

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.51	0.44		0.65	0.62		0.29	0.36		0.72	0.23	
Control Delay	59.0	35.3		45.6	25.1		23.0	21.0		42.5	18.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	59.0	35.3		45.6	25.1		23.0	21.0		42.5	18.1	
LOS	E	D		D	C		C	C		D	B	
Approach Delay		36.4			26.8			21.3			27.5	
Approach LOS		D			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:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	28.5
Intersection LOS:	C
Intersection Capacity Utilization	77.7%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



## 5: McLaughlin Road &amp; Mayfield Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	48	999	119	1393	130	577	222	350
v/c Ratio	0.51	0.44	0.65	0.62	0.29	0.36	0.72	0.23
Control Delay	59.0	35.3	45.6	25.1	23.0	21.0	42.5	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.0	35.3	45.6	25.1	23.0	21.0	42.5	18.1
Queue Length 50th (m)	9.8	71.7	21.4	84.9	18.9	42.8	41.6	22.5
Queue Length 95th (m)	m22.7	86.3	#50.9	100.2	33.6	56.5	#81.2	32.5
Internal Link Dist (m)		1395.4		1239.7		792.0		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	94	2273	182	2238	455	1588	308	1546
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.44	0.65	0.62	0.29	0.36	0.72	0.23

## Intersection Summary






















# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

























Future Background 2031

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	886	73	114	1043	295	125	436	118	213	247	89
Future Volume (vph)	46	886	73	114	1043	295	125	436	118	213	247	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1738	5034		1755	4881		1825	3484		1738	3385	
Flt Permitted	0.11	1.00		0.22	1.00		0.53	1.00		0.38	1.00	
Satd. Flow (perm)	209	5034		405	4881		1012	3484		687	3385	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	48	923	76	119	1086	307	130	454	123	222	257	93
RTOR Reduction (vph)	0	8	0	0	42	0	0	20	0	0	23	0
Lane Group Flow (vph)	48	991	0	119	1351	0	130	557	0	222	327	0
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	54.0	54.0		54.0	54.0		54.0	54.0		54.0	54.0	
Effective Green, g (s)	54.0	54.0		54.0	54.0		54.0	54.0		54.0	54.0	
Actuated g/C Ratio	0.45	0.45		0.45	0.45		0.45	0.45		0.45	0.45	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	94	2265		182	2196		455	1567		309	1523	
v/s Ratio Prot		0.20			0.28			0.16			0.10	
v/s Ratio Perm	0.23			c0.29			0.13			c0.32		
v/c Ratio	0.51	0.44		0.65	0.62		0.29	0.36		0.72	0.21	
Uniform Delay, d1	23.6	22.6		25.7	25.1		20.8	21.6		26.8	20.1	
Progression Factor	1.49	1.55		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	17.1	0.6		16.9	1.3		1.6	0.6		13.4	0.3	
Delay (s)	52.3	35.6		42.6	26.4		22.4	22.2		40.3	20.4	
Level of Service	D	D		D	C		C	C		D	C	
Approach Delay (s)		36.4			27.7			22.3			28.1	
Approach LOS		D			C			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			29.1			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			77.7%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2031

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	661	612	110	276	800	172	213	702	264	238	801	934
Future Volume (vph)	661	612	110	276	800	172	213	702	264	238	801	934
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.96	0.98		0.99	1.00		0.96			0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	4995	1601	3404	5092	1585	1789	3614	1555	1825	3510	1585
Fl <sub>t</sub> Permitted	0.167			0.950			0.281			0.256		
Satd. Flow (perm)	308	4995	1538	3339	5092	1562	528	3614	1486	492	3510	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			145			252			692
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			1489.5			825.7			609.4	
Travel Time (s)		7.3			76.6			42.5			31.3	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Adj. Flow (vph)	681	631	113	285	825	177	220	724	272	245	826	963
Shared Lane Traffic (%)												
Lane Group Flow (vph)	681	631	113	285	825	177	220	724	272	245	826	963
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
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)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

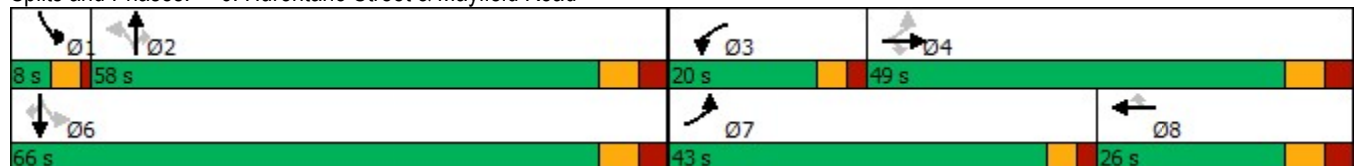
Future Background 2031

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	43.0	49.0	49.0	20.0	26.0	26.0	58.0	58.0	58.0	8.0	66.0	66.0
Total Split (%)	31.9%	36.3%	36.3%	14.8%	19.3%	19.3%	43.0%	43.0%	43.0%	5.9%	48.9%	48.9%
Maximum Green (s)	38.0	42.0	42.0	15.0	19.0	19.0	51.0	51.0	51.0	4.0	59.0	59.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-2.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
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	None	Max	Max	None	None	None	None	Max	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)		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)	66.0	42.6	42.6	16.4	19.0	19.0	53.0	51.0	51.0	64.0	59.0	59.0
Actuated g/C Ratio	0.49	0.32	0.32	0.12	0.14	0.14	0.39	0.38	0.38	0.47	0.44	0.44
v/c Ratio	1.18	0.40	0.20	0.69	1.15	0.51	1.06	0.53	0.38	0.84	0.54	0.90
Control Delay	130.7	37.3	8.1	66.2	134.5	18.7	120.2	34.4	6.0	51.7	29.6	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	130.7	37.3	8.1	66.2	134.5	18.7	120.2	34.4	6.0	51.7	29.6	22.1
LOS	F	D	A	E	F	B	F	C	A	D	C	C
Approach Delay		79.6			103.4			43.6			28.7	
Approach LOS		E			F			D			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 135  
 Actuated Cycle Length: 135  
 Natural Cycle: 100  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.18  
 Intersection Signal Delay: 60.0  
 Intersection Capacity Utilization 105.2%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service G

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Background 2031



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	681	631	113	285	825	177	220	724	272	245	826	963
v/c Ratio	1.18	0.40	0.20	0.69	1.15	0.51	1.06	0.53	0.38	0.84	0.54	0.90
Control Delay	130.7	37.3	8.1	66.2	134.5	18.7	120.2	34.4	6.0	51.7	29.6	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	130.7	37.3	8.1	66.2	134.5	18.7	120.2	34.4	6.0	51.7	29.6	22.1
Queue Length 50th (m)	~200.5	48.5	1.5	37.9	~94.5	7.6	~64.4	78.4	3.3	38.9	84.0	82.4
Queue Length 95th (m)	#274.6	60.2	15.1	52.8	#122.3	30.2	#114.8	97.5	21.9	#72.6	103.3	#204.3
Internal Link Dist (m)		118.1			1465.5			801.7			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	579	1577	557	428	716	344	207	1365	718	292	1534	1069
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.18	0.40	0.20	0.67	1.15	0.51	1.06	0.53	0.38	0.84	0.54	0.90

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.


































Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road










Future Background 2031

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 		 	 	
Traffic Volume (vph)	661	612	110	276	800	172	213	702	264	238	801	934
Future Volume (vph)	661	612	110	276	800	172	213	702	264	238	801	934
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	4995	1538	3404	5092	1562	1786	3614	1486	1825	3510	1555
Flt Permitted	0.17	1.00	1.00	0.95	1.00	1.00	0.28	1.00	1.00	0.26	1.00	1.00
Satd. Flow (perm)	308	4995	1538	3404	5092	1562	529	3614	1486	492	3510	1555
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	681	631	113	285	825	177	220	724	272	245	826	963
RTOR Reduction (vph)	0	0	72	0	0	125	0	0	157	0	0	390
Lane Group Flow (vph)	681	631	41	285	825	52	220	724	115	245	826	573
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Actuated Green, G (s)	62.0	42.6	42.6	14.4	19.0	19.0	51.0	51.0	51.0	59.0	59.0	59.0
Effective Green, g (s)	64.0	42.6	42.6	16.4	19.0	19.0	53.0	51.0	51.0	61.0	59.0	59.0
Actuated g/C Ratio	0.47	0.32	0.32	0.12	0.14	0.14	0.39	0.38	0.38	0.45	0.44	0.44
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0
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
Lane Grp Cap (vph)	574	1576	485	413	716	219	207	1365	561	281	1534	679
v/s Ratio Prot	c0.35	0.13		0.08	0.16			0.20		c0.04	0.24	
v/s Ratio Perm	c0.21		0.03			0.03	c0.42		0.08	0.35		0.37
v/c Ratio	1.19	0.40	0.08	0.69	1.15	0.24	1.06	0.53	0.21	0.87	0.54	0.84
Uniform Delay, d1	38.6	36.2	32.5	56.9	58.0	51.6	41.0	32.7	28.3	33.7	28.0	33.9
Progression 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
Incremental Delay, d2	100.5	0.8	0.3	4.9	84.0	2.6	80.1	0.4	0.2	24.3	1.4	12.3
Delay (s)	139.1	37.0	32.8	61.8	142.0	54.1	121.1	33.1	28.5	58.0	29.3	46.2
Level of Service	F	D	C	E	F	D	F	C	C	E	C	D
Approach Delay (s)		85.5			112.2			48.0			40.8	
Approach LOS		F			F			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			68.3									E
HCM 2000 Volume to Capacity ratio			1.17									
Actuated Cycle Length (s)			135.0							19.0		
Intersection Capacity Utilization			105.2%									G
ICU Level of Service												
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C










Future Total 2031  
AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	32	89	515	11	33	360
Future Volume (vph)	32	89	515	11	33	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.901		0.997			
Flt Protected	0.987					0.996
Satd. Flow (prot)	1675	0	1878	0	0	1876
Flt Permitted	0.987					0.996
Satd. Flow (perm)	1675	0	1878	0	0	1876
Link Speed (k/h)	48		80			80
Link Distance (m)	204.9		2784.8			298.8
Travel Time (s)	15.4		125.3			13.4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	89	515	11	33	360
Shared Lane Traffic (%)						
Lane Group Flow (vph)	121	0	526	0	0	393
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	60.2%			ICU Level of Service B		
Analysis Period (min)	15					



HCM Unsignalized Intersection Capacity Analysis  
7: Chinguacousy Road & Street C

Future Total 2031  
AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	32	89	515	11	33	360
Future Volume (Veh/h)	32	89	515	11	33	360
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)	32	89	515	11	33	360
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						299
pX, platoon unblocked	0.91					
vC, conflicting volume	946	520			526	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	893	520			526	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	84			97	
cM capacity (veh/h)	276	556			1041	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	121	526	393			
Volume Left	32	0	33			
Volume Right	89	11	0			
cSH	438	1700	1041			
Volume to Capacity	0.28	0.31	0.03			
Queue Length 95th (m)	8.5	0.0	0.7			
Control Delay (s)	16.3	0.0	1.0			
Lane LOS	C		A			
Approach Delay (s)	16.3	0.0	1.0			
Approach LOS	C					
<b>Intersection Summary</b>						
Average Delay			2.3			
Intersection Capacity Utilization			60.2%	ICU Level of Service		B
Analysis Period (min)			15			

Lanes, Volumes, Timings  
8: Street B & Old School Road

Future Total 2031  
AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↘	
Traffic Volume (vph)	671	5	40	421	13	107
Future Volume (vph)	671	5	40	421	13	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.999				0.880	
Flt Protected				0.996	0.995	
Satd. Flow (prot)	3575	0	0	3564	1649	0
Flt Permitted				0.996	0.995	
Satd. Flow (perm)	3575	0	0	3564	1649	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	671	5	40	421	13	107
Shared Lane Traffic (%)						
Lane Group Flow (vph)	676	0	0	461	120	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	14		24	24		14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	48.8%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
8: Street B & Old School Road


















Future Total 2031  
AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	
Traffic Volume (veh/h)	671	5	40	421	13	107
Future Volume (Veh/h)	671	5	40	421	13	107
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	671	5	40	421	13	107
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			676		964	338
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			676		964	338
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		95	84
cM capacity (veh/h)			911		242	658
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	447	229	180	281	120	
Volume Left	0	0	40	0	13	
Volume Right	0	5	0	0	107	
cSH	1700	1700	911	1700	555	
Volume to Capacity	0.26	0.13	0.04	0.17	0.22	
Queue Length 95th (m)	0.0	0.0	1.0	0.0	6.2	
Control Delay (s)	0.0	0.0	2.4	0.0	13.3	
Lane LOS			A			B
Approach Delay (s)	0.0		0.9		13.3	
Approach LOS					B	
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			48.8%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2031  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	246	0	42	0	536	93	19	409	0
Future Volume (vph)	0	0	0	246	0	42	0	536	93	19	409	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.850			0.978				
Flt Protected				0.950							0.998	
Satd. Flow (prot)	0	1883	0	1789	1601	0	0	3500	0	0	3571	0
Flt Permitted				0.757							0.919	
Satd. Flow (perm)	0	1883	0	1426	1601	0	0	3500	0	0	3289	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					209			31				
Link Speed (k/h)		48			48			80				80
Link Distance (m)		204.8			403.1			2496.3				588.2
Travel Time (s)		15.4			30.2			112.3				26.5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	246	0	42	0	536	93	19	409	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	246	42	0	0	629	0	0	428	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)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

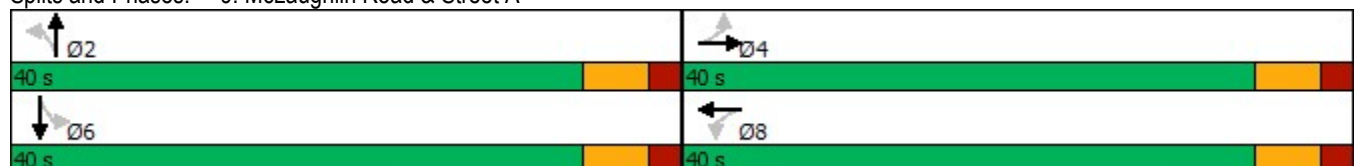
Future Total 2031  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	40.0	40.0		40.0	40.0		40.0	40.0		40.0	40.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	34.0	34.0		34.0	34.0		34.0	34.0		34.0	34.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)				16.2	16.2			36.2			36.2	
Actuated g/C Ratio				0.25	0.25			0.56			0.56	
v/c Ratio				0.69	0.08			0.32			0.23	
Control Delay				31.4	0.3			8.5			8.4	
Queue Delay				0.0	0.0			0.0			0.0	
Total Delay				31.4	0.3			8.5			8.4	
LOS				C	A			A			A	
Approach Delay					26.9			8.5			8.4	
Approach LOS					C			A			A	

Intersection Summary

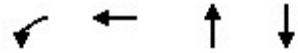
Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	64.5
Natural Cycle:	45
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	12.4
Intersection LOS:	B
Intersection Capacity Utilization:	48.9%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 9: McLaughlin Road & Street A



Queues  
9: McLaughlin Road & Street A


















Future Total 2031  
AM Peak Hour



Lane Group	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	246	42	629	428
v/c Ratio	0.69	0.08	0.32	0.23
Control Delay	31.4	0.3	8.5	8.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	31.4	0.3	8.5	8.4
Queue Length 50th (m)	25.1	0.0	17.3	11.8
Queue Length 95th (m)	45.0	0.0	35.0	24.8
Internal Link Dist (m)		379.1	2472.3	564.2
Turn Bay Length (m)	30.0			
Base Capacity (vph)	754	945	1978	1846
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.33	0.04	0.32	0.23
Intersection Summary				

HCM Signalized Intersection Capacity Analysis  
 9: McLaughlin Road & Street A

Future Total 2031  
 AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	0	0	0	246	0	42	0	536	93	19	409	0	
Future Volume (vph)	0	0	0	246	0	42	0	536	93	19	409	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)				6.0	6.0			6.0			6.0		
Lane Util. Factor				1.00	1.00			0.95			0.95		
Frt				1.00	0.85			0.98			1.00		
Flt Protected				0.95	1.00			1.00			1.00		
Satd. Flow (prot)				1789	1601			3499			3571		
Flt Permitted				0.76	1.00			1.00			0.92		
Satd. Flow (perm)				1426	1601			3499			3288		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj. Flow (vph)	0	0	0	246	0	42	0	536	93	19	409	0	
RTOR Reduction (vph)	0	0	0	0	31	0	0	14	0	0	0	0	
Lane Group Flow (vph)	0	0	0	246	11	0	0	615	0	0	428	0	
Turn Type				Perm	NA			NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)				16.2	16.2			36.2			36.2		
Effective Green, g (s)				16.2	16.2			36.2			36.2		
Actuated g/C Ratio				0.25	0.25			0.56			0.56		
Clearance Time (s)				6.0	6.0			6.0			6.0		
Vehicle Extension (s)				3.0	3.0			3.0			3.0		
Lane Grp Cap (vph)				358	402			1966			1848		
v/s Ratio Prot					0.01			c0.18					
v/s Ratio Perm				c0.17							0.13		
v/c Ratio				0.69	0.03			0.31			0.23		
Uniform Delay, d1				21.8	18.2			7.5			7.1		
Progression Factor				1.00	1.00			1.00			1.00		
Incremental Delay, d2				5.4	0.0			0.4			0.3		
Delay (s)				27.2	18.2			7.9			7.4		
Level of Service				C	B			A			A		
Approach Delay (s)		0.0			25.9			7.9			7.4		
Approach LOS		A			C			A			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			11.6		HCM 2000 Level of Service						B		
HCM 2000 Volume to Capacity ratio			0.43										
Actuated Cycle Length (s)			64.4		Sum of lost time (s)						12.0		
Intersection Capacity Utilization			48.9%		ICU Level of Service						A		
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
10: Street D & Old School Road

Future Total 2031  
AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↖↖	↗↗	
Traffic Volume (vph)	1061	99	11	589	54	0
Future Volume (vph)	1061	99	11	589	54	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Fr <sub>t</sub>	0.987					
Fl <sub>t</sub> Protected				0.999	0.950	
Satd. Flow (prot)	3532	0	0	3575	1789	0
Fl <sub>t</sub> Permitted				0.999	0.950	
Satd. Flow (perm)	3532	0	0	3575	1789	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1061	99	11	589	54	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1160	0	0	600	54	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	14		24	24		14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	42.5%			ICU Level of Service A		
Analysis Period (min)	15					



HCM Unsignalized Intersection Capacity Analysis  
 10: Street D & Old School Road

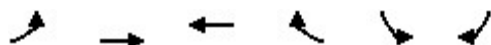
Future Total 2031  
 AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	
Traffic Volume (veh/h)	1061	99	11	589	54	0
Future Volume (Veh/h)	1061	99	11	589	54	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1061	99	11	589	54	0
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	349					
pX, platoon unblocked			0.92		0.92	0.92
vC, conflicting volume			1160		1427	580
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1000		1290	369
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		61	100
cM capacity (veh/h)			633		140	578
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>WB 1</b>	<b>WB 2</b>	<b>NB 1</b>	
Volume Total	707	453	207	393	54	
Volume Left	0	0	11	0	54	
Volume Right	0	99	0	0	0	
cSH	1700	1700	633	1700	140	
Volume to Capacity	0.42	0.27	0.02	0.23	0.39	
Queue Length 95th (m)	0.0	0.0	0.4	0.0	12.4	
Control Delay (s)	0.0	0.0	0.8	0.0	45.9	
Lane LOS	A			E		
Approach Delay (s)	0.0		0.3		45.9	
Approach LOS				E		
<b>Intersection Summary</b>						
Average Delay			1.5			
Intersection Capacity Utilization			42.5%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
11: Street A & Street D

Future Total 2031  
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	87	143	93	121	72	144
Future Volume (vph)	87	143	93	121	72	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.924		0.910	
Flt Protected		0.981			0.984	
Satd. Flow (prot)	0	1848	1740	0	1687	0
Flt Permitted		0.981			0.984	
Satd. Flow (perm)	0	1848	1740	0	1687	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	87	143	93	121	72	144
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	230	214	0	216	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	97			97	97	97
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	47.5%
Analysis Period (min)	15
	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis  
 11: Street A & Street D

Future Total 2031  
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	87	143	93	121	72	144
Future Volume (Veh/h)	87	143	93	121	72	144
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	87	143	93	121	72	144
<b>Pedestrians</b>						
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	214				470	154
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	214				470	154
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				86	84
cM capacity (veh/h)	1356				516	892
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	230	214	216			
Volume Left	87	0	72			
Volume Right	0	121	144			
cSH	1356	1700	718			
Volume to Capacity	0.06	0.13	0.30			
Queue Length 95th (m)	1.6	0.0	9.6			
Control Delay (s)	3.3	0.0	12.2			
Lane LOS	A		B			
Approach Delay (s)	3.3	0.0	12.2			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			5.1			
Intersection Capacity Utilization			47.5%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2031  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	54	534	149	2067	3132	23
Future Volume (vph)	54	534	149	2067	3132	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt		0.850			0.999	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	5142	5137	0
Flt Permitted	0.950		0.054			
Satd. Flow (perm)	1789	1601	102	5142	5137	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1			2	
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	54	534	149	2067	3132	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	534	149	2067	3155	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	7	5	5	2	6	
Permitted Phases		7	2			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2031  
AM Peak Hour

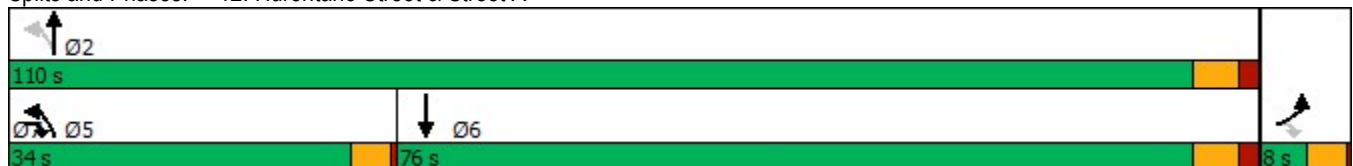


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	7	5	5	2	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	8.0	8.0	22.0	22.0	
Total Split (s)	8.0	34.0	34.0	110.0	76.0	
Total Split (%)	6.8%	28.8%	28.8%	93.2%	64.4%	
Maximum Green (s)	4.0	30.0	30.0	104.0	70.0	
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0	
All-Red Time (s)	0.5	0.5	0.5	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)				5.0	5.0	
Flash Dont Walk (s)				11.0	11.0	
Pedestrian Calls (#/hr)				0	0	
Act Effct Green (s)	4.0	38.0	106.0	104.0	70.0	
Actuated g/C Ratio	0.03	0.32	0.90	0.88	0.59	
v/c Ratio	0.90	1.03	0.29	0.46	1.04	
Control Delay	147.5	88.6	14.8	1.7	50.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	147.5	88.6	14.8	1.7	50.8	
LOS	F	F	B	A	D	
Approach Delay	94.0			2.6	50.8	
Approach LOS	F			A	D	

Intersection Summary

Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	118
Natural Cycle:	130
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.04
Intersection Signal Delay:	37.1
Intersection LOS:	D
Intersection Capacity Utilization	102.4%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 12: Hurontario Street & Street A



Queues  
12: Hurontario Street & Street A

Future Total 2031  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	54	534	149	2067	3155
v/c Ratio	0.90	1.03	0.29	0.46	1.04
Control Delay	147.5	88.6	14.8	1.7	50.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	147.5	88.6	14.8	1.7	50.8
Queue Length 50th (m)	12.7	~132.8	10.3	21.5	~287.9
Queue Length 95th (m)	#37.9	#199.5	27.8	24.6	#313.7
Internal Link Dist (m)	932.1			904.0	831.3
Turn Bay Length (m)	30.0		50.0		
Base Capacity (vph)	60	516	520	4531	3048
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.90	1.03	0.29	0.46	1.04

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 12: Hurontario Street & Street A

Future Total 2031  
 AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	54	534	149	2067	3132	23
Future Volume (vph)	54	534	149	2067	3132	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1789	1601	1789	5142	5136	
Flt Permitted	0.95	1.00	0.05	1.00	1.00	
Satd. Flow (perm)	1789	1601	102	5142	5136	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	54	534	149	2067	3132	23
RTOR Reduction (vph)	0	1	0	0	1	0
Lane Group Flow (vph)	54	533	149	2067	3154	0
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	7	5	5	2	6	
Permitted Phases		7	2			
Actuated Green, G (s)	4.0	34.0	104.0	104.0	70.0	
Effective Green, g (s)	4.0	34.0	104.0	104.0	70.0	
Actuated g/C Ratio	0.03	0.29	0.88	0.88	0.59	
Clearance Time (s)	4.0	4.0	4.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	60	515	518	4531	3046	
v/s Ratio Prot	0.03	c0.26	0.07	0.40	c0.61	
v/s Ratio Perm		0.07	0.18			
v/c Ratio	0.90	1.04	0.29	0.46	1.04	
Uniform Delay, d1	56.8	42.0	26.5	1.4	24.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	81.0	49.1	0.3	0.3	26.4	
Delay (s)	137.8	91.1	26.8	1.7	50.4	
Level of Service	F	F	C	A	D	
Approach Delay (s)	95.4			3.4	50.4	
Approach LOS	F			A	D	


















Intersection Summary

HCM 2000 Control Delay	37.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	118.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	102.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Total 2031  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	276	2	360	349	64	13	371	377	51	240	4
Future Volume (vph)	4	276	2	360	349	64	13	371	377	51	240	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.999			0.977			0.933			0.998	
Fl <sub>t</sub> Protected		0.999		0.950				0.999			0.991	
Satd. Flow (prot)	0	1863	0	1825	1825	0	0	1715	0	0	1836	0
Fl <sub>t</sub> Permitted		0.992		0.191				0.992			0.792	
Satd. Flow (perm)	0	1849	0	367	1825	0	0	1703	0	0	1467	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					10			75			1	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			342.6	
Travel Time (s)		30.4			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	4	294	2	383	371	68	14	395	401	54	255	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	300	0	383	439	0	0	810	0	0	313	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

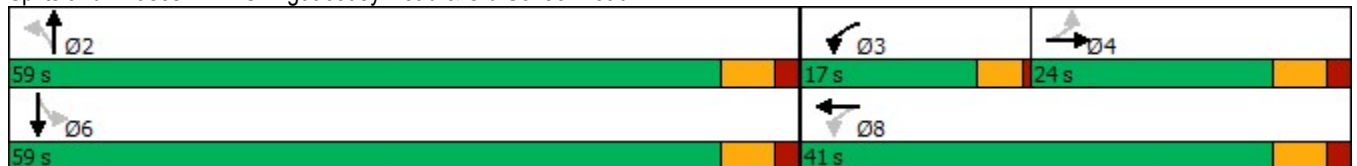
Future Total 2031  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	24.0	24.0		17.0	41.0		59.0	59.0		59.0	59.0	
Total Split (%)	24.0%	24.0%		17.0%	41.0%		59.0%	59.0%		59.0%	59.0%	
Maximum Green (s)	18.0	18.0		13.0	35.0		53.0	53.0		53.0	53.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		4.0	6.0			6.0			6.0	
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	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		17.7		36.7	34.7			53.0			53.0	
Actuated g/C Ratio		0.18		0.37	0.35			0.53			0.53	
v/c Ratio		0.91		1.18	0.68			0.86			0.40	
Control Delay		73.8		134.6	33.6			29.7			15.9	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		73.8		134.6	33.6			29.7			15.9	
LOS		E		F	C			C			B	
Approach Delay		73.8			80.7			29.7			15.9	
Approach LOS		E			F			C			B	

Intersection Summary

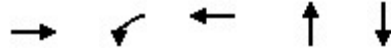
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	99.7
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.18
Intersection Signal Delay:	52.3
Intersection LOS:	D
Intersection Capacity Utilization:	96.5%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 1: Chinguacousy Road & Old School Road



Queues  
1: Chinguacousy Road & Old School Road

Future Total 2031  
PM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	300	383	439	810	313
v/c Ratio	0.91	1.18	0.68	0.86	0.40
Control Delay	73.8	134.6	33.6	29.7	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	73.8	134.6	33.6	29.7	15.9
Queue Length 50th (m)	57.5	~71.2	70.2	119.5	34.4
Queue Length 95th (m)	#104.5	#127.1	104.2	#201.0	54.1
Internal Link Dist (m)	566.7		466.2	274.8	318.6
Turn Bay Length (m)					
Base Capacity (vph)	333	325	647	940	779
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.90	1.18	0.68	0.86	0.40


















Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.



















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Total 2031  
PM Peak Hour

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (vph)	4	276	2	360	349	64	13	371	377	51	240	4		
Future Volume (vph)	4	276	2	360	349	64	13	371	377	51	240	4		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)		6.0		4.0	6.0			6.0			6.0			
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00			
Frt		1.00		1.00	0.98			0.93			1.00			
Flt Protected		1.00		0.95	1.00			1.00			0.99			
Satd. Flow (prot)		1863		1825	1824			1716			1837			
Flt Permitted		0.99		0.19	1.00			0.99			0.79			
Satd. Flow (perm)		1849		367	1824			1704			1468			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Adj. Flow (vph)	4	294	2	383	371	68	14	395	401	54	255	4		
RTOR Reduction (vph)	0	0	0	0	7	0	0	35	0	0	0	0		
Lane Group Flow (vph)	0	300	0	383	432	0	0	775	0	0	313	0		
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%		
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA			
Protected Phases		4		3	8			2			6			
Permitted Phases	4			8			2			6				
Actuated Green, G (s)		17.7		34.7	34.7			53.0			53.0			
Effective Green, g (s)		17.7		34.7	34.7			53.0			53.0			
Actuated g/C Ratio		0.18		0.35	0.35			0.53			0.53			
Clearance Time (s)		6.0		4.0	6.0			6.0			6.0			
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0			
Lane Grp Cap (vph)		328		317	634			905			780			
v/s Ratio Prot				c0.16	0.24									
v/s Ratio Perm		0.16		c0.26				c0.45			0.21			
v/c Ratio		0.91		1.21	0.68			0.86			0.40			
Uniform Delay, d1		40.3		28.2	27.8			20.1			13.9			
Progression Factor		1.00		1.00	1.00			1.00			1.00			
Incremental Delay, d2		28.8		119.5	3.0			10.2			1.5			
Delay (s)		69.0		147.7	30.8			30.3			15.4			
Level of Service		E		F	C			C			B			
Approach Delay (s)		69.0			85.3			30.3			15.4			
Approach LOS		E			F			C			B			
<b>Intersection Summary</b>														
HCM 2000 Control Delay			53.5									HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio			1.02											
Actuated Cycle Length (s)			99.7								16.0			
Intersection Capacity Utilization			96.5%										ICU Level of Service	F
Analysis Period (min)			15											
c Critical Lane Group														

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Total 2031  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	668	60	483	746	49	72	149	488	47	76	12
Future Volume (vph)	15	668	60	483	746	49	72	149	488	47	76	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.991				0.850		0.988	
Flt Protected		0.999		0.950				0.984			0.983	
Satd. Flow (prot)	0	3451	0	1755	3575	0	0	1807	1555	0	1805	0
Flt Permitted		0.927		0.219				0.830			0.659	
Satd. Flow (perm)	0	3202	0	405	3575	0	0	1524	1555	0	1210	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			13				493			5
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	16	711	64	514	794	52	77	159	519	50	81	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	791	0	514	846	0	0	236	519	0	144	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

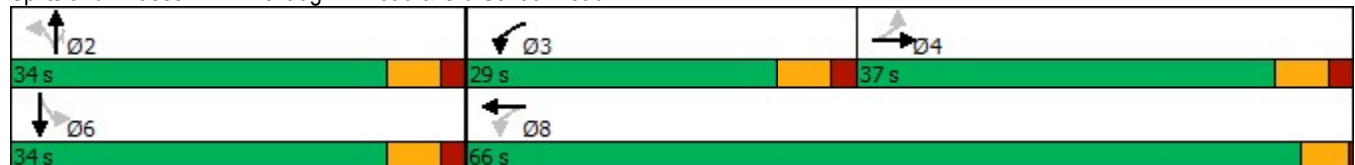
Future Total 2031  
PM Peak Hour

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		10.0	20.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	37.0	37.0		29.0	66.0		34.0	34.0	34.0	34.0	34.0	
Total Split (%)	37.0%	37.0%		29.0%	66.0%		34.0%	34.0%	34.0%	34.0%	34.0%	
Maximum Green (s)	31.0	31.0		23.0	62.0		28.0	28.0	28.0	28.0	28.0	
Yellow Time (s)	4.0	4.0		4.0	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	0.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		-2.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		4.0	4.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	Max	Max		None	Max		None	None	None	None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		33.3		62.2	62.2			19.8	19.8		19.8	
Actuated g/C Ratio		0.36		0.68	0.68			0.22	0.22		0.22	
v/c Ratio		0.68		0.84	0.35			0.72	0.72		0.55	
Control Delay		29.9		28.6	7.4			46.4	10.1		38.7	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		29.9		28.6	7.4			46.4	10.1		38.7	
LOS		C		C	A			D	B		D	
Approach Delay		29.9			15.4			21.4			38.7	
Approach LOS		C			B			C			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 92  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.84  
 Intersection Signal Delay: 21.8  
 Intersection Capacity Utilization 85.1%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service E

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road

Future Total 2031  
PM Peak Hour





















Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	791	514	846	236	519	144
v/c Ratio	0.68	0.84	0.35	0.72	0.72	0.55
Control Delay	29.9	28.6	7.4	46.4	10.1	38.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.9	28.6	7.4	46.4	10.1	38.7
Queue Length 50th (m)	63.1	48.6	28.7	38.9	3.7	21.9
Queue Length 95th (m)	95.2	#118.9	49.9	63.0	32.5	39.9
Internal Link Dist (m)	869.1		325.1	564.2		239.1
Turn Bay Length (m)		50.0				
Base Capacity (vph)	1166	642	2421	465	817	373
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.80	0.35	0.51	0.64	0.39

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.























HCM Signalized Intersection Capacity Analysis  
 2: McLaughlin Road & Old School Road

Future Total 2031  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	668	60	483	746	49	72	149	488	47	76	12
Future Volume (vph)	15	668	60	483	746	49	72	149	488	47	76	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		4.0	4.0			6.0	6.0		6.0	
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00	
Frt		0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.98	
Satd. Flow (prot)		3450		1755	3574			1807	1555		1804	
Flt Permitted		0.93		0.22	1.00			0.83	1.00		0.66	
Satd. Flow (perm)		3202		404	3574			1523	1555		1209	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	16	711	64	514	794	52	77	159	519	50	81	13
RTOR Reduction (vph)	0	6	0	0	4	0	0	0	387	0	4	0
Lane Group Flow (vph)	0	785	0	514	842	0	0	236	132	0	140	0
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		33.3		62.2	62.2			19.8	19.8		19.8	
Effective Green, g (s)		33.3		64.2	62.2			19.8	19.8		19.8	
Actuated g/C Ratio		0.36		0.70	0.68			0.22	0.22		0.22	
Clearance Time (s)		6.0		6.0	4.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1158		618	2416			327	334		260	
v/s Ratio Prot				c0.21	0.24							
v/s Ratio Perm		0.25		c0.37				c0.15	0.08		0.12	
v/c Ratio		0.68		0.83	0.35			0.72	0.40		0.54	
Uniform Delay, d1		24.8		14.6	6.3			33.5	31.0		32.0	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		3.2		9.3	0.4			7.6	0.8		2.1	
Delay (s)		28.0		24.0	6.7			41.2	31.7		34.2	
Level of Service		C		C	A			D	C		C	
Approach Delay (s)		28.0			13.2			34.7			34.2	
Approach LOS		C			B			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			23.4			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			92.0			Sum of lost time (s)		16.0				
Intersection Capacity Utilization			85.1%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2031  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	683	239	146	317	285	52	267	3232	451	36	1900	604
Future Volume (vph)	683	239	146	317	285	52	267	3232	451	36	1900	604
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.943			0.977				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3269	0	1789	3536	0	1807	5043	1633	1825	4812	1541
Flt Permitted	0.262			0.268			0.070			0.075		
Satd. Flow (perm)	503	3269	0	505	3536	0	133	5043	1633	144	4812	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		93			15				191			391
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			1083.7			855.3			669.5	
Travel Time (s)		51.8			55.7			38.5			30.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Adj. Flow (vph)	704	246	151	327	294	54	275	3332	465	37	1959	623
Shared Lane Traffic (%)												
Lane Group Flow (vph)	704	397	0	327	348	0	275	3332	465	37	1959	623
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

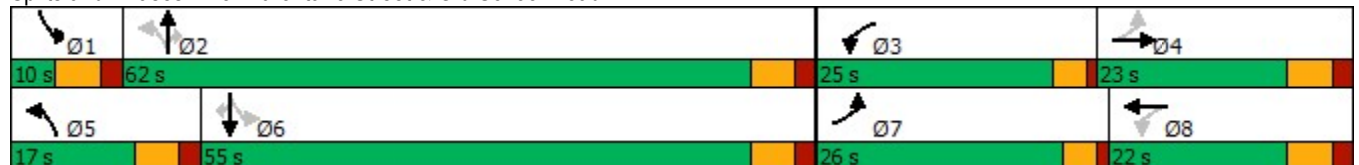
Future Total 2031  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	22.0		8.0	22.0		10.0	29.0	29.0	10.0	29.0	29.0
Total Split (s)	26.0	23.0		25.0	22.0		17.0	62.0	62.0	10.0	55.0	55.0
Total Split (%)	21.7%	19.2%		20.8%	18.3%		14.2%	51.7%	51.7%	8.3%	45.8%	45.8%
Maximum Green (s)	22.0	17.0		21.0	16.0		11.0	56.0	56.0	4.0	49.0	49.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		0.0	-2.0		-2.0	-2.0	0.0	-2.0	-2.0	0.0
Total Lost Time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lead/Lag	Lead	Lag		Lead	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
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Walk Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	44.1	18.8		37.0	16.9		68.0	62.1	60.1	57.0	51.0	49.0
Actuated g/C Ratio	0.37	0.16		0.31	0.14		0.57	0.52	0.51	0.48	0.43	0.41
v/c Ratio	1.55	0.67		0.87	0.68		1.07	1.27	0.51	0.24	0.95	0.72
Control Delay	286.2	42.1		55.0	53.4		106.7	150.4	14.0	16.2	44.1	15.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	286.2	42.1		55.0	53.4		106.7	150.4	14.0	16.2	44.1	15.7
LOS	F	D		E	D		F	F	B	B	D	B
Approach Delay		198.2			54.2			131.8			37.0	
Approach LOS		F			D			F			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 118.9  
 Natural Cycle: 140  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.55  
 Intersection Signal Delay: 104.9      Intersection LOS: F  
 Intersection Capacity Utilization 126.5%      ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Total 2031  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	704	397	327	348	275	3332	465	37	1959	623
v/c Ratio	1.55	0.67	0.87	0.68	1.07	1.27	0.51	0.24	0.95	0.72
Control Delay	286.2	42.1	55.0	53.4	106.7	150.4	14.0	16.2	44.1	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	286.2	42.1	55.0	53.4	106.7	150.4	14.0	16.2	44.1	15.7
Queue Length 50th (m)	~213.8	35.8	59.1	39.3	~56.6	~379.3	43.6	3.7	160.9	45.2
Queue Length 95th (m)	#286.0	52.7	#101.5	55.0	#109.9	#403.5	73.5	8.5	#197.3	91.4
Internal Link Dist (m)		983.8		1059.7		831.3			645.5	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	453	601	387	548	258	2632	919	153	2064	865
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.55	0.66	0.84	0.64	1.07	1.27	0.51	0.24	0.95	0.72

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Total 2031  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	683	239	146	317	285	52	267	3232	451	36	1900	604
Future Volume (vph)	683	239	146	317	285	52	267	3232	451	36	1900	604
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.94		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1825	3269		1789	3535		1807	5043	1633	1825	4812	1541
Flt Permitted	0.26	1.00		0.27	1.00		0.07	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	503	3269		506	3535		132	5043	1633	144	4812	1541
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	704	246	151	327	294	54	275	3332	465	37	1959	623
RTOR Reduction (vph)	0	79	0	0	13	0	0	0	96	0	0	225
Lane Group Flow (vph)	704	318	0	327	335	0	275	3332	369	37	1959	398
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	38.8	16.8		35.0	14.9		68.5	60.1	60.1	53.9	51.5	51.5
Effective Green, g (s)	42.8	18.8		35.0	16.9		70.5	62.1	60.1	57.9	53.5	51.5
Actuated g/C Ratio	0.35	0.15		0.29	0.14		0.58	0.51	0.50	0.48	0.44	0.42
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	438	506		358	492		256	2579	808	129	2120	653
v/s Ratio Prot	c0.32	0.10		0.15	0.09		c0.12	c0.66		0.01	0.41	
v/s Ratio Perm	0.25			c0.11			0.51		0.23	0.13		0.26
v/c Ratio	1.61	0.63		0.91	0.68		1.07	1.29	0.46	0.29	0.92	0.61
Uniform Delay, d1	34.5	48.0		38.0	49.7		38.6	29.7	20.0	27.2	32.0	27.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	283.8	2.5		26.9	3.9		77.3	134.4	1.9	1.2	8.3	4.2
Delay (s)	318.3	50.5		64.8	53.6		116.0	164.1	21.8	28.5	40.3	31.3
Level of Service	F	D		E	D		F	F	C	C	D	C
Approach Delay (s)		221.7			59.0			144.6			38.0	
Approach LOS		F			E			F			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			114.8									F
HCM 2000 Volume to Capacity ratio			1.31									
Actuated Cycle Length (s)			121.4							16.0		
Intersection Capacity Utilization			126.5%									H
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2031  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕		↖	↕↕↕			↕			↕	
Traffic Volume (vph)	43	716	51	263	675	101	34	338	284	52	200	30
Future Volume (vph)	43	716	51	263	675	101	34	338	284	52	200	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.991			0.980			0.941			0.985	
Flt Protected		0.997		0.950				0.997			0.991	
Satd. Flow (prot)	0	5042	0	1825	5009	0	0	1755	0	0	1840	0
Flt Permitted		0.834		0.140				0.969			0.782	
Satd. Flow (perm)	0	4218	0	269	5009	0	0	1706	0	0	1452	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			29			47			7	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		639.6			1419.4			697.3			2784.8	
Travel Time (s)		32.9			73.0			31.4			125.3	
Confl. Peds. (#/hr)							1					1
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
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Adj. Flow (vph)	47	778	55	286	734	110	37	367	309	57	217	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	880	0	286	844	0	0	713	0	0	307	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2031  
PM Peak Hour

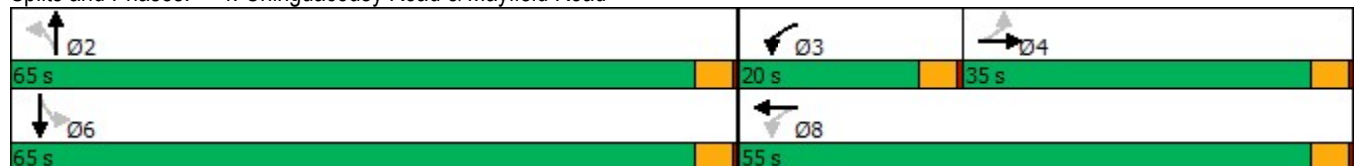


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	35.0	35.0		20.0	55.0		65.0	65.0		65.0	65.0	
Total Split (%)	29.2%	29.2%		16.7%	45.8%		54.2%	54.2%		54.2%	54.2%	
Maximum Green (s)	31.0	31.0		16.0	51.0		61.0	61.0		61.0	61.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
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	Max	Max		None	Max		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		31.2		51.0	51.0			61.0			61.0	
Actuated g/C Ratio		0.26		0.42	0.42			0.51			0.51	
v/c Ratio		0.80		0.90	0.39			0.80			0.41	
Control Delay		47.5		58.8	23.6			31.1			20.1	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		47.5		58.8	23.6			31.1			20.1	
LOS		D		E	C			C			C	
Approach Delay		47.5			32.5			31.1			20.1	
Approach LOS		D			C			C			C	

Intersection Summary

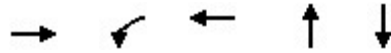
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Natural Cycle:	65
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.90
Intersection Signal Delay:	35.3
Intersection LOS:	D
Intersection Capacity Utilization:	81.0%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Total 2031  
PM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	880	286	844	713	307
v/c Ratio	0.80	0.90	0.39	0.80	0.41
Control Delay	47.5	58.8	23.6	31.1	20.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.5	58.8	23.6	31.1	20.1
Queue Length 50th (m)	70.6	46.6	47.6	127.1	42.5
Queue Length 95th (m)	87.0	#95.0	58.5	181.9	64.7
Internal Link Dist (m)	615.6		1395.4	673.3	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	1103	321	2145	890	741
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.80	0.89	0.39	0.80	0.41

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road

Future Total 2031  
PM Peak Hour























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		←↑↑↑		↑	↑↑↑			↑			↑		
Traffic Volume (vph)	43	716	51	263	675	101	34	338	284	52	200	30	
Future Volume (vph)	43	716	51	263	675	101	34	338	284	52	200	30	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0		
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00		
Frbp, ped/bikes		1.00		1.00	1.00			1.00			1.00		
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00		
Frt		0.99		1.00	0.98			0.94			0.99		
Flt Protected		1.00		0.95	1.00			1.00			0.99		
Satd. Flow (prot)		5042		1825	5011			1757			1840		
Flt Permitted		0.83		0.14	1.00			0.97			0.78		
Satd. Flow (perm)		4215		268	5011			1707			1452		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	47	778	55	286	734	110	37	367	309	57	217	33	
RTOR Reduction (vph)	0	6	0	0	17	0	0	23	0	0	3	0	
Lane Group Flow (vph)	0	874	0	286	827	0	0	690	0	0	304	0	
Confl. Peds. (#/hr)							1					1	
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA		
Protected Phases		4		3	8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		31.2		51.0	51.0			61.0			61.0		
Effective Green, g (s)		31.2		51.0	51.0			61.0			61.0		
Actuated g/C Ratio		0.26		0.42	0.42			0.51			0.51		
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0		
Lane Grp Cap (vph)		1095		318	2129			867			738		
v/s Ratio Prot				c0.12	0.17								
v/s Ratio Perm		0.21		c0.26				c0.40			0.21		
v/c Ratio		0.80		0.90	0.39			0.80			0.41		
Uniform Delay, d1		41.5		28.0	23.8			24.4			18.3		
Progression Factor		1.00		1.00	1.00			1.00			1.00		
Incremental Delay, d2		6.1		26.4	0.5			7.5			1.7		
Delay (s)		47.6		54.3	24.3			31.8			20.0		
Level of Service		D		D	C			C			C		
Approach Delay (s)		47.6			31.9			31.8			20.0		
Approach LOS		D			C			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			35.2									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.86										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	12.0
Intersection Capacity Utilization			81.0%									ICU Level of Service	D
Analysis Period (min)			15										

c Critical Lane Group

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Total 2031  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	174	894	81	114	1055	295	136	584	118	213	356	177
Future Volume (vph)	174	894	81	114	1055	295	136	584	118	213	356	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.988			0.967			0.975			0.950	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	5031	0	1755	4881	0	1825	3512	0	1738	3345	0
Flt Permitted	0.091			0.270			0.396			0.302		
Satd. Flow (perm)	166	5031	0	499	4881	0	761	3512	0	553	3345	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			57			26			93	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			652.9			2496.3	
Travel Time (s)		73.0			65.0			29.4			112.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	181	931	84	119	1099	307	142	608	123	222	371	184
Shared Lane Traffic (%)												
Lane Group Flow (vph)	181	1015	0	119	1406	0	142	731	0	222	555	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

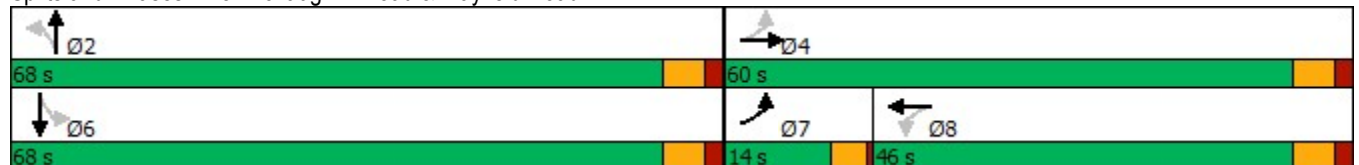
Future Total 2031  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	14.0	60.0		46.0	46.0		68.0	68.0		68.0	68.0	
Total Split (%)	10.9%	46.9%		35.9%	35.9%		53.1%	53.1%		53.1%	53.1%	
Maximum Green (s)	10.0	54.0		40.0	40.0		62.0	62.0		62.0	62.0	
Yellow Time (s)	3.5	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	0.5	2.0		2.0	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	
Total Lost Time (s)	4.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
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	None	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	
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)	56.0	54.0		40.0	40.0		62.0	62.0		62.0	62.0	
Actuated g/C Ratio	0.44	0.42		0.31	0.31		0.48	0.48		0.48	0.48	
v/c Ratio	0.93	0.48		0.77	0.90		0.39	0.43		0.83	0.33	
Control Delay	77.6	27.3		71.9	49.2		24.9	21.5		55.8	17.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	77.6	27.3		71.9	49.2		24.9	21.5		55.8	17.2	
LOS	E	C		E	D		C	C		E	B	
Approach Delay		34.9			50.9			22.1			28.2	
Approach LOS		C			D			C			C	

Intersection Summary

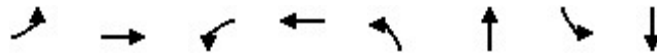
Area Type: Other  
 Cycle Length: 128  
 Actuated Cycle Length: 128  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 36.8  
 Intersection LOS: D  
 Intersection Capacity Utilization 86.6%  
 ICU Level of Service E  
 Analysis Period (min) 15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Total 2031  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	181	1015	119	1406	142	731	222	555
v/c Ratio	0.93	0.48	0.77	0.90	0.39	0.43	0.83	0.33
Control Delay	77.6	27.3	71.9	49.2	24.9	21.5	55.8	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.6	27.3	71.9	49.2	24.9	21.5	55.8	17.2
Queue Length 50th (m)	29.8	65.8	27.1	119.8	22.1	59.2	47.0	36.2
Queue Length 95th (m)	#73.7	78.6	#60.3	139.7	39.5	74.6	#95.9	48.8
Internal Link Dist (m)		1395.4		1239.7		628.9		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	195	2130	155	1564	368	1714	267	1668
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.48	0.77	0.90	0.39	0.43	0.83	0.33

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

























HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Future Total 2031  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	174	894	81	114	1055	295	136	584	118	213	356	177	
Future Volume (vph)	174	894	81	114	1055	295	136	584	118	213	356	177	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0		
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95		
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.95		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00		
Satd. Flow (prot)	1738	5029		1755	4882		1825	3511		1738	3346		
Flt Permitted	0.09	1.00		0.27	1.00		0.40	1.00		0.30	1.00		
Satd. Flow (perm)	166	5029		499	4882		760	3511		552	3346		
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	181	931	84	119	1099	307	142	608	123	222	371	184	
RTOR Reduction (vph)	0	8	0	0	39	0	0	13	0	0	48	0	
Lane Group Flow (vph)	181	1007	0	119	1367	0	142	718	0	222	507	0	
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases	7	4			8			2				6	
Permitted Phases	4			8			2			6			
Actuated Green, G (s)	54.0	54.0		40.0	40.0		62.0	62.0		62.0	62.0		
Effective Green, g (s)	54.0	54.0		40.0	40.0		62.0	62.0		62.0	62.0		
Actuated g/C Ratio	0.42	0.42		0.31	0.31		0.48	0.48		0.48	0.48		
Clearance Time (s)	4.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	192	2121		155	1525		368	1700		267	1620		
v/s Ratio Prot	c0.07	0.20			0.28			0.20				0.15	
v/s Ratio Perm	c0.32			0.24			0.19			c0.40			
v/c Ratio	0.94	0.47		0.77	0.90		0.39	0.42		0.83	0.31		
Uniform Delay, d1	32.1	26.7		39.8	42.0		20.9	21.4		28.5	20.1		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00		
Incremental Delay, d2	48.4	0.8		29.9	8.6		3.0	0.8		25.0	0.5		
Delay (s)	80.5	27.5		69.7	50.6		24.0	22.2		53.5	20.6		
Level of Service	F	C		E	D		C	C		D	C		
Approach Delay (s)		35.5			52.1			22.5			30.0		
Approach LOS		D			D			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			37.7									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.90										
Actuated Cycle Length (s)			128.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			86.6%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2031  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	661	612	118	276	800	172	225	856	264	238	910	934
Future Volume (vph)	661	612	118	276	800	172	225	856	264	238	910	934
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.96	0.98		0.99	1.00		0.96			0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	4995	1601	3404	5092	1585	1789	3614	1555	1825	3510	1585
Fl <sub>t</sub> Permitted	0.167			0.950			0.226			0.180		
Satd. Flow (perm)	308	4995	1538	3339	5092	1562	425	3614	1486	346	3510	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			145			207			692
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			749.9			706.5			609.4	
Travel Time (s)		7.3			38.6			36.3			31.3	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Adj. Flow (vph)	681	631	122	285	825	177	232	882	272	245	938	963
Shared Lane Traffic (%)												
Lane Group Flow (vph)	681	631	122	285	825	177	232	882	272	245	938	963
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
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)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2031  
PM Peak Hour

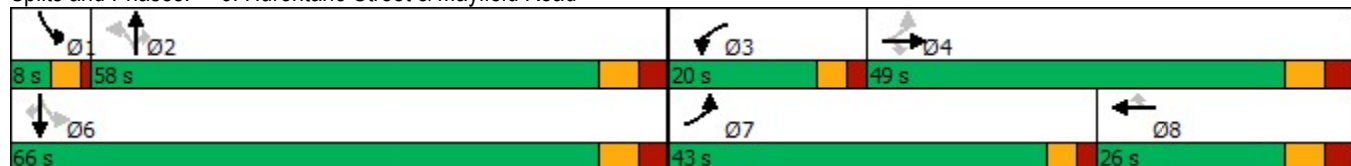


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	43.0	49.0	49.0	20.0	26.0	26.0	58.0	58.0	58.0	8.0	66.0	66.0
Total Split (%)	31.9%	36.3%	36.3%	14.8%	19.3%	19.3%	43.0%	43.0%	43.0%	5.9%	48.9%	48.9%
Maximum Green (s)	38.0	42.0	42.0	15.0	19.0	19.0	51.0	51.0	51.0	4.0	59.0	59.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-2.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
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	None	Max	Max	None	None	None	None	Max	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)		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)	66.0	42.6	42.6	16.4	19.0	19.0	53.0	51.0	51.0	64.0	59.0	59.0
Actuated g/C Ratio	0.49	0.32	0.32	0.12	0.14	0.14	0.39	0.38	0.38	0.47	0.44	0.44
v/c Ratio	1.18	0.40	0.22	0.69	1.15	0.51	1.40	0.65	0.39	1.07	0.61	0.90
Control Delay	130.7	37.3	9.4	66.2	134.5	18.7	244.4	37.3	9.6	108.1	31.3	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	130.7	37.3	9.4	66.2	134.5	18.7	244.4	37.3	9.6	108.1	31.3	22.1
LOS	F	D	A	E	F	B	F	D	A	F	C	C
Approach Delay		79.3			103.4			66.5			35.9	
Approach LOS		E			F			E			D	

Intersection Summary













Area Type: Other  
 Cycle Length: 135  
 Actuated Cycle Length: 135  
 Natural Cycle: 100  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.40  
 Intersection Signal Delay: 66.5  
 Intersection LOS: E  
 Intersection Capacity Utilization 108.9%  
 ICU Level of Service G  
 Analysis Period (min) 15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Total 2031  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	681	631	122	285	825	177	232	882	272	245	938	963
v/c Ratio	1.18	0.40	0.22	0.69	1.15	0.51	1.40	0.65	0.39	1.07	0.61	0.90
Control Delay	130.7	37.3	9.4	66.2	134.5	18.7	244.4	37.3	9.6	108.1	31.3	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	130.7	37.3	9.4	66.2	134.5	18.7	244.4	37.3	9.6	108.1	31.3	22.1
Queue Length 50th (m)	~200.5	48.5	3.2	37.9	~94.5	7.6	~82.2	101.2	11.2	~43.5	99.5	82.4
Queue Length 95th (m)	#274.6	60.2	17.4	52.8	#122.3	30.2	#133.7	123.3	32.5	#92.7	121.0	#204.3
Internal Link Dist (m)		118.1			725.9			682.5			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	579	1577	557	428	716	344	166	1365	690	229	1534	1069
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.18	0.40	0.22	0.67	1.15	0.51	1.40	0.65	0.39	1.07	0.61	0.90

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.


































Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road










Future Total 2031  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 		 	 	
Traffic Volume (vph)	661	612	118	276	800	172	225	856	264	238	910	934
Future Volume (vph)	661	612	118	276	800	172	225	856	264	238	910	934
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	4995	1538	3404	5092	1562	1787	3614	1486	1825	3510	1555
Flt Permitted	0.17	1.00	1.00	0.95	1.00	1.00	0.23	1.00	1.00	0.18	1.00	1.00
Satd. Flow (perm)	308	4995	1538	3404	5092	1562	425	3614	1486	347	3510	1555
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	681	631	122	285	825	177	232	882	272	245	938	963
RTOR Reduction (vph)	0	0	72	0	0	125	0	0	129	0	0	390
Lane Group Flow (vph)	681	631	50	285	825	52	232	882	143	245	938	573
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Actuated Green, G (s)	62.0	42.6	42.6	14.4	19.0	19.0	51.0	51.0	51.0	59.0	59.0	59.0
Effective Green, g (s)	64.0	42.6	42.6	16.4	19.0	19.0	53.0	51.0	51.0	61.0	59.0	59.0
Actuated g/C Ratio	0.47	0.32	0.32	0.12	0.14	0.14	0.39	0.38	0.38	0.45	0.44	0.44
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0
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
Lane Grp Cap (vph)	574	1576	485	413	716	219	166	1365	561	222	1534	679
v/s Ratio Prot	c0.35	0.13		0.08	0.16			0.24		c0.05	0.27	
v/s Ratio Perm	c0.21		0.03			0.03	c0.55		0.10	0.45		0.37
v/c Ratio	1.19	0.40	0.10	0.69	1.15	0.24	1.40	0.65	0.26	1.10	0.61	0.84
Uniform Delay, d1	38.6	36.2	32.7	56.9	58.0	51.6	41.0	34.6	28.9	36.5	29.2	33.9
Progression 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
Incremental Delay, d2	100.5	0.8	0.4	4.9	84.0	2.6	211.2	1.1	0.2	90.9	1.8	12.3
Delay (s)	139.1	37.0	33.1	61.8	142.0	54.1	252.2	35.6	29.2	127.4	31.0	46.2
Level of Service	F	D	C	E	F	D	F	D	C	F	C	D
Approach Delay (s)		85.1			112.2			70.6			48.8	
Approach LOS		F			F			E			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			75.0									E
HCM 2000 Volume to Capacity ratio			1.34									
Actuated Cycle Length (s)			135.0							19.0		
Intersection Capacity Utilization			108.9%									G
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C










Future Total 2031  
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	23	38	727	33	63	543
Future Volume (vph)	23	38	727	33	63	543
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.916		0.994			
Flt Protected	0.981					0.995
Satd. Flow (prot)	1692	0	1872	0	0	1874
Flt Permitted	0.981					0.995
Satd. Flow (perm)	1692	0	1872	0	0	1874
Link Speed (k/h)	48		80			80
Link Distance (m)	204.9		2784.8			298.8
Travel Time (s)	15.4		125.3			13.4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	0.92
Adj. Flow (vph)	23	38	727	33	63	590
Shared Lane Traffic (%)						
Lane Group Flow (vph)	61	0	760	0	0	653
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	85.9%			ICU Level of Service E		
Analysis Period (min)	15					



HCM Unsignalized Intersection Capacity Analysis  
7: Chinguacousy Road & Street C

Future Total 2031  
PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	23	38	727	33	63	543
Future Volume (Veh/h)	23	38	727	33	63	543
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	0.92
Hourly flow rate (vph)	23	38	727	33	63	590
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	299					
pX, platoon unblocked	0.76					
vC, conflicting volume	1460	744	760			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1447	744	760			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	77	91	93			
cM capacity (veh/h)	102	415	852			
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	61	760	653			
Volume Left	23	0	63			
Volume Right	38	33	0			
cSH	192	1700	852			
Volume to Capacity	0.32	0.45	0.07			
Queue Length 95th (m)	9.8	0.0	1.8			
Control Delay (s)	32.2	0.0	1.9			
Lane LOS	D		A			
Approach Delay (s)	32.2	0.0	1.9			
Approach LOS	D					
<b>Intersection Summary</b>						
Average Delay	2.2					
Intersection Capacity Utilization	85.9%		ICU Level of Service		E	
Analysis Period (min)	15					










Lanes, Volumes, Timings  
8: Street B & Old School Road

Future Total 2031  
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	
Traffic Volume (vph)	691	14	85	765	10	50
Future Volume (vph)	691	14	85	765	10	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Fr <sub>t</sub>	0.997			0.887		
Fl <sub>t</sub> Protected				0.995	0.992	
Satd. Flow (prot)	3568	0	0	3561	1657	0
Fl <sub>t</sub> Permitted				0.995	0.992	
Satd. Flow (perm)	3568	0	0	3561	1657	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	691	14	85	765	10	50
Shared Lane Traffic (%)						
Lane Group Flow (vph)	705	0	0	850	60	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	14		24	24		14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	56.8%			ICU Level of Service B		
Analysis Period (min)	15					


















HCM Unsignalized Intersection Capacity Analysis  
8: Street B & Old School Road

Future Total 2031  
PM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	691	14	85	765	10	50
Future Volume (Veh/h)	691	14	85	765	10	50
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	691	14	85	765	10	50
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			705	1250	352	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			705	1250	352	
tC, single (s)			4.1	6.8	6.9	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			90	93	92	
cM capacity (veh/h)			889	149	644	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	461	244	340	510	60	
Volume Left	0	0	85	0	10	
Volume Right	0	14	0	0	50	
cSH	1700	1700	889	1700	414	
Volume to Capacity	0.27	0.14	0.10	0.30	0.14	
Queue Length 95th (m)	0.0	0.0	2.4	0.0	3.8	
Control Delay (s)	0.0	0.0	3.2	0.0	15.2	
Lane LOS	A			C		
Approach Delay (s)	0.0		1.3	15.2		
Approach LOS				C		
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			56.8%	ICU Level of Service		B
Analysis Period (min)			15			

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2031  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	157	0	34	0	676	234	45	576	0
Future Volume (vph)	0	0	0	157	0	34	0	676	234	45	576	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.850			0.961				
Flt Protected				0.950							0.996	
Satd. Flow (prot)	0	1883	0	1789	1601	0	0	3439	0	0	3564	0
Flt Permitted				0.757							0.839	
Satd. Flow (perm)	0	1883	0	1426	1601	0	0	3439	0	0	3002	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					227			98				
Link Speed (k/h)		48			48			80				80
Link Distance (m)		204.8			403.1			2496.3				588.2
Travel Time (s)		15.4			30.2			112.3				26.5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	157	0	34	0	676	234	45	576	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	157	34	0	0	910	0	0	621	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)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lanes, Volumes, Timings  
 9: McLaughlin Road & Street A

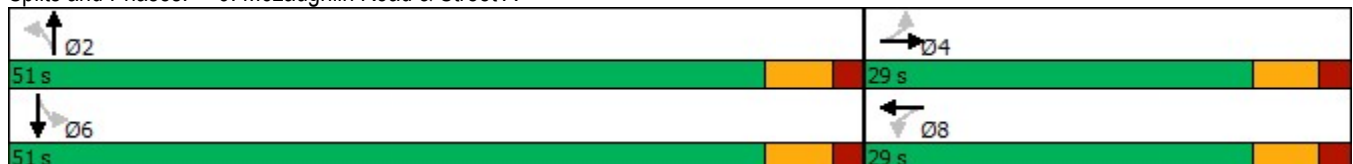
Future Total 2031  
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	29.0	29.0		29.0	29.0		51.0	51.0		51.0	51.0	
Total Split (%)	36.3%	36.3%		36.3%	36.3%		63.8%	63.8%		63.8%	63.8%	
Maximum Green (s)	23.0	23.0		23.0	23.0		45.0	45.0		45.0	45.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effect Green (s)				13.4	13.4			49.7			49.7	
Actuated g/C Ratio				0.18	0.18			0.66			0.66	
v/c Ratio				0.62	0.07			0.39			0.31	
Control Delay				38.1	0.3			6.2			6.5	
Queue Delay				0.0	0.0			0.0			0.0	
Total Delay				38.1	0.3			6.2			6.5	
LOS				D	A			A			A	
Approach Delay					31.4			6.2			6.5	
Approach LOS					C			A			A	

Intersection Summary

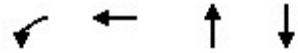
Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	75.1
Natural Cycle:	45
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.62
Intersection Signal Delay:	9.1
Intersection Capacity Utilization	67.1%
Analysis Period (min)	15
Intersection LOS:	A
ICU Level of Service	C

Splits and Phases: 9: McLaughlin Road & Street A



Queues  
9: McLaughlin Road & Street A

Future Total 2031  
PM Peak Hour




















Lane Group	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	157	34	910	621
v/c Ratio	0.62	0.07	0.39	0.31
Control Delay	38.1	0.3	6.2	6.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	38.1	0.3	6.2	6.5
Queue Length 50th (m)	19.4	0.0	22.3	16.4
Queue Length 95th (m)	35.7	0.0	41.5	31.0
Internal Link Dist (m)		379.1	2472.3	564.2
Turn Bay Length (m)	30.0			
Base Capacity (vph)	437	648	2308	1986
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.36	0.05	0.39	0.31
<b>Intersection Summary</b>				

# HCM Signalized Intersection Capacity Analysis

## 9: McLaughlin Road & Street A

Future Total 2031  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	157	0	34	0	676	234	45	576	0
Future Volume (vph)	0	0	0	157	0	34	0	676	234	45	576	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.0	6.0			6.0			6.0	
Lane Util. Factor				1.00	1.00			0.95			0.95	
Frt				1.00	0.85			0.96			1.00	
Flt Protected				0.95	1.00			1.00			1.00	
Satd. Flow (prot)				1789	1601			3441			3566	
Flt Permitted				0.76	1.00			1.00			0.84	
Satd. Flow (perm)				1426	1601			3441			3003	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	157	0	34	0	676	234	45	576	0
RTOR Reduction (vph)	0	0	0	0	28	0	0	33	0	0	0	0
Lane Group Flow (vph)	0	0	0	157	6	0	0	877	0	0	621	0
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)				13.4	13.4			49.7			49.7	
Effective Green, g (s)				13.4	13.4			49.7			49.7	
Actuated g/C Ratio				0.18	0.18			0.66			0.66	
Clearance Time (s)				6.0	6.0			6.0			6.0	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				254	285			2277			1987	
v/s Ratio Prot					0.00			c0.25				
v/s Ratio Perm				c0.11							0.21	
v/c Ratio				0.62	0.02			0.39			0.31	
Uniform Delay, d1				28.5	25.4			5.8			5.4	
Progression Factor				1.00	1.00			1.00			1.00	
Incremental Delay, d2				4.4	0.0			0.5			0.4	
Delay (s)				32.9	25.5			6.3			5.8	
Level of Service				C	C			A			A	
Approach Delay (s)		0.0			31.6			6.3			5.8	
Approach LOS		A			C			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			8.9									A
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			75.1						12.0			
Intersection Capacity Utilization			67.1%									C
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
 10: Street D & Old School Road










Future Total 2031  
 PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↖↖	↗↗	
Traffic Volume (vph)	1078	72	11	1155	53	1
Future Volume (vph)	1078	72	11	1155	53	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Fr <sub>t</sub>	0.991				0.997	
Fl <sub>t</sub> Protected					0.953	
Satd. Flow (prot)	3546	0	0	3579	1790	0
Fl <sub>t</sub> Permitted					0.953	
Satd. Flow (perm)	3546	0	0	3579	1790	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1078	72	11	1155	53	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1150	0	0	1166	54	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	14		24	24		14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	49.7%			ICU Level of Service A		
Analysis Period (min)	15					



HCM Unsignalized Intersection Capacity Analysis  
 10: Street D & Old School Road

Future Total 2031  
 PM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1078	72	11	1155	53	1
Future Volume (Veh/h)	1078	72	11	1155	53	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1078	72	11	1155	53	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	349					
pX, platoon unblocked			0.86		0.86	0.86
vC, conflicting volume			1150		1714	575
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			844		1501	174
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		44	100
cM capacity (veh/h)			676		95	720
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	719	431	396	770	54	
Volume Left	0	0	11	0	53	
Volume Right	0	72	0	0	1	
cSH	1700	1700	676	1700	97	
Volume to Capacity	0.42	0.25	0.02	0.45	0.56	
Queue Length 95th (m)	0.0	0.0	0.4	0.0	19.5	
Control Delay (s)	0.0	0.0	0.5	0.0	81.6	
Lane LOS			A		F	
Approach Delay (s)	0.0		0.2		81.6	
Approach LOS					F	
Intersection Summary						
Average Delay			1.9			
Intersection Capacity Utilization			49.7%		ICU Level of Service	A
Analysis Period (min)			15			

Lanes, Volumes, Timings  
11: Street A & Street D

Future Total 2031  
PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	126	219	253	32	21	119
Future Volume (vph)	126	219	253	32	21	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.985		0.885	
Flt Protected		0.982			0.993	
Satd. Flow (prot)	0	1850	1855	0	1655	0
Flt Permitted		0.982			0.993	
Satd. Flow (perm)	0	1850	1855	0	1655	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	126	219	253	32	21	119
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	345	285	0	140	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	52.3%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 11: Street A & Street D

Future Total 2031  
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	126	219	253	32	21	119
Future Volume (Veh/h)	126	219	253	32	21	119
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	126	219	253	32	21	119
<b>Pedestrians</b>						
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	285				740	269
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	285				740	269
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				94	85
cM capacity (veh/h)	1277				346	770
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	345	285	140			
Volume Left	126	0	21			
Volume Right	0	32	119			
cSH	1277	1700	650			
Volume to Capacity	0.10	0.17	0.22			
Queue Length 95th (m)	2.5	0.0	6.2			
Control Delay (s)	3.6	0.0	12.0			
Lane LOS	A		B			
Approach Delay (s)	3.6	0.0	12.0			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			3.8			
Intersection Capacity Utilization			52.3%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2031  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	272	513	3911	2331	33
Future Volume (vph)	40	272	513	3911	2331	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt		0.850			0.998	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	5142	5132	0
Flt Permitted	0.950		0.064			
Satd. Flow (perm)	1789	1601	121	5142	5132	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1			2	
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	272	513	3911	2331	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	272	513	3911	2364	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2031  
PM Peak Hour

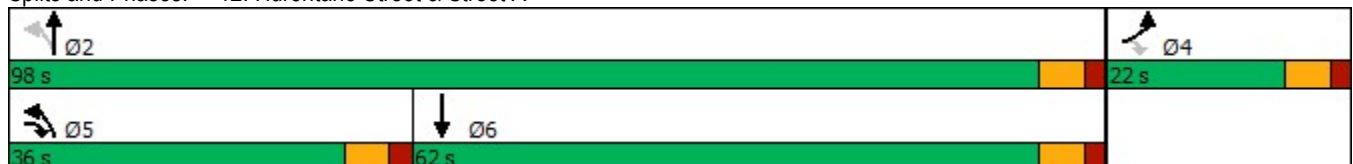


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	10.0	10.0	22.0	22.0	
Total Split (s)	22.0	36.0	36.0	98.0	62.0	
Total Split (%)	18.3%	30.0%	30.0%	81.7%	51.7%	
Maximum Green (s)	16.0	30.0	30.0	92.0	56.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	7.9	38.8	92.4	95.1	56.3	
Actuated g/C Ratio	0.07	0.36	0.86	0.89	0.53	
v/c Ratio	0.31	0.47	0.89	0.86	0.88	
Control Delay	54.8	28.7	49.8	8.9	28.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	54.8	28.7	49.8	8.9	28.3	
LOS	D	C	D	A	C	
Approach Delay	32.0			13.6	28.3	
Approach LOS	C			B	C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	107.1
Natural Cycle:	110
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.89
Intersection Signal Delay:	19.3
Intersection LOS:	B
Intersection Capacity Utilization:	92.5%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 12: Hurontario Street & Street A



Queues  
12: Hurontario Street & Street A

Future Total 2031  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	40	272	513	3911	2364
v/c Ratio	0.31	0.47	0.89	0.86	0.88
Control Delay	54.8	28.7	49.8	8.9	28.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	54.8	28.7	49.8	8.9	28.3
Queue Length 50th (m)	8.5	42.7	93.1	176.4	169.1
Queue Length 95th (m)	19.2	65.5	#164.4	243.7	#207.8
Internal Link Dist (m)	932.1			904.0	831.3
Turn Bay Length (m)	30.0		50.0		
Base Capacity (vph)	268	580	574	4564	2697
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.47	0.89	0.86	0.88

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 12: Hurontario Street & Street A

Future Total 2031  
 PM Peak Hour




















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	272	513	3911	2331	33
Future Volume (vph)	40	272	513	3911	2331	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1789	1601	1789	5142	5131	
Flt Permitted	0.95	1.00	0.06	1.00	1.00	
Satd. Flow (perm)	1789	1601	121	5142	5131	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	272	513	3911	2331	33
RTOR Reduction (vph)	0	1	0	0	1	0
Lane Group Flow (vph)	40	271	513	3911	2363	0
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	5.2	35.4	92.5	92.5	56.3	
Effective Green, g (s)	5.2	35.4	92.5	92.5	56.3	
Actuated g/C Ratio	0.05	0.32	0.84	0.84	0.51	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	84	604	561	4335	2633	
v/s Ratio Prot	0.02	c0.12	0.25	c0.76	0.46	
v/s Ratio Perm		0.05	c0.52			
v/c Ratio	0.48	0.45	0.91	0.90	0.90	
Uniform Delay, d1	50.9	29.4	33.3	5.6	24.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.2	0.5	19.5	3.5	5.4	
Delay (s)	55.1	30.0	52.8	9.2	29.5	
Level of Service	E	C	D	A	C	
Approach Delay (s)	33.2			14.2	29.5	
Approach LOS	C			B	C	

Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	109.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	92.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	271	3	137	180	44	2	230	285	33	218	10
Future Volume (vph)	2	271	3	137	180	44	2	230	285	33	218	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.999			0.970			0.926			0.995	
Fl <sub>t</sub> Protected				0.950							0.994	
Satd. Flow (prot)	0	1919	0	1772	1799	0	0	1713	0	0	1788	0
Fl <sub>t</sub> Permitted		0.998		0.263				0.999			0.898	
Satd. Flow (perm)	0	1915	0	491	1799	0	0	1711	0	0	1616	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			14			90			3	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		757.4			490.2			298.8			603.0	
Travel Time (s)		39.0			25.2			13.4			27.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Adj. Flow (vph)	2	288	3	146	191	47	2	245	303	35	232	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	293	0	146	238	0	0	550	0	0	278	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

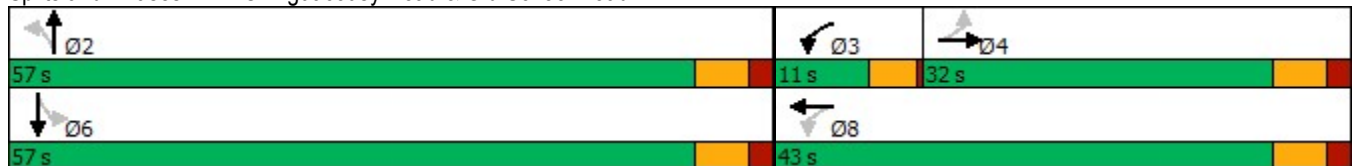
Future Background 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	32.0	32.0		11.0	43.0		57.0	57.0		57.0	57.0	
Total Split (%)	32.0%	32.0%		11.0%	43.0%		57.0%	57.0%		57.0%	57.0%	
Maximum Green (s)	26.0	26.0		7.0	37.0		51.0	51.0		51.0	51.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		4.0	6.0			6.0			6.0	
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	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		19.0		32.1	30.1			51.1			51.1	
Actuated g/C Ratio		0.20		0.34	0.32			0.55			0.55	
v/c Ratio		0.75		0.55	0.40			0.56			0.31	
Control Delay		47.0		30.0	25.0			14.7			13.4	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		47.0		30.0	25.0			14.7			13.4	
LOS		D		C	C			B			B	
Approach Delay		47.0			26.9			14.7			13.4	
Approach LOS		D			C			B			B	

Intersection Summary

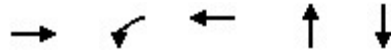
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	93.2
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	23.9
Intersection LOS:	C
Intersection Capacity Utilization	79.2%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road



Queues

1: Chinguacousy Road & Old School Road




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	293	146	238	550	278
v/c Ratio	0.75	0.55	0.40	0.56	0.31
Control Delay	47.0	30.0	25.0	14.7	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.0	30.0	25.0	14.7	13.4
Queue Length 50th (m)	49.5	18.5	30.9	50.2	25.4
Queue Length 95th (m)	76.1	32.1	50.2	92.6	47.7
Internal Link Dist (m)	733.4		466.2	274.8	579.0
Turn Bay Length (m)					
Base Capacity (vph)	535	265	724	978	887
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.55	0.55	0.33	0.56	0.31

Intersection Summary



















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Background 2036  
AM Peak Hour

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (vph)	2	271	3	137	180	44	2	230	285	33	218	10		
Future Volume (vph)	2	271	3	137	180	44	2	230	285	33	218	10		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)		6.0		4.0	6.0			6.0			6.0			
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00			
Frt		1.00		1.00	0.97			0.93			0.99			
Flt Protected		1.00		0.95	1.00			1.00			0.99			
Satd. Flow (prot)		1918		1772	1800			1712			1787			
Flt Permitted		1.00		0.26	1.00			1.00			0.90			
Satd. Flow (perm)		1914		491	1800			1711			1616			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Adj. Flow (vph)	2	288	3	146	191	47	2	245	303	35	232	11		
RTOR Reduction (vph)	0	1	0	0	9	0	0	41	0	0	1	0		
Lane Group Flow (vph)	0	292	0	146	229	0	0	509	0	0	277	0		
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%		
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA			
Protected Phases		4		3	8			2			6			
Permitted Phases	4			8			2			6				
Actuated Green, G (s)		19.1		30.1	30.1			51.1			51.1			
Effective Green, g (s)		19.1		30.1	30.1			51.1			51.1			
Actuated g/C Ratio		0.20		0.32	0.32			0.55			0.55			
Clearance Time (s)		6.0		4.0	6.0			6.0			6.0			
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0			
Lane Grp Cap (vph)		392		254	581			938			886			
v/s Ratio Prot				c0.04	0.13									
v/s Ratio Perm		c0.15		0.14				c0.30			0.17			
v/c Ratio		0.75		0.57	0.39			0.54			0.31			
Uniform Delay, d1		34.8		24.8	24.5			13.5			11.5			
Progression Factor		1.00		1.00	1.00			1.00			1.00			
Incremental Delay, d2		7.5		3.1	0.4			2.3			0.9			
Delay (s)		42.3		27.9	24.9			15.8			12.4			
Level of Service		D		C	C			B			B			
Approach Delay (s)		42.3			26.1			15.8			12.4			
Approach LOS		D			C			B			B			
<b>Intersection Summary</b>														
HCM 2000 Control Delay			22.9									HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio			0.60											
Actuated Cycle Length (s)			93.2								16.0			
Intersection Capacity Utilization			79.2%										ICU Level of Service	D
Analysis Period (min)			15											
c	Critical Lane Group													

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Background 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	550	34	240	320	26	40	67	423	41	133	12
Future Volume (vph)	7	550	34	240	320	26	40	67	423	41	133	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.989				0.850		0.991	
Flt Protected		0.999		0.950				0.981			0.989	
Satd. Flow (prot)	0	3552	0	1789	3487	0	0	1861	1617	0	1858	0
Flt Permitted		0.949		0.213				0.844			0.917	
Satd. Flow (perm)	0	3374	0	401	3487	0	0	1601	1617	0	1723	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			13				450			4
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			594.3	
Travel Time (s)		45.9			18.0			26.5			26.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Adj. Flow (vph)	7	585	36	255	340	28	43	71	450	44	141	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	628	0	255	368	0	0	114	450	0	198	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

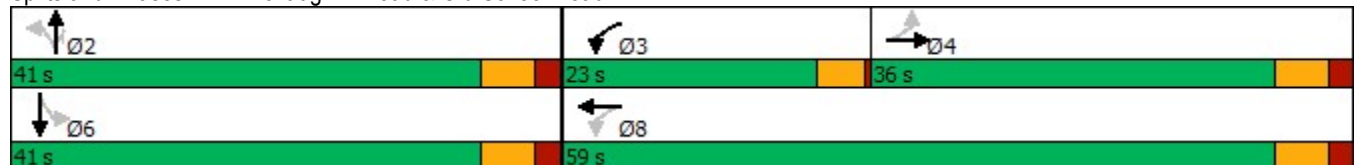
Future Background 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	36.0	36.0		23.0	59.0		41.0	41.0	41.0	41.0	41.0	
Total Split (%)	36.0%	36.0%		23.0%	59.0%		41.0%	41.0%	41.0%	41.0%	41.0%	
Maximum Green (s)	30.0	30.0		19.0	53.0		35.0	35.0	35.0	35.0	35.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		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	
Total Lost Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		21.6		40.5	38.5			35.3	35.3		35.3	
Actuated g/C Ratio		0.25		0.47	0.45			0.41	0.41		0.41	
v/c Ratio		0.74		0.64	0.23			0.17	0.48		0.28	
Control Delay		35.1		21.3	14.0			19.4	4.1		19.8	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		35.1		21.3	14.0			19.4	4.1		19.8	
LOS		D		C	B			B	A		B	
Approach Delay		35.1			17.0			7.2			19.8	
Approach LOS		D			B			A			B	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 85.9  
 Natural Cycle: 55  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.74  
 Intersection Signal Delay: 20.2  
 Intersection LOS: C  
 Intersection Capacity Utilization 67.7%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road



















Future Background 2036  
AM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	628	255	368	114	450	198
v/c Ratio	0.74	0.64	0.23	0.17	0.48	0.28
Control Delay	35.1	21.3	14.0	19.4	4.1	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.1	21.3	14.0	19.4	4.1	19.8
Queue Length 50th (m)	49.1	24.5	18.0	11.5	0.0	20.5
Queue Length 95th (m)	70.9	38.8	26.0	27.5	19.4	44.2
Internal Link Dist (m)	869.1		325.1	564.2		570.3
Turn Bay Length (m)		50.0				
Base Capacity (vph)	1192	498	2174	657	929	710
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.51	0.17	0.17	0.48	0.28
<b>Intersection Summary</b>						























HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road

Future Background 2036  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	550	34	240	320	26	40	67	423	41	133	12
Future Volume (vph)	7	550	34	240	320	26	40	67	423	41	133	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00	
Frt		0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	
Satd. Flow (prot)		3555		1789	3485			1862	1617		1859	
Flt Permitted		0.95		0.21	1.00			0.84	1.00		0.92	
Satd. Flow (perm)		3376		400	3485			1601	1617		1723	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	7	585	36	255	340	28	43	71	450	44	141	13
RTOR Reduction (vph)	0	4	0	0	7	0	0	0	265	0	2	0
Lane Group Flow (vph)	0	624	0	255	361	0	0	114	185	0	196	0
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		21.6		38.5	38.5			35.3	35.3		35.3	
Effective Green, g (s)		21.6		38.5	38.5			35.3	35.3		35.3	
Actuated g/C Ratio		0.25		0.45	0.45			0.41	0.41		0.41	
Clearance Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		849		388	1563			658	665		708	
v/s Ratio Prot				c0.10	0.10							
v/s Ratio Perm		c0.18		0.20				0.07	c0.11		0.11	
v/c Ratio		0.73		0.66	0.23			0.17	0.28		0.28	
Uniform Delay, d1		29.5		16.5	14.5			16.0	16.8		16.8	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		3.3		4.0	0.1			0.6	1.0		1.0	
Delay (s)		32.8		20.5	14.6			16.6	17.8		17.7	
Level of Service		C		C	B			B	B		B	
Approach Delay (s)		32.8			17.0			17.6			17.7	
Approach LOS		C			B			B			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			22.2		HCM 2000 Level of Service				C			
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			85.8		Sum of lost time (s)				16.0			
Intersection Capacity Utilization			67.7%		ICU Level of Service				C			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	563	249	192	395	201	44	58	1862	185	36	2573	299
Future Volume (vph)	563	249	192	395	201	44	58	1862	185	36	2573	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.935			0.973				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	3323	0	1722	3394	0	1722	4445	1471	1615	5043	1633
Flt Permitted	0.532			0.253			0.067			0.067		
Satd. Flow (perm)	983	3323	0	459	3394	0	121	4445	1471	114	5043	1633
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			18				145			169
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			649.6			855.3			578.6	
Travel Time (s)		51.8			33.4			38.5			26.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Adj. Flow (vph)	605	268	206	425	216	47	62	2002	199	39	2767	322
Shared Lane Traffic (%)												
Lane Group Flow (vph)	605	474	0	425	263	0	62	2002	199	39	2767	322
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	24.0		8.0	24.0		29.0	29.0	29.0	29.0	29.0	29.0
Total Split (s)	28.0	25.0		27.0	24.0		68.0	68.0	68.0	68.0	68.0	68.0
Total Split (%)	23.3%	20.8%		22.5%	20.0%		56.7%	56.7%	56.7%	56.7%	56.7%	56.7%
Maximum Green (s)	24.0	17.0		23.0	16.0		60.0	60.0	60.0	60.0	60.0	60.0
Yellow Time (s)	3.5	6.0		3.5	6.0		6.0	6.0	6.0	6.0	6.0	6.0
All-Red Time (s)	0.5	2.0		0.5	2.0		2.0	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	0.0
Total Lost Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lead/Lag	Lead	Lag		Lead	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	None		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		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
Act Effct Green (s)	45.0	17.0		43.0	16.0		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.38	0.14		0.36	0.13		0.50	0.50	0.50	0.50	0.50	0.50
v/c Ratio	1.16	0.96		1.05	0.56		1.03	0.90	0.25	0.68	1.10	0.36
Control Delay	121.9	80.0		89.2	50.4		161.3	34.2	5.9	81.8	80.6	9.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.9	80.0		89.2	50.4		161.3	34.2	5.9	81.8	80.6	9.4
LOS	F	E		F	D		F	C	A	F	F	A
Approach Delay		103.5			74.4			35.2				73.3
Approach LOS		F			E			D				E

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 130  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.16  
 Intersection Signal Delay: 65.9  
 Intersection LOS: E  
 Intersection Capacity Utilization 104.5%  
 ICU Level of Service G  
 Analysis Period (min) 15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Background 2036  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	605	474	425	263	62	2002	199	39	2767	322
v/c Ratio	1.16	0.96	1.05	0.56	1.03	0.90	0.25	0.68	1.10	0.36
Control Delay	121.9	80.0	89.2	50.4	161.3	34.2	5.9	81.8	80.6	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	121.9	80.0	89.2	50.4	161.3	34.2	5.9	81.8	80.6	9.4
Queue Length 50th (m)	~125.1	55.8	~89.1	28.7	~15.6	152.1	6.4	6.8	~270.3	19.3
Queue Length 95th (m)	#192.6	#89.0	#151.7	42.6	#44.0	176.2	18.8	#28.2	#297.2	38.6
Internal Link Dist (m)		983.8		625.6		831.3			554.6	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	523	494	406	468	60	2222	808	57	2521	901
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.16	0.96	1.05	0.56	1.03	0.90	0.25	0.68	1.10	0.36

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.





























Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Background 2036  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			  			  	
Traffic Volume (vph)	563	249	192	395	201	44	58	1862	185	36	2573	299
Future Volume (vph)	563	249	192	395	201	44	58	1862	185	36	2573	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	3323		1722	3395		1722	4445	1471	1615	5043	1633
Flt Permitted	0.53	1.00		0.25	1.00		0.07	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	982	3323		459	3395		121	4445	1471	113	5043	1633
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	605	268	206	425	216	47	62	2002	199	39	2767	322
RTOR Reduction (vph)	0	24	0	0	16	0	0	0	73	0	0	85
Lane Group Flow (vph)	605	450	0	425	247	0	62	2002	127	39	2767	238
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	41.0	17.0		39.0	16.0		60.0	60.0	60.0	60.0	60.0	60.0
Effective Green, g (s)	41.0	17.0		39.0	16.0		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.34	0.14		0.32	0.13		0.50	0.50	0.50	0.50	0.50	0.50
Clearance Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	490	470		391	452		60	2222	735	56	2521	816
v/s Ratio Prot	c0.25	0.14		0.21	0.07			0.45			c0.55	
v/s Ratio Perm	c0.17			0.14			0.51		0.09	0.34		0.15
v/c Ratio	1.23	0.96		1.09	0.55		1.03	0.90	0.17	0.70	1.10	0.29
Uniform Delay, d1	37.1	51.1		36.1	48.6		30.0	27.3	16.4	23.0	30.0	17.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	122.3	30.5		70.9	1.4		125.8	6.4	0.5	53.1	50.8	0.9
Delay (s)	159.4	81.7		107.0	50.0		155.8	33.7	16.9	76.1	80.8	18.5
Level of Service	F	F		F	D		F	C	B	E	F	B
Approach Delay (s)		125.2			85.2			35.6			74.4	
Approach LOS		F			F			D			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			70.8				HCM 2000 Level of Service				E	
HCM 2000 Volume to Capacity ratio			1.16									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			104.5%				ICU Level of Service			G		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2036  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕		↕	↕↕↕			↕			↕	
Traffic Volume (vph)	48	744	55	163	646	29	27	212	157	100	263	42
Future Volume (vph)	48	744	55	163	646	29	27	212	157	100	263	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.994			0.946			0.986	
Flt Protected		0.997		0.950				0.997			0.988	
Satd. Flow (prot)	0	4862	0	1659	4941	0	0	1743	0	0	1781	0
Flt Permitted		0.853		0.253				0.957			0.791	
Satd. Flow (perm)	0	4160	0	442	4941	0	0	1673	0	0	1426	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			7			40			7	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		623.4			1419.4			889.0			2784.8	
Travel Time (s)		32.1			73.0			40.0			125.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Adj. Flow (vph)	48	752	56	165	653	29	27	214	159	101	266	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	856	0	165	682	0	0	400	0	0	409	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	55.0	55.0		55.0	55.0		65.0	65.0		65.0	65.0	
Total Split (%)	45.8%	45.8%		45.8%	45.8%		54.2%	54.2%		54.2%	54.2%	
Maximum Green (s)	51.0	51.0		51.0	51.0		61.0	61.0		61.0	61.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		51.0		51.0	51.0			61.0			61.0	
Actuated g/C Ratio		0.42		0.42	0.42			0.51			0.51	

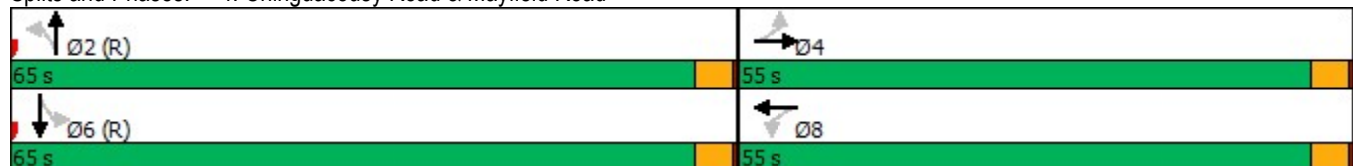
Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.48		0.88	0.32			0.46			0.56	
Control Delay		25.7		80.6	21.5			18.9			23.7	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		25.7		80.6	21.5			18.9			23.7	
LOS		C		F	C			B			C	
Approach Delay		25.7			33.0			18.9			23.7	
Approach LOS		C			C			B			C	

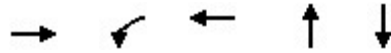
Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.88
Intersection Signal Delay:	26.8
Intersection LOS:	C
Intersection Capacity Utilization	87.2%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Background 2036  
AM Peak Hour



























Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	856	165	682	400	409
v/c Ratio	0.48	0.88	0.32	0.46	0.56
Control Delay	25.7	80.6	21.5	18.9	23.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	25.7	80.6	21.5	18.9	23.7
Queue Length 50th (m)	51.7	28.4	25.7	52.2	63.0
Queue Length 95th (m)	64.0	#73.3	38.7	77.7	93.7
Internal Link Dist (m)	599.4		1395.4	865.0	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	1774	187	2103	870	728
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.48	0.88	0.32	0.46	0.56

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road





















Future Background 2036  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  				  			  	
Traffic Volume (vph)	48	744	55	163	646	29	27	212	157	100	263	42
Future Volume (vph)	48	744	55	163	646	29	27	212	157	100	263	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frt		0.99		1.00	0.99			0.95			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		4864		1659	4939			1743			1781	
Flt Permitted		0.85		0.25	1.00			0.96			0.79	
Satd. Flow (perm)		4162		441	4939			1674			1427	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	48	752	56	165	653	29	27	214	159	101	266	42
RTOR Reduction (vph)	0	6	0	0	4	0	0	20	0	0	3	0
Lane Group Flow (vph)	0	850	0	165	678	0	0	380	0	0	406	0
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		51.0		51.0	51.0			61.0			61.0	
Effective Green, g (s)		51.0		51.0	51.0			61.0			61.0	
Actuated g/C Ratio		0.42		0.42	0.42			0.51			0.51	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Grp Cap (vph)		1768		187	2099			850			725	
v/s Ratio Prot					0.14							
v/s Ratio Perm		0.20		c0.37				0.23			c0.28	
v/c Ratio		0.48		0.88	0.32			0.45			0.56	
Uniform Delay, d1		24.9		31.7	23.0			18.8			20.3	
Progression Factor		1.00		1.26	0.92			1.00			1.00	
Incremental Delay, d2		0.9		38.6	0.4			1.7			3.1	
Delay (s)		25.9		78.8	21.6			20.5			23.4	
Level of Service		C		E	C			C			C	
Approach Delay (s)		25.9			32.7			20.5			23.4	
Approach LOS		C			C			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			26.9									C
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			120.0								8.0	
Intersection Capacity Utilization			87.2%									E
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	1020	123	142	804	130	54	256	106	317	427	88
Future Volume (vph)	18	1020	123	142	804	130	54	256	106	317	427	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.984			0.979			0.956			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4889	0	1706	4762	0	1644	3402	0	1690	3439	0
Flt Permitted	0.288			0.110			0.457			0.384		
Satd. Flow (perm)	553	4889	0	197	4762	0	791	3402	0	683	3439	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			34			47			26	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			867.1			2496.3	
Travel Time (s)		73.0			65.0			39.0			112.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Adj. Flow (vph)	18	1041	126	145	820	133	55	261	108	323	436	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	1167	0	145	953	0	55	369	0	323	526	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

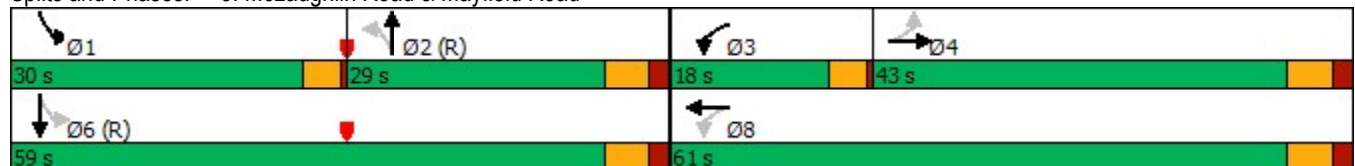
Future Background 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		8.0	23.0	
Total Split (s)	43.0	43.0		18.0	61.0		29.0	29.0		30.0	59.0	
Total Split (%)	35.8%	35.8%		15.0%	50.8%		24.2%	24.2%		25.0%	49.2%	
Maximum Green (s)	37.0	37.0		14.0	55.0		23.0	23.0		26.0	53.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		3.5	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		0.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	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	
Recall Mode	Max	Max		None	Max		C-Max	C-Max		None	C-Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0			5.0	
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0			0	
Act Effct Green (s)	39.8	39.8		57.0	55.0		28.5	28.5		55.0	53.0	
Actuated g/C Ratio	0.33	0.33		0.48	0.46		0.24	0.24		0.46	0.44	
v/c Ratio	0.10	0.71		0.62	0.43		0.29	0.44		0.67	0.34	
Control Delay	26.0	32.3		31.7	21.8		45.2	36.7		29.3	21.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	26.0	32.3		31.7	21.8		45.2	36.7		29.3	21.6	
LOS	C	C		C	C		D	D		C	C	
Approach Delay		32.2			23.2			37.8			24.5	
Approach LOS		C			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: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.71  
 Intersection Signal Delay: 28.3  
 Intersection LOS: C  
 Intersection Capacity Utilization 75.0%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Background 2036  
AM Peak Hour





























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	18	1167	145	953	55	369	323	526
v/c Ratio	0.10	0.71	0.62	0.43	0.29	0.44	0.67	0.34
Control Delay	26.0	32.3	31.7	21.8	45.2	36.7	29.3	21.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.0	32.3	31.7	21.8	45.2	36.7	29.3	21.6
Queue Length 50th (m)	3.3	92.0	19.1	52.1	10.7	34.1	49.8	39.8
Queue Length 95th (m)	m7.7	112.8	34.9	63.6	24.5	51.6	73.4	52.9
Internal Link Dist (m)		1395.4		1239.7		843.1		2472.3
Turn Bay Length (m)	30.0		30.0					
Base Capacity (vph)	183	1635	269	2201	187	842	531	1533
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.71	0.54	0.43	0.29	0.44	0.61	0.34

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

































HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Future Background 2036  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (vph)	18	1020	123	142	804	130	54	256	106	317	427	88
Future Volume (vph)	18	1020	123	142	804	130	54	256	106	317	427	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	4888		1706	4763		1644	3402		1690	3441	
Flt Permitted	0.29	1.00		0.11	1.00		0.46	1.00		0.38	1.00	
Satd. Flow (perm)	553	4888		197	4763		791	3402		682	3441	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	18	1041	126	145	820	133	55	261	108	323	436	90
RTOR Reduction (vph)	0	12	0	0	18	0	0	36	0	0	15	0
Lane Group Flow (vph)	18	1155	0	145	935	0	55	333	0	323	511	0
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	39.8	39.8		55.0	55.0		28.5	28.5		53.0	53.0	
Effective Green, g (s)	39.8	39.8		55.0	55.0		28.5	28.5		53.0	53.0	
Actuated g/C Ratio	0.33	0.33		0.46	0.46		0.24	0.24		0.44	0.44	
Clearance Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	183	1621		231	2183		187	807		473	1519	
v/s Ratio Prot		c0.24		c0.06	0.20			0.10		c0.12	0.15	
v/s Ratio Perm	0.03			0.23			0.07			c0.18		
v/c Ratio	0.10	0.71		0.63	0.43		0.29	0.41		0.68	0.34	
Uniform Delay, d1	27.7	35.1		22.6	21.9		37.5	38.7		23.6	22.0	
Progression Factor	0.84	0.85		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	2.5		5.2	0.6		4.0	1.6		4.0	0.6	
Delay (s)	24.1	32.3		27.9	22.5		41.5	40.2		27.7	22.6	
Level of Service	C	C		C	C		D	D		C	C	
Approach Delay (s)		32.1			23.2			40.4			24.5	
Approach LOS		C			C			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			28.6			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			75.0%			ICU Level of Service				D		
Analysis Period (min)			15									
c	Critical Lane Group											

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	272	1020	109	229	646	179	90	402	233	384	937	363
Future Volume (vph)	272	1020	109	229	646	179	90	402	233	384	937	363
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	1.00		0.98	1.00		0.97	0.99		0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	4902	1541	3340	4948	1420	1807	3476	1512	1706	3544	1585
Fl <sub>t</sub> Permitted	0.164			0.950			0.287			0.391		
Satd. Flow (perm)	300	4902	1508	3329	4948	1395	545	3476	1467	698	3544	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			89			171			248			386
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			1229.9			903.4			609.4	
Travel Time (s)		7.3			63.3			46.5			31.3	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Adj. Flow (vph)	289	1085	116	244	687	190	96	428	248	409	997	386
Shared Lane Traffic (%)												
Lane Group Flow (vph)	289	1085	116	244	687	190	96	428	248	409	997	386
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Minimum Split (s)	9.0	23.0	23.0	9.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	34.0	49.0	49.0	21.0	36.0	36.0	59.0	59.0	59.0	31.0	90.0	90.0
Total Split (%)	21.3%	30.6%	30.6%	13.1%	22.5%	22.5%	36.9%	36.9%	36.9%	19.4%	56.3%	56.3%
Maximum Green (s)	29.0	42.0	42.0	16.0	29.0	29.0	52.0	52.0	52.0	27.0	83.0	83.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	0.5	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
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)		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

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

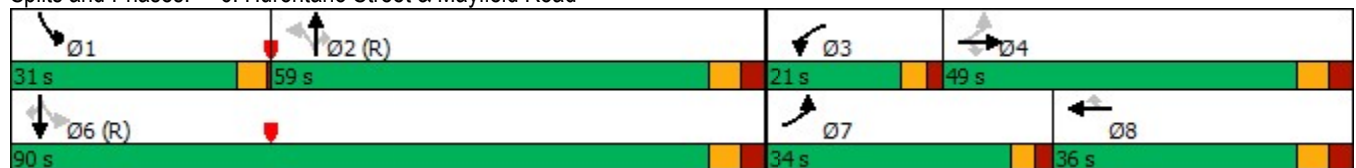
Future Background 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	65.0	42.0	42.0	16.0	29.0	29.0	52.0	52.0	52.0	86.0	83.0	83.0
Actuated g/C Ratio	0.41	0.26	0.26	0.10	0.18	0.18	0.32	0.32	0.32	0.54	0.52	0.52
v/c Ratio	0.76	0.84	0.25	0.73	0.77	0.48	0.54	0.38	0.39	0.75	0.54	0.39
Control Delay	49.9	63.1	15.0	83.4	68.8	14.8	57.8	42.8	6.0	32.5	27.2	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	63.1	15.0	83.4	68.8	14.8	57.8	42.8	6.0	32.5	27.2	2.9
LOS	D	E	B	F	E	B	E	D	A	C	C	A
Approach Delay		56.8			62.8			32.8			23.2	
Approach LOS		E			E			C			C	

Intersection Summary













Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Pretimed
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	42.9
Intersection LOS:	D
Intersection Capacity Utilization	82.2%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road



































Queues  
6: Hurontario Street & Mayfield Road

Future Background 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	289	1085	116	244	687	190	96	428	248	409	997	386
v/c Ratio	0.76	0.84	0.25	0.73	0.77	0.48	0.54	0.38	0.39	0.75	0.54	0.39
Control Delay	49.9	63.1	15.0	83.4	68.8	14.8	57.8	42.8	6.0	32.5	27.2	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	63.1	15.0	83.4	68.8	14.8	57.8	42.8	6.0	32.5	27.2	2.9
Queue Length 50th (m)	65.1	120.6	6.5	39.5	77.1	5.1	25.1	55.3	0.0	77.2	109.5	0.0
Queue Length 95th (m)	99.2	138.7	23.2	54.8	92.6	29.0	46.7	70.8	19.9	104.5	129.1	15.9
Internal Link Dist (m)		118.1			1205.9			879.4			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	382	1286	461	334	896	392	177	1129	644	545	1838	993
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.84	0.25	0.73	0.77	0.48	0.54	0.38	0.39	0.75	0.54	0.39
Intersection Summary												


















HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Background 2036  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		  	  			 			 		
Traffic Volume (vph)	272	1020	109	229	646	179	90	402	233	384	937	363	
Future Volume (vph)	272	1020	109	229	646	179	90	402	233	384	937	363	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1738	4902	1508	3340	4948	1395	1804	3476	1467	1702	3544	1557	
Flt Permitted	0.16	1.00	1.00	0.95	1.00	1.00	0.29	1.00	1.00	0.39	1.00	1.00	
Satd. Flow (perm)	300	4902	1508	3340	4948	1395	546	3476	1467	700	3544	1557	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	289	1085	116	244	687	190	96	428	248	409	997	386	
RTOR Reduction (vph)	0	0	66	0	0	140	0	0	167	0	0	186	
Lane Group Flow (vph)	289	1085	50	244	687	50	96	428	81	409	997	200	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2	
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8			2		1	6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	63.0	42.0	42.0	16.0	29.0	29.0	52.0	52.0	52.0	83.0	83.0	83.0	
Effective Green, g (s)	63.0	42.0	42.0	16.0	29.0	29.0	52.0	52.0	52.0	83.0	83.0	83.0	
Actuated g/C Ratio	0.39	0.26	0.26	0.10	0.18	0.18	0.32	0.32	0.32	0.52	0.52	0.52	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Grp Cap (vph)	378	1286	395	334	896	252	177	1129	476	532	1838	807	
v/s Ratio Prot	c0.14	c0.22		0.07	0.14			0.12		c0.13	0.28		
v/s Ratio Perm	0.16		0.03			0.04	0.18		0.05	c0.27		0.13	
v/c Ratio	0.76	0.84	0.13	0.73	0.77	0.20	0.54	0.38	0.17	0.77	0.54	0.25	
Uniform Delay, d1	37.3	55.9	45.0	69.9	62.3	55.6	44.2	41.6	38.6	25.3	25.8	21.3	
Progression 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	
Incremental Delay, d2	13.7	6.9	0.7	13.2	6.2	1.8	11.4	1.0	0.8	10.2	1.2	0.7	
Delay (s)	51.0	62.8	45.7	83.1	68.5	57.4	55.7	42.5	39.3	35.5	26.9	22.0	
Level of Service	D	E	D	F	E	E	E	D	D	D	C	C	
Approach Delay (s)		59.2			69.8			43.1			27.8		
Approach LOS		E			E			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			48.2									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.82										
Actuated Cycle Length (s)			160.0									Sum of lost time (s)	23.0
Intersection Capacity Utilization			82.2%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	250	2	288	342	54	12	379	329	42	246	5
Future Volume (vph)	5	250	2	288	342	54	12	379	329	42	246	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.999			0.980			0.938			0.998	
Fl <sub>t</sub> Protected		0.999		0.950				0.999			0.993	
Satd. Flow (prot)	0	1863	0	1825	1835	0	0	1721	0	0	1843	0
Fl <sub>t</sub> Permitted		0.989		0.248				0.993			0.845	
Satd. Flow (perm)	0	1844	0	476	1835	0	0	1711	0	0	1569	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					9			63			1	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		757.4			490.2			298.8			603.0	
Travel Time (s)		39.0			25.2			13.4			27.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	5	266	2	306	364	57	13	403	350	45	262	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	273	0	306	421	0	0	766	0	0	312	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

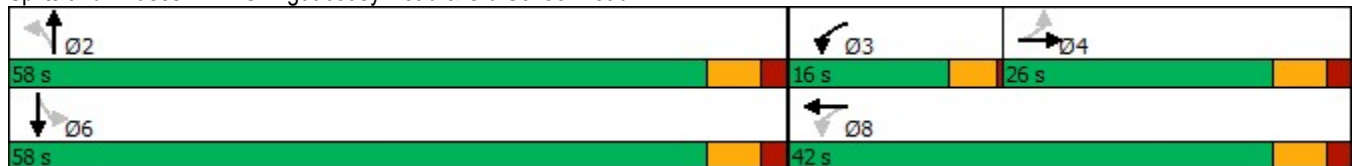
Future Background 2036  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	26.0	26.0		16.0	42.0		58.0	58.0		58.0	58.0	
Total Split (%)	26.0%	26.0%		16.0%	42.0%		58.0%	58.0%		58.0%	58.0%	
Maximum Green (s)	20.0	20.0		12.0	36.0		52.0	52.0		52.0	52.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		4.0	6.0			6.0			6.0	
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	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		18.0		36.0	34.0			52.0			52.0	
Actuated g/C Ratio		0.18		0.37	0.35			0.53			0.53	
v/c Ratio		0.81		0.90	0.66			0.82			0.37	
Control Delay		57.6		56.0	32.1			26.7			15.5	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		57.6		56.0	32.1			26.7			15.5	
LOS		E		E	C			C			B	
Approach Delay		57.6			42.1			26.7			15.5	
Approach LOS		E			D			C			B	

Intersection Summary

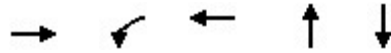
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	98
Natural Cycle:	75
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.90
Intersection Signal Delay:	34.5
Intersection LOS:	C
Intersection Capacity Utilization	91.8%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road



## 1: Chinguacousy Road &amp; Old School Road

PM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	273	306	421	766	312
v/c Ratio	0.81	0.90	0.66	0.82	0.37
Control Delay	57.6	56.0	32.1	26.7	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	56.0	32.1	26.7	15.5
Queue Length 50th (m)	50.1	43.5	65.3	111.6	34.4
Queue Length 95th (m)	#84.2	#79.0	97.6	#175.9	53.6
Internal Link Dist (m)	733.4		466.2	274.8	579.0
Turn Bay Length (m)					
Base Capacity (vph)	376	339	680	937	833
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.73	0.90	0.62	0.82	0.37


















## Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis



















## 1: Chinguacousy Road & Old School Road

Future Background 2036  
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	5	250	2	288	342	54	12	379	329	42	246	5	
Future Volume (vph)	5	250	2	288	342	54	12	379	329	42	246	5	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.0		4.0	6.0			6.0			6.0		
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00		
Frt		1.00		1.00	0.98			0.94			1.00		
Flt Protected		1.00		0.95	1.00			1.00			0.99		
Satd. Flow (prot)		1863		1825	1834			1722			1843		
Flt Permitted		0.99		0.25	1.00			0.99			0.84		
Satd. Flow (perm)		1844		477	1834			1711			1568		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	5	266	2	306	364	57	13	403	350	45	262	5	
RTOR Reduction (vph)	0	0	0	0	6	0	0	30	0	0	0	0	
Lane Group Flow (vph)	0	273	0	306	415	0	0	736	0	0	312	0	
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA		
Protected Phases		4		3	8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		18.0		34.0	34.0			52.0			52.0		
Effective Green, g (s)		18.0		34.0	34.0			52.0			52.0		
Actuated g/C Ratio		0.18		0.35	0.35			0.53			0.53		
Clearance Time (s)		6.0		4.0	6.0			6.0			6.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0		
Lane Grp Cap (vph)		338		330	636			907			832		
v/s Ratio Prot				c0.11	0.23								
v/s Ratio Perm		0.15		c0.21				c0.43			0.20		
v/c Ratio		0.81		0.93	0.65			0.81			0.37		
Uniform Delay, d1		38.3		27.6	27.0			19.0			13.5		
Progression Factor		1.00		1.00	1.00			1.00			1.00		
Incremental Delay, d2		13.2		31.1	2.4			7.8			1.3		
Delay (s)		51.5		58.7	29.4			26.8			14.8		
Level of Service		D		E	C			C			B		
Approach Delay (s)		51.5			41.8			26.8			14.8		
Approach LOS		D			D			C			B		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			33.5									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.89										
Actuated Cycle Length (s)			98.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			91.8%									ICU Level of Service	F
Analysis Period (min)			15										
c	Critical Lane Group												

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Background 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	575	38	449	627	29	50	152	458	24	64	7
Future Volume (vph)	11	575	38	449	627	29	50	152	458	24	64	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.993				0.850		0.991	
Flt Protected		0.999		0.950				0.988			0.987	
Satd. Flow (prot)	0	3465	0	1755	3584	0	0	1826	1555	0	1806	0
Flt Permitted		0.938		0.332				0.895			0.794	
Satd. Flow (perm)	0	3253	0	613	3584	0	0	1654	1555	0	1453	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			7				487		3	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			594.3	
Travel Time (s)		45.9			18.0			26.5			26.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	12	612	40	478	667	31	53	162	487	26	68	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	664	0	478	698	0	0	215	487	0	101	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

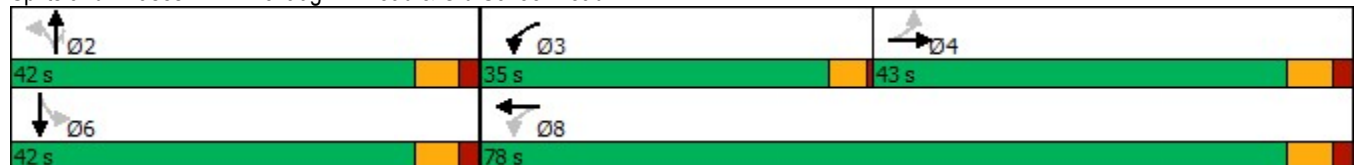
Future Background 2036  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	43.0	43.0		35.0	78.0		42.0	42.0	42.0	42.0	42.0	
Total Split (%)	35.8%	35.8%		29.2%	65.0%		35.0%	35.0%	35.0%	35.0%	35.0%	
Maximum Green (s)	37.0	37.0		31.0	72.0		36.0	36.0	36.0	36.0	36.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		-2.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		2.0	6.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	Max	Max		None	Max		None	None	None	None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		49.7		76.2	72.2			19.7	19.7		19.7	
Actuated g/C Ratio		0.48		0.73	0.69			0.19	0.19		0.19	
v/c Ratio		0.43		0.71	0.28			0.69	0.71		0.36	
Control Delay		21.6		12.5	6.9			50.7	9.4		38.7	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		21.6		12.5	6.9			50.7	9.4		38.7	
LOS		C		B	A			D	A		D	
Approach Delay		21.6			9.2			22.1			38.7	
Approach LOS		C			A			C			D	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	103.9
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	16.9
Intersection LOS:	B
Intersection Capacity Utilization:	78.2%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road



















Future Background 2036  
PM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	664	478	698	215	487	101
v/c Ratio	0.43	0.71	0.28	0.69	0.71	0.36
Control Delay	21.6	12.5	6.9	50.7	9.4	38.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	12.5	6.9	50.7	9.4	38.7
Queue Length 50th (m)	42.4	29.6	24.0	40.7	0.0	17.3
Queue Length 95th (m)	83.5	61.6	42.7	64.3	27.2	32.2
Internal Link Dist (m)	869.1		325.1	564.2		570.3
Turn Bay Length (m)		50.0				
Base Capacity (vph)	1559	813	2492	574	858	506
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.59	0.28	0.37	0.57	0.20
<b>Intersection Summary</b>						























HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road

Future Background 2036  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	575	38	449	627	29	50	152	458	24	64	7
Future Volume (vph)	11	575	38	449	627	29	50	152	458	24	64	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		2.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00	
Frt		0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	
Satd. Flow (prot)		3465		1755	3585			1825	1555		1806	
Flt Permitted		0.94		0.33	1.00			0.89	1.00		0.79	
Satd. Flow (perm)		3255		613	3585			1653	1555		1453	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	12	612	40	478	667	31	53	162	487	26	68	7
RTOR Reduction (vph)	0	3	0	0	2	0	0	0	395	0	2	0
Lane Group Flow (vph)	0	661	0	478	696	0	0	215	92	0	99	0
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		49.7		72.2	72.2			19.7	19.7		19.7	
Effective Green, g (s)		49.7		74.2	72.2			19.7	19.7		19.7	
Actuated g/C Ratio		0.48		0.71	0.69			0.19	0.19		0.19	
Clearance Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1557		663	2491			313	294		275	
v/s Ratio Prot				c0.14	0.19							
v/s Ratio Perm		c0.20		0.37				c0.13	0.06		0.07	
v/c Ratio		0.42		0.72	0.28			0.69	0.31		0.36	
Uniform Delay, d1		17.7		7.0	6.0			39.2	36.3		36.6	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.8		3.9	0.3			6.1	0.6		0.8	
Delay (s)		18.6		10.8	6.3			45.4	36.9		37.4	
Level of Service		B		B	A			D	D		D	
Approach Delay (s)		18.6			8.1			39.5			37.4	
Approach LOS		B			A			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			20.2			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			103.9			Sum of lost time (s)			14.0			
Intersection Capacity Utilization			78.2%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	685	244	117	322	299	56	196	3279	456	37	1919	589
Future Volume (vph)	685	244	117	322	299	56	196	3279	456	37	1919	589
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.951			0.976				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3308	0	1789	3533	0	1807	5043	1633	1825	4812	1541
Flt Permitted	0.281			0.347			0.068			0.073		
Satd. Flow (perm)	540	3308	0	654	3533	0	129	5043	1633	140	4812	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		62			16				181			383
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			649.6			855.3			578.6	
Travel Time (s)		51.8			33.4			38.5			26.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Adj. Flow (vph)	706	252	121	332	308	58	202	3380	470	38	1978	607
Shared Lane Traffic (%)												
Lane Group Flow (vph)	706	373	0	332	366	0	202	3380	470	38	1978	607
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

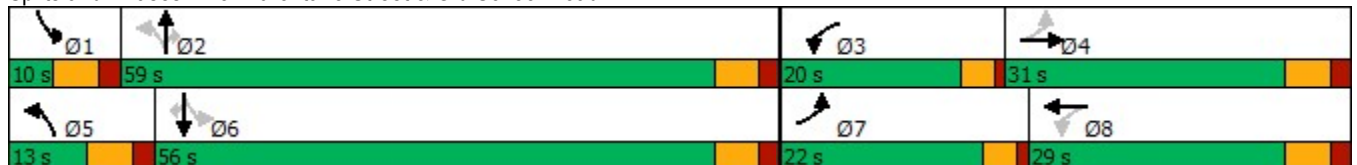
Future Background 2036  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0	29.0	10.0	29.0	29.0
Total Split (s)	22.0	31.0		20.0	29.0		13.0	59.0	59.0	10.0	56.0	56.0
Total Split (%)	18.3%	25.8%		16.7%	24.2%		10.8%	49.2%	49.2%	8.3%	46.7%	46.7%
Maximum Green (s)	18.0	25.0		16.0	23.0		7.0	53.0	53.0	4.0	50.0	50.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		0.0	-2.0		-2.0	-2.0	0.0	-2.0	-2.0	0.0
Total Lost Time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lead/Lag	Lead	Lag		Lead	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
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Walk Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	42.5	20.5		34.5	18.5		64.4	59.1	57.1	58.0	52.0	50.0
Actuated g/C Ratio	0.37	0.18		0.30	0.16		0.57	0.52	0.50	0.51	0.46	0.44
v/c Ratio	1.65	0.58		0.93	0.62		0.98	1.29	0.52	0.24	0.90	0.68
Control Delay	327.4	38.9		64.1	47.1		87.5	158.5	14.6	15.4	35.3	13.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	327.4	38.9		64.1	47.1		87.5	158.5	14.6	15.4	35.3	13.4
LOS	F	D		E	D		F	F	B	B	D	B
Approach Delay		227.7			55.2			138.3			29.9	
Approach LOS		F			E			F			C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	113.5
Natural Cycle:	150
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.65
Intersection Signal Delay:	109.2
Intersection LOS:	F
Intersection Capacity Utilization:	128.0%
ICU Level of Service:	H
Analysis Period (min):	15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Background 2036  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	706	373	332	366	202	3380	470	38	1978	607
v/c Ratio	1.65	0.58	0.93	0.62	0.98	1.29	0.52	0.24	0.90	0.68
Control Delay	327.4	38.9	64.1	47.1	87.5	158.5	14.6	15.4	35.3	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	327.4	38.9	64.1	47.1	87.5	158.5	14.6	15.4	35.3	13.4
Queue Length 50th (m)	~204.0	33.4	57.7	38.4	30.4	~365.1	43.5	3.5	143.8	36.9
Queue Length 95th (m)	#279.2	48.5	#94.1	53.7	#82.1	#414.6	79.2	8.9	#184.9	84.0
Internal Link Dist (m)		983.8		625.6		831.3			554.6	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	428	834	358	790	206	2627	911	160	2205	893
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.65	0.45	0.93	0.46	0.98	1.29	0.52	0.24	0.90	0.68

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Background 2036  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	685	244	117	322	299	56	196	3279	456	37	1919	589
Future Volume (vph)	685	244	117	322	299	56	196	3279	456	37	1919	589
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.95		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1825	3309		1789	3534		1807	5043	1633	1825	4812	1541
Flt Permitted	0.28	1.00		0.35	1.00		0.07	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	540	3309		653	3534		130	5043	1633	141	4812	1541
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	706	252	121	332	308	58	202	3380	470	38	1978	607
RTOR Reduction (vph)	0	51	0	0	13	0	0	0	92	0	0	209
Lane Group Flow (vph)	706	322	0	332	353	0	202	3380	378	38	1978	398
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	36.5	18.5		32.5	16.5		64.2	57.2	57.2	55.0	52.6	52.6
Effective Green, g (s)	40.5	20.5		32.5	18.5		67.6	59.2	57.2	59.0	54.6	52.6
Actuated g/C Ratio	0.35	0.18		0.28	0.16		0.58	0.51	0.49	0.51	0.47	0.45
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	409	584		339	563		205	2571	804	135	2263	698
v/s Ratio Prot	c0.30	0.10		0.13	0.10		c0.08	c0.67		0.01	0.41	
v/s Ratio Perm	0.30			c0.14			0.50		0.23	0.13		0.26
v/c Ratio	1.73	0.55		0.98	0.63		0.99	1.31	0.47	0.28	0.87	0.57
Uniform Delay, d1	33.3	43.6		38.4	45.6		33.5	28.4	19.4	25.6	27.7	23.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	336.9	1.1		42.8	2.2		58.2	144.5	2.0	1.1	5.1	3.4
Delay (s)	370.3	44.7		81.1	47.7		91.7	172.9	21.4	26.7	32.7	26.8
Level of Service	F	D		F	D		F	F	C	C	C	C
Approach Delay (s)		257.7			63.6			151.3			31.3	
Approach LOS		F			E			F			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			120.4									F
HCM 2000 Volume to Capacity ratio			1.34									
Actuated Cycle Length (s)			116.1								16.0	
Intersection Capacity Utilization			128.0%									H
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2036  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕		↖	↕↕↕			↕			↕	
Traffic Volume (vph)	47	779	57	205	733	79	38	317	178	39	186	32
Future Volume (vph)	47	779	57	205	733	79	38	317	178	39	186	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.990			0.985			0.955			0.983	
Flt Protected		0.997		0.950				0.996			0.993	
Satd. Flow (prot)	0	5037	0	1825	5030	0	0	1787	0	0	1836	0
Flt Permitted		0.832		0.250				0.961			0.792	
Satd. Flow (perm)	0	4203	0	480	5030	0	0	1724	0	0	1464	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			25			24			7	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		623.4			1419.4			889.0			2784.8	
Travel Time (s)		32.1			73.0			40.0			125.3	
Confl. Peds. (#/hr)							1					1
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
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Adj. Flow (vph)	51	847	62	223	797	86	41	345	193	42	202	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	960	0	223	883	0	0	579	0	0	279	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	72.0	72.0		72.0	72.0		48.0	48.0		48.0	48.0	
Total Split (%)	60.0%	60.0%		60.0%	60.0%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	68.0	68.0		68.0	68.0		44.0	44.0		44.0	44.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

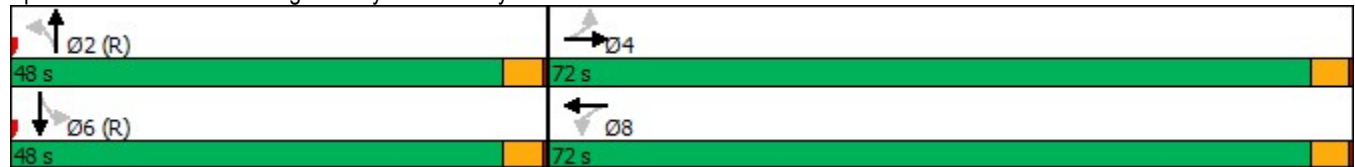
Future Background 2036  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)		68.0		68.0	68.0			44.0			44.0	
Actuated g/C Ratio		0.57		0.57	0.57			0.37			0.37	
v/c Ratio		0.40		0.82	0.31			0.89			0.52	
Control Delay		15.0		47.5	13.6			52.4			33.0	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		15.0		47.5	13.6			52.4			33.0	
LOS		B		D	B			D			C	
Approach Delay		15.0			20.4			52.4			33.0	
Approach LOS		B			C			D			C	

Intersection Summary

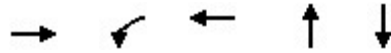
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.89
Intersection Signal Delay:	26.2
Intersection LOS:	C
Intersection Capacity Utilization	77.0%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Background 2036  
PM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	960	223	883	579	279
v/c Ratio	0.40	0.82	0.31	0.89	0.52
Control Delay	15.0	47.5	13.6	52.4	33.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.0	47.5	13.6	52.4	33.0
Queue Length 50th (m)	43.4	40.5	36.8	123.1	49.6
Queue Length 95th (m)	53.2	#91.2	45.2	#189.0	76.0
Internal Link Dist (m)	599.4		1395.4	865.0	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	2388	272	2861	647	541
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.40	0.82	0.31	0.89	0.52

























Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis





















## 4: Chinguacousy Road & Mayfield Road

Future Background 2036  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  				  			  	
Traffic Volume (vph)	47	779	57	205	733	79	38	317	178	39	186	32
Future Volume (vph)	47	779	57	205	733	79	38	317	178	39	186	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frbp, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		0.99		1.00	0.99			0.95			0.98	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		5040		1825	5032			1788			1835	
Flt Permitted		0.83		0.25	1.00			0.96			0.79	
Satd. Flow (perm)		4205		480	5032			1723			1464	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	847	62	223	797	86	41	345	193	42	202	35
RTOR Reduction (vph)	0	7	0	0	11	0	0	15	0	0	4	0
Lane Group Flow (vph)	0	954	0	223	872	0	0	564	0	0	275	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		68.0		68.0	68.0			44.0			44.0	
Effective Green, g (s)		68.0		68.0	68.0			44.0			44.0	
Actuated g/C Ratio		0.57		0.57	0.57			0.37			0.37	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Grp Cap (vph)		2382		272	2851			631			536	
v/s Ratio Prot					0.17							
v/s Ratio Perm		0.23		c0.46				c0.33			0.19	
v/c Ratio		0.40		0.82	0.31			0.89			0.51	
Uniform Delay, d1		14.6		21.0	13.6			35.8			29.6	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.5		23.4	0.3			17.5			3.5	
Delay (s)		15.1		44.4	13.9			53.3			33.1	
Level of Service		B		D	B			D			C	
Approach Delay (s)		15.1			20.1			53.3			33.1	
Approach LOS		B			C			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			26.3									HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			120.0									Sum of lost time (s) 8.0
Intersection Capacity Utilization			77.0%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	966	78	125	1132	303	132	458	129	225	264	91
Future Volume (vph)	49	966	78	125	1132	303	132	458	129	225	264	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.989			0.968			0.967			0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	5036	0	1755	4884	0	1825	3480	0	1738	3389	0
Flt Permitted	0.132			0.165			0.532			0.184		
Satd. Flow (perm)	242	5036	0	305	4884	0	1022	3480	0	337	3389	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			81			28			46	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			867.1			2496.3	
Travel Time (s)		73.0			65.0			39.0			112.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	51	1006	81	130	1179	316	138	477	134	234	275	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	51	1087	0	130	1495	0	138	611	0	234	370	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

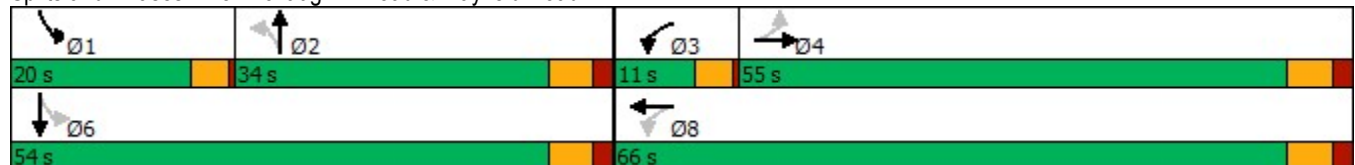
Future Background 2036  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		8.0	22.0	
Total Split (s)	55.0	55.0		11.0	66.0		34.0	34.0		20.0	54.0	
Total Split (%)	45.8%	45.8%		9.2%	55.0%		28.3%	28.3%		16.7%	45.0%	
Maximum Green (s)	49.0	49.0		7.0	60.0		28.0	28.0		16.0	48.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		3.5	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		0.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	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	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0			5.0	
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0			0	
Act Effct Green (s)	49.0	49.0		62.0	60.0		28.0	28.0		50.0	48.0	
Actuated g/C Ratio	0.41	0.41		0.52	0.50		0.23	0.23		0.42	0.40	
v/c Ratio	0.52	0.53		0.54	0.60		0.58	0.73		0.72	0.27	
Control Delay	49.3	27.5		23.8	21.4		51.9	46.6		37.0	21.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	49.3	27.5		23.8	21.4		51.9	46.6		37.0	21.6	
LOS	D	C		C	C		D	D		D	C	
Approach Delay		28.5			21.6			47.5			27.6	
Approach LOS		C			C			D			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.73  
 Intersection Signal Delay: 29.1  
 Intersection LOS: C  
 Intersection Capacity Utilization 79.5%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Background 2036  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	51	1087	130	1495	138	611	234	370
v/c Ratio	0.52	0.53	0.54	0.60	0.58	0.73	0.72	0.27
Control Delay	49.3	27.5	23.8	21.4	51.9	46.6	37.0	21.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.3	27.5	23.8	21.4	51.9	46.6	37.0	21.6
Queue Length 50th (m)	8.9	68.8	15.4	84.6	29.0	67.3	36.5	26.3
Queue Length 95th (m)	#26.8	82.3	26.2	99.1	50.9	87.8	#59.8	37.5
Internal Link Dist (m)		1395.4		1239.7		843.1		2472.3
Turn Bay Length (m)	30.0		30.0					
Base Capacity (vph)	98	2064	242	2482	238	833	327	1383
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.53	0.54	0.60	0.58	0.73	0.72	0.27

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.


































HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Future Background 2036  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	966	78	125	1132	303	132	458	129	225	264	91
Future Volume (vph)	49	966	78	125	1132	303	132	458	129	225	264	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1738	5035		1755	4886		1825	3480		1738	3390	
Flt Permitted	0.13	1.00		0.16	1.00		0.53	1.00		0.18	1.00	
Satd. Flow (perm)	242	5035		304	4886		1021	3480		336	3390	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	51	1006	81	130	1179	316	138	477	134	234	275	95
RTOR Reduction (vph)	0	8	0	0	41	0	0	21	0	0	28	0
Lane Group Flow (vph)	51	1079	0	130	1455	0	138	590	0	234	342	0
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	49.0	49.0		60.0	60.0		28.0	28.0		48.0	48.0	
Effective Green, g (s)	49.0	49.0		60.0	60.0		28.0	28.0		48.0	48.0	
Actuated g/C Ratio	0.41	0.41		0.50	0.50		0.23	0.23		0.40	0.40	
Clearance Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	98	2055		236	2443		238	812		321	1356	
v/s Ratio Prot		0.21		0.03	c0.30			0.17		c0.10	0.10	
v/s Ratio Perm	0.21			0.24			0.14			c0.19		
v/c Ratio	0.52	0.53		0.55	0.60		0.58	0.73		0.73	0.25	
Uniform Delay, d1	26.7	26.7		18.1	21.4		40.8	42.5		26.9	24.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	18.4	1.0		9.0	1.1		9.9	5.6		8.0	0.1	
Delay (s)	45.0	27.7		27.1	22.4		50.7	48.1		34.9	24.1	
Level of Service	D	C		C	C		D	D		C	C	
Approach Delay (s)		28.5			22.8			48.6			28.3	
Approach LOS		C			C			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			29.9									C
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			120.0							20.0		
Intersection Capacity Utilization			79.5%									D
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 		 	 	
Traffic Volume (vph)	693	670	117	305	868	179	224	766	291	253	877	980
Future Volume (vph)	693	670	117	305	868	179	224	766	291	253	877	980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.96	0.98		0.99	1.00		0.96			0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	4995	1601	3404	5092	1585	1789	3614	1555	1825	3510	1585
Flt Permitted	0.167			0.950			0.194			0.138		
Satd. Flow (perm)	308	4995	1540	3346	5092	1563	365	3614	1488	265	3510	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			143			185			230			628
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			1229.9			903.4			609.4	
Travel Time (s)		7.3			63.3			46.5			31.3	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Adj. Flow (vph)	714	691	121	314	895	185	231	790	300	261	904	1010
Shared Lane Traffic (%)												
Lane Group Flow (vph)	714	691	121	314	895	185	231	790	300	261	904	1010
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	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	2		2	6		6
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	8.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	42.0	45.0	45.0	23.0	26.0	26.0	9.0	44.0	44.0	18.0	53.0	53.0
Total Split (%)	32.3%	34.6%	34.6%	17.7%	20.0%	20.0%	6.9%	33.8%	33.8%	13.8%	40.8%	40.8%
Maximum Green (s)	37.0	38.0	38.0	18.0	19.0	19.0	5.0	37.0	37.0	14.0	46.0	46.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.5	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	0.5	3.0	3.0	1.0	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
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
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		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

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

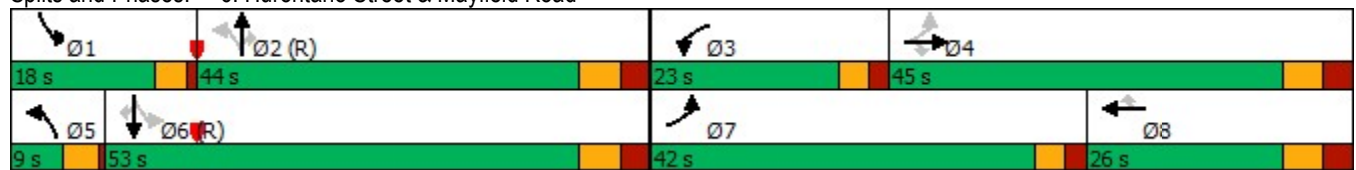
Future Background 2036  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	63.0	38.0	38.0	18.0	19.0	19.0	45.0	37.0	37.0	58.0	46.0	46.0
Actuated g/C Ratio	0.48	0.29	0.29	0.14	0.15	0.15	0.35	0.28	0.28	0.45	0.35	0.35
v/c Ratio	1.27	0.47	0.22	0.67	1.20	0.48	1.28	0.77	0.51	0.91	0.73	1.06
Control Delay	168.3	39.1	4.3	60.8	150.6	11.3	189.9	48.5	13.0	62.1	40.7	61.4
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	168.3	39.1	4.3	60.8	150.6	11.3	189.9	48.5	13.0	62.1	40.7	61.4
LOS	F	D	A	E	F	B	F	D	B	E	D	E
Approach Delay	96.8			111.9			65.2			52.9		
Approach LOS	F			F			E			D		

Intersection Summary

Area Type: Other  
 Cycle Length: 130  
 Actuated Cycle Length: 130  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 120  
 Control Type: Pretimed  
 Maximum v/c Ratio: 1.28  
 Intersection Signal Delay: 78.7  
 Intersection LOS: E  
 Intersection Capacity Utilization 111.0%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Background 2036  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	714	691	121	314	895	185	231	790	300	261	904	1010
v/c Ratio	1.27	0.47	0.22	0.67	1.20	0.48	1.28	0.77	0.51	0.91	0.73	1.06
Control Delay	168.3	39.1	4.3	60.8	150.6	11.3	189.9	48.5	13.0	62.1	40.7	61.4
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	168.3	39.1	4.3	60.8	150.6	11.3	189.9	48.5	13.0	62.1	40.7	61.4
Queue Length 50th (m)	~215.1	53.2	0.0	39.8	~101.9	0.0	~51.4	97.7	13.5	42.5	105.6	~172.2
Queue Length 95th (m)	#289.1	65.8	9.6	55.3	#130.0	20.8	#100.7	121.1	40.2	#92.0	129.5	#251.7
Internal Link Dist (m)		118.1			1205.9			879.4			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	561	1460	551	471	744	386	181	1028	588	286	1242	956
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.27	0.47	0.22	0.67	1.20	0.48	1.28	0.77	0.51	0.91	0.73	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

























Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.


















HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Background 2036  
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	693	670	117	305	868	179	224	766	291	253	877	980	
Future Volume (vph)	693	670	117	305	868	179	224	766	291	253	877	980	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1755	4995	1540	3404	5092	1563	1789	3614	1488	1825	3510	1555	
Flt Permitted	0.17	1.00	1.00	0.95	1.00	1.00	0.19	1.00	1.00	0.14	1.00	1.00	
Satd. Flow (perm)	308	4995	1540	3404	5092	1563	366	3614	1488	266	3510	1555	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	714	691	121	314	895	185	231	790	300	261	904	1010	
RTOR Reduction (vph)	0	0	86	0	0	158	0	0	165	0	0	406	
Lane Group Flow (vph)	714	691	35	314	895	27	231	790	135	261	904	604	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3	
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%	
Turn Type	pm+pt	NA	Perm	Prot	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	2		2	6		6	
Actuated Green, G (s)	61.0	38.0	38.0	18.0	19.0	19.0	42.0	37.0	37.0	55.0	46.0	46.0	
Effective Green, g (s)	61.0	38.0	38.0	18.0	19.0	19.0	42.0	37.0	37.0	55.0	46.0	46.0	
Actuated g/C Ratio	0.47	0.29	0.29	0.14	0.15	0.15	0.32	0.28	0.28	0.42	0.35	0.35	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	
Lane Grp Cap (vph)	556	1460	450	471	744	228	172	1028	423	280	1242	550	
v/s Ratio Prot	c0.37	0.14		0.09	0.18		c0.05	0.22		c0.10	0.26		
v/s Ratio Perm	c0.24		0.02			0.02	c0.38		0.09	0.29		0.39	
v/c Ratio	1.28	0.47	0.08	0.67	1.20	0.12	1.34	0.77	0.32	0.93	0.73	1.10	
Uniform Delay, d1	37.3	37.8	33.3	53.2	55.5	48.2	42.3	42.6	36.6	29.1	36.6	42.0	
Progression 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	
Incremental Delay, d2	141.1	1.1	0.3	7.3	103.9	1.1	188.0	5.5	2.0	38.9	3.8	68.1	
Delay (s)	178.5	38.9	33.7	60.4	159.4	49.3	230.3	48.1	38.6	68.0	40.3	110.1	
Level of Service	F	D	C	E	F	D	F	D	D	E	D	F	
Approach Delay (s)		103.8			122.5			77.8			76.0		
Approach LOS		F			F			E			E		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			93.1									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.30										
Actuated Cycle Length (s)			130.0									Sum of lost time (s)	23.0
Intersection Capacity Utilization			111.0%									ICU Level of Service	H
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Total 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	288	4	183	219	48	5	230	379	39	218	10
Future Volume (vph)	2	288	4	183	219	48	5	230	379	39	218	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.998			0.973			0.917			0.995	
Fl <sub>t</sub> Protected				0.950							0.993	
Satd. Flow (prot)	0	1917	0	1772	1807	0	0	1698	0	0	1789	0
Fl <sub>t</sub> Permitted		0.998		0.251				0.998			0.862	
Satd. Flow (perm)	0	1913	0	468	1807	0	0	1695	0	0	1553	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			13			118			3	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		803.6			490.2			298.8			342.6	
Travel Time (s)		41.3			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Adj. Flow (vph)	2	306	4	195	233	51	5	245	403	41	232	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	312	0	195	284	0	0	653	0	0	284	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

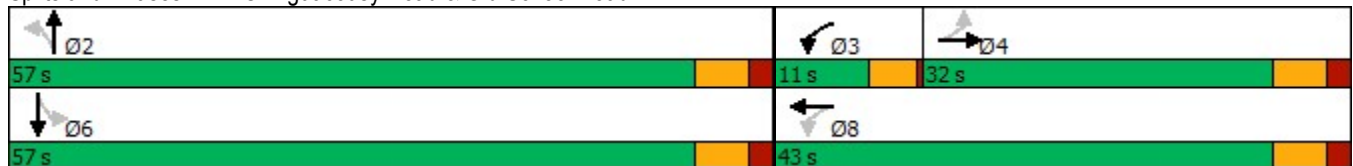
Future Total 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	32.0	32.0		11.0	43.0		57.0	57.0		57.0	57.0	
Total Split (%)	32.0%	32.0%		11.0%	43.0%		57.0%	57.0%		57.0%	57.0%	
Maximum Green (s)	26.0	26.0		7.0	37.0		51.0	51.0		51.0	51.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		4.0	6.0			6.0			6.0	
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	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		19.9		32.9	30.9			51.1			51.1	
Actuated g/C Ratio		0.21		0.35	0.33			0.54			0.54	
v/c Ratio		0.77		0.75	0.47			0.67			0.34	
Control Delay		48.1		42.1	26.5			17.3			14.1	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		48.1		42.1	26.5			17.3			14.1	
LOS		D		D	C			B			B	
Approach Delay		48.1			32.9			17.3			14.1	
Approach LOS		D			C			B			B	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	94.1
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.77
Intersection Signal Delay:	26.6
Intersection LOS:	C
Intersection Capacity Utilization	84.5%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road

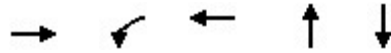


Queues

Future Total 2036

1: Chinguacousy Road & Old School Road

AM Peak Hour




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	312	195	284	653	284
v/c Ratio	0.77	0.75	0.47	0.67	0.34
Control Delay	48.1	42.1	26.5	17.3	14.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	48.1	42.1	26.5	17.3	14.1
Queue Length 50th (m)	53.4	25.5	38.5	66.2	27.1
Queue Length 95th (m)	81.2	#48.0	60.7	119.2	49.3
Internal Link Dist (m)	779.6		466.2	274.8	318.6
Turn Bay Length (m)					
Base Capacity (vph)	531	261	720	975	845
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.59	0.75	0.39	0.67	0.34

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.



















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Total 2036  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	288	4	183	219	48	5	230	379	39	218	10
Future Volume (vph)	2	288	4	183	219	48	5	230	379	39	218	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		4.0	6.0			6.0			6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.97			0.92			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		1917		1772	1807			1697			1788	
Flt Permitted		1.00		0.25	1.00			1.00			0.86	
Satd. Flow (perm)		1913		468	1807			1694			1552	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	2	306	4	195	233	51	5	245	403	41	232	11
RTOR Reduction (vph)	0	1	0	0	9	0	0	54	0	0	1	0
Lane Group Flow (vph)	0	311	0	195	275	0	0	599	0	0	283	0
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		19.9		30.9	30.9			51.1			51.1	
Effective Green, g (s)		19.9		30.9	30.9			51.1			51.1	
Actuated g/C Ratio		0.21		0.33	0.33			0.54			0.54	
Clearance Time (s)		6.0		4.0	6.0			6.0			6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		404		250	594			920			843	
v/s Ratio Prot				c0.06	0.15							
v/s Ratio Perm		0.16		c0.20				c0.35			0.18	
v/c Ratio		0.77		0.78	0.46			0.65			0.34	
Uniform Delay, d1		34.9		26.9	25.0			15.2			12.0	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		8.8		14.5	0.6			3.6			1.1	
Delay (s)		43.7		41.4	25.6			18.7			13.0	
Level of Service		D		D	C			B			B	
Approach Delay (s)		43.7			32.0			18.7			13.0	
Approach LOS		D			C			B			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			26.0									C
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			94.0						16.0			
Intersection Capacity Utilization			84.5%									E
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Total 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	745	49	256	379	50	60	87	448	57	143	16
Future Volume (vph)	15	745	49	256	379	50	60	87	448	57	143	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.983				0.850		0.990	
Flt Protected		0.999		0.950				0.980			0.987	
Satd. Flow (prot)	0	3551	0	1789	3456	0	0	1861	1617	0	1849	0
Flt Permitted		0.941		0.126				0.810			0.879	
Satd. Flow (perm)	0	3345	0	237	3456	0	0	1538	1617	0	1646	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			22				442			4
Link Speed (k/h)		70			70			80				80
Link Distance (m)		893.1			349.1			588.2				263.1
Travel Time (s)		45.9			18.0			26.5				11.8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Adj. Flow (vph)	16	793	52	272	403	53	64	93	477	61	152	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	861	0	272	456	0	0	157	477	0	230	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)		3.7			3.7			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

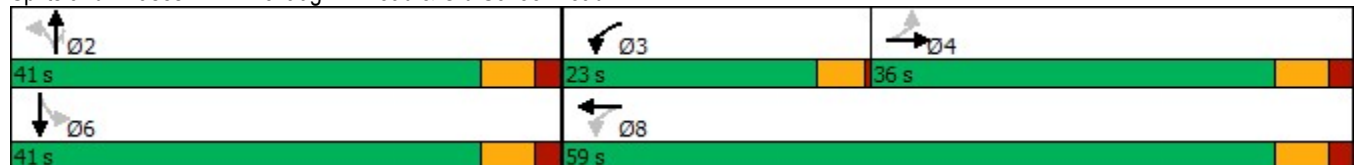
Future Total 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	36.0	36.0		23.0	59.0		41.0	41.0	41.0	41.0	41.0	
Total Split (%)	36.0%	36.0%		23.0%	59.0%		41.0%	41.0%	41.0%	41.0%	41.0%	
Maximum Green (s)	30.0	30.0		19.0	53.0		35.0	35.0	35.0	35.0	35.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		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	
Total Lost Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		27.8		48.2	46.2			35.2	35.2		35.2	
Actuated g/C Ratio		0.30		0.52	0.49			0.38	0.38		0.38	
v/c Ratio		0.86		0.75	0.27			0.27	0.54		0.37	
Control Delay		41.3		32.2	13.2			23.5	5.8		24.3	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		41.3		32.2	13.2			23.5	5.8		24.3	
LOS		D		C	B			C	A		C	
Approach Delay		41.3			20.3			10.2			24.3	
Approach LOS		D			C			B			C	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	93.5
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.86
Intersection Signal Delay:	25.4
Intersection LOS:	C
Intersection Capacity Utilization:	77.0%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road

Future Total 2036  
AM Peak Hour





















Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	861	272	456	157	477	230
v/c Ratio	0.86	0.75	0.27	0.27	0.54	0.37
Control Delay	41.3	32.2	13.2	23.5	5.8	24.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.3	32.2	13.2	23.5	5.8	24.3
Queue Length 50th (m)	76.2	29.5	22.5	20.2	4.1	30.3
Queue Length 95th (m)	#113.1	56.4	31.7	37.7	27.9	53.1
Internal Link Dist (m)	869.1		325.1	564.2		239.1
Turn Bay Length (m)		50.0				
Base Capacity (vph)	1084	439	1979	578	884	622
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.62	0.23	0.27	0.54	0.37

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.























HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road

Future Total 2036  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	745	49	256	379	50	60	87	448	57	143	16
Future Volume (vph)	15	745	49	256	379	50	60	87	448	57	143	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00	
Frt		0.99		1.00	0.98			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	
Satd. Flow (prot)		3551		1789	3455			1861	1617		1849	
Flt Permitted		0.94		0.13	1.00			0.81	1.00		0.88	
Satd. Flow (perm)		3343		237	3455			1538	1617		1646	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	16	793	52	272	403	53	64	93	477	61	152	17
RTOR Reduction (vph)	0	5	0	0	11	0	0	0	275	0	2	0
Lane Group Flow (vph)	0	856	0	272	445	0	0	157	202	0	228	0
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		27.8		46.2	46.2			35.2	35.2		35.2	
Effective Green, g (s)		27.8		46.2	46.2			35.2	35.2		35.2	
Actuated g/C Ratio		0.30		0.49	0.49			0.38	0.38		0.38	
Clearance Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		995		356	1709			579	609		620	
v/s Ratio Prot				c0.12	0.13							
v/s Ratio Perm		c0.26		0.26				0.10	0.12		c0.14	
v/c Ratio		0.86		0.76	0.26			0.27	0.33		0.37	
Uniform Delay, d1		31.0		20.2	13.7			20.2	20.7		21.0	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		7.7		9.4	0.1			1.2	1.5		1.7	
Delay (s)		38.7		29.6	13.8			21.3	22.2		22.7	
Level of Service		D		C	B			C	C		C	
Approach Delay (s)		38.7			19.7			22.0			22.7	
Approach LOS		D			B			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			27.2			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			93.4			Sum of lost time (s)		16.0				
Intersection Capacity Utilization			77.0%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	571	253	272	395	210	44	76	1916	185	36	2596	312
Future Volume (vph)	571	253	272	395	210	44	76	1916	185	36	2596	312
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.922			0.974				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	3285	0	1722	3397	0	1722	4445	1471	1615	5043	1633
Flt Permitted	0.514			0.250			0.067			0.067		
Satd. Flow (perm)	949	3285	0	453	3397	0	121	4445	1471	114	5043	1633
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			17				141			175
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			725.7			855.3			496.5	
Travel Time (s)		51.8			37.3			38.5			22.3	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Adj. Flow (vph)	614	272	292	425	226	47	82	2060	199	39	2791	335
Shared Lane Traffic (%)												
Lane Group Flow (vph)	614	564	0	425	273	0	82	2060	199	39	2791	335
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	24.0		8.0	24.0		29.0	29.0	29.0	29.0	29.0	29.0
Total Split (s)	28.0	25.0		27.0	24.0		68.0	68.0	68.0	68.0	68.0	68.0
Total Split (%)	23.3%	20.8%		22.5%	20.0%		56.7%	56.7%	56.7%	56.7%	56.7%	56.7%
Maximum Green (s)	24.0	17.0		23.0	16.0		60.0	60.0	60.0	60.0	60.0	60.0
Yellow Time (s)	3.5	6.0		3.5	6.0		6.0	6.0	6.0	6.0	6.0	6.0
All-Red Time (s)	0.5	2.0		0.5	2.0		2.0	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	0.0
Total Lost Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lead/Lag	Lead	Lag		Lead	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	None		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		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
Act Effct Green (s)	45.0	17.0		43.0	16.0		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.38	0.14		0.36	0.13		0.50	0.50	0.50	0.50	0.50	0.50
v/c Ratio	1.19	1.15		1.05	0.58		1.37	0.93	0.25	0.68	1.11	0.37
Control Delay	133.6	133.6		90.2	51.4		271.0	36.6	6.2	81.8	84.4	9.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	133.6	133.6		90.2	51.4		271.0	36.6	6.2	81.8	84.4	9.5
LOS	F	F		F	D		F	D	A	F	F	A
Approach Delay		133.6			75.0			42.3				76.5
Approach LOS		F			E			D				E

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 110  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.37  
 Intersection Signal Delay: 74.6  
 Intersection Capacity Utilization 116.5%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service H

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Total 2036  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	614	564	425	273	82	2060	199	39	2791	335
v/c Ratio	1.19	1.15	1.05	0.58	1.37	0.93	0.25	0.68	1.11	0.37
Control Delay	133.6	133.6	90.2	51.4	271.0	36.6	6.2	81.8	84.4	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	133.6	133.6	90.2	51.4	271.0	36.6	6.2	81.8	84.4	9.5
Queue Length 50th (m)	~132.3	~79.4	~89.6	30.2	~25.4	160.5	6.9	6.8	~274.6	20.2
Queue Length 95th (m)	#199.9	#115.1	#152.2	44.4	#44.1	185.6	19.4	#28.2	#301.3	40.2
Internal Link Dist (m)		983.8		701.7		831.3			472.5	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	517	489	405	467	60	2222	806	57	2521	904
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.19	1.15	1.05	0.58	1.37	0.93	0.25	0.68	1.11	0.37

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Total 2036  
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	571	253	272	395	210	44	76	1916	185	36	2596	312
Future Volume (vph)	571	253	272	395	210	44	76	1916	185	36	2596	312
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.92		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	3286		1722	3398		1722	4445	1471	1615	5043	1633
Flt Permitted	0.51	1.00		0.25	1.00		0.07	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	950	3286		453	3398		121	4445	1471	113	5043	1633
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	614	272	292	425	226	47	82	2060	199	39	2791	335
RTOR Reduction (vph)	0	24	0	0	15	0	0	0	71	0	0	88
Lane Group Flow (vph)	614	540	0	425	258	0	82	2060	129	39	2791	248
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	41.0	17.0		39.0	16.0		60.0	60.0	60.0	60.0	60.0	60.0
Effective Green, g (s)	41.0	17.0		39.0	16.0		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.34	0.14		0.32	0.13		0.50	0.50	0.50	0.50	0.50	0.50
Clearance Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	485	465		390	453		60	2222	735	56	2521	816
v/s Ratio Prot	c0.25	0.16		0.21	0.08			0.46			0.55	
v/s Ratio Perm	c0.18			0.15			c0.68		0.09	0.34		0.15
v/c Ratio	1.27	1.16		1.09	0.57		1.37	0.93	0.17	0.70	1.11	0.30
Uniform Delay, d1	36.9	51.5		36.4	48.8		30.0	28.0	16.4	23.0	30.0	17.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	135.3	94.1		71.9	1.7		241.4	8.2	0.5	53.1	54.7	1.0
Delay (s)	172.3	145.6		108.2	50.5		271.4	36.2	17.0	76.1	84.7	18.6
Level of Service	F	F		F	D		F	D	B	E	F	B
Approach Delay (s)		159.5			85.7			42.8			77.6	
Approach LOS		F			F			D			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			80.4				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.33									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			116.5%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2036  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕		↖	↕↕↕			↕			↕	
Traffic Volume (vph)	48	750	55	287	650	37	27	226	197	121	288	42
Future Volume (vph)	48	750	55	287	650	37	27	226	197	121	288	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.992			0.941			0.988	
Flt Protected		0.997		0.950				0.997			0.987	
Satd. Flow (prot)	0	4862	0	1659	4925	0	0	1735	0	0	1780	0
Flt Permitted		0.855		0.197				0.961			0.649	
Satd. Flow (perm)	0	4169	0	344	4925	0	0	1673	0	0	1171	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			9			45			6	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		746.6			1419.4			504.3			2784.8	
Travel Time (s)		38.4			73.0			22.7			125.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Adj. Flow (vph)	48	758	56	290	657	37	27	228	199	122	291	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	862	0	290	694	0	0	454	0	0	455	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

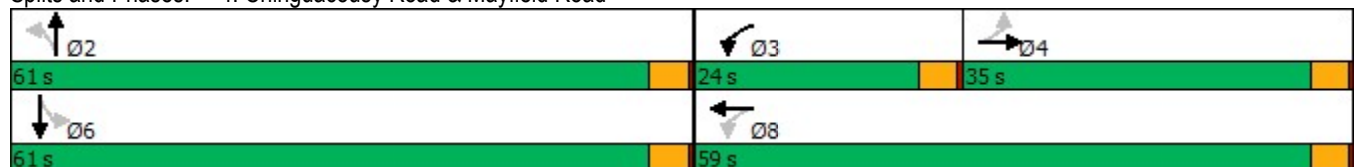
Future Total 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	35.0	35.0		24.0	59.0		61.0	61.0		61.0	61.0	
Total Split (%)	29.2%	29.2%		20.0%	49.2%		50.8%	50.8%		50.8%	50.8%	
Maximum Green (s)	31.0	31.0		20.0	55.0		57.0	57.0		57.0	57.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
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	Max	Max		None	Max		None	None		None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		35.2		55.6	55.6			41.0			41.0	
Actuated g/C Ratio		0.34		0.53	0.53			0.39			0.39	
v/c Ratio		0.61		0.75	0.26			0.67			0.98	
Control Delay		33.9		30.3	15.1			27.9			69.5	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		33.9		30.3	15.1			27.9			69.5	
LOS		C		C	B			C			E	
Approach Delay		33.9			19.6			27.9			69.5	
Approach LOS		C			B			C			E	

Intersection Summary

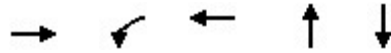
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 104.7  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 33.7  
 Intersection LOS: C  
 Intersection Capacity Utilization 95.7%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Total 2036  
AM Peak Hour



























Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	862	290	694	454	455
v/c Ratio	0.61	0.75	0.26	0.67	0.98
Control Delay	33.9	30.3	15.1	27.9	69.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	33.9	30.3	15.1	27.9	69.5
Queue Length 50th (m)	54.7	32.2	26.7	66.8	88.3
Queue Length 95th (m)	85.2	#78.0	45.5	98.0	#147.5
Internal Link Dist (m)	722.6		1395.4	480.3	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	1405	436	2620	941	647
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	0.67	0.26	0.48	0.70

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.





















HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road

Future Total 2036  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  				  			  	
Traffic Volume (vph)	48	750	55	287	650	37	27	226	197	121	288	42
Future Volume (vph)	48	750	55	287	650	37	27	226	197	121	288	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frt		0.99		1.00	0.99			0.94			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		4864		1659	4925			1735			1779	
Flt Permitted		0.86		0.20	1.00			0.96			0.65	
Satd. Flow (perm)		4171		345	4925			1673			1170	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	48	758	56	290	657	37	27	228	199	122	291	42
RTOR Reduction (vph)	0	6	0	0	4	0	0	27	0	0	4	0
Lane Group Flow (vph)	0	856	0	290	690	0	0	427	0	0	451	0
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		35.2		55.6	55.6			41.0			41.0	
Effective Green, g (s)		35.2		55.6	55.6			41.0			41.0	
Actuated g/C Ratio		0.34		0.53	0.53			0.39			0.39	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1403		389	2617			655			458	
v/s Ratio Prot				c0.12	0.14							
v/s Ratio Perm		0.21		c0.28				0.25			c0.39	
v/c Ratio		0.61		0.75	0.26			0.65			0.99	
Uniform Delay, d1		29.0		16.1	13.3			26.0			31.5	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		2.0		7.6	0.2			2.3			37.9	
Delay (s)		31.0		23.7	13.6			28.3			69.4	
Level of Service		C		C	B			C			E	
Approach Delay (s)		31.0			16.6			28.3			69.4	
Approach LOS		C			B			C			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			31.7									C
HCM 2000 Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			104.6						12.0			
Intersection Capacity Utilization			95.7%									F
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Total 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	1032	133	142	808	130	58	324	106	317	569	216
Future Volume (vph)	64	1032	133	142	808	130	58	324	106	317	569	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.983			0.979			0.963			0.959	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4885	0	1706	4763	0	1644	3430	0	1690	3359	0
Flt Permitted	0.287			0.097			0.349			0.341		
Satd. Flow (perm)	551	4885	0	174	4763	0	604	3430	0	607	3359	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			33			34			60	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			577.6			2496.3	
Travel Time (s)		73.0			65.0			26.0			112.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Adj. Flow (vph)	65	1053	136	145	824	133	59	331	108	323	581	220
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	1189	0	145	957	0	59	439	0	323	801	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

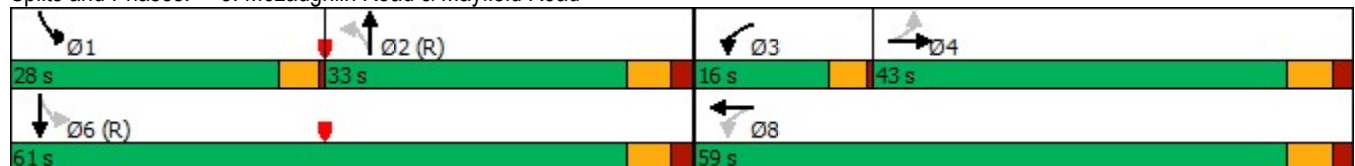
Future Total 2036  
AM Peak Hour

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		8.0	23.0	
Total Split (s)	43.0	43.0		16.0	59.0		33.0	33.0		28.0	61.0	
Total Split (%)	35.8%	35.8%		13.3%	49.2%		27.5%	27.5%		23.3%	50.8%	
Maximum Green (s)	37.0	37.0		12.0	53.0		27.0	27.0		24.0	55.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		3.5	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		0.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	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	
Recall Mode	Max	Max		None	Max		C-Max	C-Max		None	C-Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0			5.0	
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0			0	
Act Effct Green (s)	38.4	38.4		55.0	53.0		31.2	31.2		57.0	55.0	
Actuated g/C Ratio	0.32	0.32		0.46	0.44		0.26	0.26		0.48	0.46	
v/c Ratio	0.37	0.75		0.67	0.45		0.38	0.48		0.69	0.51	
Control Delay	39.9	39.9		38.2	23.3		47.1	37.4		29.1	22.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	39.9	39.9		38.2	23.3		47.1	37.4		29.1	22.4	
LOS	D	D		D	C		D	D		C	C	
Approach Delay		39.9			25.3			38.5			24.3	
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: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.75  
 Intersection Signal Delay: 31.3  
 Intersection LOS: C  
 Intersection Capacity Utilization 77.3%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Total 2036  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	65	1189	145	957	59	439	323	801
v/c Ratio	0.37	0.75	0.67	0.45	0.38	0.48	0.69	0.51
Control Delay	39.9	39.9	38.2	23.3	47.1	37.4	29.1	22.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.9	39.9	38.2	23.3	47.1	37.4	29.1	22.4
Queue Length 50th (m)	11.9	91.2	19.8	54.3	11.5	42.6	48.0	63.2
Queue Length 95th (m)	26.1	109.3	38.4	66.2	26.1	61.2	70.9	80.8
Internal Link Dist (m)		1395.4		1239.7		553.6		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	176	1575	232	2122	156	917	504	1572
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.75	0.63	0.45	0.38	0.48	0.64	0.51
Intersection Summary								

































HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Future Total 2036  
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	1032	133	142	808	130	58	324	106	317	569	216
Future Volume (vph)	64	1032	133	142	808	130	58	324	106	317	569	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	4884		1706	4763		1644	3430		1690	3359	
Flt Permitted	0.29	1.00		0.10	1.00		0.35	1.00		0.34	1.00	
Satd. Flow (perm)	551	4884		175	4763		604	3430		606	3359	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	65	1053	136	145	824	133	59	331	108	323	581	220
RTOR Reduction (vph)	0	14	0	0	18	0	0	25	0	0	33	0
Lane Group Flow (vph)	65	1175	0	145	939	0	59	414	0	323	769	0
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	38.4	38.4		53.0	53.0		31.2	31.2		55.0	55.0	
Effective Green, g (s)	38.4	38.4		53.0	53.0		31.2	31.2		55.0	55.0	
Actuated g/C Ratio	0.32	0.32		0.44	0.44		0.26	0.26		0.46	0.46	
Clearance Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	176	1562		212	2103		157	891		456	1539	
v/s Ratio Prot		c0.24		c0.06	0.20			0.12		c0.12	0.23	
v/s Ratio Perm	0.12			0.24			0.10			c0.21		
v/c Ratio	0.37	0.75		0.68	0.45		0.38	0.46		0.71	0.50	
Uniform Delay, d1	31.5	36.5		24.2	23.3		36.4	37.4		22.6	22.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.9	3.4		8.8	0.7		6.7	1.7		5.0	1.2	
Delay (s)	37.3	39.9		33.0	24.0		43.2	39.1		27.6	24.0	
Level of Service	D	D		C	C		D	D		C	C	
Approach Delay (s)		39.8			25.2			39.6			25.0	
Approach LOS		D			C			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			31.5				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			77.3%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	272	1020	121	229	646	179	94	468	233	384	1085	363
Future Volume (vph)	272	1020	121	229	646	179	94	468	233	384	1085	363
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	1.00		0.98	1.00		0.97	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)	1738	4902	1541	3340	4948	1420	1807	3476	1512	1706	3544	1585
Flt Permitted	0.164			0.950			0.240			0.340		
Satd. Flow (perm)	300	4902	1508	3329	4948	1395	456	3476	1467	608	3544	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			89			171			248			343
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			749.9			381.1			609.4	
Travel Time (s)		7.3			38.6			19.6			31.3	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Adj. Flow (vph)	289	1085	129	244	687	190	100	498	248	409	1154	386
Shared Lane Traffic (%)												
Lane Group Flow (vph)	289	1085	129	244	687	190	100	498	248	409	1154	386
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Minimum Split (s)	9.0	23.0	23.0	9.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	34.0	49.0	49.0	21.0	36.0	36.0	59.0	59.0	59.0	31.0	90.0	90.0
Total Split (%)	21.3%	30.6%	30.6%	13.1%	22.5%	22.5%	36.9%	36.9%	36.9%	19.4%	56.3%	56.3%
Maximum Green (s)	29.0	42.0	42.0	16.0	29.0	29.0	52.0	52.0	52.0	27.0	83.0	83.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	0.5	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
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)		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

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	65.0	42.0	42.0	16.0	29.0	29.0	52.0	52.0	52.0	86.0	83.0	83.0
Actuated g/C Ratio	0.41	0.26	0.26	0.10	0.18	0.18	0.32	0.32	0.32	0.54	0.52	0.52
v/c Ratio	0.76	0.84	0.28	0.73	0.77	0.48	0.68	0.44	0.39	0.80	0.63	0.40
Control Delay	49.9	63.1	17.9	83.4	68.8	14.8	71.1	44.1	6.0	35.9	29.4	4.4
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	49.9	63.1	17.9	83.4	68.8	14.8	71.1	44.1	6.0	35.9	29.4	4.4
LOS	D	E	B	F	E	B	E	D	A	D	C	A
Approach Delay		56.7			62.8			36.1			25.8	
Approach LOS		E			E			D			C	

Intersection Summary

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Pretimed
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	43.6
Intersection LOS:	D
Intersection Capacity Utilization	85.3%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Total 2036  
AM Peak Hour




































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	289	1085	129	244	687	190	100	498	248	409	1154	386
v/c Ratio	0.76	0.84	0.28	0.73	0.77	0.48	0.68	0.44	0.39	0.80	0.63	0.40
Control Delay	49.9	63.1	17.9	83.4	68.8	14.8	71.1	44.1	6.0	35.9	29.4	4.4
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	49.9	63.1	17.9	83.4	68.8	14.8	71.1	44.1	6.0	35.9	29.4	4.4
Queue Length 50th (m)	65.1	120.6	9.7	39.5	77.1	5.1	27.6	65.8	0.0	77.2	134.9	6.7
Queue Length 95th (m)	99.2	138.7	27.8	54.8	92.6	29.0	#56.6	83.0	19.9	104.5	157.5	24.7
Internal Link Dist (m)		118.1			725.9			357.1			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	382	1286	461	334	896	392	148	1129	644	512	1838	972
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.84	0.28	0.73	0.77	0.48	0.68	0.44	0.39	0.80	0.63	0.40

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.










HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Total 2036  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		  	  			 		 	 		
Traffic Volume (vph)	272	1020	121	229	646	179	94	468	233	384	1085	363	
Future Volume (vph)	272	1020	121	229	646	179	94	468	233	384	1085	363	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1738	4902	1508	3340	4948	1395	1805	3476	1467	1703	3544	1557	
Flt Permitted	0.16	1.00	1.00	0.95	1.00	1.00	0.24	1.00	1.00	0.34	1.00	1.00	
Satd. Flow (perm)	300	4902	1508	3340	4948	1395	456	3476	1467	610	3544	1557	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	289	1085	129	244	687	190	100	498	248	409	1154	386	
RTOR Reduction (vph)	0	0	66	0	0	140	0	0	167	0	0	165	
Lane Group Flow (vph)	289	1085	63	244	687	50	100	498	81	409	1154	221	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2	
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8			2		1	6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	63.0	42.0	42.0	16.0	29.0	29.0	52.0	52.0	52.0	83.0	83.0	83.0	
Effective Green, g (s)	63.0	42.0	42.0	16.0	29.0	29.0	52.0	52.0	52.0	83.0	83.0	83.0	
Actuated g/C Ratio	0.39	0.26	0.26	0.10	0.18	0.18	0.32	0.32	0.32	0.52	0.52	0.52	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Grp Cap (vph)	378	1286	395	334	896	252	148	1129	476	500	1838	807	
v/s Ratio Prot	c0.14	c0.22		0.07	0.14			0.14		c0.14	0.33		
v/s Ratio Perm	0.16		0.04			0.04	0.22		0.05	c0.29		0.14	
v/c Ratio	0.76	0.84	0.16	0.73	0.77	0.20	0.68	0.44	0.17	0.82	0.63	0.27	
Uniform Delay, d1	37.3	55.9	45.4	69.9	62.3	55.6	46.7	42.5	38.6	25.8	27.5	21.6	
Progression 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	
Incremental Delay, d2	13.7	6.9	0.9	13.2	6.2	1.8	22.0	1.3	0.8	13.8	1.6	0.8	
Delay (s)	51.0	62.8	46.3	83.1	68.5	57.4	68.7	43.8	39.3	39.7	29.1	22.4	
Level of Service	D	E	D	F	E	E	E	D	D	D	C	C	
Approach Delay (s)		59.1			69.8			45.4			30.0		
Approach LOS		E			E			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			48.7									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.85										
Actuated Cycle Length (s)			160.0									Sum of lost time (s)	23.0
Intersection Capacity Utilization			85.3%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C










Future Total 2036  
AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	32	89	528	11	33	373
Future Volume (vph)	32	89	528	11	33	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.901		0.997			
Flt Protected	0.987					0.996
Satd. Flow (prot)	1675	0	1878	0	0	1876
Flt Permitted	0.987					0.996
Satd. Flow (perm)	1675	0	1878	0	0	1876
Link Speed (k/h)	48		80			80
Link Distance (m)	204.9		2784.8			298.8
Travel Time (s)	15.4		125.3			13.4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	89	528	11	33	373
Shared Lane Traffic (%)						
Lane Group Flow (vph)	121	0	539	0	0	406
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	60.9%			ICU Level of Service B		
Analysis Period (min)	15					



HCM Unsignalized Intersection Capacity Analysis  
7: Chinguacousy Road & Street C

Future Total 2036  
AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	32	89	528	11	33	373
Future Volume (Veh/h)	32	89	528	11	33	373
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)	32	89	528	11	33	373
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						299
pX, platoon unblocked	0.91					
vC, conflicting volume	972	534	539			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	917	534	539			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	88	84	97			
cM capacity (veh/h)	264	546	1029			
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	121	539	406			
Volume Left	32	0	33			
Volume Right	89	11	0			
cSH	426	1700	1029			
Volume to Capacity	0.28	0.32	0.03			
Queue Length 95th (m)	8.8	0.0	0.8			
Control Delay (s)	16.8	0.0	1.0			
Lane LOS	C		A			
Approach Delay (s)	16.8	0.0	1.0			
Approach LOS	C					
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			60.9%	ICU Level of Service		B
Analysis Period (min)	15					










Lanes, Volumes, Timings  
8: Street B & Old School Road

Future Total 2036  
AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↘	
Traffic Volume (vph)	703	5	40	438	13	107
Future Volume (vph)	703	5	40	438	13	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.999			0.879		
Flt Protected				0.996	0.995	
Satd. Flow (prot)	3575	0	0	3564	1647	0
Flt Permitted				0.996	0.995	
Satd. Flow (perm)	3575	0	0	3564	1647	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	0.92
Adj. Flow (vph)	703	5	40	438	13	116
Shared Lane Traffic (%)						
Lane Group Flow (vph)	708	0	0	478	129	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	14		24	24		14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	50.2%			ICU Level of Service A		
Analysis Period (min)	15					


















HCM Unsignalized Intersection Capacity Analysis  
 8: Street B & Old School Road

Future Total 2036  
 AM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	703	5	40	438	13	107
Future Volume (Veh/h)	703	5	40	438	13	107
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	0.92
Hourly flow rate (vph)	703	5	40	438	13	116
<b>Pedestrians</b>						
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			708		1004	354
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			708		1004	354
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		94	82
cM capacity (veh/h)			887		227	642
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>WB 1</b>	<b>WB 2</b>	<b>NB 1</b>	
Volume Total	469	239	186	292	129	
Volume Left	0	0	40	0	13	
Volume Right	0	5	0	0	116	
cSH	1700	1700	887	1700	543	
Volume to Capacity	0.28	0.14	0.05	0.17	0.24	
Queue Length 95th (m)	0.0	0.0	1.1	0.0	7.0	
Control Delay (s)	0.0	0.0	2.3	0.0	13.7	
Lane LOS			A	B		
Approach Delay (s)	0.0		0.9	13.7		
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			1.7			
Intersection Capacity Utilization			50.2%	ICU Level of Service	A	
Analysis Period (min)			15			

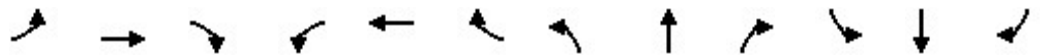
Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	246	0	42	0	553	93	19	430	0
Future Volume (vph)	0	0	0	246	0	42	0	553	93	19	430	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.850			0.978				
Flt Protected				0.950							0.998	
Satd. Flow (prot)	0	1883	0	1789	1601	0	0	3500	0	0	3571	0
Flt Permitted				0.757							0.919	
Satd. Flow (perm)	0	1883	0	1426	1601	0	0	3500	0	0	3289	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					198			29				
Link Speed (k/h)		48			48			80				80
Link Distance (m)		204.8			403.1			2496.3				588.2
Travel Time (s)		15.4			30.2			112.3				26.5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	246	0	42	0	553	93	19	430	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	246	42	0	0	646	0	0	449	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)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2036  
AM Peak Hour

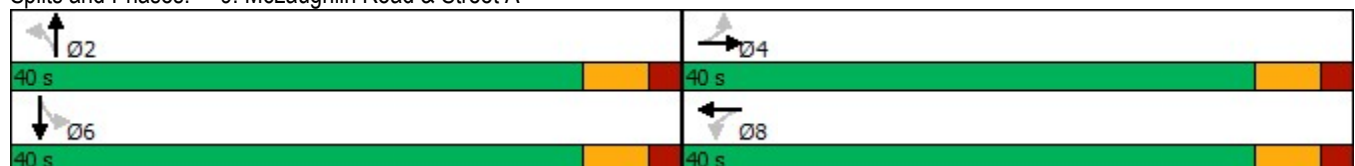


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	40.0	40.0		40.0	40.0		40.0	40.0		40.0	40.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	34.0	34.0		34.0	34.0		34.0	34.0		34.0	34.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)				16.2	16.2			36.2			36.2	
Actuated g/C Ratio				0.25	0.25			0.56			0.56	
v/c Ratio				0.69	0.08			0.33			0.24	
Control Delay				31.4	0.3			8.6			8.5	
Queue Delay				0.0	0.0			0.0			0.0	
Total Delay				31.4	0.3			8.6			8.5	
LOS				C	A			A			A	
Approach Delay					26.9			8.6			8.5	
Approach LOS					C			A			A	

Intersection Summary

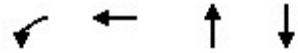
Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	64.5
Natural Cycle:	45
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	12.4
Intersection LOS:	B
Intersection Capacity Utilization:	49.5%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 9: McLaughlin Road & Street A



Queues  
9: McLaughlin Road & Street A

Future Total 2036  
AM Peak Hour






















Lane Group	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	246	42	646	449
v/c Ratio	0.69	0.08	0.33	0.24
Control Delay	31.4	0.3	8.6	8.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	31.4	0.3	8.6	8.5
Queue Length 50th (m)	25.1	0.0	18.0	12.5
Queue Length 95th (m)	45.0	0.0	36.1	26.0
Internal Link Dist (m)		379.1	2472.3	564.2
Turn Bay Length (m)	30.0			
Base Capacity (vph)	754	940	1977	1846
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.33	0.04	0.33	0.24
Intersection Summary				

# HCM Signalized Intersection Capacity Analysis

## 9: McLaughlin Road & Street A

Future Total 2036  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	246	0	42	0	553	93	19	430	0
Future Volume (vph)	0	0	0	246	0	42	0	553	93	19	430	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.0	6.0			6.0			6.0	
Lane Util. Factor				1.00	1.00			0.95			0.95	
Frt				1.00	0.85			0.98			1.00	
Flt Protected				0.95	1.00			1.00			1.00	
Satd. Flow (prot)				1789	1601			3501			3571	
Flt Permitted				0.76	1.00			1.00			0.92	
Satd. Flow (perm)				1426	1601			3501			3290	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	246	0	42	0	553	93	19	430	0
RTOR Reduction (vph)	0	0	0	0	31	0	0	13	0	0	0	0
Lane Group Flow (vph)	0	0	0	246	11	0	0	633	0	0	449	0
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)				16.2	16.2			36.2			36.2	
Effective Green, g (s)				16.2	16.2			36.2			36.2	
Actuated g/C Ratio				0.25	0.25			0.56			0.56	
Clearance Time (s)				6.0	6.0			6.0			6.0	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				358	402			1967			1849	
v/s Ratio Prot					0.01			c0.18				
v/s Ratio Perm				c0.17							0.14	
v/c Ratio				0.69	0.03			0.32			0.24	
Uniform Delay, d1				21.8	18.2			7.5			7.2	
Progression Factor				1.00	1.00			1.00			1.00	
Incremental Delay, d2				5.4	0.0			0.4			0.3	
Delay (s)				27.2	18.2			8.0			7.5	
Level of Service				C	B			A			A	
Approach Delay (s)		0.0			25.9			8.0			7.5	
Approach LOS		A			C			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			11.5									B
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			64.4							12.0		
Intersection Capacity Utilization			49.5%									A
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
 10: Street D & Old School Road

Future Total 2036  
 AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↖↖	↗↗	
Traffic Volume (vph)	1106	99	11	616	54	0
Future Volume (vph)	1106	99	11	616	54	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Fr <sub>t</sub>	0.988					
Fl <sub>t</sub> Protected				0.999	0.950	
Satd. Flow (prot)	3536	0	0	3575	1789	0
Fl <sub>t</sub> Permitted				0.999	0.950	
Satd. Flow (perm)	3536	0	0	3575	1789	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1106	99	11	616	54	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1205	0	0	627	54	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	14		24	24		14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	43.7%			ICU Level of Service A		
Analysis Period (min)	15					



HCM Unsignalized Intersection Capacity Analysis  
 10: Street D & Old School Road

Future Total 2036  
 AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Volume (veh/h)	1106	99	11	616	54	0
Future Volume (Veh/h)	1106	99	11	616	54	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1106	99	11	616	54	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)	349					
pX, platoon unblocked			0.81		0.81	0.81
vC, conflicting volume			1205		1486	602
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			778		1125	32
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		66	100
cM capacity (veh/h)			674		158	836
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	737	468	216	411	54	
Volume Left	0	0	11	0	54	
Volume Right	0	99	0	0	0	
cSH	1700	1700	674	1700	158	
Volume to Capacity	0.43	0.28	0.02	0.24	0.34	
Queue Length 95th (m)	0.0	0.0	0.4	0.0	10.7	
Control Delay (s)	0.0	0.0	0.7	0.0	39.2	
Lane LOS			A		E	
Approach Delay (s)	0.0		0.2		39.2	
Approach LOS					E	
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			43.7%		ICU Level of Service	A
Analysis Period (min)			15			

Lanes, Volumes, Timings  
11: Street A & Street D

Future Total 2036  
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	87	143	93	121	72	144
Future Volume (vph)	87	143	93	121	72	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.924		0.910	
Flt Protected		0.981			0.984	
Satd. Flow (prot)	0	1848	1740	0	1687	0
Flt Permitted		0.981			0.984	
Satd. Flow (perm)	0	1848	1740	0	1687	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	87	143	93	121	72	144
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	230	214	0	216	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	97			97	97	97
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	47.5%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 11: Street A & Street D

Future Total 2036  
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	87	143	93	121	72	144
Future Volume (Veh/h)	87	143	93	121	72	144
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	87	143	93	121	72	144
<b>Pedestrians</b>						
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	214			470	154	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	214			470	154	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	94			86	84	
cM capacity (veh/h)	1356			516	892	
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	230	214	216			
Volume Left	87	0	72			
Volume Right	0	121	144			
cSH	1356	1700	718			
Volume to Capacity	0.06	0.13	0.30			
Queue Length 95th (m)	1.6	0.0	9.6			
Control Delay (s)	3.3	0.0	12.2			
Lane LOS	A		B			
Approach Delay (s)	3.3	0.0	12.2			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			5.1			
Intersection Capacity Utilization			47.5%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2036  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	54	534	149	2124	3241	23
Future Volume (vph)	54	534	149	2124	3241	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt		0.850			0.999	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	5142	5137	0
Flt Permitted	0.950		0.053			
Satd. Flow (perm)	1789	1601	100	5142	5137	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					1	
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	54	534	149	2124	3241	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	534	149	2124	3264	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pt+ov	pm+pt	NA	NA	
Protected Phases	4	4 5	5	2	6	
Permitted Phases			2			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2036  
AM Peak Hour

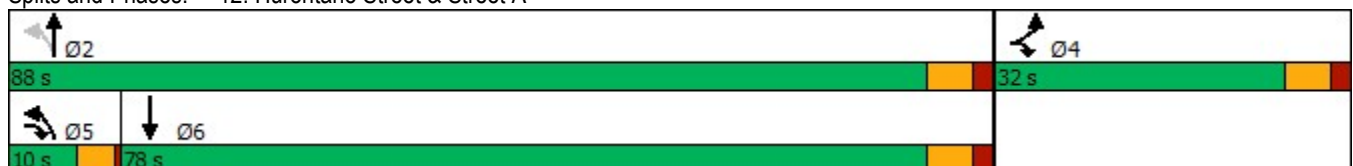


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4 5	5	2	6	
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	22.0		8.0	22.0	22.0	
Total Split (s)	32.0		10.0	88.0	78.0	
Total Split (%)	26.7%		8.3%	73.3%	65.0%	
Maximum Green (s)	26.0		6.0	82.0	72.0	
Yellow Time (s)	4.0		3.5	4.0	4.0	
All-Red Time (s)	2.0		0.5	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		4.0	6.0	6.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	26.0	36.0	84.0	82.0	72.0	
Actuated g/C Ratio	0.22	0.30	0.70	0.68	0.60	
v/c Ratio	0.14	1.11	0.97	0.60	1.06	
Control Delay	39.2	115.1	90.2	11.2	59.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	39.2	115.1	90.2	11.2	59.2	
LOS	D	F	F	B	E	
Approach Delay	108.1			16.3	59.2	
Approach LOS	F			B	E	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Natural Cycle:	120
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.11
Intersection Signal Delay:	48.0
Intersection LOS:	D
Intersection Capacity Utilization:	106.2%
ICU Level of Service:	G
Analysis Period (min):	15

Splits and Phases: 12: Hurontario Street & Street A



Queues  
12: Hurontario Street & Street A

Future Total 2036  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	54	534	149	2124	3264
v/c Ratio	0.14	1.11	0.97	0.60	1.06
Control Delay	39.2	115.1	90.2	11.2	59.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	39.2	115.1	90.2	11.2	59.2
Queue Length 50th (m)	10.3	~144.0	19.1	89.5	~309.7
Queue Length 95th (m)	21.4	#209.6	#60.5	101.8	#334.7
Internal Link Dist (m)	932.1			904.0	831.3
Turn Bay Length (m)	30.0		50.0		
Base Capacity (vph)	387	480	154	3513	3082
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.14	1.11	0.97	0.60	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 12: Hurontario Street & Street A

Future Total 2036  
 AM Peak Hour




















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	54	534	149	2124	3241	23
Future Volume (vph)	54	534	149	2124	3241	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1789	1601	1789	5142	5136	
Flt Permitted	0.95	1.00	0.05	1.00	1.00	
Satd. Flow (perm)	1789	1601	99	5142	5136	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	54	534	149	2124	3241	23
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	54	534	149	2124	3264	0
Turn Type	Prot	pt+ov	pm+pt	NA	NA	
Protected Phases	4	4 5	5	2	6	
Permitted Phases			2			
Actuated Green, G (s)	26.0	38.0	82.0	82.0	72.0	
Effective Green, g (s)	26.0	38.0	82.0	82.0	72.0	
Actuated g/C Ratio	0.22	0.32	0.68	0.68	0.60	
Clearance Time (s)	6.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	387	506	152	3513	3081	
v/s Ratio Prot	0.03	c0.33	0.05	0.41	c0.64	
v/s Ratio Perm			0.62			
v/c Ratio	0.14	1.06	0.98	0.60	1.06	
Uniform Delay, d1	38.0	41.0	38.8	10.3	24.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.2	55.4	66.8	0.8	34.7	
Delay (s)	38.1	96.4	105.6	11.0	58.7	
Level of Service	D	F	F	B	E	
Approach Delay (s)	91.0			17.2	58.7	
Approach LOS	F			B	E	

Intersection Summary			
HCM 2000 Control Delay	46.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	106.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Total 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	295	2	366	379	65	14	379	384	52	246	5
Future Volume (vph)	5	295	2	366	379	65	14	379	384	52	246	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.999			0.978			0.933			0.998	
Fl <sub>t</sub> Protected		0.999		0.950				0.999			0.992	
Satd. Flow (prot)	0	1863	0	1825	1828	0	0	1715	0	0	1838	0
Fl <sub>t</sub> Permitted		0.990		0.207				0.992			0.748	
Satd. Flow (perm)	0	1846	0	398	1828	0	0	1703	0	0	1386	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					10			68			1	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		803.6			490.2			298.8			342.6	
Travel Time (s)		41.3			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	5	314	2	389	403	69	15	403	409	55	262	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	321	0	389	472	0	0	827	0	0	322	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

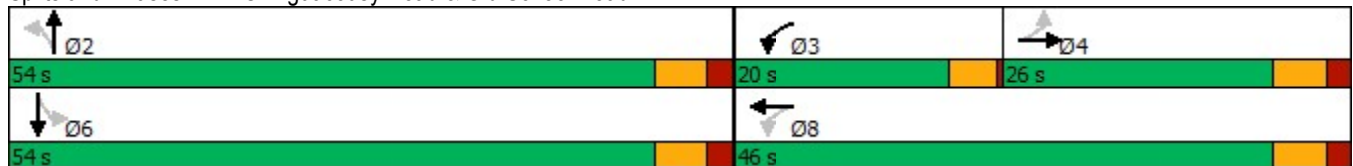
Future Total 2036  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	26.0	26.0		20.0	46.0		54.0	54.0		54.0	54.0	
Total Split (%)	26.0%	26.0%		20.0%	46.0%		54.0%	54.0%		54.0%	54.0%	
Maximum Green (s)	20.0	20.0		16.0	40.0		48.0	48.0		48.0	48.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		4.0	6.0			6.0			6.0	
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	None	None		None	None		None	None		None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		19.2		41.2	39.2			47.0			47.0	
Actuated g/C Ratio		0.20		0.42	0.40			0.48			0.48	
v/c Ratio		0.89		0.97	0.64			0.97			0.49	
Control Delay		66.3		63.8	28.3			49.6			20.6	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		66.3		63.8	28.3			49.6			20.6	
LOS		E		E	C			D			C	
Approach Delay		66.3			44.4			49.6			20.6	
Approach LOS		E			D			D			C	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	98.2
Natural Cycle:	80
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.97
Intersection Signal Delay:	45.9
Intersection LOS:	D
Intersection Capacity Utilization:	100.2%
ICU Level of Service:	G
Analysis Period (min):	15

Splits and Phases: 1: Chinguacousy Road & Old School Road

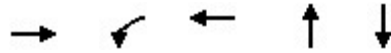


Queues

Future Total 2036

1: Chinguacousy Road & Old School Road

PM Peak Hour




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	321	389	472	827	322
v/c Ratio	0.89	0.97	0.64	0.97	0.49
Control Delay	66.3	63.8	28.3	49.6	20.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	66.3	63.8	28.3	49.6	20.6
Queue Length 50th (m)	60.8	54.3	70.8	141.7	40.6
Queue Length 95th (m)	#106.8	#112.4	104.3	#226.4	64.4
Internal Link Dist (m)	779.6		466.2	274.8	318.6
Turn Bay Length (m)					
Base Capacity (vph)	376	399	751	868	678
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.85	0.97	0.63	0.95	0.47

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.



















HCM Signalized Intersection Capacity Analysis  
 1: Chinguacousy Road & Old School Road

Future Total 2036  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	295	2	366	379	65	14	379	384	52	246	5
Future Volume (vph)	5	295	2	366	379	65	14	379	384	52	246	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		4.0	6.0			6.0			6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.98			0.93			1.00	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		1863		1825	1829			1716			1837	
Flt Permitted		0.99		0.21	1.00			0.99			0.75	
Satd. Flow (perm)		1846		397	1829			1703			1385	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	314	2	389	403	69	15	403	409	55	262	5
RTOR Reduction (vph)	0	0	0	0	6	0	0	35	0	0	1	0
Lane Group Flow (vph)	0	321	0	389	466	0	0	792	0	0	321	0
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		19.2		39.2	39.2			47.0			47.0	
Effective Green, g (s)		19.2		39.2	39.2			47.0			47.0	
Actuated g/C Ratio		0.20		0.40	0.40			0.48			0.48	
Clearance Time (s)		6.0		4.0	6.0			6.0			6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		360		391	730			815			662	
v/s Ratio Prot				c0.16	0.25							
v/s Ratio Perm		0.17		c0.24				c0.46			0.23	
v/c Ratio		0.89		0.99	0.64			0.97			0.49	
Uniform Delay, d1		38.5		24.7	23.8			24.9			17.4	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		23.0		43.9	1.8			24.5			0.6	
Delay (s)		61.5		68.6	25.6			49.5			18.0	
Level of Service		E		E	C			D			B	
Approach Delay (s)		61.5			45.0			49.5			18.0	
Approach LOS		E			D			D			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			45.1			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			98.2			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			100.2%			ICU Level of Service				G		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Total 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	693	61	493	781	52	73	164	497	50	82	13
Future Volume (vph)	16	693	61	493	781	52	73	164	497	50	82	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.991				0.850		0.988	
Flt Protected		0.999		0.950				0.985			0.983	
Satd. Flow (prot)	0	3451	0	1755	3575	0	0	1811	1555	0	1805	0
Flt Permitted		0.923		0.215				0.814			0.595	
Satd. Flow (perm)	0	3189	0	397	3575	0	0	1497	1555	0	1092	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			10				521		4	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	17	737	65	524	831	55	78	174	529	53	87	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	819	0	524	886	0	0	252	529	0	154	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

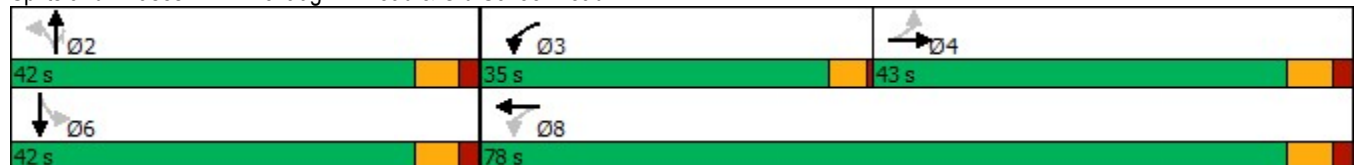
Future Total 2036  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	43.0	43.0		35.0	78.0		42.0	42.0	42.0	42.0	42.0	
Total Split (%)	35.8%	35.8%		29.2%	65.0%		35.0%	35.0%	35.0%	35.0%	35.0%	
Maximum Green (s)	37.0	37.0		31.0	72.0		36.0	36.0	36.0	36.0	36.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		-2.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		2.0	6.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	Max	Max		None	Max		None	None	None	None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		41.5		76.3	72.3			23.8	23.8		23.8	
Actuated g/C Ratio		0.38		0.71	0.67			0.22	0.22		0.22	
v/c Ratio		0.67		0.82	0.37			0.77	0.71		0.63	
Control Delay		33.2		27.1	9.2			54.8	9.0		48.9	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		33.2		27.1	9.2			54.8	9.0		48.9	
LOS		C		C	A			D	A		D	
Approach Delay		33.2			15.9			23.8			48.9	
Approach LOS		C			B			C			D	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	108.2
Natural Cycle:	65
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.82
Intersection Signal Delay:	23.9
Intersection LOS:	C
Intersection Capacity Utilization:	89.4%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road

Future Total 2036  
PM Peak Hour





















Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	819	524	886	252	529	154
v/c Ratio	0.67	0.82	0.37	0.77	0.71	0.63
Control Delay	33.2	27.1	9.2	54.8	9.0	48.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.2	27.1	9.2	54.8	9.0	48.9
Queue Length 50th (m)	79.0	57.8	39.0	49.9	1.3	28.7
Queue Length 95th (m)	116.5	#130.5	66.0	77.0	29.3	49.5
Internal Link Dist (m)	869.1		325.1	564.2		239.1
Turn Bay Length (m)		50.0				
Base Capacity (vph)	1226	696	2392	500	866	367
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.75	0.37	0.50	0.61	0.42

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.























HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road

Future Total 2036  
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	16	693	61	493	781	52	73	164	497	50	82	13	
Future Volume (vph)	16	693	61	493	781	52	73	164	497	50	82	13	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.0		2.0	6.0			6.0	6.0		6.0		
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00		
Frt		0.99		1.00	0.99			1.00	0.85		0.99		
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.98		
Satd. Flow (prot)		3451		1755	3574			1811	1555		1804		
Flt Permitted		0.92		0.21	1.00			0.81	1.00		0.59		
Satd. Flow (perm)		3190		397	3574			1497	1555		1092		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	17	737	65	524	831	55	78	174	529	53	87	14	
RTOR Reduction (vph)	0	5	0	0	3	0	0	0	406	0	3	0	
Lane Group Flow (vph)	0	814	0	524	883	0	0	252	123	0	151	0	
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		4		3	8			2			6		
Permitted Phases	4			8			2		2	6			
Actuated Green, G (s)		41.5		72.3	72.3			23.8	23.8		23.8		
Effective Green, g (s)		41.5		74.3	72.3			23.8	23.8		23.8		
Actuated g/C Ratio		0.38		0.69	0.67			0.22	0.22		0.22		
Clearance Time (s)		6.0		4.0	6.0			6.0	6.0		6.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0		
Lane Grp Cap (vph)		1224		634	2390			329	342		240		
v/s Ratio Prot				c0.22	0.25								
v/s Ratio Perm		c0.26		0.35				c0.17	0.08		0.14		
v/c Ratio		0.67		0.83	0.37			0.77	0.36		0.63		
Uniform Delay, d1		27.6		17.7	7.9			39.5	35.7		38.2		
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00		
Incremental Delay, d2		2.9		8.7	0.4			10.2	0.6		5.1		
Delay (s)		30.4		26.4	8.3			49.7	36.3		43.2		
Level of Service		C		C	A			D	D		D		
Approach Delay (s)		30.4			15.0			40.7			43.2		
Approach LOS		C			B			D			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			26.7									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.73										
Actuated Cycle Length (s)			108.1									Sum of lost time (s)	14.0
Intersection Capacity Utilization			89.4%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	691	256	157	322	309	56	277	3319	456	37	1952	606
Future Volume (vph)	691	256	157	322	309	56	277	3319	456	37	1952	606
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.943			0.977				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3269	0	1789	3536	0	1807	5043	1633	1825	4812	1541
Flt Permitted	0.272			0.276			0.068			0.073		
Satd. Flow (perm)	523	3269	0	520	3536	0	129	5043	1633	140	4812	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		89			16				179			388
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			725.7			855.3			496.5	
Travel Time (s)		51.8			37.3			38.5			22.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Adj. Flow (vph)	712	264	162	332	319	58	286	3422	470	38	2012	625
Shared Lane Traffic (%)												
Lane Group Flow (vph)	712	426	0	332	377	0	286	3422	470	38	2012	625
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

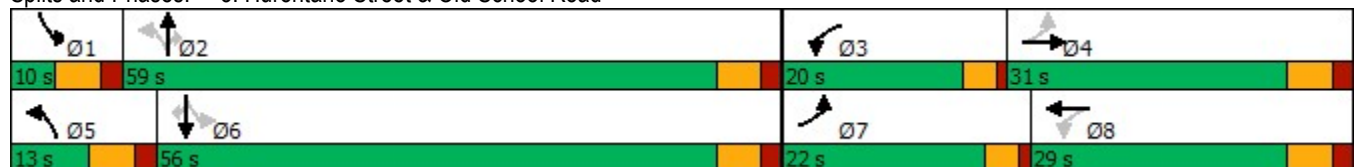
Future Total 2036  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0	29.0	10.0	29.0	29.0
Total Split (s)	22.0	31.0		20.0	29.0		13.0	59.0	59.0	10.0	56.0	56.0
Total Split (%)	18.3%	25.8%		16.7%	24.2%		10.8%	49.2%	49.2%	8.3%	46.7%	46.7%
Maximum Green (s)	18.0	25.0		16.0	23.0		7.0	53.0	53.0	4.0	50.0	50.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		0.0	-2.0		-2.0	-2.0	0.0	-2.0	-2.0	0.0
Total Lost Time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lead/Lag	Lead	Lag		Lead	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
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Walk Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	42.8	20.8		34.8	18.8		64.5	59.2	57.2	58.0	52.0	50.0
Actuated g/C Ratio	0.38	0.18		0.31	0.17		0.57	0.52	0.50	0.51	0.46	0.44
v/c Ratio	1.68	0.64		0.99	0.63		1.40	1.31	0.52	0.24	0.92	0.70
Control Delay	338.9	38.2		77.6	47.3		230.6	167.4	14.8	15.6	37.0	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	338.9	38.2		77.6	47.3		230.6	167.4	14.8	15.6	37.0	14.2
LOS	F	D		E	D		F	F	B	B	D	B
Approach Delay		226.3			61.5			154.5			31.4	
Approach LOS		F			E			F			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 113.9  
 Natural Cycle: 150  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.68  
 Intersection Signal Delay: 118.5  
 Intersection Capacity Utilization 129.4%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service H

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Total 2036  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	712	426	332	377	286	3422	470	38	2012	625
v/c Ratio	1.68	0.64	0.99	0.63	1.40	1.31	0.52	0.24	0.92	0.70
Control Delay	338.9	38.2	77.6	47.3	230.6	167.4	14.8	15.6	37.0	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	338.9	38.2	77.6	47.3	230.6	167.4	14.8	15.6	37.0	14.2
Queue Length 50th (m)	~208.8	36.7	57.7	39.8	~70.8	~374.3	44.2	3.5	149.3	40.4
Queue Length 95th (m)	#285.3	53.1	#106.6	55.3	#130.5	#424.4	80.2	9.0	#199.4	89.9
Internal Link Dist (m)		983.8		701.7		831.3			472.5	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	425	843	337	789	205	2619	908	160	2198	894
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.68	0.51	0.99	0.48	1.40	1.31	0.52	0.24	0.92	0.70

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

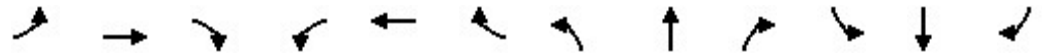
HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Total 2036  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	691	256	157	322	309	56	277	3319	456	37	1952	606
Future Volume (vph)	691	256	157	322	309	56	277	3319	456	37	1952	606
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.94		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1825	3269		1789	3536		1807	5043	1633	1825	4812	1541
Flt Permitted	0.27	1.00		0.28	1.00		0.07	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	522	3269		519	3536		130	5043	1633	141	4812	1541
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	712	264	162	332	319	58	286	3422	470	38	2012	625
RTOR Reduction (vph)	0	73	0	0	13	0	0	0	91	0	0	213
Lane Group Flow (vph)	712	353	0	332	364	0	286	3422	379	38	2012	412
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	36.8	18.8		32.8	16.8		64.2	57.2	57.2	55.0	52.6	52.6
Effective Green, g (s)	40.8	20.8		32.8	18.8		67.6	59.2	57.2	59.0	54.6	52.6
Actuated g/C Ratio	0.35	0.18		0.28	0.16		0.58	0.51	0.49	0.51	0.47	0.45
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	406	584		320	571		205	2564	802	135	2257	696
v/s Ratio Prot	c0.30	0.11		0.14	0.10		c0.11	0.68		0.01	0.42	
v/s Ratio Perm	0.31			c0.15			c0.70		0.23	0.13		0.27
v/c Ratio	1.75	0.60		1.04	0.64		1.40	1.33	0.47	0.28	0.89	0.59
Uniform Delay, d1	33.2	44.0		38.1	45.6		34.2	28.6	19.6	25.7	28.2	23.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	349.2	1.8		60.4	2.3		204.7	153.3	2.0	1.1	5.8	3.7
Delay (s)	382.4	45.8		98.4	47.9		238.9	181.9	21.6	26.8	34.0	27.6
Level of Service	F	D		F	D		F	F	C	C	C	C
Approach Delay (s)		256.4			71.6			167.8			32.4	
Approach LOS		F			E			F			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			129.9			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.43									
Actuated Cycle Length (s)			116.4			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			129.4%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2036  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕		↖	↕↕↕			↕			↕	
Traffic Volume (vph)	47	789	57	282	744	102	38	350	296	54	212	32
Future Volume (vph)	47	789	57	282	744	102	38	350	296	54	212	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.990			0.982			0.941			0.985	
Flt Protected		0.997		0.950				0.997			0.991	
Satd. Flow (prot)	0	5037	0	1825	5018	0	0	1755	0	0	1839	0
Flt Permitted		0.826		0.138				0.965			0.737	
Satd. Flow (perm)	0	4173	0	265	5018	0	0	1699	0	0	1368	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			26			46			7	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		746.6			1419.4			504.3			2784.8	
Travel Time (s)		38.4			73.0			22.7			125.3	
Confl. Peds. (#/hr)							1					1
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
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Adj. Flow (vph)	51	858	62	307	809	111	41	380	322	59	230	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	971	0	307	920	0	0	743	0	0	324	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2036  
PM Peak Hour

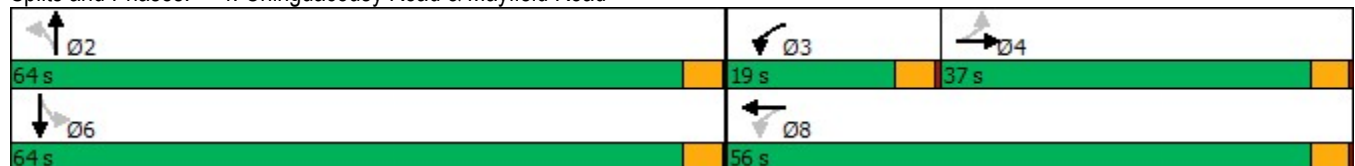


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	37.0	37.0		19.0	56.0		64.0	64.0		64.0	64.0	
Total Split (%)	30.8%	30.8%		15.8%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	33.0	33.0		15.0	52.0		60.0	60.0		60.0	60.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
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	Max	Max		None	Max		None	None		None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		33.3		52.4	52.4			50.4			50.4	
Actuated g/C Ratio		0.30		0.47	0.47			0.45			0.45	
v/c Ratio		0.77		0.91	0.39			0.93			0.52	
Control Delay		41.3		57.3	20.1			46.0			23.9	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		41.3		57.3	20.1			46.0			23.9	
LOS		D		E	C			D			C	
Approach Delay		41.3			29.4			46.0			23.9	
Approach LOS		D			C			D			C	

Intersection Summary

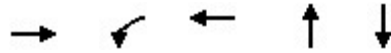
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	110.9
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.93
Intersection Signal Delay:	36.2
Intersection LOS:	D
Intersection Capacity Utilization:	86.0%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Total 2036  
PM Peak Hour



























Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	971	307	920	743	324
v/c Ratio	0.77	0.91	0.39	0.93	0.52
Control Delay	41.3	57.3	20.1	46.0	23.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	41.3	57.3	20.1	46.0	23.9
Queue Length 50th (m)	72.6	47.6	47.3	140.3	47.3
Queue Length 95th (m)	95.9	#109.6	63.8	#216.7	72.0
Internal Link Dist (m)	722.6		1395.4	480.3	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	1258	338	2386	948	749
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.77	0.91	0.39	0.78	0.43

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road





















Future Total 2036  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  				  			  	
Traffic Volume (vph)	47	789	57	282	744	102	38	350	296	54	212	32
Future Volume (vph)	47	789	57	282	744	102	38	350	296	54	212	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frbp, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		0.99		1.00	0.98			0.94			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		5041		1825	5017			1757			1840	
Flt Permitted		0.83		0.14	1.00			0.97			0.74	
Satd. Flow (perm)		4177		265	5017			1701			1369	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	858	62	307	809	111	41	380	322	59	230	35
RTOR Reduction (vph)	0	6	0	0	14	0	0	25	0	0	4	0
Lane Group Flow (vph)	0	965	0	307	906	0	0	718	0	0	320	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		33.3		52.4	52.4			50.4			50.4	
Effective Green, g (s)		33.3		52.4	52.4			50.4			50.4	
Actuated g/C Ratio		0.30		0.47	0.47			0.45			0.45	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1255		337	2372			773			622	
v/s Ratio Prot				c0.12	0.18							
v/s Ratio Perm		0.23		c0.31				c0.42			0.23	
v/c Ratio		0.77		0.91	0.38			0.93			0.51	
Uniform Delay, d1		35.2		25.4	18.8			28.5			21.5	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		4.6		27.7	0.5			17.2			0.7	
Delay (s)		39.8		53.0	19.3			45.7			22.2	
Level of Service		D		D	B			D			C	
Approach Delay (s)		39.8			27.7			45.7			22.2	
Approach LOS		D			C			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			34.9									HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio			0.94									
Actuated Cycle Length (s)			110.8								Sum of lost time (s) 12.0	
Intersection Capacity Utilization			86.0%									ICU Level of Service E
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Total 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	974	86	125	1144	303	143	606	129	225	373	179
Future Volume (vph)	177	974	86	125	1144	303	143	606	129	225	373	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.988			0.969			0.974			0.951	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	5031	0	1755	4889	0	1825	3508	0	1738	3349	0
Flt Permitted	0.100			0.140			0.436			0.136		
Satd. Flow (perm)	183	5031	0	259	4889	0	838	3508	0	249	3349	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			59			21			84	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			577.6			2496.3	
Travel Time (s)		73.0			65.0			26.0			112.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	184	1015	90	130	1192	316	149	631	134	234	389	186
Shared Lane Traffic (%)												
Lane Group Flow (vph)	184	1105	0	130	1508	0	149	765	0	234	575	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

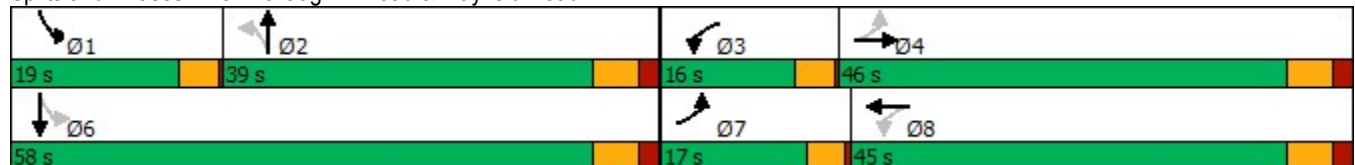
Future Total 2036  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	22.0		8.0	22.0		22.0	22.0		8.0	22.0	
Total Split (s)	17.0	46.0		16.0	45.0		39.0	39.0		19.0	58.0	
Total Split (%)	14.2%	38.3%		13.3%	37.5%		32.5%	32.5%		15.8%	48.3%	
Maximum Green (s)	13.0	40.0		12.0	39.0		33.0	33.0		15.0	52.0	
Yellow Time (s)	3.5	4.0		3.5	4.0		4.0	4.0		3.5	4.0	
All-Red Time (s)	0.5	2.0		0.5	2.0		2.0	2.0		0.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	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	
Recall Mode	None	Max		Max	Max		Max	Max		Max	None	
Walk Time (s)		5.0			5.0		5.0	5.0			5.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)		0			0		0	0			0	
Act Effct Green (s)	54.0	40.0		54.0	40.0		33.0	33.0		54.0	52.0	
Actuated g/C Ratio	0.45	0.33		0.45	0.33		0.28	0.28		0.45	0.43	
v/c Ratio	0.78	0.66		0.49	0.90		0.65	0.78		0.79	0.38	
Control Delay	47.0	35.9		24.2	45.5		53.2	45.6		43.2	20.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	47.0	35.9		24.2	45.5		53.2	45.6		43.2	20.3	
LOS	D	D		C	D		D	D		D	C	
Approach Delay		37.5			43.8			46.8			26.9	
Approach LOS		D			D			D			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 65  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 39.7  
 Intersection LOS: D  
 Intersection Capacity Utilization 88.7%  
 ICU Level of Service E  
 Analysis Period (min) 15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Total 2036  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	184	1105	130	1508	149	765	234	575
v/c Ratio	0.78	0.66	0.49	0.90	0.65	0.78	0.79	0.38
Control Delay	47.0	35.9	24.2	45.5	53.2	45.6	43.2	20.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.0	35.9	24.2	45.5	53.2	45.6	43.2	20.3
Queue Length 50th (m)	25.8	80.0	16.6	121.1	31.0	85.4	34.3	40.2
Queue Length 95th (m)	#56.9	95.6	28.2	#150.3	#56.1	108.4	#70.9	54.2
Internal Link Dist (m)		1395.4		1239.7		553.6		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	252	1685	265	1669	230	979	298	1498
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.66	0.49	0.90	0.65	0.78	0.79	0.38

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

































HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Future Total 2036  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	974	86	125	1144	303	143	606	129	225	373	179
Future Volume (vph)	177	974	86	125	1144	303	143	606	129	225	373	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1738	5030		1755	4887		1825	3507		1738	3351	
Flt Permitted	0.10	1.00		0.14	1.00		0.44	1.00		0.14	1.00	
Satd. Flow (perm)	183	5030		259	4887		837	3507		249	3351	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	184	1015	90	130	1192	316	149	631	134	234	389	186
RTOR Reduction (vph)	0	9	0	0	39	0	0	15	0	0	48	0
Lane Group Flow (vph)	184	1096	0	130	1469	0	149	750	0	234	527	0
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	52.0	40.0		52.0	40.0		33.0	33.0		52.0	52.0	
Effective Green, g (s)	52.0	40.0		52.0	40.0		33.0	33.0		52.0	52.0	
Actuated g/C Ratio	0.43	0.33		0.43	0.33		0.28	0.28		0.43	0.43	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	234	1676		261	1629		230	964		294	1452	
v/s Ratio Prot	c0.08	0.22		0.05	c0.30			0.21		c0.10	0.16	
v/s Ratio Perm	0.26			0.17			0.18			c0.25		
v/c Ratio	0.79	0.65		0.50	0.90		0.65	0.78		0.80	0.36	
Uniform Delay, d1	26.6	34.1		22.5	38.1		38.4	40.1		25.7	22.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.8	2.0		6.6	8.5		13.3	6.2		13.8	0.2	
Delay (s)	42.4	36.1		29.2	46.6		51.7	46.3		39.5	23.0	
Level of Service	D	D		C	D		D	D		D	C	
Approach Delay (s)		37.0			45.2			47.2			27.8	
Approach LOS		D			D			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			40.3				HCM 2000 Level of Service				D	
HCM 2000 Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			88.7%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	693	670	125	305	868	179	236	920	291	253	986	980
Future Volume (vph)	693	670	125	305	868	179	236	920	291	253	986	980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.96	0.98		0.99			0.96			0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	4995	1601	3404	5092	1585	1789	3614	1555	1825	3510	1585
Flt Permitted	0.167			0.950			0.133			0.098		
Satd. Flow (perm)	308	4995	1540	3346	5092	1563	250	3614	1488	188	3510	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			143			185			192			625
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			749.9			381.1			609.4	
Travel Time (s)		7.3			38.6			19.6			31.3	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Adj. Flow (vph)	714	691	129	314	895	185	243	948	300	261	1016	1010
Shared Lane Traffic (%)												
Lane Group Flow (vph)	714	691	129	314	895	185	243	948	300	261	1016	1010
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	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	2		2	6		6
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	8.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	42.0	45.0	45.0	23.0	26.0	26.0	9.0	44.0	44.0	18.0	53.0	53.0
Total Split (%)	32.3%	34.6%	34.6%	17.7%	20.0%	20.0%	6.9%	33.8%	33.8%	13.8%	40.8%	40.8%
Maximum Green (s)	37.0	38.0	38.0	18.0	19.0	19.0	5.0	37.0	37.0	14.0	46.0	46.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.5	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	0.5	3.0	3.0	1.0	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
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
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		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

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

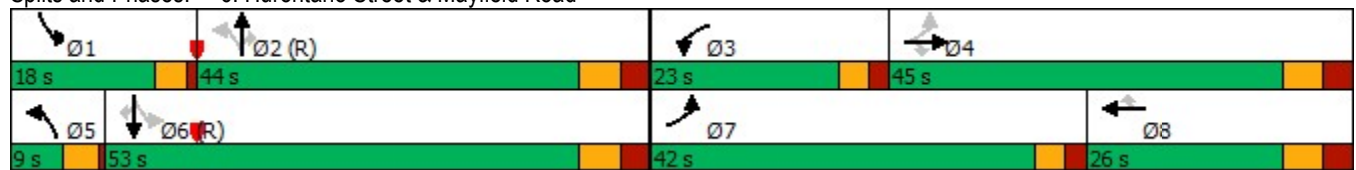
Future Total 2036  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	63.0	38.0	38.0	18.0	19.0	19.0	45.0	37.0	37.0	58.0	46.0	46.0
Actuated g/C Ratio	0.48	0.29	0.29	0.14	0.15	0.15	0.35	0.28	0.28	0.45	0.35	0.35
v/c Ratio	1.27	0.47	0.23	0.67	1.20	0.48	1.68	0.92	0.54	1.00	0.82	1.06
Control Delay	168.3	39.1	5.2	60.8	150.6	11.3	356.7	60.0	17.6	90.8	44.7	62.3
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	168.3	39.1	5.2	60.8	150.6	11.3	356.7	60.0	17.6	90.8	44.7	62.3
LOS	F	D	A	E	F	B	F	E	B	F	D	E
Approach Delay	96.4			111.9			99.8			57.7		
Approach LOS	F			F			F			E		

Intersection Summary

Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	130
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	130
Control Type:	Pretimed
Maximum v/c Ratio:	1.68
Intersection Signal Delay:	87.2
Intersection LOS:	F
Intersection Capacity Utilization	114.7%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Total 2036  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	714	691	129	314	895	185	243	948	300	261	1016	1010
v/c Ratio	1.27	0.47	0.23	0.67	1.20	0.48	1.68	0.92	0.54	1.00	0.82	1.06
Control Delay	168.3	39.1	5.2	60.8	150.6	11.3	356.7	60.0	17.6	90.8	44.7	62.3
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	168.3	39.1	5.2	60.8	150.6	11.3	356.7	60.0	17.6	90.8	44.7	62.3
Queue Length 50th (m)	~215.1	53.2	0.0	39.8	~101.9	0.0	~67.6	124.2	21.8	~50.6	124.0	~173.3
Queue Length 95th (m)	#289.1	65.8	11.6	55.3	#130.0	20.8	#119.0	#162.3	50.4	#106.3	150.7	#252.7
Internal Link Dist (m)		118.1			725.9			357.1				585.4
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	561	1460	551	471	744	386	145	1028	560	260	1242	954
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.27	0.47	0.23	0.67	1.20	0.48	1.68	0.92	0.54	1.00	0.82	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.


































Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.










HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Total 2036  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 		 	 	
Traffic Volume (vph)	693	670	125	305	868	179	236	920	291	253	986	980
Future Volume (vph)	693	670	125	305	868	179	236	920	291	253	986	980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	4995	1540	3404	5092	1563	1789	3614	1488	1825	3510	1555
Flt Permitted	0.17	1.00	1.00	0.95	1.00	1.00	0.13	1.00	1.00	0.10	1.00	1.00
Satd. Flow (perm)	308	4995	1540	3404	5092	1563	251	3614	1488	187	3510	1555
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	714	691	129	314	895	185	243	948	300	261	1016	1010
RTOR Reduction (vph)	0	0	91	0	0	158	0	0	137	0	0	404
Lane Group Flow (vph)	714	691	38	314	895	27	243	948	163	261	1016	606
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Turn Type	pm+pt	NA	Perm	Prot	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	2		2	6		6
Actuated Green, G (s)	61.0	38.0	38.0	18.0	19.0	19.0	42.0	37.0	37.0	55.0	46.0	46.0
Effective Green, g (s)	61.0	38.0	38.0	18.0	19.0	19.0	42.0	37.0	37.0	55.0	46.0	46.0
Actuated g/C Ratio	0.47	0.29	0.29	0.14	0.15	0.15	0.32	0.28	0.28	0.42	0.35	0.35
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
Lane Grp Cap (vph)	556	1460	450	471	744	228	140	1028	423	255	1242	550
v/s Ratio Prot	c0.37	0.14		0.09	0.18		c0.07	0.26		c0.11	0.29	
v/s Ratio Perm	c0.24		0.02			0.02	c0.49		0.11	0.32		0.39
v/c Ratio	1.28	0.47	0.08	0.67	1.20	0.12	1.74	0.92	0.38	1.02	0.82	1.10
Uniform Delay, d1	37.3	37.8	33.4	53.2	55.5	48.2	41.1	45.1	37.4	38.0	38.2	42.0
Progression 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
Incremental Delay, d2	141.1	1.1	0.4	7.3	103.9	1.1	359.0	14.6	2.6	62.6	6.1	69.3
Delay (s)	178.5	38.9	33.7	60.4	159.4	49.3	400.2	59.7	40.0	100.6	44.3	111.3
Level of Service	F	D	C	E	F	D	F	E	D	F	D	F
Approach Delay (s)		103.4			122.5			111.2			80.3	
Approach LOS		F			F			F			F	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			101.2									F
HCM 2000 Volume to Capacity ratio			1.46									
Actuated Cycle Length (s)			130.0							23.0		
Intersection Capacity Utilization			114.7%									H
ICU Level of Service												
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C










Future Total 2036  
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	23	38	741	33	63	555
Future Volume (vph)	23	38	741	33	63	555
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.916		0.994			
Flt Protected	0.981					0.995
Satd. Flow (prot)	1692	0	1872	0	0	1874
Flt Permitted	0.981					0.995
Satd. Flow (perm)	1692	0	1872	0	0	1874
Link Speed (k/h)	48		80			80
Link Distance (m)	204.9		2784.8			298.8
Travel Time (s)	15.4		125.3			13.4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	23	38	741	33	63	555
Shared Lane Traffic (%)						
Lane Group Flow (vph)	61	0	774	0	0	618
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	87.3%			ICU Level of Service E		
Analysis Period (min)	15					



HCM Unsignalized Intersection Capacity Analysis  
7: Chinguacousy Road & Street C

Future Total 2036  
PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	23	38	741	33	63	555
Future Volume (Veh/h)	23	38	741	33	63	555
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)	23	38	741	33	63	555
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	299					
pX, platoon unblocked	0.77					
vC, conflicting volume	1438	758	774			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1420	758	774			
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	91	93			
cM capacity (veh/h)	107	407	842			
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	61	774	618			
Volume Left	23	0	63			
Volume Right	38	33	0			
cSH	198	1700	842			
Volume to Capacity	0.31	0.46	0.07			
Queue Length 95th (m)	9.4	0.0	1.8			
Control Delay (s)	31.0	0.0	1.9			
Lane LOS	D		A			
Approach Delay (s)	31.0	0.0	1.9			
Approach LOS	D					
<b>Intersection Summary</b>						
Average Delay	2.1					
Intersection Capacity Utilization	87.3%		ICU Level of Service		E	
Analysis Period (min)	15					







Lanes, Volumes, Timings  
8: Street B & Old School Road

Future Total 2036  
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↔↑	↖	
Traffic Volume (vph)	717	14	85	801	10	50
Future Volume (vph)	717	14	85	801	10	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Fr <sub>t</sub>	0.997			0.887		
Fl <sub>t</sub> Protected				0.995	0.992	
Satd. Flow (prot)	3568	0	0	3561	1657	0
Fl <sub>t</sub> Permitted				0.995	0.992	
Satd. Flow (perm)	3568	0	0	3561	1657	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	717	14	85	801	10	50
Shared Lane Traffic (%)						
Lane Group Flow (vph)	731	0	0	886	60	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	14		24	24		14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	58.5%			ICU Level of Service B		
Analysis Period (min)	15					




















HCM Unsignalized Intersection Capacity Analysis  
 8: Street B & Old School Road

Future Total 2036  
 PM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Volume (veh/h)	717	14	85	801	10	50
Future Volume (Veh/h)	717	14	85	801	10	50
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	717	14	85	801	10	50
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			731		1294	366
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			731		1294	366
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			90		93	92
cM capacity (veh/h)			869		139	631
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	478	253	352	534	60	
Volume Left	0	0	85	0	10	
Volume Right	0	14	0	0	50	
cSH	1700	1700	869	1700	397	
Volume to Capacity	0.28	0.15	0.10	0.31	0.15	
Queue Length 95th (m)	0.0	0.0	2.5	0.0	4.0	
Control Delay (s)	0.0	0.0	3.2	0.0	15.7	
Lane LOS			A	C		
Approach Delay (s)	0.0		1.3		15.7	
Approach LOS					C	
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			58.5%	ICU Level of Service	B	
Analysis Period (min)			15			

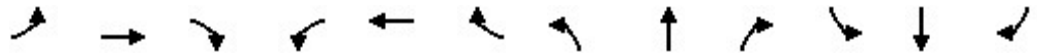
Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	157	0	34	0	701	234	45	592	0
Future Volume (vph)	0	0	0	157	0	34	0	701	234	45	592	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.850			0.962				
Flt Protected				0.950							0.996	
Satd. Flow (prot)	0	1883	0	1789	1601	0	0	3443	0	0	3564	0
Flt Permitted				0.757							0.832	
Satd. Flow (perm)	0	1883	0	1426	1601	0	0	3443	0	0	2977	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					219			76				
Link Speed (k/h)		48			48			80				80
Link Distance (m)		204.8			403.1			2496.3				588.2
Travel Time (s)		15.4			30.2			112.3				26.5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	157	0	34	0	701	234	45	592	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	157	34	0	0	935	0	0	637	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)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2036  
PM Peak Hour

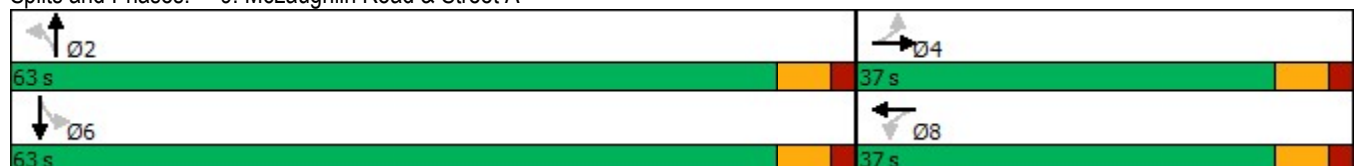


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	37.0	37.0		37.0	37.0		63.0	63.0		63.0	63.0	
Total Split (%)	37.0%	37.0%		37.0%	37.0%		63.0%	63.0%		63.0%	63.0%	
Maximum Green (s)	31.0	31.0		31.0	31.0		57.0	57.0		57.0	57.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)				14.9	14.9			61.5			61.5	
Actuated g/C Ratio				0.17	0.17			0.70			0.70	
v/c Ratio				0.66	0.08			0.39			0.31	
Control Delay				46.6	0.3			6.1			6.2	
Queue Delay				0.0	0.0			0.0			0.0	
Total Delay				46.6	0.3			6.1			6.2	
LOS				D	A			A			A	
Approach Delay					38.3			6.1			6.2	
Approach LOS					D			A			A	

Intersection Summary

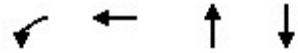
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	88.4
Natural Cycle:	45
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	9.6
Intersection LOS:	A
Intersection Capacity Utilization:	68.2%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 9: McLaughlin Road & Street A



Queues  
9: McLaughlin Road & Street A

Future Total 2036  
PM Peak Hour




















Lane Group	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	157	34	935	637
v/c Ratio	0.66	0.08	0.39	0.31
Control Delay	46.6	0.3	6.1	6.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	46.6	0.3	6.1	6.2
Queue Length 50th (m)	23.9	0.0	26.1	18.3
Queue Length 95th (m)	41.9	0.0	46.0	33.2
Internal Link Dist (m)		379.1	2472.3	564.2
Turn Bay Length (m)	30.0			
Base Capacity (vph)	500	704	2419	2071
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.31	0.05	0.39	0.31
<b>Intersection Summary</b>				

# HCM Signalized Intersection Capacity Analysis

## 9: McLaughlin Road & Street A

Future Total 2036  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	157	0	34	0	701	234	45	592	0
Future Volume (vph)	0	0	0	157	0	34	0	701	234	45	592	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.0	6.0			6.0			6.0	
Lane Util. Factor				1.00	1.00			0.95			0.95	
Frt				1.00	0.85			0.96			1.00	
Flt Protected				0.95	1.00			1.00			1.00	
Satd. Flow (prot)				1789	1601			3444			3566	
Flt Permitted				0.76	1.00			1.00			0.83	
Satd. Flow (perm)				1426	1601			3444			2977	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	157	0	34	0	701	234	45	592	0
RTOR Reduction (vph)	0	0	0	0	28	0	0	23	0	0	0	0
Lane Group Flow (vph)	0	0	0	157	6	0	0	912	0	0	637	0
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)				14.8	14.8			61.5			61.5	
Effective Green, g (s)				14.8	14.8			61.5			61.5	
Actuated g/C Ratio				0.17	0.17			0.70			0.70	
Clearance Time (s)				6.0	6.0			6.0			6.0	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				239	268			2398			2073	
v/s Ratio Prot					0.00			c0.26				
v/s Ratio Perm				c0.11							0.21	
v/c Ratio				0.66	0.02			0.38			0.31	
Uniform Delay, d1				34.4	30.7			5.5			5.2	
Progression Factor				1.00	1.00			1.00			1.00	
Incremental Delay, d2				6.4	0.0			0.5			0.4	
Delay (s)				40.7	30.7			6.0			5.6	
Level of Service				D	C			A			A	
Approach Delay (s)		0.0			39.0			6.0			5.6	
Approach LOS		A			D			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			9.4	HCM 2000 Level of Service				A				
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			88.3	Sum of lost time (s)				12.0				
Intersection Capacity Utilization			68.2%	ICU Level of Service				C				
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
 10: Street D & Old School Road

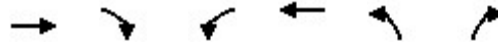
Future Total 2036  
 PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	
Traffic Volume (vph)	1115	72	11	1203	53	1
Future Volume (vph)	1115	72	11	1203	53	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.991				0.997	
Flt Protected					0.953	
Satd. Flow (prot)	3546	0	0	3579	1790	0
Flt Permitted					0.953	
Satd. Flow (perm)	3546	0	0	3579	1790	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1115	72	11	1203	53	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1187	0	0	1214	54	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	14		24	24		14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	51.0%			ICU Level of Service A		
Analysis Period (min)	15					



HCM Unsignalized Intersection Capacity Analysis  
 10: Street D & Old School Road

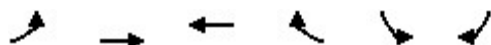
Future Total 2036  
 PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘	
Traffic Volume (veh/h)	1115	72	11	1203	53	1
Future Volume (Veh/h)	1115	72	11	1203	53	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1115	72	11	1203	53	1
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (m)	349					
pX, platoon unblocked			0.85		0.85	0.85
vC, conflicting volume			1187		1774	594
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			860		1553	159
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		39	100
cM capacity (veh/h)			658		87	727
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>WB 1</b>	<b>WB 2</b>	<b>NB 1</b>	
Volume Total	743	444	412	802	54	
Volume Left	0	0	11	0	53	
Volume Right	0	72	0	0	1	
cSH	1700	1700	658	1700	88	
Volume to Capacity	0.44	0.26	0.02	0.47	0.61	
Queue Length 95th (m)	0.0	0.0	0.4	0.0	21.7	
Control Delay (s)	0.0	0.0	0.5	0.0	96.2	
Lane LOS	A			F		
Approach Delay (s)	0.0		0.2		96.2	
Approach LOS	F					
<b>Intersection Summary</b>						
Average Delay			2.2			
Intersection Capacity Utilization			51.0%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
11: Street A & Street D

Future Total 2036  
PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	126	219	253	32	21	119
Future Volume (vph)	126	219	253	32	21	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.985		0.885	
Flt Protected		0.982			0.993	
Satd. Flow (prot)	0	1850	1855	0	1655	0
Flt Permitted		0.982			0.993	
Satd. Flow (perm)	0	1850	1855	0	1655	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	126	219	253	32	21	119
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	345	285	0	140	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	52.3%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 11: Street A & Street D

Future Total 2036  
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	126	219	253	32	21	119
Future Volume (Veh/h)	126	219	253	32	21	119
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	126	219	253	32	21	119
<b>Pedestrians</b>						
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	285			740	269	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	285			740	269	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	90			94	85	
cM capacity (veh/h)	1277			346	770	
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	345	285	140			
Volume Left	126	0	21			
Volume Right	0	32	119			
cSH	1277	1700	650			
Volume to Capacity	0.10	0.17	0.22			
Queue Length 95th (m)	2.5	0.0	6.2			
Control Delay (s)	3.6	0.0	12.0			
Lane LOS	A		B			
Approach Delay (s)	3.6	0.0	12.0			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			3.8			
Intersection Capacity Utilization			52.3%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2036  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	272	513	4012	2400	33
Future Volume (vph)	40	272	513	4012	2400	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt		0.850			0.998	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	5142	5132	0
Flt Permitted	0.950		0.064			
Satd. Flow (perm)	1789	1601	121	5142	5132	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1			2	
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	272	513	4012	2400	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	272	513	4012	2433	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2036  
PM Peak Hour

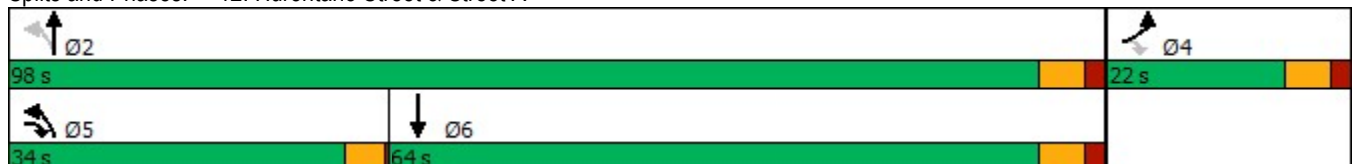


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	8.0	8.0	22.0	22.0	
Total Split (s)	22.0	34.0	34.0	98.0	64.0	
Total Split (%)	18.3%	28.3%	28.3%	81.7%	53.3%	
Maximum Green (s)	16.0	30.0	30.0	92.0	58.0	
Yellow Time (s)	4.0	3.5	3.5	4.0	4.0	
All-Red Time (s)	2.0	0.5	0.5	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	4.0	4.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	7.9	38.8	94.5	95.1	58.3	
Actuated g/C Ratio	0.07	0.36	0.88	0.89	0.54	
v/c Ratio	0.31	0.47	0.89	0.88	0.87	
Control Delay	54.8	28.7	49.2	9.9	26.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	54.8	28.7	49.2	9.9	26.8	
LOS	D	C	D	A	C	
Approach Delay	32.0			14.4	26.8	
Approach LOS	C			B	C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	107.1
Natural Cycle:	120
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.89
Intersection Signal Delay:	19.3
Intersection LOS:	B
Intersection Capacity Utilization:	92.2%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 12: Hurontario Street & Street A



Queues  
12: Hurontario Street & Street A

Future Total 2036  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	40	272	513	4012	2433
v/c Ratio	0.31	0.47	0.89	0.88	0.87
Control Delay	54.8	28.7	49.2	9.9	26.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	54.8	28.7	49.2	9.9	26.8
Queue Length 50th (m)	8.5	42.7	92.3	197.1	171.3
Queue Length 95th (m)	19.2	65.5	#163.4	#278.2	#207.0
Internal Link Dist (m)	932.1			904.0	831.3
Turn Bay Length (m)	30.0		50.0		
Base Capacity (vph)	268	580	576	4564	2793
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.47	0.89	0.88	0.87

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 12: Hurontario Street & Street A

Future Total 2036  
 PM Peak Hour




















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	272	513	4012	2400	33
Future Volume (vph)	40	272	513	4012	2400	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1789	1601	1789	5142	5131	
Flt Permitted	0.95	1.00	0.06	1.00	1.00	
Satd. Flow (perm)	1789	1601	121	5142	5131	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	272	513	4012	2400	33
RTOR Reduction (vph)	0	1	0	0	1	0
Lane Group Flow (vph)	40	271	513	4012	2432	0
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	5.2	35.4	92.5	92.5	58.3	
Effective Green, g (s)	5.2	35.4	92.5	92.5	58.3	
Actuated g/C Ratio	0.05	0.32	0.84	0.84	0.53	
Clearance Time (s)	6.0	4.0	4.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	84	516	561	4335	2726	
v/s Ratio Prot	0.02	c0.14	0.25	c0.78	0.47	
v/s Ratio Perm		0.02	0.52			
v/c Ratio	0.48	0.53	0.91	0.93	0.89	
Uniform Delay, d1	50.9	30.3	33.3	6.1	22.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.2	1.0	19.5	4.5	5.0	
Delay (s)	55.1	31.3	52.8	10.7	27.9	
Level of Service	E	C	D	B	C	
Approach Delay (s)	34.3			15.5	27.9	
Approach LOS	C			B	C	

Intersection Summary			
HCM 2000 Control Delay	20.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	109.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	297	4	141	195	45	2	235	293	34	228	11
Future Volume (vph)	2	297	4	141	195	45	2	235	293	34	228	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.998			0.972			0.925			0.994	
Fl <sub>t</sub> Protected				0.950							0.994	
Satd. Flow (prot)	0	1917	0	1772	1804	0	0	1711	0	0	1786	0
Fl <sub>t</sub> Permitted		0.998		0.535				0.999			0.909	
Satd. Flow (perm)	0	1913	0	998	1804	0	0	1709	0	0	1634	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			35			186			6	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			342.6	
Travel Time (s)		30.4			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Adj. Flow (vph)	2	316	4	150	207	48	2	250	312	36	243	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	322	0	150	255	0	0	564	0	0	291	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2041  
AM Peak Hour

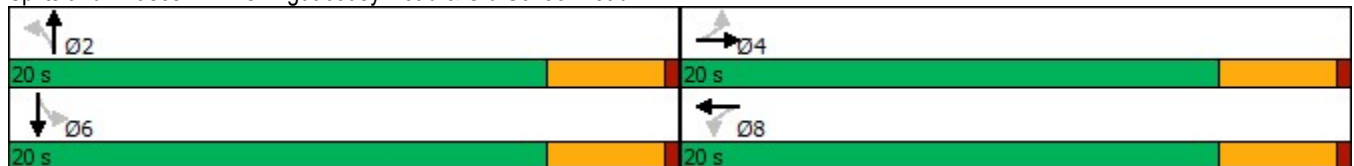


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		11.1		11.1	11.1			16.9			16.9	
Actuated g/C Ratio		0.31		0.31	0.31			0.47			0.47	
v/c Ratio		0.54		0.49	0.44			0.63			0.38	
Control Delay		13.6		15.4	10.6			10.2			8.9	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		13.6		15.4	10.6			10.2			8.9	
LOS		B		B	B			B			A	
Approach Delay		13.6			12.4			10.2			8.9	
Approach LOS		B			B			B			A	

Intersection Summary

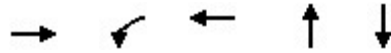
Area Type:	Other
Cycle Length:	40
Actuated Cycle Length:	36.1
Natural Cycle:	40
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.63
Intersection Signal Delay:	11.2
Intersection LOS:	B
Intersection Capacity Utilization	77.8%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road



## 1: Chinguacousy Road &amp; Old School Road

AM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	322	150	255	564	291
v/c Ratio	0.54	0.49	0.44	0.63	0.38
Control Delay	13.6	15.4	10.6	10.2	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	15.4	10.6	10.2	8.9
Queue Length 50th (m)	14.6	6.7	9.6	13.2	9.4
Queue Length 95th (m)	28.7	16.9	20.8	#58.6	27.0
Internal Link Dist (m)	566.7		466.2	274.8	318.6
Turn Bay Length (m)					
Base Capacity (vph)	852	444	822	900	769
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.38	0.34	0.31	0.63	0.38


















## Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Background 2041  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	297	4	141	195	45	2	235	293	34	228	11
Future Volume (vph)	2	297	4	141	195	45	2	235	293	34	228	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.97			0.93			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		1917		1772	1804			1711			1787	
Flt Permitted		1.00		0.53	1.00			1.00			0.91	
Satd. Flow (perm)		1914		998	1804			1710			1634	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	2	316	4	150	207	48	2	250	312	36	243	12
RTOR Reduction (vph)	0	1	0	0	24	0	0	99	0	0	3	0
Lane Group Flow (vph)	0	321	0	150	231	0	0	465	0	0	288	0
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		11.1		11.1	11.1			16.9			16.9	
Effective Green, g (s)		11.1		11.1	11.1			16.9			16.9	
Actuated g/C Ratio		0.31		0.31	0.31			0.47			0.47	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		590		307	556			802			767	
v/s Ratio Prot					0.13							
v/s Ratio Perm		c0.17		0.15				c0.27			0.18	
v/c Ratio		0.54		0.49	0.42			0.58			0.38	
Uniform Delay, d1		10.3		10.1	9.9			7.0			6.2	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		1.0		1.2	0.5			3.1			1.4	
Delay (s)		11.4		11.4	10.4			10.0			7.6	
Level of Service		B		B	B			B			A	
Approach Delay (s)		11.4			10.7			10.0			7.6	
Approach LOS		B			B			B			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			10.0									B
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			36.0								8.0	
Intersection Capacity Utilization			77.8%									D
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Background 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	583	35	248	340	29	40	74	435	46	147	14
Future Volume (vph)	8	583	35	248	340	29	40	74	435	46	147	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.988				0.850		0.991	
Flt Protected		0.999		0.950				0.983			0.989	
Satd. Flow (prot)	0	3557	0	1789	3483	0	0	1864	1617	0	1858	0
Flt Permitted		0.949		0.388				0.847			0.900	
Satd. Flow (perm)	0	3379	0	731	3483	0	0	1606	1617	0	1691	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			15				272			4
Link Speed (k/h)		70			70			80				80
Link Distance (m)		893.1			349.1			588.2				263.1
Travel Time (s)		45.9			18.0			26.5				11.8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Adj. Flow (vph)	9	620	37	264	362	31	43	79	463	49	156	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	666	0	264	393	0	0	122	463	0	220	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)		3.7			3.7			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
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
Protected Phases		4			8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

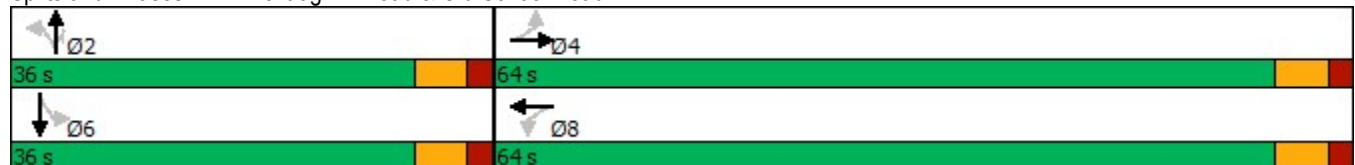
Future Background 2041  
AM Peak Hour

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%	36.0%	36.0%	36.0%	
Maximum Green (s)	58.0	58.0		58.0	58.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		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	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
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	Min	Min		Min	Min		None	None	None	None	None	
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)	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)		29.2		29.2	29.2			15.9	15.9		15.9	
Actuated g/C Ratio		0.49		0.49	0.49			0.27	0.27		0.27	
v/c Ratio		0.40		0.73	0.23			0.28	0.73		0.48	
Control Delay		9.7		25.7	8.3			22.7	17.5		24.8	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		9.7		25.7	8.3			22.7	17.5		24.8	
LOS		A		C	A			C	B		C	
Approach Delay		9.7			15.3			18.6			24.8	
Approach LOS		A			B			B			C	

Intersection Summary

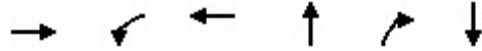
Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 59.2  
 Natural Cycle: 55  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.73  
 Intersection Signal Delay: 15.4  
 Intersection Capacity Utilization 70.5%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service C

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road



















Future Background 2041  
AM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	666	264	393	122	463	220
v/c Ratio	0.40	0.73	0.23	0.28	0.73	0.48
Control Delay	9.7	25.7	8.3	22.7	17.5	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.7	25.7	8.3	22.7	17.5	24.8
Queue Length 50th (m)	18.4	17.9	9.6	9.1	14.9	17.0
Queue Length 95th (m)	43.3	60.9	24.2	32.3	67.3	54.5
Internal Link Dist (m)	869.1		325.1	564.2		239.1
Turn Bay Length (m)		50.0				
Base Capacity (vph)	2969	642	3061	960	1076	1013
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.41	0.13	0.13	0.43	0.22
<b>Intersection Summary</b>						























HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road

Future Background 2041  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	583	35	248	340	29	40	74	435	46	147	14
Future Volume (vph)	8	583	35	248	340	29	40	74	435	46	147	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00	
Frt		0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	
Satd. Flow (prot)		3556		1789	3483			1864	1617		1857	
Flt Permitted		0.95		0.39	1.00			0.85	1.00		0.90	
Satd. Flow (perm)		3377		731	3483			1606	1617		1690	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	9	620	37	264	362	31	43	79	463	49	156	15
RTOR Reduction (vph)	0	5	0	0	7	0	0	0	196	0	3	0
Lane Group Flow (vph)	0	661	0	264	386	0	0	122	267	0	217	0
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		2	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		29.2		29.2	29.2			15.9	15.9		15.9	
Effective Green, g (s)		29.2		29.2	29.2			15.9	15.9		15.9	
Actuated g/C Ratio		0.51		0.51	0.51			0.28	0.28		0.28	
Clearance Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1726		373	1781			447	450		470	
v/s Ratio Prot					0.11							
v/s Ratio Perm		0.20		0.36				0.08	0.16		0.13	
v/c Ratio		0.38		0.71	0.22			0.27	0.59		0.46	
Uniform Delay, d1		8.5		10.7	7.7			16.1	17.8		17.1	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.1		6.0	0.1			0.3	2.1		0.7	
Delay (s)		8.6		16.7	7.7			16.4	19.9		17.8	
Level of Service		A		B	A			B	B		B	
Approach Delay (s)		8.6			11.3			19.2			17.8	
Approach LOS		A			B			B			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			13.3			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			57.1			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			70.5%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	570	271	212	400	217	48	61	1916	188	37	2665	301
Future Volume (vph)	570	271	212	400	217	48	61	1916	188	37	2665	301
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.934			0.973				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	3320	0	1722	3394	0	1722	4445	1471	1615	5043	1633
Flt Permitted	0.494			0.250			0.066			0.066		
Satd. Flow (perm)	913	3320	0	453	3394	0	120	4445	1471	112	5043	1633
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			18				145			167
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			911.9			855.3			484.8	
Travel Time (s)		51.8			46.9			38.5			21.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Adj. Flow (vph)	613	291	228	430	233	52	66	2060	202	40	2866	324
Shared Lane Traffic (%)												
Lane Group Flow (vph)	613	519	0	430	285	0	66	2060	202	40	2866	324
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

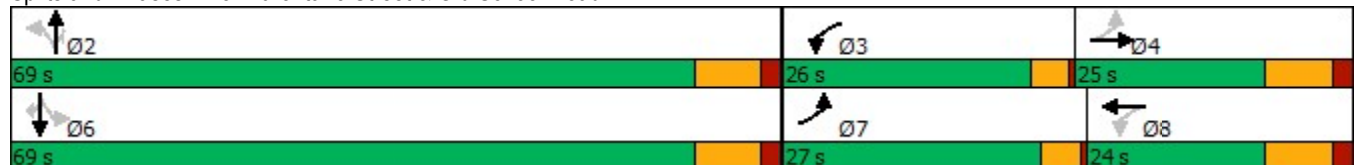
Future Background 2041  
AM Peak Hour

	↖		→		↗		↖		↗		↘	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4				8		2		2		6	
Detector Phase	7	4		3	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	24.0		8.0	24.0		24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	27.0	25.0		26.0	24.0		69.0	69.0	69.0	69.0	69.0	69.0
Total Split (%)	22.5%	20.8%		21.7%	20.0%		57.5%	57.5%	57.5%	57.5%	57.5%	57.5%
Maximum Green (s)	23.0	17.0		22.0	16.0		61.0	61.0	61.0	61.0	61.0	61.0
Yellow Time (s)	3.5	6.0		3.5	6.0		6.0	6.0	6.0	6.0	6.0	6.0
All-Red Time (s)	0.5	2.0		0.5	2.0		2.0	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	0.0
Total Lost Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lead/Lag	Lead	Lag		Lead	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	None		None	None		None	None	None	None	None	None
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		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
Act Effct Green (s)	44.0	17.0		42.0	16.0		61.0	61.0	61.0	61.0	61.0	61.0
Actuated g/C Ratio	0.37	0.14		0.35	0.13		0.51	0.51	0.51	0.51	0.51	0.51
v/c Ratio	1.24	1.06		1.10	0.61		1.08	0.91	0.25	0.71	1.12	0.36
Control Delay	153.3	104.2		106.5	52.0		173.9	34.5	5.9	87.1	88.4	9.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	153.3	104.2		106.5	52.0		173.9	34.5	5.9	87.1	88.4	9.3
LOS	F	F		F	D		F	C	A	F	F	A
Approach Delay		130.8			84.8			36.0			80.5	
Approach LOS		F			F			D			F	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 130  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.24  
 Intersection Signal Delay: 74.6  
 Intersection Capacity Utilization 107.3%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service G

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Background 2041  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	613	519	430	285	66	2060	202	40	2866	324
v/c Ratio	1.24	1.06	1.10	0.61	1.08	0.91	0.25	0.71	1.12	0.36
Control Delay	153.3	104.2	106.5	52.0	173.9	34.5	5.9	87.1	88.4	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	153.3	104.2	106.5	52.0	173.9	34.5	5.9	87.1	88.4	9.3
Queue Length 50th (m)	~138.5	~67.8	~95.5	31.6	~17.4	157.4	6.6	7.0	~284.3	19.4
Queue Length 95th (m)	#206.0	#102.7	#158.3	46.0	#32.4	182.2	19.0	#28.7	#310.7	38.4
Internal Link Dist (m)		983.8		887.9		831.3			460.8	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	496	490	391	468	61	2259	819	56	2563	912
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.24	1.06	1.10	0.61	1.08	0.91	0.25	0.71	1.12	0.36

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Background 2041  
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	570	271	212	400	217	48	61	1916	188	37	2665	301
Future Volume (vph)	570	271	212	400	217	48	61	1916	188	37	2665	301
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	3321		1722	3393		1722	4445	1471	1615	5043	1633
Flt Permitted	0.49	1.00		0.25	1.00		0.07	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	912	3321		453	3393		119	4445	1471	111	5043	1633
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	613	291	228	430	233	52	66	2060	202	40	2866	324
RTOR Reduction (vph)	0	21	0	0	16	0	0	0	71	0	0	82
Lane Group Flow (vph)	613	498	0	430	269	0	66	2060	131	40	2866	242
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	40.0	17.0		38.0	16.0		61.0	61.0	61.0	61.0	61.0	61.0
Effective Green, g (s)	40.0	17.0		38.0	16.0		61.0	61.0	61.0	61.0	61.0	61.0
Actuated g/C Ratio	0.33	0.14		0.32	0.13		0.51	0.51	0.51	0.51	0.51	0.51
Clearance Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	465	470		376	452		60	2259	747	56	2563	830
v/s Ratio Prot	c0.25	0.15		0.21	0.08			0.46			c0.57	
v/s Ratio Perm	c0.19			0.15			0.56		0.09	0.36		0.15
v/c Ratio	1.32	1.06		1.14	0.60		1.10	0.91	0.17	0.71	1.12	0.29
Uniform Delay, d1	37.4	51.5		36.8	49.0		29.5	27.0	15.9	22.8	29.5	17.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	157.8	58.5		91.5	2.1		146.4	6.1	0.1	35.0	59.2	0.2
Delay (s)	195.1	110.0		128.3	51.1		175.9	33.2	16.0	57.8	88.7	17.2
Level of Service	F	F		F	D		F	C	B	E	F	B
Approach Delay (s)		156.1			97.5			35.7			81.1	
Approach LOS		F			F			D			F	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			79.9				HCM 2000 Level of Service				E	
HCM 2000 Volume to Capacity ratio			1.21									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)				20.0	
Intersection Capacity Utilization			107.3%				ICU Level of Service				G	
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2041  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↕↔		↔	↔↕↔			↕				↕
Traffic Volume (vph)	51	821	61	177	714	30	30	225	172	101	278	46
Future Volume (vph)	51	821	61	177	714	30	30	225	172	101	278	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.994			0.945			0.986	
Flt Protected		0.997		0.950				0.997			0.988	
Satd. Flow (prot)	0	4861	0	1659	4942	0	0	1741	0	0	1782	0
Flt Permitted		0.844		0.249				0.954			0.705	
Satd. Flow (perm)	0	4115	0	435	4942	0	0	1666	0	0	1272	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			8			34			6	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		576.3			1419.4			543.5			2784.8	
Travel Time (s)		29.6			73.0			24.5			125.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Adj. Flow (vph)	52	829	62	179	721	30	30	227	174	102	281	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	943	0	179	751	0	0	431	0	0	429	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	68.0	68.0		68.0	68.0		52.0	52.0		52.0	52.0	
Total Split (%)	56.7%	56.7%		56.7%	56.7%		43.3%	43.3%		43.3%	43.3%	
Maximum Green (s)	64.0	64.0		64.0	64.0		48.0	48.0		48.0	48.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		64.0		64.0	64.0			48.0			48.0	
Actuated g/C Ratio		0.53		0.53	0.53			0.40			0.40	

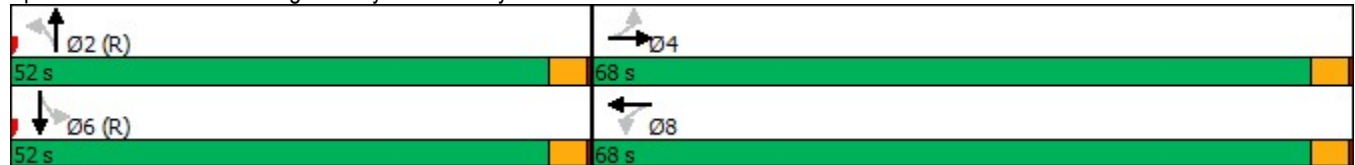
Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2041  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.43		0.77	0.28			0.63			0.84	
Control Delay		17.4		58.4	17.9			31.3			48.2	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		17.4		58.4	17.9			31.3			48.2	
LOS		B		E	B			C			D	
Approach Delay		17.4			25.7			31.3			48.2	
Approach LOS		B			C			C			D	

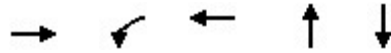
Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	27.3
Intersection LOS:	C
Intersection Capacity Utilization	93.1%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Background 2041  
AM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	943	179	751	431	429
v/c Ratio	0.43	0.77	0.28	0.63	0.84
Control Delay	17.4	58.4	17.9	31.3	48.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	58.4	17.9	31.3	48.2
Queue Length 50th (m)	46.5	31.3	30.1	74.1	88.9
Queue Length 95th (m)	57.1	#70.9	43.2	108.5	#145.4
Internal Link Dist (m)	552.3		1395.4	519.5	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	2201	232	2639	686	512
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.43	0.77	0.28	0.63	0.84


















Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 4: Chinguacousy Road & Mayfield Road





















Future Background 2041  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	821	61	177	714	30	30	225	172	101	278	46
Future Volume (vph)	51	821	61	177	714	30	30	225	172	101	278	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frt		0.99		1.00	0.99			0.95			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		4863		1659	4942			1741			1782	
Flt Permitted		0.84		0.25	1.00			0.95			0.71	
Satd. Flow (perm)		4116		434	4942			1667			1272	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	52	829	62	179	721	30	30	227	174	102	281	46
RTOR Reduction (vph)	0	7	0	0	4	0	0	20	0	0	4	0
Lane Group Flow (vph)	0	936	0	179	747	0	0	411	0	0	425	0
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		64.0		64.0	64.0			48.0			48.0	
Effective Green, g (s)		64.0		64.0	64.0			48.0			48.0	
Actuated g/C Ratio		0.53		0.53	0.53			0.40			0.40	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Grp Cap (vph)		2195		231	2635			666			508	
v/s Ratio Prot					0.15							
v/s Ratio Perm		0.23		c0.41				0.25			c0.33	
v/c Ratio		0.43		0.77	0.28			0.62			0.84	
Uniform Delay, d1		16.9		22.3	15.4			28.7			32.5	
Progression Factor		1.00		1.58	1.15			1.00			1.00	
Incremental Delay, d2		0.6		20.2	0.2			4.2			15.1	
Delay (s)		17.5		55.5	18.0			32.9			47.6	
Level of Service		B		E	B			C			D	
Approach Delay (s)		17.5			25.2			32.9			47.6	
Approach LOS		B			C			C			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			27.3									C
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			120.0								8.0	
Intersection Capacity Utilization			93.1%									F
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	1110	131	156	882	138	58	270	117	332	455	91
Future Volume (vph)	20	1110	131	156	882	138	58	270	117	332	455	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.984			0.980			0.955			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4888	0	1706	4770	0	1644	3397	0	1690	3444	0
Flt Permitted	0.263			0.098			0.443			0.314		
Satd. Flow (perm)	505	4888	0	176	4770	0	767	3397	0	559	3444	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			33			50			25	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			510.5			2496.3	
Travel Time (s)		73.0			65.0			23.0			112.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Adj. Flow (vph)	20	1133	134	159	900	141	59	276	119	339	464	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	1267	0	159	1041	0	59	395	0	339	557	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		8.0	23.0	
Total Split (s)	43.0	43.0		18.0	61.0		29.0	29.0		30.0	59.0	
Total Split (%)	35.8%	35.8%		15.0%	50.8%		24.2%	24.2%		25.0%	49.2%	
Maximum Green (s)	37.0	37.0		14.0	55.0		23.0	23.0		26.0	53.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		3.5	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		0.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Walk Time (s)	5.0	5.0			5.0		5.0	5.0			5.0	
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0			0	
Act Effct Green (s)	37.0	37.0		57.0	55.0		23.0	23.0		55.0	53.0	
Actuated g/C Ratio	0.31	0.31		0.48	0.46		0.19	0.19		0.46	0.44	



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

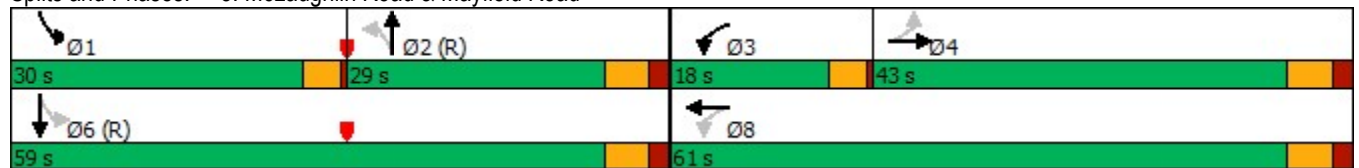
Future Background 2041  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.13	0.83		0.61	0.47		0.40	0.57		0.68	0.36	
Control Delay	33.5	44.4		32.5	22.5		51.9	42.0		29.6	22.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	33.5	44.4		32.5	22.5		51.9	42.0		29.6	22.0	
LOS	C	D		C	C		D	D		C	C	
Approach Delay		44.3			23.9			43.3			24.9	
Approach LOS		D			C			D			C	

Intersection Summary

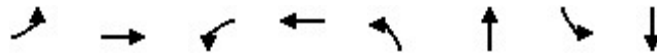
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	33.2
Intersection LOS:	C
Intersection Capacity Utilization	79.3%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Background 2041  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	20	1267	159	1041	59	395	339	557
v/c Ratio	0.13	0.83	0.61	0.47	0.40	0.57	0.68	0.36
Control Delay	33.5	44.4	32.5	22.5	51.9	42.0	29.6	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	44.4	32.5	22.5	51.9	42.0	29.6	22.0
Queue Length 50th (m)	3.8	106.1	21.1	58.6	12.3	39.1	52.9	42.8
Queue Length 95th (m)	m8.8	122.8	42.0	70.8	26.0	55.3	77.6	56.4
Internal Link Dist (m)		1395.4		1239.7		486.5		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	155	1519	262	2204	147	691	501	1535
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.83	0.61	0.47	0.40	0.57	0.68	0.36

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Future Background 2041  
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↗	↑↑↑		↗	↑↑		↗	↑↑	
Traffic Volume (vph)	20	1110	131	156	882	138	58	270	117	332	455	91
Future Volume (vph)	20	1110	131	156	882	138	58	270	117	332	455	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	4889		1706	4768		1644	3397		1690	3444	
Flt Permitted	0.26	1.00		0.10	1.00		0.44	1.00		0.31	1.00	
Satd. Flow (perm)	505	4889		175	4768		767	3397		558	3444	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	20	1133	134	159	900	141	59	276	119	339	464	93
RTOR Reduction (vph)	0	12	0	0	18	0	0	40	0	0	14	0
Lane Group Flow (vph)	20	1255	0	159	1023	0	59	355	0	339	543	0
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	37.0	37.0		55.0	55.0		23.0	23.0		53.0	53.0	
Effective Green, g (s)	37.0	37.0		55.0	55.0		23.0	23.0		53.0	53.0	
Actuated g/C Ratio	0.31	0.31		0.46	0.46		0.19	0.19		0.44	0.44	
Clearance Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	155	1507		258	2185		147	651		491	1521	
v/s Ratio Prot		c0.26		c0.07	0.21			0.10		c0.15	0.16	
v/s Ratio Perm	0.04			0.21			0.08			c0.16		
v/c Ratio	0.13	0.83		0.62	0.47		0.40	0.54		0.69	0.36	
Uniform Delay, d1	29.9	38.6		23.8	22.4		42.5	43.8		24.1	22.2	
Progression Factor	1.03	1.02		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.6	5.1		10.6	0.7		8.0	3.3		7.7	0.7	
Delay (s)	32.4	44.7		34.3	23.1		50.4	47.0		31.9	22.9	
Level of Service	C	D		C	C		D	D		C	C	
Approach Delay (s)		44.5			24.6			47.5			26.3	
Approach LOS		D			C			D			C	



































Intersection Summary

HCM 2000 Control Delay	34.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	79.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 		 	 	 
Traffic Volume (vph)	299	1093	120	253	703	186	99	443	257	395	1034	399
Future Volume (vph)	299	1093	120	253	703	186	99	443	257	395	1034	399
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	1.00		0.98	1.00		0.97	0.99		0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	4902	1541	3340	4948	1420	1807	3476	1512	1706	3544	1585
Fl <sub>t</sub> Permitted	0.167			0.950			0.255			0.373		
Satd. Flow (perm)	306	4902	1508	3330	4948	1395	484	3476	1467	666	3544	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			89			166			272			400
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			749.9			543.9			609.4	
Travel Time (s)		7.3			38.6			28.0			31.3	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Adj. Flow (vph)	318	1163	128	269	748	198	105	471	273	420	1100	424
Shared Lane Traffic (%)												
Lane Group Flow (vph)	318	1163	128	269	748	198	105	471	273	420	1100	424
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Minimum Split (s)	9.0	23.0	23.0	9.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	31.0	49.0	49.0	20.0	38.0	38.0	63.0	63.0	63.0	28.0	91.0	91.0
Total Split (%)	19.4%	30.6%	30.6%	12.5%	23.8%	23.8%	39.4%	39.4%	39.4%	17.5%	56.9%	56.9%
Maximum Green (s)	26.0	42.0	42.0	15.0	31.0	31.0	56.0	56.0	56.0	24.0	84.0	84.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	0.5	3.0	3.0
Lost Time Adjust (s)	-2.0	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	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
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)		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

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2041  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	66.0	42.0	42.0	15.0	31.0	31.0	56.0	56.0	56.0	87.0	84.0	84.0
Actuated g/C Ratio	0.41	0.26	0.26	0.09	0.19	0.19	0.35	0.35	0.35	0.54	0.52	0.52
v/c Ratio	0.85	0.90	0.28	0.86	0.78	0.49	0.62	0.39	0.40	0.81	0.59	0.42
Control Delay	57.9	67.7	17.7	96.1	67.8	16.5	61.7	40.3	5.5	36.6	27.8	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	0.0
Total Delay	57.9	67.7	17.7	96.1	67.8	16.5	61.7	40.3	5.5	36.6	27.8	3.6
LOS	E	E	B	F	E	B	E	D	A	D	C	A
Approach Delay		61.8			65.7			31.8			24.5	
Approach LOS		E			E			C			C	

Intersection Summary

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Pretimed
Maximum v/c Ratio:	0.90
Intersection Signal Delay:	45.2
Intersection LOS:	D
Intersection Capacity Utilization	85.0%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Background 2041  
AM Peak Hour




































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	318	1163	128	269	748	198	105	471	273	420	1100	424
v/c Ratio	0.85	0.90	0.28	0.86	0.78	0.49	0.62	0.39	0.40	0.81	0.59	0.42
Control Delay	57.9	67.7	17.7	96.1	67.8	16.5	61.7	40.3	5.5	36.6	27.8	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	0.0
Total Delay	57.9	67.7	17.7	96.1	67.8	16.5	61.7	40.3	5.5	36.6	27.8	3.6
Queue Length 50th (m)	73.5	132.1	9.5	44.2	83.8	8.5	27.7	59.3	0.2	78.9	124.1	3.6
Queue Length 95th (m)	#122.4	151.0	27.2	#68.0	99.7	33.4	52.8	75.1	20.2	#108.2	145.3	20.8
Internal Link Dist (m)		118.1			725.9			519.9			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	376	1286	461	313	958	404	169	1216	690	518	1860	1007
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.90	0.28	0.86	0.78	0.49	0.62	0.39	0.40	0.81	0.59	0.42

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Background 2041  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		  	  			 		 	 		
Traffic Volume (vph)	299	1093	120	253	703	186	99	443	257	395	1034	399	
Future Volume (vph)	299	1093	120	253	703	186	99	443	257	395	1034	399	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	3.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frbp, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1738	4902	1508	3340	4948	1395	1805	3476	1467	1703	3544	1557	
Flt Permitted	0.17	1.00	1.00	0.95	1.00	1.00	0.25	1.00	1.00	0.37	1.00	1.00	
Satd. Flow (perm)	305	4902	1508	3340	4948	1395	484	3476	1467	668	3544	1557	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	318	1163	128	269	748	198	105	471	273	420	1100	424	
RTOR Reduction (vph)	0	0	66	0	0	134	0	0	177	0	0	190	
Lane Group Flow (vph)	318	1163	62	269	748	64	105	471	96	420	1100	234	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2	
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8			2		1	6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	62.0	42.0	42.0	15.0	31.0	31.0	56.0	56.0	56.0	84.0	84.0	84.0	
Effective Green, g (s)	64.0	42.0	42.0	15.0	31.0	31.0	56.0	56.0	56.0	84.0	84.0	84.0	
Actuated g/C Ratio	0.40	0.26	0.26	0.09	0.19	0.19	0.35	0.35	0.35	0.52	0.52	0.52	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Grp Cap (vph)	372	1286	395	313	958	270	169	1216	513	505	1860	817	
v/s Ratio Prot	c0.15	0.24		0.08	0.15			0.14		c0.12	0.31		
v/s Ratio Perm	c0.19		0.04			0.05	0.22		0.07	c0.31		0.15	
v/c Ratio	0.85	0.90	0.16	0.86	0.78	0.24	0.62	0.39	0.19	0.83	0.59	0.29	
Uniform Delay, d1	38.6	57.1	45.4	71.5	61.3	54.5	43.2	39.1	36.2	25.6	26.2	21.2	
Progression 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	
Incremental Delay, d2	21.5	10.6	0.9	25.2	6.3	2.1	16.0	0.9	0.8	14.7	1.4	0.9	
Delay (s)	60.0	67.7	46.2	96.6	67.6	56.6	59.2	40.0	37.0	40.3	27.6	22.1	
Level of Service	E	E	D	F	E	E	E	D	D	D	C	C	
Approach Delay (s)		64.5			72.2			41.4			29.1		
Approach LOS		E			E			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			50.4									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.90										
Actuated Cycle Length (s)			160.0									Sum of lost time (s)	23.0
Intersection Capacity Utilization			85.0%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2041  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖	↗			↕			↕	
Traffic Volume (vph)	5	271	2	294	375	55	14	387	336	43	254	5
Future Volume (vph)	5	271	2	294	375	55	14	387	336	43	254	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.999			0.981			0.939			0.998	
Fl <sub>t</sub> Protected		0.999		0.950				0.999			0.993	
Satd. Flow (prot)	0	1863	0	1825	1838	0	0	1723	0	0	1844	0
Fl <sub>t</sub> Permitted		0.990		0.249				0.991			0.840	
Satd. Flow (perm)	0	1846	0	478	1838	0	0	1709	0	0	1559	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8			64			1	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			342.6	
Travel Time (s)		30.4			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	5	288	2	313	399	59	15	412	357	46	270	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	295	0	313	458	0	0	784	0	0	321	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

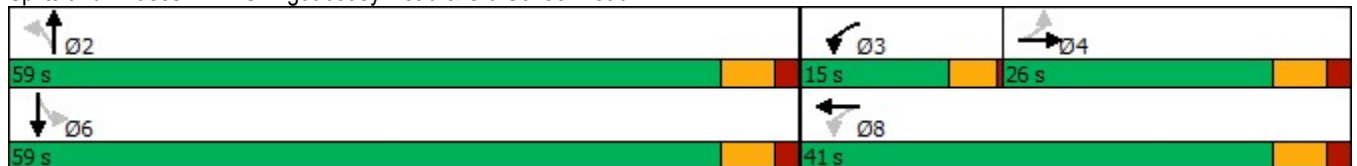
Future Background 2041  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	26.0	26.0		15.0	41.0		59.0	59.0		59.0	59.0	
Total Split (%)	26.0%	26.0%		15.0%	41.0%		59.0%	59.0%		59.0%	59.0%	
Maximum Green (s)	20.0	20.0		11.0	35.0		53.0	53.0		53.0	53.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		4.0	6.0			6.0			6.0	
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	Max	Max		None	Max		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		20.0		37.0	35.0			53.0			53.0	
Actuated g/C Ratio		0.20		0.37	0.35			0.53			0.53	
v/c Ratio		0.80		0.96	0.71			0.84			0.39	
Control Delay		55.6		69.7	34.6			28.1			15.6	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		55.6		69.7	34.6			28.1			15.6	
LOS		E		E	C			C			B	
Approach Delay		55.6			48.9			28.1			15.6	
Approach LOS		E			D			C			B	

Intersection Summary

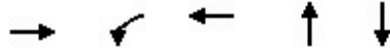
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.96
Intersection Signal Delay:	37.4
Intersection LOS:	D
Intersection Capacity Utilization	95.9%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road



Queues  
1: Chinguacousy Road & Old School Road

Future Background 2041  
PM Peak Hour




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	295	313	458	784	321
v/c Ratio	0.80	0.96	0.71	0.84	0.39
Control Delay	55.6	69.7	34.6	28.1	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	55.6	69.7	34.6	28.1	15.6
Queue Length 50th (m)	54.9	45.5	74.5	113.7	34.9
Queue Length 95th (m)	#95.1	#85.7	109.9	#181.5	54.3
Internal Link Dist (m)	566.7		466.2	274.8	318.6
Turn Bay Length (m)					
Base Capacity (vph)	369	325	648	935	826
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.80	0.96	0.71	0.84	0.39

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Background 2041  
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	5	271	2	294	375	55	14	387	336	43	254	5	
Future Volume (vph)	5	271	2	294	375	55	14	387	336	43	254	5	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.0		4.0	6.0			6.0			6.0		
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00		
Frt		1.00		1.00	0.98			0.94			1.00		
Flt Protected		1.00		0.95	1.00			1.00			0.99		
Satd. Flow (prot)		1863		1825	1837			1722			1843		
Flt Permitted		0.99		0.25	1.00			0.99			0.84		
Satd. Flow (perm)		1845		478	1837			1709			1559		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	5	288	2	313	399	59	15	412	357	46	270	5	
RTOR Reduction (vph)	0	0	0	0	5	0	0	30	0	0	0	0	
Lane Group Flow (vph)	0	295	0	313	453	0	0	754	0	0	321	0	
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA		
Protected Phases		4		3	8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		20.0		35.0	35.0			53.0			53.0		
Effective Green, g (s)		20.0		35.0	35.0			53.0			53.0		
Actuated g/C Ratio		0.20		0.35	0.35			0.53			0.53		
Clearance Time (s)		6.0		4.0	6.0			6.0			6.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0		
Lane Grp Cap (vph)		369		315	642			905			826		
v/s Ratio Prot				c0.11	0.25								
v/s Ratio Perm		0.16		c0.24				c0.44			0.21		
v/c Ratio		0.80		0.99	0.71			0.83			0.39		
Uniform Delay, d1		38.1		29.9	28.0			19.8			13.9		
Progression Factor		1.00		1.00	1.00			1.00			1.00		
Incremental Delay, d2		16.4		48.7	6.4			8.9			1.4		
Delay (s)		54.5		78.6	34.5			28.7			15.3		
Level of Service		D		E	C			C			B		
Approach Delay (s)		54.5			52.4			28.7			15.3		
Approach LOS		D			D			C			B		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			38.6									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.93										
Actuated Cycle Length (s)			100.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			95.9%									ICU Level of Service	F
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Background 2041  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕		↖	↕↕			↖	↖		↕↕	
Traffic Volume (vph)	12	603	39	459	666	32	51	168	469	26	71	8
Future Volume (vph)	12	603	39	459	666	32	51	168	469	26	71	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.993				0.850		0.989	
Flt Protected		0.999		0.950				0.989			0.988	
Satd. Flow (prot)	0	3465	0	1755	3584	0	0	1829	1555	0	1804	0
Flt Permitted		0.933		0.219				0.899			0.873	
Satd. Flow (perm)	0	3236	0	405	3584	0	0	1663	1555	0	1594	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			9				499		4	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	13	641	41	488	709	34	54	179	499	28	76	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	695	0	488	743	0	0	233	499	0	113	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

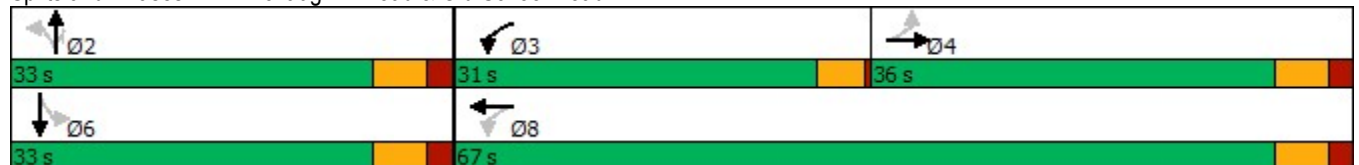
Future Background 2041  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	36.0	36.0		31.0	67.0		33.0	33.0	33.0	33.0	33.0	
Total Split (%)	36.0%	36.0%		31.0%	67.0%		33.0%	33.0%	33.0%	33.0%	33.0%	
Maximum Green (s)	30.0	30.0		27.0	61.0		27.0	27.0	27.0	27.0	27.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		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	
Total Lost Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	None	None		None	None		None	None	None	None	None	
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)	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)		22.1		47.9	45.8			17.4	17.4		17.4	
Actuated g/C Ratio		0.29		0.63	0.60			0.23	0.23		0.23	
v/c Ratio		0.74		0.82	0.34			0.61	0.67		0.31	
Control Delay		30.9		25.3	8.2			36.1	8.0		28.8	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		30.9		25.3	8.2			36.1	8.0		28.8	
LOS		C		C	A			D	A		C	
Approach Delay		30.9			15.0			17.0			28.8	
Approach LOS		C			B			B			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 76.1  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 20.1  
 Intersection Capacity Utilization 81.0%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service D

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road

Future Background 2041  
PM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	695	488	743	233	499	113
v/c Ratio	0.74	0.82	0.34	0.61	0.67	0.31
Control Delay	30.9	25.3	8.2	36.1	8.0	28.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.9	25.3	8.2	36.1	8.0	28.8
Queue Length 50th (m)	45.8	37.2	23.7	29.9	0.0	12.9
Queue Length 95th (m)	82.6	#101.2	44.3	61.8	25.1	30.9
Internal Link Dist (m)	869.1		325.1	564.2		239.1
Turn Bay Length (m)		50.0				
Base Capacity (vph)	1375	770	2899	634	902	610
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.63	0.26	0.37	0.55	0.19

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 2: McLaughlin Road & Old School Road























Future Background 2041  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕↕		↖	↕↕			↕	↖		↕↕		
Traffic Volume (vph)	12	603	39	459	666	32	51	168	469	26	71	8	
Future Volume (vph)	12	603	39	459	666	32	51	168	469	26	71	8	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.0		4.0	6.0			6.0	6.0		6.0		
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00		
Frt		0.99		1.00	0.99			1.00	0.85		0.99		
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99		
Satd. Flow (prot)		3466		1755	3584			1829	1555		1804		
Flt Permitted		0.93		0.22	1.00			0.90	1.00		0.87		
Satd. Flow (perm)		3237		405	3584			1663	1555		1595		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	13	641	41	488	709	34	54	179	499	28	76	9	
RTOR Reduction (vph)	0	4	0	0	4	0	0	0	384	0	3	0	
Lane Group Flow (vph)	0	691	0	488	739	0	0	233	115	0	110	0	
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		4		3	8			2			6		
Permitted Phases	4			8			2		2	6			
Actuated Green, G (s)		22.4		45.8	45.8			17.4	17.4		17.4		
Effective Green, g (s)		22.4		45.8	45.8			17.4	17.4		17.4		
Actuated g/C Ratio		0.30		0.61	0.61			0.23	0.23		0.23		
Clearance Time (s)		6.0		4.0	6.0			6.0	6.0		6.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0		
Lane Grp Cap (vph)		964		594	2182			384	359		369		
v/s Ratio Prot				c0.21	0.21								
v/s Ratio Perm		0.21		c0.29				c0.14	0.07		0.07		
v/c Ratio		0.72		0.82	0.34			0.61	0.32		0.30		
Uniform Delay, d1		23.6		12.9	7.2			25.8	24.0		23.9		
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00		
Incremental Delay, d2		2.6		8.9	0.1			2.7	0.5		0.5		
Delay (s)		26.1		21.8	7.3			28.5	24.5		24.3		
Level of Service		C		C	A			C	C		C		
Approach Delay (s)		26.1			13.1			25.8			24.3		
Approach LOS		C			B			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			20.2									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.80										
Actuated Cycle Length (s)			75.2									Sum of lost time (s)	16.0
Intersection Capacity Utilization			81.0%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2041  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	694	262	130	329	325	62	206	3369	461	39	1974	591
Future Volume (vph)	694	262	130	329	325	62	206	3369	461	39	1974	591
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.950			0.976				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3303	0	1789	3533	0	1807	5043	1633	1825	4812	1541
Flt Permitted	0.280			0.256			0.068			0.073		
Satd. Flow (perm)	538	3303	0	482	3533	0	129	5043	1633	140	4812	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		64			17				178			374
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			911.9			855.3			484.8	
Travel Time (s)		51.8			46.9			38.5			21.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Adj. Flow (vph)	715	270	134	339	335	64	212	3473	475	40	2035	609
Shared Lane Traffic (%)												
Lane Group Flow (vph)	715	404	0	339	399	0	212	3473	475	40	2035	609
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

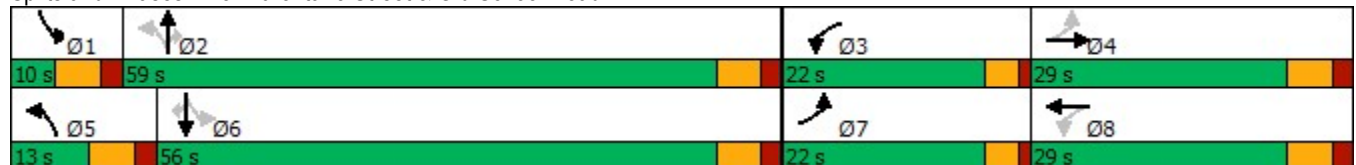
Future Background 2041  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0	29.0	10.0	29.0	29.0
Total Split (s)	22.0	29.0		22.0	29.0		13.0	59.0	59.0	10.0	56.0	56.0
Total Split (%)	18.3%	24.2%		18.3%	24.2%		10.8%	49.2%	49.2%	8.3%	46.7%	46.7%
Maximum Green (s)	18.0	23.0		18.0	23.0		7.0	53.0	53.0	4.0	50.0	50.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		0.0	-2.0		-2.0	-2.0	0.0	-2.0	-2.0	0.0
Total Lost Time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lead/Lag	Lead	Lag		Lead	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
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Walk Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	41.9	19.8		37.4	19.6		64.5	59.2	57.2	58.0	52.0	50.0
Actuated g/C Ratio	0.37	0.17		0.33	0.17		0.56	0.52	0.50	0.51	0.45	0.44
v/c Ratio	1.70	0.65		0.94	0.65		1.04	1.34	0.53	0.25	0.93	0.69
Control Delay	350.4	42.0		66.1	47.4		103.9	180.2	15.4	16.2	39.2	14.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	350.4	42.0		66.1	47.4		103.9	180.2	15.4	16.2	39.2	14.4
LOS	F	D		E	D		F	F	B	B	D	B
Approach Delay		239.1			56.0			157.5			33.2	
Approach LOS		F			E			F			C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	114.7
Natural Cycle:	150
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.70
Intersection Signal Delay:	121.0
Intersection LOS:	F
Intersection Capacity Utilization:	131.2%
ICU Level of Service:	H
Analysis Period (min):	15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Background 2041  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	715	404	339	399	212	3473	475	40	2035	609
v/c Ratio	1.70	0.65	0.94	0.65	1.04	1.34	0.53	0.25	0.93	0.69
Control Delay	350.4	42.0	66.1	47.4	103.9	180.2	15.4	16.2	39.2	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	350.4	42.0	66.1	47.4	103.9	180.2	15.4	16.2	39.2	14.4
Queue Length 50th (m)	~213.9	37.8	59.2	42.4	~36.5	~387.2	46.0	3.8	154.2	40.4
Queue Length 95th (m)	#290.2	54.0	#106.8	58.3	#89.7	#439.4	83.5	9.5	#207.2	89.2
Internal Link Dist (m)		983.8		887.9		831.3			460.8	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	420	770	363	783	204	2601	903	159	2183	883
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.70	0.52	0.93	0.51	1.04	1.34	0.53	0.25	0.93	0.69

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Background 2041  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	694	262	130	329	325	62	206	3369	461	39	1974	591	
Future Volume (vph)	694	262	130	329	325	62	206	3369	461	39	1974	591	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00	
Frt	1.00	0.95		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1825	3304		1789	3533		1807	5043	1633	1825	4812	1541	
Flt Permitted	0.28	1.00		0.26	1.00		0.07	1.00	1.00	0.07	1.00	1.00	
Satd. Flow (perm)	537	3304		482	3533		130	5043	1633	141	4812	1541	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	715	270	134	339	335	64	212	3473	475	40	2035	609	
RTOR Reduction (vph)	0	53	0	0	14	0	0	0	91	0	0	206	
Lane Group Flow (vph)	715	351	0	339	385	0	212	3473	384	40	2035	403	
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8		5	2		1	6		
Permitted Phases	4			8			2		2	6		6	
Actuated Green, G (s)	35.8	17.8		35.4	17.6		64.2	57.2	57.2	55.0	52.6	52.6	
Effective Green, g (s)	39.8	19.8		35.4	19.6		67.6	59.2	57.2	59.0	54.6	52.6	
Actuated g/C Ratio	0.34	0.17		0.30	0.17		0.58	0.51	0.49	0.50	0.47	0.45	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	402	558		344	590		203	2547	796	134	2241	691	
v/s Ratio Prot	c0.30	0.11		0.15	0.11		c0.08	c0.69		0.01	0.42		
v/s Ratio Perm	0.30			c0.15			0.52		0.24	0.14		0.26	
v/c Ratio	1.78	0.63		0.99	0.65		1.04	1.36	0.48	0.30	0.91	0.58	
Uniform Delay, d1	34.3	45.3		36.4	45.6		34.5	29.0	20.1	25.9	29.0	24.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	360.3	2.2		44.2	2.6		75.3	166.2	2.1	1.3	6.8	3.6	
Delay (s)	394.6	47.5		80.7	48.2		109.8	195.2	22.2	27.2	35.8	27.7	
Level of Service	F	D		F	D		F	F	C	C	D	C	
Approach Delay (s)		269.3			63.1			171.1			33.8		
Approach LOS		F			E			F			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			132.2									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.38										
Actuated Cycle Length (s)			117.2									Sum of lost time (s)	16.0
Intersection Capacity Utilization			131.2%									ICU Level of Service	H
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

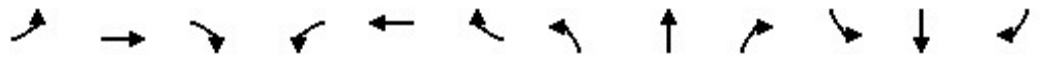
Future Background 2041  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕		↖	↕↕↕			↕			↕	
Traffic Volume (vph)	51	859	63	225	809	80	42	329	193	41	201	35
Future Volume (vph)	51	859	63	225	809	80	42	329	193	41	201	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.990			0.986			0.954			0.983	
Flt Protected		0.997		0.950				0.996			0.993	
Satd. Flow (prot)	0	5037	0	1825	5034	0	0	1784	0	0	1835	0
Flt Permitted		0.815		0.127				0.954			0.848	
Satd. Flow (perm)	0	4117	0	244	5034	0	0	1709	0	0	1567	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			19			29			8	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		576.3			1419.4			543.5			2784.8	
Travel Time (s)		29.6			73.0			24.5			125.3	
Confl. Peds. (#/hr)							1					1
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
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Adj. Flow (vph)	55	934	68	245	879	87	46	358	210	45	218	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1057	0	245	966	0	0	614	0	0	301	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2041  
PM Peak Hour

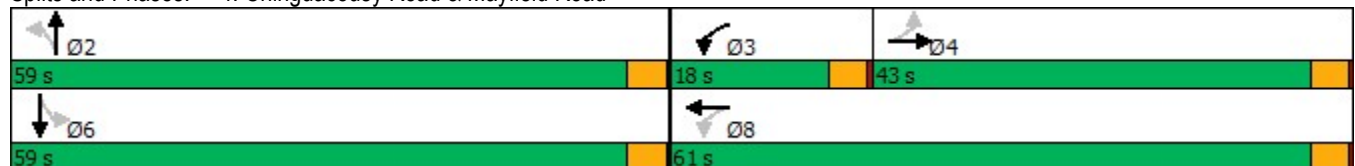


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	43.0	43.0		18.0	61.0		59.0	59.0		59.0	59.0	
Total Split (%)	35.8%	35.8%		15.0%	50.8%		49.2%	49.2%		49.2%	49.2%	
Maximum Green (s)	39.0	39.0		14.0	57.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
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	Max	Max		None	Max		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		39.5		57.0	57.0			55.0			55.0	
Actuated g/C Ratio		0.33		0.48	0.48			0.46			0.46	
v/c Ratio		0.78		0.83	0.40			0.77			0.42	
Control Delay		40.8		47.4	20.6			33.6			23.4	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		40.8		47.4	20.6			33.6			23.4	
LOS		D		D	C			C			C	
Approach Delay		40.8			26.0			33.6			23.4	
Approach LOS		D			C			C			C	

Intersection Summary

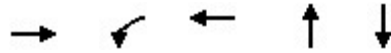
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Natural Cycle:	50
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	32.2
Intersection LOS:	C
Intersection Capacity Utilization	82.6%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Background 2041  
PM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	1057	245	966	614	301
v/c Ratio	0.78	0.83	0.40	0.77	0.42
Control Delay	40.8	47.4	20.6	33.6	23.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	40.8	47.4	20.6	33.6	23.4
Queue Length 50th (m)	81.7	34.2	51.5	113.3	45.1
Queue Length 95th (m)	99.1	#74.7	62.4	160.6	67.9
Internal Link Dist (m)	552.3		1395.4	519.5	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	1360	300	2401	799	722
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.78	0.82	0.40	0.77	0.42


























Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 4: Chinguacousy Road & Mayfield Road





















Future Background 2041  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			  			  	
Traffic Volume (vph)	51	859	63	225	809	80	42	329	193	41	201	35
Future Volume (vph)	51	859	63	225	809	80	42	329	193	41	201	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frbp, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		0.99		1.00	0.99			0.95			0.98	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		5040		1825	5036			1785			1835	
Flt Permitted		0.81		0.13	1.00			0.95			0.85	
Satd. Flow (perm)		4117		245	5036			1708			1568	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	934	68	245	879	87	46	358	210	45	218	38
RTOR Reduction (vph)	0	6	0	0	10	0	0	16	0	0	4	0
Lane Group Flow (vph)	0	1051	0	245	956	0	0	598	0	0	297	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		39.5		57.0	57.0			55.0			55.0	
Effective Green, g (s)		39.5		57.0	57.0			55.0			55.0	
Actuated g/C Ratio		0.33		0.48	0.48			0.46			0.46	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1355		294	2392			782			718	
v/s Ratio Prot				c0.09	0.19							
v/s Ratio Perm		0.26		c0.30				c0.35			0.19	
v/c Ratio		0.78		0.83	0.40			0.77			0.41	
Uniform Delay, d1		36.3		23.1	20.4			27.1			21.7	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		4.4		18.0	0.5			7.0			1.8	
Delay (s)		40.7		41.1	20.9			34.1			23.5	
Level of Service		D		D	C			C			C	
Approach Delay (s)		40.7			25.0			34.1			23.5	
Approach LOS		D			C			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			31.8			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			82.6%			ICU Level of Service				E		
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2041  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	1055	83	138	1231	312	140	483	142	238	282	94
Future Volume (vph)	52	1055	83	138	1231	312	140	483	142	238	282	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.989			0.970			0.966			0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	5036	0	1755	4892	0	1825	3475	0	1738	3393	0
Flt Permitted	0.118			0.122			0.520			0.155		
Satd. Flow (perm)	216	5036	0	225	4892	0	999	3475	0	284	3393	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			68			31			25	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			510.5			2496.3	
Travel Time (s)		73.0			65.0			23.0			112.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	54	1099	86	144	1282	325	146	503	148	248	294	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	1185	0	144	1607	0	146	651	0	248	392	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

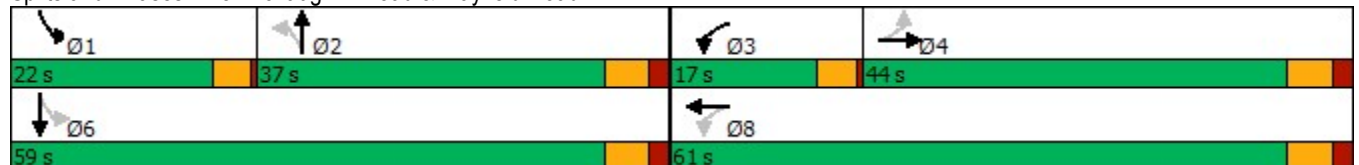
Future Background 2041  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		8.0	22.0	
Total Split (s)	44.0	44.0		17.0	61.0		37.0	37.0		22.0	59.0	
Total Split (%)	36.7%	36.7%		14.2%	50.8%		30.8%	30.8%		18.3%	49.2%	
Maximum Green (s)	38.0	38.0		13.0	55.0		31.0	31.0		18.0	53.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		3.5	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		0.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	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	
Recall Mode	Max	Max		None	Max		None	None		None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0			5.0	
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0			0	
Act Effct Green (s)	41.0	41.0		57.3	55.3		25.7	25.7		47.1	45.1	
Actuated g/C Ratio	0.36	0.36		0.51	0.49		0.23	0.23		0.42	0.40	
v/c Ratio	0.69	0.64		0.57	0.66		0.64	0.80		0.78	0.29	
Control Delay	79.6	32.8		25.5	23.0		53.1	46.9		41.3	21.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	79.6	32.8		25.5	23.0		53.1	46.9		41.3	21.3	
LOS	E	C		C	C		D	D		D	C	
Approach Delay		34.9			23.2			48.0			29.1	
Approach LOS		C			C			D			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 112.4  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.80  
 Intersection Signal Delay: 31.8  
 Intersection Capacity Utilization 83.5%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service E

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Background 2041  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	54	1185	144	1607	146	651	248	392
v/c Ratio	0.69	0.64	0.57	0.66	0.64	0.80	0.78	0.29
Control Delay	79.6	32.8	25.5	23.0	53.1	46.9	41.3	21.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.6	32.8	25.5	23.0	53.1	46.9	41.3	21.3
Queue Length 50th (m)	10.4	80.8	17.1	94.3	29.4	68.6	36.1	27.8
Queue Length 95th (m)	#36.2	106.9	31.6	121.4	52.4	90.7	#62.3	38.7
Internal Link Dist (m)		1395.4		1239.7		486.5		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	78	1843	292	2440	277	985	353	1620
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.64	0.49	0.66	0.53	0.66	0.70	0.24

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

































HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Future Background 2041  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	1055	83	138	1231	312	140	483	142	238	282	94
Future Volume (vph)	52	1055	83	138	1231	312	140	483	142	238	282	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1738	5036		1755	4890		1825	3475		1738	3394	
Flt Permitted	0.12	1.00		0.12	1.00		0.52	1.00		0.16	1.00	
Satd. Flow (perm)	217	5036		226	4890		1000	3475		284	3394	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	54	1099	86	144	1282	325	146	503	148	248	294	98
RTOR Reduction (vph)	0	7	0	0	35	0	0	24	0	0	15	0
Lane Group Flow (vph)	54	1178	0	144	1572	0	146	627	0	248	377	0
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	41.0	41.0		55.3	55.3		25.8	25.8		45.1	45.1	
Effective Green, g (s)	41.0	41.0		55.3	55.3		25.8	25.8		45.1	45.1	
Actuated g/C Ratio	0.36	0.36		0.49	0.49		0.23	0.23		0.40	0.40	
Clearance Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	79	1836		251	2405		229	797		311	1361	
v/s Ratio Prot		0.23		0.05	c0.32			0.18		c0.11	0.11	
v/s Ratio Perm	0.25			0.23			0.15			c0.21		
v/c Ratio	0.68	0.64		0.57	0.65		0.64	0.79		0.80	0.28	
Uniform Delay, d1	30.2	29.6		18.7	21.4		39.1	40.7		25.8	22.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	38.7	1.7		3.2	1.4		5.7	5.2		13.2	0.1	
Delay (s)	68.9	31.3		21.9	22.8		44.8	45.9		39.0	22.8	
Level of Service	E	C		C	C		D	D		D	C	
Approach Delay (s)		33.0			22.7			45.7			29.1	
Approach LOS		C			C			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			30.6				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			112.4				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			83.5%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2041  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	729	734	126	337	942	188	236	838	322	270	961	1031
Future Volume (vph)	729	734	126	337	942	188	236	838	322	270	961	1031
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.96	0.98		0.99			0.96			0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	4995	1601	3404	5092	1585	1789	3614	1555	1825	3510	1585
Flt Permitted	0.148			0.950			0.154			0.133		
Satd. Flow (perm)	273	4995	1538	3349	5092	1562	290	3614	1486	256	3510	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			137			178			230			588
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			749.9			543.9			609.4	
Travel Time (s)		7.3			38.6			28.0			31.3	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Adj. Flow (vph)	752	757	130	347	971	194	243	864	332	278	991	1063
Shared Lane Traffic (%)												
Lane Group Flow (vph)	752	757	130	347	971	194	243	864	332	278	991	1063
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	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	2		2	6		6
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	8.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	41.0	45.0	45.0	25.0	29.0	29.0	9.0	48.0	48.0	17.0	56.0	56.0
Total Split (%)	30.4%	33.3%	33.3%	18.5%	21.5%	21.5%	6.7%	35.6%	35.6%	12.6%	41.5%	41.5%
Maximum Green (s)	36.0	38.0	38.0	20.0	22.0	22.0	5.0	41.0	41.0	13.0	49.0	49.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.5	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	0.5	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-2.0	0.0	0.0	0.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0	2.0	7.0	7.0
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
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		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

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

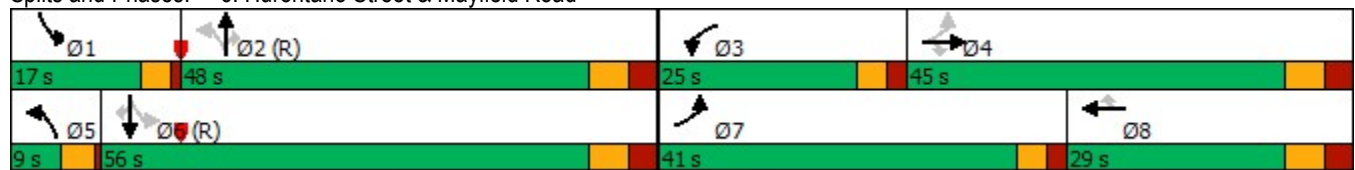
Future Background 2041  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	67.0	38.0	38.0	20.0	22.0	22.0	53.0	41.0	41.0	63.0	49.0	49.0
Actuated g/C Ratio	0.50	0.28	0.28	0.15	0.16	0.16	0.39	0.30	0.30	0.47	0.36	0.36
v/c Ratio	1.36	0.54	0.24	0.69	1.17	0.48	1.27	0.79	0.54	0.95	0.78	1.13
Control Delay	206.5	42.8	6.2	62.4	138.4	13.3	184.1	49.2	15.5	69.5	43.3	92.0
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	206.5	42.8	6.2	62.4	138.4	13.3	184.1	49.2	15.5	69.5	43.3	92.0
LOS	F	D	A	E	F	B	F	D	B	E	D	F
Approach Delay		115.0			104.9			64.2			68.6	
Approach LOS		F			F			E			E	

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: 130  
 Control Type: Pretimed  
 Maximum v/c Ratio: 1.36  
 Intersection Signal Delay: 86.6  
 Intersection LOS: F  
 Intersection Capacity Utilization 116.6%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Background 2041  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	752	757	130	347	971	194	243	864	332	278	991	1063
v/c Ratio	1.36	0.54	0.24	0.69	1.17	0.48	1.27	0.79	0.54	0.95	0.78	1.13
Control Delay	206.5	42.8	6.2	62.4	138.4	13.3	184.1	49.2	15.5	69.5	43.3	92.0
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	206.5	42.8	6.2	62.4	138.4	13.3	184.1	49.2	15.5	69.5	43.3	92.0
Queue Length 50th (m)	~248.2	62.7	0.0	45.8	~112.7	3.7	~54.8	111.0	20.7	48.3	122.8	~222.7
Queue Length 95th (m)	#324.0	76.4	13.5	62.3	#141.2	25.6	#105.3	135.7	50.7	#102.6	148.6	#303.0
Internal Link Dist (m)		118.1			725.9			519.9			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	552	1406	531	504	829	403	191	1097	611	293	1274	938
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.36	0.54	0.24	0.69	1.17	0.48	1.27	0.79	0.54	0.95	0.78	1.13

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.


















HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Background 2041  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	729	734	126	337	942	188	236	838	322	270	961	1031	
Future Volume (vph)	729	734	126	337	942	188	236	838	322	270	961	1031	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0	2.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1755	4995	1538	3404	5092	1562	1789	3614	1486	1825	3510	1555	
Flt Permitted	0.15	1.00	1.00	0.95	1.00	1.00	0.15	1.00	1.00	0.13	1.00	1.00	
Satd. Flow (perm)	274	4995	1538	3404	5092	1562	290	3614	1486	255	3510	1555	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	752	757	130	347	971	194	243	864	332	278	991	1063	
RTOR Reduction (vph)	0	0	93	0	0	149	0	0	160	0	0	375	
Lane Group Flow (vph)	752	757	37	347	971	45	243	864	172	278	991	688	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3	
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%	
Turn Type	pm+pt	NA	Perm	Prot	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	2		2	6		6	
Actuated Green, G (s)	63.0	38.0	38.0	20.0	22.0	22.0	46.0	41.0	41.0	58.0	49.0	49.0	
Effective Green, g (s)	65.0	38.0	38.0	20.0	22.0	22.0	50.0	41.0	41.0	60.0	49.0	49.0	
Actuated g/C Ratio	0.48	0.28	0.28	0.15	0.16	0.16	0.37	0.30	0.30	0.44	0.36	0.36	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	
Lane Grp Cap (vph)	548	1406	432	504	829	254	185	1097	451	287	1274	564	
v/s Ratio Prot	c0.39	0.15		0.10	0.19		c0.07	0.24		c0.11	0.28		
v/s Ratio Perm	c0.27		0.02			0.03	c0.42		0.12	0.32		0.44	
v/c Ratio	1.37	0.54	0.08	0.69	1.17	0.18	1.31	0.79	0.38	0.97	0.78	1.22	
Uniform Delay, d1	39.4	41.1	35.7	54.5	56.5	48.7	38.5	43.0	37.0	31.7	38.2	43.0	
Progression 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	
Incremental Delay, d2	178.9	1.5	0.4	7.5	89.8	1.5	174.1	5.7	2.4	45.7	4.7	114.6	
Delay (s)	218.2	42.6	36.1	62.0	146.3	50.2	212.6	48.8	39.4	77.4	42.9	157.6	
Level of Service	F	D	D	E	F	D	F	D	D	E	D	F	
Approach Delay (s)		122.7			114.6			74.3			99.3		
Approach LOS		F			F			E			F		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			103.0									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.41										
Actuated Cycle Length (s)			135.0									Sum of lost time (s)	21.0
Intersection Capacity Utilization			116.6%									ICU Level of Service	H
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Total 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	314	5	187	234	49	5	235	387	40	228	11
Future Volume (vph)	2	314	5	187	234	49	5	235	387	40	228	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.998			0.974			0.917			0.995	
Fl <sub>t</sub> Protected				0.950							0.993	
Satd. Flow (prot)	0	1917	0	1772	1810	0	0	1698	0	0	1789	0
Fl <sub>t</sub> Permitted		0.998		0.525				0.998			0.893	
Satd. Flow (perm)	0	1913	0	979	1810	0	0	1695	0	0	1609	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			31			242			6	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			525.8	
Travel Time (s)		30.4			25.2			13.4			23.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Adj. Flow (vph)	2	334	5	199	249	52	5	250	412	43	243	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	341	0	199	301	0	0	667	0	0	298	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

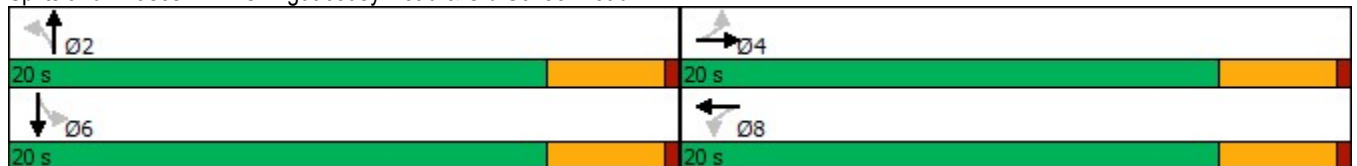
Future Total 2041  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		11.8		11.8	11.8			16.2			16.2	
Actuated g/C Ratio		0.33		0.33	0.33			0.45			0.45	
v/c Ratio		0.54		0.62	0.49			0.75			0.41	
Control Delay		13.1		19.3	11.3			14.1			9.9	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		13.1		19.3	11.3			14.1			9.9	
LOS		B		B	B			B			A	
Approach Delay		13.1			14.5			14.1			9.9	
Approach LOS		B			B			B			A	

Intersection Summary

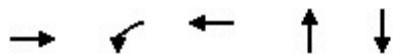
Area Type:	Other
Cycle Length:	40
Actuated Cycle Length:	36.1
Natural Cycle:	45
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	13.3
Intersection LOS:	B
Intersection Capacity Utilization:	83.1%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 1: Chinguacousy Road & Old School Road



Queues  
1: Chinguacousy Road & Old School Road

Future Total 2041  
AM Peak Hour




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	341	199	301	667	298
v/c Ratio	0.54	0.62	0.49	0.75	0.41
Control Delay	13.1	19.3	11.3	14.1	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.1	19.3	11.3	14.1	9.9
Queue Length 50th (m)	15.7	9.5	12.1	16.7	10.5
Queue Length 95th (m)	30.4	23.4	25.2	#72.8	28.0
Internal Link Dist (m)	566.7		466.2	274.8	501.8
Turn Bay Length (m)					
Base Capacity (vph)	856	437	826	893	724
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.40	0.46	0.36	0.75	0.41

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.



















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Total 2041  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	314	5	187	234	49	5	235	387	40	228	11
Future Volume (vph)	2	314	5	187	234	49	5	235	387	40	228	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.97			0.92			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		1917		1772	1810			1697			1788	
Flt Permitted		1.00		0.53	1.00			1.00			0.89	
Satd. Flow (perm)		1913		980	1810			1694			1609	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	2	334	5	199	249	52	5	250	412	43	243	12
RTOR Reduction (vph)	0	1	0	0	21	0	0	133	0	0	3	0
Lane Group Flow (vph)	0	340	0	199	280	0	0	534	0	0	295	0
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		11.8		11.8	11.8			16.2			16.2	
Effective Green, g (s)		11.8		11.8	11.8			16.2			16.2	
Actuated g/C Ratio		0.33		0.33	0.33			0.45			0.45	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		627		321	593			762			724	
v/s Ratio Prot					0.15							
v/s Ratio Perm		0.18		c0.20				c0.32			0.18	
v/c Ratio		0.54		0.62	0.47			0.70			0.41	
Uniform Delay, d1		9.9		10.2	9.6			8.0			6.7	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		1.0		3.5	0.6			5.3			1.7	
Delay (s)		10.8		13.8	10.2			13.3			8.4	
Level of Service		B		B	B			B			A	
Approach Delay (s)		10.8			11.6			13.3			8.4	
Approach LOS		B			B			B			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			11.5									B
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			36.0								8.0	
Intersection Capacity Utilization			83.1%									E
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Total 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	778	50	264	399	53	60	94	460	62	157	18
Future Volume (vph)	16	778	50	264	399	53	60	94	460	62	157	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.982				0.850		0.990	
Flt Protected		0.999		0.950				0.981			0.987	
Satd. Flow (prot)	0	3552	0	1789	3453	0	0	1862	1617	0	1849	0
Flt Permitted		0.942		0.277				0.741			0.866	
Satd. Flow (perm)	0	3349	0	522	3453	0	0	1406	1617	0	1622	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			24				167			4
Link Speed (k/h)		70			70			80				80
Link Distance (m)		893.1			349.1			588.2				477.9
Travel Time (s)		45.9			18.0			26.5				21.5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Adj. Flow (vph)	17	828	53	281	424	56	64	100	489	66	167	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	898	0	281	480	0	0	164	489	0	252	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)		3.7			3.7			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
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
Protected Phases		4			8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

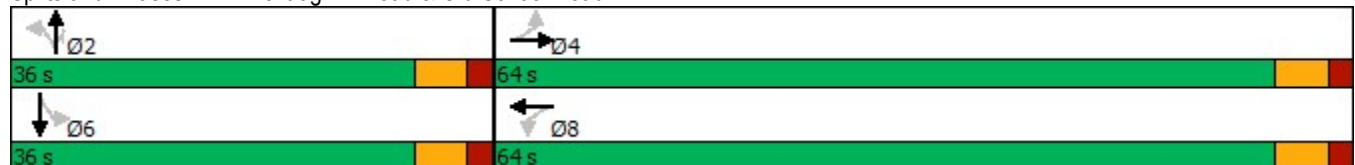
Future Total 2041  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%	36.0%	36.0%	36.0%	
Maximum Green (s)	58.0	58.0		58.0	58.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		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	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
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	Min	Min		Min	Min		None	None	None	None	None	
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)	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)		55.0		55.0	55.0			24.4	24.4		24.4	
Actuated g/C Ratio		0.60		0.60	0.60			0.27	0.27		0.27	
v/c Ratio		0.45		0.90	0.23			0.44	0.88		0.58	
Control Delay		11.3		52.0	9.0			32.5	40.4		35.0	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		11.3		52.0	9.0			32.5	40.4		35.0	
LOS		B		D	A			C	D		C	
Approach Delay		11.3			24.8			38.4			35.0	
Approach LOS		B			C			D			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 91.7  
 Natural Cycle: 90  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 24.6  
 Intersection LOS: C  
 Intersection Capacity Utilization 79.8%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road

Future Total 2041  
AM Peak Hour





















Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	898	281	480	164	489	252
v/c Ratio	0.45	0.90	0.23	0.44	0.88	0.58
Control Delay	11.3	52.0	9.0	32.5	40.4	35.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.3	52.0	9.0	32.5	40.4	35.0
Queue Length 50th (m)	46.2	44.3	20.1	25.1	59.3	39.6
Queue Length 95th (m)	62.6	#101.2	29.2	43.3	#111.5	63.5
Internal Link Dist (m)	869.1		325.1	564.2		453.9
Turn Bay Length (m)		50.0				
Base Capacity (vph)	2168	337	2240	469	652	545
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.83	0.21	0.35	0.75	0.46

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.























HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road

Future Total 2041  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	16	778	50	264	399	53	60	94	460	62	157	18	
Future Volume (vph)	16	778	50	264	399	53	60	94	460	62	157	18	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.0		6.0	6.0			6.0	6.0		6.0		
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00		
Frt		0.99		1.00	0.98			1.00	0.85		0.99		
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99		
Satd. Flow (prot)		3552		1789	3454			1862	1617		1849		
Flt Permitted		0.94		0.28	1.00			0.74	1.00		0.87		
Satd. Flow (perm)		3349		522	3454			1406	1617		1621		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	17	828	53	281	424	56	64	100	489	66	167	19	
RTOR Reduction (vph)	0	4	0	0	10	0	0	0	122	0	3	0	
Lane Group Flow (vph)	0	894	0	281	470	0	0	164	367	0	249	0	
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		4			8			2		2	6		
Permitted Phases	4			8			2		2	6			
Actuated Green, G (s)		55.0		55.0	55.0			24.4	24.4		24.4		
Effective Green, g (s)		55.0		55.0	55.0			24.4	24.4		24.4		
Actuated g/C Ratio		0.60		0.60	0.60			0.27	0.27		0.27		
Clearance Time (s)		6.0		6.0	6.0			6.0	6.0		6.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0		
Lane Grp Cap (vph)		2015		314	2078			375	431		432		
v/s Ratio Prot					0.14								
v/s Ratio Perm		0.27		c0.54				0.12	c0.23		0.15		
v/c Ratio		0.44		0.89	0.23			0.44	0.85		0.58		
Uniform Delay, d1		9.9		15.7	8.4			27.8	31.8		29.0		
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00		
Incremental Delay, d2		0.2		26.0	0.1			0.8	14.8		1.9		
Delay (s)		10.0		41.7	8.4			28.6	46.6		30.9		
Level of Service		B		D	A			C	D		C		
Approach Delay (s)		10.0			20.7			42.1			30.9		
Approach LOS		B			C			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			23.4									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.88										
Actuated Cycle Length (s)			91.4									Sum of lost time (s)	12.0
Intersection Capacity Utilization			79.8%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	578	275	292	400	226	48	79	1970	188	37	2688	314
Future Volume (vph)	578	275	292	400	226	48	79	1970	188	37	2688	314
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.923			0.974				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	3288	0	1722	3397	0	1722	4445	1471	1615	5043	1633
Flt Permitted	0.477			0.250			0.066			0.066		
Satd. Flow (perm)	881	3288	0	453	3397	0	120	4445	1471	112	5043	1633
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			17				141			173
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			593.3			855.3			488.8	
Travel Time (s)		51.8			30.5			38.5			22.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Adj. Flow (vph)	622	296	314	430	243	52	85	2118	202	40	2890	338
Shared Lane Traffic (%)												
Lane Group Flow (vph)	622	610	0	430	295	0	85	2118	202	40	2890	338
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

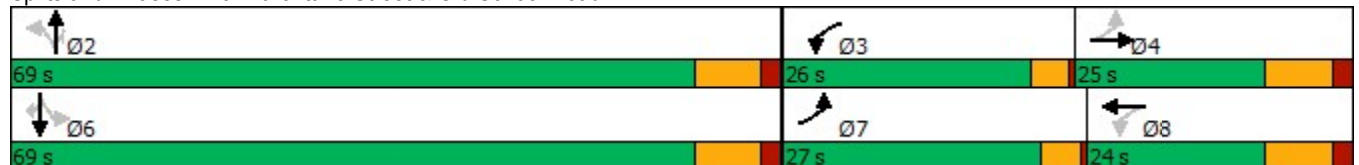
Future Total 2041  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	24.0		8.0	24.0		24.0	24.0	24.0	24.0	24.0	24.0
Total Split (s)	27.0	25.0		26.0	24.0		69.0	69.0	69.0	69.0	69.0	69.0
Total Split (%)	22.5%	20.8%		21.7%	20.0%		57.5%	57.5%	57.5%	57.5%	57.5%	57.5%
Maximum Green (s)	23.0	17.0		22.0	16.0		61.0	61.0	61.0	61.0	61.0	61.0
Yellow Time (s)	3.5	6.0		3.5	6.0		6.0	6.0	6.0	6.0	6.0	6.0
All-Red Time (s)	0.5	2.0		0.5	2.0		2.0	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	0.0
Total Lost Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lead/Lag	Lead	Lag		Lead	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	None		None	None		None	None	None	None	None	None
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		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
Act Effct Green (s)	44.0	17.0		42.0	16.0		61.0	61.0	61.0	61.0	61.0	61.0
Actuated g/C Ratio	0.37	0.14		0.35	0.13		0.51	0.51	0.51	0.51	0.51	0.51
v/c Ratio	1.27	1.26		1.10	0.63		1.39	0.94	0.25	0.71	1.13	0.37
Control Delay	166.7	171.6		106.5	53.0		279.9	37.2	6.1	87.1	92.3	9.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	166.7	171.6		106.5	53.0		279.9	37.2	6.1	87.1	92.3	9.5
LOS	F	F		F	D		F	D	A	F	F	A
Approach Delay		169.1			84.7			43.2				83.6
Approach LOS		F			F			D				F

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 120  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.39  
 Intersection Signal Delay: 84.8  
 Intersection LOS: F  
 Intersection Capacity Utilization 119.4%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Total 2041  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	622	610	430	295	85	2118	202	40	2890	338
v/c Ratio	1.27	1.26	1.10	0.63	1.39	0.94	0.25	0.71	1.13	0.37
Control Delay	166.7	171.6	106.5	53.0	279.9	37.2	6.1	87.1	92.3	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	166.7	171.6	106.5	53.0	279.9	37.2	6.1	87.1	92.3	9.5
Queue Length 50th (m)	~145.6	~92.4	~95.5	33.0	~26.7	166.0	7.1	7.0	~288.6	20.6
Queue Length 95th (m)	#213.6	#129.1	#158.3	47.8	#45.3	#195.6	19.7	#28.7	#315.0	40.5
Internal Link Dist (m)		983.8		569.3		831.3			464.8	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	490	486	391	467	61	2259	817	56	2563	915
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.27	1.26	1.10	0.63	1.39	0.94	0.25	0.71	1.13	0.37





























Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Total 2041  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			  			  	
Traffic Volume (vph)	578	275	292	400	226	48	79	1970	188	37	2688	314
Future Volume (vph)	578	275	292	400	226	48	79	1970	188	37	2688	314
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.92		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	3288		1722	3396		1722	4445	1471	1615	5043	1633
Flt Permitted	0.48	1.00		0.25	1.00		0.07	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	881	3288		453	3396		119	4445	1471	111	5043	1633
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	622	296	314	430	243	52	85	2118	202	40	2890	338
RTOR Reduction (vph)	0	21	0	0	15	0	0	0	69	0	0	85
Lane Group Flow (vph)	622	589	0	430	280	0	85	2118	133	40	2890	253
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	40.0	17.0		38.0	16.0		61.0	61.0	61.0	61.0	61.0	61.0
Effective Green, g (s)	40.0	17.0		38.0	16.0		61.0	61.0	61.0	61.0	61.0	61.0
Actuated g/C Ratio	0.33	0.14		0.32	0.13		0.51	0.51	0.51	0.51	0.51	0.51
Clearance Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	461	465		376	452		60	2259	747	56	2563	830
v/s Ratio Prot	c0.26	0.18		0.21	0.08			0.48			0.57	
v/s Ratio Perm	c0.19			0.15			c0.72		0.09	0.36		0.15
v/c Ratio	1.35	1.27		1.14	0.62		1.42	0.94	0.18	0.71	1.13	0.30
Uniform Delay, d1	37.3	51.5		37.0	49.1		29.5	27.7	15.9	22.8	29.5	17.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	171.0	136.6		91.5	2.6		260.8	8.2	0.1	35.0	63.1	0.2
Delay (s)	208.3	188.1		128.6	51.8		290.3	35.9	16.1	57.8	92.6	17.4
Level of Service	F	F		F	D		F	D	B	E	F	B
Approach Delay (s)		198.3			97.3			43.3			84.4	
Approach LOS		F			F			D			F	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			91.0				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.40									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			119.4%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2041  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↕↔		↔	↔↕↔			↕			↕	
Traffic Volume (vph)	51	827	61	301	718	38	30	239	212	122	303	46
Future Volume (vph)	51	827	61	301	718	38	30	239	212	122	303	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.993			0.940			0.987	
Flt Protected		0.997		0.950				0.997			0.987	
Satd. Flow (prot)	0	4861	0	1659	4932	0	0	1733	0	0	1780	0
Flt Permitted		0.844		0.155				0.957			0.652	
Satd. Flow (perm)	0	4115	0	271	4932	0	0	1664	0	0	1176	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			9			46			6	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		556.4			1419.4			461.5			2784.8	
Travel Time (s)		28.6			73.0			20.8			125.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Adj. Flow (vph)	52	835	62	304	725	38	30	241	214	123	306	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	949	0	304	763	0	0	485	0	0	475	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

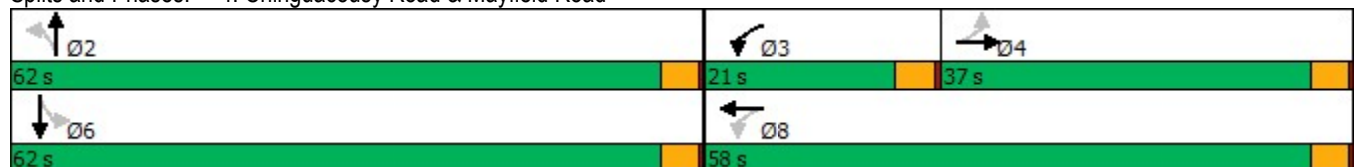
Future Total 2041  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	37.0	37.0		21.0	58.0		62.0	62.0		62.0	62.0	
Total Split (%)	30.8%	30.8%		17.5%	48.3%		51.7%	51.7%		51.7%	51.7%	
Maximum Green (s)	33.0	33.0		17.0	54.0		58.0	58.0		58.0	58.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
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	Max	Max		None	Max		None	None		None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		33.4		54.6	54.6			43.5			43.5	
Actuated g/C Ratio		0.31		0.51	0.51			0.41			0.41	
v/c Ratio		0.73		0.84	0.30			0.69			0.98	
Control Delay		37.7		43.4	16.6			27.8			66.7	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		37.7		43.4	16.6			27.8			66.7	
LOS		D		D	B			C			E	
Approach Delay		37.7			24.2			27.8			66.7	
Approach LOS		D			C			C			E	

Intersection Summary

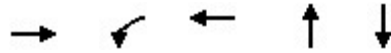
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 106.2  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 35.9  
 Intersection LOS: D  
 Intersection Capacity Utilization 101.1%  
 ICU Level of Service G  
 Analysis Period (min) 15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Total 2041  
AM Peak Hour



























Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	949	304	763	485	475
v/c Ratio	0.73	0.84	0.30	0.69	0.98
Control Delay	37.7	43.4	16.6	27.8	66.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.7	43.4	16.6	27.8	66.7
Queue Length 50th (m)	63.8	39.8	32.1	72.5	92.9
Queue Length 95th (m)	93.6	#104.9	51.3	105.8	#155.4
Internal Link Dist (m)	532.4		1395.4	437.5	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	1299	364	2540	939	652
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.73	0.84	0.30	0.52	0.73

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.





















HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road

Future Total 2041  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  				  			  	
Traffic Volume (vph)	51	827	61	301	718	38	30	239	212	122	303	46
Future Volume (vph)	51	827	61	301	718	38	30	239	212	122	303	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frt		0.99		1.00	0.99			0.94			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		4864		1659	4930			1734			1780	
Flt Permitted		0.84		0.15	1.00			0.96			0.65	
Satd. Flow (perm)		4114		270	4930			1665			1176	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	52	835	62	304	725	38	30	241	214	123	306	46
RTOR Reduction (vph)	0	6	0	0	4	0	0	27	0	0	4	0
Lane Group Flow (vph)	0	943	0	304	759	0	0	458	0	0	471	0
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		33.4		54.6	54.6			43.5			43.5	
Effective Green, g (s)		33.4		54.6	54.6			43.5			43.5	
Actuated g/C Ratio		0.31		0.51	0.51			0.41			0.41	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1295		364	2537			682			482	
v/s Ratio Prot				c0.14	0.15							
v/s Ratio Perm		0.23		c0.29				0.28			c0.40	
v/c Ratio		0.73		0.84	0.30			0.67			0.98	
Uniform Delay, d1		32.3		21.3	14.8			25.5			30.8	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		3.6		15.1	0.3			2.6			34.9	
Delay (s)		35.9		36.4	15.1			28.1			65.8	
Level of Service		D		D	B			C			E	
Approach Delay (s)		35.9			21.2			28.1			65.8	
Approach LOS		D			C			C			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			34.1									C
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			106.1						12.0			
Intersection Capacity Utilization			101.1%									G
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Total 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	1122	141	156	886	138	62	338	117	332	597	219
Future Volume (vph)	66	1122	141	156	886	138	62	338	117	332	597	219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.983			0.980			0.962			0.960	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4884	0	1706	4770	0	1644	3425	0	1690	3365	0
Flt Permitted	0.262			0.098			0.339			0.248		
Satd. Flow (perm)	503	4884	0	176	4770	0	587	3425	0	441	3365	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			32			35			56	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			341.6			2496.3	
Travel Time (s)		73.0			65.0			15.4			112.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Adj. Flow (vph)	67	1145	144	159	904	141	63	345	119	339	609	223
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	1289	0	159	1045	0	63	464	0	339	832	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		8.0	23.0	
Total Split (s)	43.0	43.0		18.0	61.0		29.0	29.0		30.0	59.0	
Total Split (%)	35.8%	35.8%		15.0%	50.8%		24.2%	24.2%		25.0%	49.2%	
Maximum Green (s)	37.0	37.0		14.0	55.0		23.0	23.0		26.0	53.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		3.5	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		0.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Walk Time (s)	5.0	5.0			5.0		5.0	5.0			5.0	
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0			0	
Act Effct Green (s)	37.0	37.0		57.0	55.0		23.0	23.0		55.0	53.0	
Actuated g/C Ratio	0.31	0.31		0.48	0.46		0.19	0.19		0.46	0.44	



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

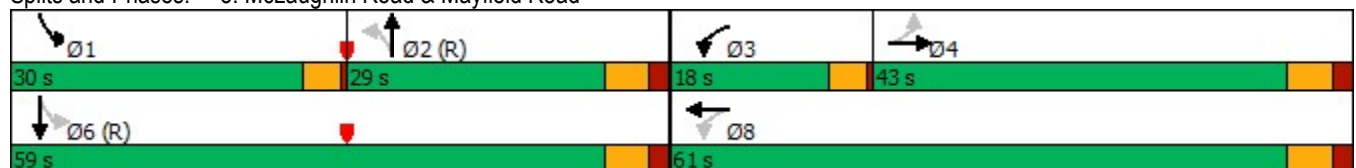
Future Total 2041  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.43	0.85		0.61	0.47		0.56	0.68		0.72	0.55	
Control Delay	43.7	44.7		32.5	22.6		64.9	47.2		32.0	24.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	43.7	44.7		32.5	22.6		64.9	47.2		32.0	24.5	
LOS	D	D		C	C		E	D		C	C	
Approach Delay		44.6			23.9			49.3			26.7	
Approach LOS		D			C			D			C	

Intersection Summary

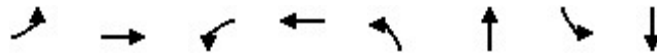
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.85
Intersection Signal Delay:	34.4
Intersection LOS:	C
Intersection Capacity Utilization	81.6%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Total 2041  
AM Peak Hour





























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	67	1289	159	1045	63	464	339	832
v/c Ratio	0.43	0.85	0.61	0.47	0.56	0.68	0.72	0.55
Control Delay	43.7	44.7	32.5	22.6	64.9	47.2	32.0	24.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.7	44.7	32.5	22.6	64.9	47.2	32.0	24.5
Queue Length 50th (m)	12.6	102.7	21.1	58.9	13.6	49.9	52.9	69.3
Queue Length 95th (m)	27.6	121.2	42.0	71.2	#32.2	67.8	78.7	88.3
Internal Link Dist (m)		1395.4		1239.7		317.6		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	155	1519	262	2203	112	684	472	1517
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.85	0.61	0.47	0.56	0.68	0.72	0.55

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

































Future Total 2041  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (vph)	66	1122	141	156	886	138	62	338	117	332	597	219
Future Volume (vph)	66	1122	141	156	886	138	62	338	117	332	597	219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	4885		1706	4769		1644	3424		1690	3364	
Flt Permitted	0.26	1.00		0.10	1.00		0.34	1.00		0.25	1.00	
Satd. Flow (perm)	503	4885		175	4769		586	3424		440	3364	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	67	1145	144	159	904	141	63	345	119	339	609	223
RTOR Reduction (vph)	0	13	0	0	17	0	0	28	0	0	31	0
Lane Group Flow (vph)	67	1276	0	159	1028	0	63	436	0	339	801	0
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	37.0	37.0		55.0	55.0		23.0	23.0		53.0	53.0	
Effective Green, g (s)	37.0	37.0		55.0	55.0		23.0	23.0		53.0	53.0	
Actuated g/C Ratio	0.31	0.31		0.46	0.46		0.19	0.19		0.44	0.44	
Clearance Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	155	1506		258	2185		112	656		465	1485	
v/s Ratio Prot		c0.26		c0.07	0.22			0.13		c0.16	0.24	
v/s Ratio Perm	0.13			0.21			0.11			c0.16		
v/c Ratio	0.43	0.85		0.62	0.47		0.56	0.66		0.73	0.54	
Uniform Delay, d1	33.1	38.9		23.9	22.4		43.9	44.9		24.6	24.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.6	6.1		10.6	0.7		18.9	5.2		9.7	1.4	
Delay (s)	41.7	44.9		34.5	23.2		62.8	50.2		34.2	26.0	
Level of Service	D	D		C	C		E	D		C	C	
Approach Delay (s)		44.8			24.7			51.7			28.4	
Approach LOS		D			C			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			35.4				HCM 2000 Level of Service				D	
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			81.6%				ICU Level of Service				D	
Analysis Period (min)			15									

c Critical Lane Group

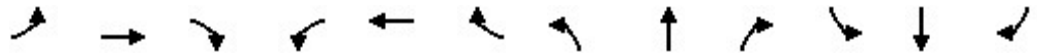
Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	299	1093	132	253	703	186	103	509	257	395	1182	399
Future Volume (vph)	299	1093	132	253	703	186	103	509	257	395	1182	399
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	1.00		0.98	1.00		0.97			0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	4902	1541	3340	4948	1420	1807	3476	1512	1706	3544	1585
Fl <sub>t</sub> Permitted	0.167			0.950			0.185			0.326		
Satd. Flow (perm)	306	4902	1508	3330	4948	1395	352	3476	1467	585	3544	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			89			166			266			350
Link Speed (k/h)		70			70			70				70
Link Distance (m)		142.1			749.9			567.8				813.0
Travel Time (s)		7.3			38.6			29.2				41.8
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Adj. Flow (vph)	318	1163	140	269	748	198	110	541	273	420	1257	424
Shared Lane Traffic (%)												
Lane Group Flow (vph)	318	1163	140	269	748	198	110	541	273	420	1257	424
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)		7.4			7.4			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Minimum Split (s)	9.0	23.0	23.0	9.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	31.0	49.0	49.0	20.0	38.0	38.0	63.0	63.0	63.0	28.0	91.0	91.0
Total Split (%)	19.4%	30.6%	30.6%	12.5%	23.8%	23.8%	39.4%	39.4%	39.4%	17.5%	56.9%	56.9%
Maximum Green (s)	26.0	42.0	42.0	15.0	31.0	31.0	56.0	56.0	56.0	24.0	84.0	84.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	0.5	3.0	3.0
Lost Time Adjust (s)	-2.0	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	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
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)		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

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2041  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	66.0	42.0	42.0	15.0	31.0	31.0	56.0	56.0	56.0	87.0	84.0	84.0
Actuated g/C Ratio	0.41	0.26	0.26	0.09	0.19	0.19	0.35	0.35	0.35	0.54	0.52	0.52
v/c Ratio	0.85	0.90	0.30	0.86	0.78	0.49	0.89	0.44	0.40	0.86	0.68	0.43
Control Delay	57.9	67.7	20.0	96.1	67.8	16.5	106.6	41.5	6.0	42.2	30.3	5.5
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	57.9	67.7	20.0	96.1	67.8	16.5	106.6	41.5	6.0	42.2	30.3	5.5
LOS	E	E	B	F	E	B	F	D	A	D	C	A
Approach Delay		61.6			65.7			38.8			27.7	
Approach LOS		E			E			D			C	

Intersection Summary

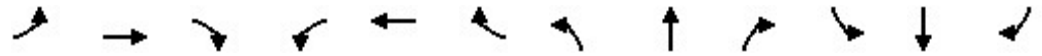
Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.90
Intersection Signal Delay:	46.7
Intersection LOS:	D
Intersection Capacity Utilization	89.4%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Total 2041  
AM Peak Hour




































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	318	1163	140	269	748	198	110	541	273	420	1257	424
v/c Ratio	0.85	0.90	0.30	0.86	0.78	0.49	0.89	0.44	0.40	0.86	0.68	0.43
Control Delay	57.9	67.7	20.0	96.1	67.8	16.5	106.6	41.5	6.0	42.2	30.3	5.5
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	57.9	67.7	20.0	96.1	67.8	16.5	106.6	41.5	6.0	42.2	30.3	5.5
Queue Length 50th (m)	73.5	132.1	12.5	44.2	83.8	8.5	33.1	69.7	1.5	78.9	151.4	11.5
Queue Length 95th (m)	#122.4	151.0	31.6	#68.0	99.7	33.4	#73.4	87.0	22.0	#122.5	176.1	32.9
Internal Link Dist (m)		118.1			725.9			543.8			789.0	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	376	1286	461	313	958	404	123	1216	686	486	1860	983
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.90	0.30	0.86	0.78	0.49	0.89	0.44	0.40	0.86	0.68	0.43

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.










HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Total 2041  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		  	  			 		 	 		
Traffic Volume (vph)	299	1093	132	253	703	186	103	509	257	395	1182	399	
Future Volume (vph)	299	1093	132	253	703	186	103	509	257	395	1182	399	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	3.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1738	4902	1508	3340	4948	1395	1806	3476	1467	1706	3544	1557	
Flt Permitted	0.17	1.00	1.00	0.95	1.00	1.00	0.19	1.00	1.00	0.33	1.00	1.00	
Satd. Flow (perm)	305	4902	1508	3340	4948	1395	352	3476	1467	586	3544	1557	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	318	1163	140	269	748	198	110	541	273	420	1257	424	
RTOR Reduction (vph)	0	0	66	0	0	134	0	0	173	0	0	166	
Lane Group Flow (vph)	318	1163	74	269	748	64	110	541	100	420	1257	258	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2	
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8			2		1	6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	62.0	42.0	42.0	15.0	31.0	31.0	56.0	56.0	56.0	84.0	84.0	84.0	
Effective Green, g (s)	64.0	42.0	42.0	15.0	31.0	31.0	56.0	56.0	56.0	84.0	84.0	84.0	
Actuated g/C Ratio	0.40	0.26	0.26	0.09	0.19	0.19	0.35	0.35	0.35	0.52	0.52	0.52	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Grp Cap (vph)	372	1286	395	313	958	270	123	1216	513	475	1860	817	
v/s Ratio Prot	c0.15	0.24		0.08	0.15			0.16		c0.13	0.35		
v/s Ratio Perm	c0.19		0.05			0.05	0.31		0.07	c0.33		0.17	
v/c Ratio	0.85	0.90	0.19	0.86	0.78	0.24	0.89	0.44	0.20	0.88	0.68	0.32	
Uniform Delay, d1	38.6	57.1	45.8	71.5	61.3	54.5	49.2	40.0	36.3	26.3	28.0	21.6	
Progression 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	
Incremental Delay, d2	21.5	10.6	1.1	25.2	6.3	2.1	56.6	1.2	0.8	20.7	2.0	1.0	
Delay (s)	60.0	67.7	46.8	96.6	67.6	56.6	105.8	41.2	37.1	47.0	30.0	22.6	
Level of Service	E	E	D	F	E	E	F	D	D	D	C	C	
Approach Delay (s)		64.4			72.2			47.7			31.9		
Approach LOS		E			E			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			51.7									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.93										
Actuated Cycle Length (s)			160.0									Sum of lost time (s)	23.0
Intersection Capacity Utilization			89.4%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C










Future Total 2041  
AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	32	89	542	11	33	388
Future Volume (vph)	32	89	542	11	33	388
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.901		0.997			
Flt Protected	0.987					0.996
Satd. Flow (prot)	1675	0	1878	0	0	1876
Flt Permitted	0.987					0.996
Satd. Flow (perm)	1675	0	1878	0	0	1876
Link Speed (k/h)	48		80			80
Link Distance (m)	204.9		2784.8			298.8
Travel Time (s)	15.4		125.3			13.4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	89	542	11	33	388
Shared Lane Traffic (%)						
Lane Group Flow (vph)	121	0	553	0	0	421
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	61.6%			ICU Level of Service B		
Analysis Period (min)	15					



HCM Unsignalized Intersection Capacity Analysis  
7: Chinguacousy Road & Street C

Future Total 2041  
AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	32	89	542	11	33	388
Future Volume (Veh/h)	32	89	542	11	33	388
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)	32	89	542	11	33	388
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						299
pX, platoon unblocked						
vC, conflicting volume	1002	548			553	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1002	548			553	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	83			97	
cM capacity (veh/h)	260	537			1017	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	121	553	421			
Volume Left	32	0	33			
Volume Right	89	11	0			
cSH	419	1700	1017			
Volume to Capacity	0.29	0.33	0.03			
Queue Length 95th (m)	9.0	0.0	0.8			
Control Delay (s)	17.0	0.0	1.0			
Lane LOS	C		A			
Approach Delay (s)	17.0	0.0	1.0			
Approach LOS	C					
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			61.6%	ICU Level of Service		B
Analysis Period (min)			15			










Lanes, Volumes, Timings  
8: Street B & Old School Road

Future Total 2041  
AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↘	
Traffic Volume (vph)	738	5	40	458	13	107
Future Volume (vph)	738	5	40	458	13	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Fr <sub>t</sub>	0.999				0.880	
Fl <sub>t</sub> Protected				0.996	0.995	
Satd. Flow (prot)	3575	0	0	3564	1649	0
Fl <sub>t</sub> Permitted				0.996	0.995	
Satd. Flow (perm)	3575	0	0	3564	1649	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	738	5	40	458	13	107
Shared Lane Traffic (%)						
Lane Group Flow (vph)	743	0	0	498	120	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	51.7%			ICU Level of Service A		
Analysis Period (min)	15					

















HCM Unsignalized Intersection Capacity Analysis  
8: Street B & Old School Road

Future Total 2041  
AM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	738	5	40	458	13	107
Future Volume (Veh/h)	738	5	40	458	13	107
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	738	5	40	458	13	107
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			743	1050	372	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			743	1050	372	
tC, single (s)			4.1	6.8	6.9	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			95	94	83	
cM capacity (veh/h)			860	212	626	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	492	251	193	305	120	
Volume Left	0	0	40	0	13	
Volume Right	0	5	0	0	107	
cSH	1700	1700	860	1700	517	
Volume to Capacity	0.29	0.15	0.05	0.18	0.23	
Queue Length 95th (m)	0.0	0.0	1.1	0.0	6.8	
Control Delay (s)	0.0	0.0	2.3	0.0	14.1	
Lane LOS	A			B		
Approach Delay (s)	0.0		0.9		14.1	
Approach LOS	B					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			51.7%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	246	0	42	0	572	93	19	453	0
Future Volume (vph)	0	0	0	246	0	42	0	572	93	19	453	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Fr <sub>t</sub>					0.980			0.979				
Fl <sub>t</sub> Protected					0.959						0.998	
Satd. Flow (prot)	0	1883	0	0	1770	0	0	3503	0	0	3571	0
Fl <sub>t</sub> Permitted					0.757						0.920	
Satd. Flow (perm)	0	1883	0	0	1397	0	0	3503	0	0	3292	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					41			27				
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			403.1			2496.3			588.2	
Travel Time (s)		15.4			30.2			112.3			26.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	246	0	42	0	572	93	19	453	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	288	0	0	665	0	0	472	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

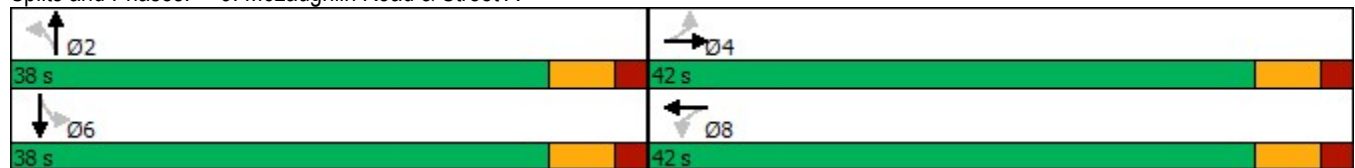
Future Total 2041  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	42.0	42.0		42.0	42.0		38.0	38.0		38.0	38.0	
Total Split (%)	52.5%	52.5%		52.5%	52.5%		47.5%	47.5%		47.5%	47.5%	
Maximum Green (s)	36.0	36.0		36.0	36.0		32.0	32.0		32.0	32.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effect Green (s)					16.1			33.0			33.0	
Actuated g/C Ratio					0.26			0.54			0.54	
v/c Ratio					0.73			0.35			0.27	
Control Delay					28.1			9.2			9.1	
Queue Delay					0.0			0.0			0.0	
Total Delay					28.1			9.2			9.1	
LOS					C			A			A	
Approach Delay					28.1			9.2			9.1	
Approach LOS					C			A			A	

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 61.2  
 Natural Cycle: 45  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.73  
 Intersection Signal Delay: 13.0  
 Intersection Capacity Utilization 52.6%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service A

Splits and Phases: 9: McLaughlin Road & Street A



Queues  
9: McLaughlin Road & Street A

















Future Total 2041  
AM Peak Hour



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	288	665	472
v/c Ratio	0.73	0.35	0.27
Control Delay	28.1	9.2	9.1
Queue Delay	0.0	0.0	0.0
Total Delay	28.1	9.2	9.1
Queue Length 50th (m)	24.3	18.8	13.3
Queue Length 95th (m)	46.4	38.0	27.7
Internal Link Dist (m)	379.1	2472.3	564.2
Turn Bay Length (m)			
Base Capacity (vph)	842	1903	1777
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.34	0.35	0.27
Intersection Summary			

HCM Signalized Intersection Capacity Analysis  
9: McLaughlin Road & Street A

Future Total 2041  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	0	0	0	246	0	42	0	572	93	19	453	0	
Future Volume (vph)	0	0	0	246	0	42	0	572	93	19	453	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)					6.0			6.0			6.0		
Lane Util. Factor					1.00			0.95			0.95		
Frt					0.98			0.98			1.00		
Flt Protected					0.96			1.00			1.00		
Satd. Flow (prot)					1771			3503			3571		
Flt Permitted					0.76			1.00			0.92		
Satd. Flow (perm)					1397			3503			3291		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj. Flow (vph)	0	0	0	246	0	42	0	572	93	19	453	0	
RTOR Reduction (vph)	0	0	0	0	30	0	0	12	0	0	0	0	
Lane Group Flow (vph)	0	0	0	0	258	0	0	653	0	0	472	0	
Turn Type				Perm	NA			NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)					16.1			33.0			33.0		
Effective Green, g (s)					16.1			33.0			33.0		
Actuated g/C Ratio					0.26			0.54			0.54		
Clearance Time (s)					6.0			6.0			6.0		
Vehicle Extension (s)					3.0			3.0			3.0		
Lane Grp Cap (vph)					368			1891			1777		
v/s Ratio Prot								c0.19					
v/s Ratio Perm					c0.18						0.14		
v/c Ratio					0.70			0.35			0.27		
Uniform Delay, d1					20.3			7.9			7.5		
Progression Factor					1.00			1.00			1.00		
Incremental Delay, d2					5.9			0.5			0.4		
Delay (s)					26.2			8.4			7.9		
Level of Service					C			A			A		
Approach Delay (s)		0.0			26.2			8.4			7.9		
Approach LOS		A			C			A			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			11.9		HCM 2000 Level of Service						B		
HCM 2000 Volume to Capacity ratio			0.46										
Actuated Cycle Length (s)			61.1		Sum of lost time (s)					12.0			
Intersection Capacity Utilization			52.6%		ICU Level of Service					A			
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
 10: Street D & Old School Road















Future Total 2041  
 AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↖↖	↘	↗
Traffic Volume (vph)	1156	99	11	646	54	0
Future Volume (vph)	1156	99	11	646	54	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.988					
Flt Protected				0.999	0.950	
Satd. Flow (prot)	3536	0	0	3575	1789	1883
Flt Permitted				0.999	0.950	
Satd. Flow (perm)	3536	0	0	3575	1789	1883
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1156	99	11	646	54	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1255	0	0	657	54	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	14		24	24		14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	45.1%			ICU Level of Service A		
Analysis Period (min)	15					



HCM Unsignalized Intersection Capacity Analysis  
 10: Street D & Old School Road

Future Total 2041  
 AM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	 			 	 	 
Traffic Volume (veh/h)	1156	99	11	646	54	0
Future Volume (Veh/h)	1156	99	11	646	54	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1156	99	11	646	54	0
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	349					
pX, platoon unblocked			0.90	0.90	0.90	
vC, conflicting volume			1255	1550	628	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1068	1395	373	
tC, single (s)			4.1	6.8	6.9	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			98	54	100	
cM capacity (veh/h)			586	117	564	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	771	484	226	431	54	0
Volume Left	0	0	11	0	54	0
Volume Right	0	99	0	0	0	0
cSH	1700	1700	586	1700	117	1700
Volume to Capacity	0.45	0.28	0.02	0.25	0.46	0.00
Queue Length 95th (m)	0.0	0.0	0.4	0.0	15.5	0.0
Control Delay (s)	0.0	0.0	0.8	0.0	59.6	0.0
Lane LOS			A		F	A
Approach Delay (s)	0.0		0.3		59.6	
Approach LOS					F	
<b>Intersection Summary</b>						
Average Delay			1.7			
Intersection Capacity Utilization			45.1%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
11: Street A & Street D

Future Total 2041  
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	87	143	93	121	72	144
Future Volume (vph)	87	143	93	121	72	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.924		0.910	
Flt Protected		0.981			0.984	
Satd. Flow (prot)	0	1848	1740	0	1687	0
Flt Permitted		0.981			0.984	
Satd. Flow (perm)	0	1848	1740	0	1687	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	87	143	93	121	72	144
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	230	214	0	216	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	97			97	97	97
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	47.5%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 11: Street A & Street D

Future Total 2041  
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	87	143	93	121	72	144
Future Volume (Veh/h)	87	143	93	121	72	144
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	87	143	93	121	72	144
<b>Pedestrians</b>						
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	214			470	154	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	214			470	154	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	94			86	84	
cM capacity (veh/h)	1356			516	892	
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	230	214	216			
Volume Left	87	0	72			
Volume Right	0	121	144			
cSH	1356	1700	718			
Volume to Capacity	0.06	0.13	0.30			
Queue Length 95th (m)	1.6	0.0	9.6			
Control Delay (s)	3.3	0.0	12.2			
Lane LOS	A		B			
Approach Delay (s)	3.3	0.0	12.2			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			5.1			
Intersection Capacity Utilization			47.5%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2041  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	54	534	149	2184	3358	23
Future Volume (vph)	54	534	149	2184	3358	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt		0.850			0.999	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	5142	5137	0
Flt Permitted	0.950		0.053			
Satd. Flow (perm)	1789	1601	100	5142	5137	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					1	
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	54	534	149	2184	3358	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	54	534	149	2184	3381	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2041  
AM Peak Hour

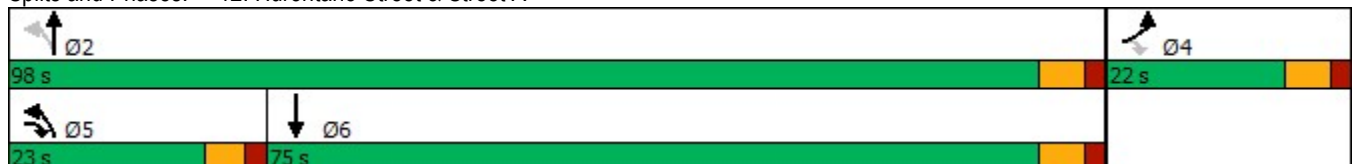


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	9.5	9.5	22.0	22.0	
Total Split (s)	22.0	23.0	23.0	98.0	75.0	
Total Split (%)	18.3%	19.2%	19.2%	81.7%	62.5%	
Maximum Green (s)	16.0	17.5	17.5	92.0	69.0	
Yellow Time (s)	4.0	3.5	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	5.5	5.5	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	8.8	29.7	92.8	93.7	69.2	
Actuated g/C Ratio	0.08	0.27	0.84	0.85	0.63	
v/c Ratio	0.38	1.24	0.42	0.50	1.05	
Control Delay	57.1	162.6	22.1	3.6	53.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	57.1	162.6	22.1	3.6	53.4	
LOS	E	F	C	A	D	
Approach Delay	152.9			4.8	53.4	
Approach LOS	F			A	D	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	110.5
Natural Cycle:	130
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.24
Intersection Signal Delay:	44.7
Intersection LOS:	D
Intersection Capacity Utilization	108.0%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 12: Hurontario Street & Street A



Queues  
12: Hurontario Street & Street A

Future Total 2041  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	54	534	149	2184	3381
v/c Ratio	0.38	1.24	0.42	0.50	1.05
Control Delay	57.1	162.6	22.1	3.6	53.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	57.1	162.6	22.1	3.6	53.4
Queue Length 50th (m)	11.5	~140.1	13.4	43.6	~305.3
Queue Length 95th (m)	24.0	#201.5	34.7	60.9	#348.0
Internal Link Dist (m)	932.1			904.0	831.3
Turn Bay Length (m)	30.0		50.0		
Base Capacity (vph)	259	430	352	4359	3219
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.21	1.24	0.42	0.50	1.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 12: Hurontario Street & Street A

Future Total 2041  
 AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	54	534	149	2184	3358	23
Future Volume (vph)	54	534	149	2184	3358	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.5	5.5	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1789	1601	1789	5142	5137	
Flt Permitted	0.95	1.00	0.05	1.00	1.00	
Satd. Flow (perm)	1789	1601	101	5142	5137	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	54	534	149	2184	3358	23
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	54	534	149	2184	3381	0
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	7.5	25.1	92.4	92.4	69.3	
Effective Green, g (s)	7.5	25.1	92.4	92.4	69.3	
Actuated g/C Ratio	0.07	0.22	0.83	0.83	0.62	
Clearance Time (s)	6.0	5.5	5.5	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	119	359	348	4245	3181	
v/s Ratio Prot	0.03	c0.23	0.07	0.42	c0.66	
v/s Ratio Perm		0.10	0.29			
v/c Ratio	0.45	1.49	0.43	0.51	1.06	
Uniform Delay, d1	50.2	43.4	30.8	3.0	21.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.7	233.7	0.8	0.4	35.8	
Delay (s)	53.0	277.1	31.6	3.4	57.1	
Level of Service	D	F	C	A	E	
Approach Delay (s)	256.5			5.2	57.1	
Approach LOS	F			A	E	


















Intersection Summary

HCM 2000 Control Delay	56.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	111.9	Sum of lost time (s)	17.5
Intersection Capacity Utilization	108.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Total 2041  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	316	2	372	412	66	16	387	391	53	254	5
Future Volume (vph)	5	316	2	372	412	66	16	387	391	53	254	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.999			0.979			0.934			0.998	
Fl <sub>t</sub> Protected		0.999		0.950				0.999			0.992	
Satd. Flow (prot)	0	1863	0	1825	1832	0	0	1717	0	0	1838	0
Fl <sub>t</sub> Permitted		0.991		0.248				0.990			0.739	
Satd. Flow (perm)	0	1848	0	476	1832	0	0	1702	0	0	1369	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8			59			1	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			525.8	
Travel Time (s)		30.4			25.2			13.4			23.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	5	336	2	396	438	70	17	412	416	56	270	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	343	0	396	508	0	0	845	0	0	331	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

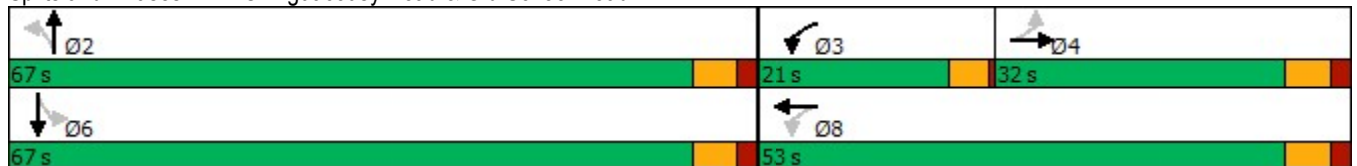
Future Total 2041  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	32.0	32.0		21.0	53.0		67.0	67.0		67.0	67.0	
Total Split (%)	26.7%	26.7%		17.5%	44.2%		55.8%	55.8%		55.8%	55.8%	
Maximum Green (s)	26.0	26.0		17.0	47.0		61.0	61.0		61.0	61.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		-2.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		2.0	6.0			6.0			6.0	
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	Max	Max		None	Max		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		26.0		51.0	47.0			61.0			61.0	
Actuated g/C Ratio		0.22		0.42	0.39			0.51			0.51	
v/c Ratio		0.86		0.95	0.70			0.95			0.48	
Control Delay		66.4		62.1	36.5			46.2			21.9	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		66.4		62.1	36.5			46.2			21.9	
LOS		E		E	D			D			C	
Approach Delay		66.4			47.7			46.2			21.9	
Approach LOS		E			D			D			C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Natural Cycle:	65
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.95
Intersection Signal Delay:	46.3
Intersection LOS:	D
Intersection Capacity Utilization:	104.3%
ICU Level of Service:	G
Analysis Period (min):	15

Splits and Phases: 1: Chinguacousy Road & Old School Road

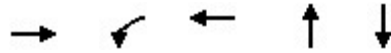


Queues

Future Total 2041

1: Chinguacousy Road & Old School Road

PM Peak Hour




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	343	396	508	845	331
v/c Ratio	0.86	0.95	0.70	0.95	0.48
Control Delay	66.4	62.1	36.5	46.2	21.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	66.4	62.1	36.5	46.2	21.9
Queue Length 50th (m)	78.2	67.4	97.7	173.3	48.7
Queue Length 95th (m)	#126.8	#120.6	137.3	#262.5	73.8
Internal Link Dist (m)	566.7		466.2	274.8	501.8
Turn Bay Length (m)					
Base Capacity (vph)	400	415	722	894	696
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.86	0.95	0.70	0.95	0.48

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.



















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Total 2041  
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	5	316	2	372	412	66	16	387	391	53	254	5	
Future Volume (vph)	5	316	2	372	412	66	16	387	391	53	254	5	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.0		2.0	6.0			6.0			6.0		
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00		
Frt		1.00		1.00	0.98			0.93			1.00		
Flt Protected		1.00		0.95	1.00			1.00			0.99		
Satd. Flow (prot)		1863		1825	1833			1716			1837		
Flt Permitted		0.99		0.25	1.00			0.99			0.74		
Satd. Flow (perm)		1848		477	1833			1700			1369		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	5	336	2	396	438	70	17	412	416	56	270	5	
RTOR Reduction (vph)	0	0	0	0	5	0	0	29	0	0	0	0	
Lane Group Flow (vph)	0	343	0	396	503	0	0	816	0	0	331	0	
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA		
Protected Phases		4		3	8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		26.0		47.0	47.0			61.0			61.0		
Effective Green, g (s)		26.0		49.0	47.0			61.0			61.0		
Actuated g/C Ratio		0.22		0.41	0.39			0.51			0.51		
Clearance Time (s)		6.0		4.0	6.0			6.0			6.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0		
Lane Grp Cap (vph)		400		408	717			864			695		
v/s Ratio Prot				c0.15	0.27								
v/s Ratio Perm		c0.19		0.24				c0.48			0.24		
v/c Ratio		0.86		0.97	0.70			0.94			0.48		
Uniform Delay, d1		45.2		29.8	30.6			27.9			19.1		
Progression Factor		1.00		1.00	1.00			1.00			1.00		
Incremental Delay, d2		20.5		36.7	5.7			19.8			2.3		
Delay (s)		65.7		66.5	36.3			47.7			21.5		
Level of Service		E		E	D			D			C		
Approach Delay (s)		65.7			49.5			47.7			21.5		
Approach LOS		E			D			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			47.3									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.92										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	14.0
Intersection Capacity Utilization			104.3%									ICU Level of Service	G
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Total 2041  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	721	62	503	820	55	74	180	508	52	89	14
Future Volume (vph)	17	721	62	503	820	55	74	180	508	52	89	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.990				0.850		0.988	
Flt Protected		0.999		0.950				0.986			0.984	
Satd. Flow (prot)	0	3452	0	1755	3571	0	0	1815	1555	0	1805	0
Flt Permitted		0.919		0.136				0.829			0.616	
Satd. Flow (perm)	0	3175	0	251	3571	0	0	1526	1555	0	1130	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			13				535			5
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			477.9	
Travel Time (s)		45.9			18.0			26.5			21.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	18	767	66	535	872	59	79	191	540	55	95	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	851	0	535	931	0	0	270	540	0	165	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

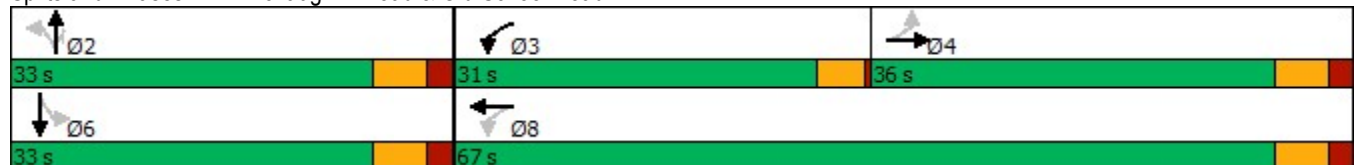
Future Total 2041  
PM Peak Hour

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	36.0	36.0		31.0	67.0		33.0	33.0	33.0	33.0	33.0	
Total Split (%)	36.0%	36.0%		31.0%	67.0%		33.0%	33.0%	33.0%	33.0%	33.0%	
Maximum Green (s)	30.0	30.0		27.0	61.0		27.0	27.0	27.0	27.0	27.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		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	
Total Lost Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	None	None		None	None		None	None	None	None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		28.0		60.0	57.9			21.3	21.3		21.3	
Actuated g/C Ratio		0.31		0.66	0.63			0.23	0.23		0.23	
v/c Ratio		0.87		0.91	0.41			0.76	0.70		0.62	
Control Delay		41.8		43.7	9.4			47.7	8.4		41.9	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		41.8		43.7	9.4			47.7	8.4		41.9	
LOS		D		D	A			D	A		D	
Approach Delay		41.8			21.9			21.5			41.9	
Approach LOS		D			C			C			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 91.5  
 Natural Cycle: 75  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 27.9  
 Intersection Capacity Utilization 92.2%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service F

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road

Future Total 2041  
PM Peak Hour





















Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	851	535	931	270	540	165
v/c Ratio	0.87	0.91	0.41	0.76	0.70	0.62
Control Delay	41.8	43.7	9.4	47.7	8.4	41.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	43.7	9.4	47.7	8.4	41.9
Queue Length 50th (m)	77.1	75.6	40.5	46.4	0.7	26.5
Queue Length 95th (m)	#116.0	#146.2	58.1	73.9	27.9	47.5
Internal Link Dist (m)	869.1		325.1	564.2		453.9
Turn Bay Length (m)		50.0				
Base Capacity (vph)	1065	616	2427	458	841	342
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.87	0.38	0.59	0.64	0.48

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.























HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road

Future Total 2041  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	721	62	503	820	55	74	180	508	52	89	14
Future Volume (vph)	17	721	62	503	820	55	74	180	508	52	89	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00	
Frt		0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.98	
Satd. Flow (prot)		3453		1755	3573			1815	1555		1804	
Flt Permitted		0.92		0.14	1.00			0.83	1.00		0.62	
Satd. Flow (perm)		3175		251	3573			1527	1555		1130	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	18	767	66	535	872	59	79	191	540	55	95	15
RTOR Reduction (vph)	0	6	0	0	5	0	0	0	410	0	4	0
Lane Group Flow (vph)	0	845	0	535	926	0	0	270	130	0	161	0
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		28.0		57.9	57.9			21.3	21.3		21.3	
Effective Green, g (s)		28.0		57.9	57.9			21.3	21.3		21.3	
Actuated g/C Ratio		0.31		0.63	0.63			0.23	0.23		0.23	
Clearance Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		974		586	2268			356	363		263	
v/s Ratio Prot				c0.26	0.26							
v/s Ratio Perm		0.27		c0.32				c0.18	0.08		0.14	
v/c Ratio		0.87		0.91	0.41			0.76	0.36		0.61	
Uniform Delay, d1		29.8		22.9	8.2			32.6	29.2		31.3	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		8.2		18.7	0.1			8.9	0.6		4.2	
Delay (s)		38.1		41.6	8.3			41.5	29.8		35.5	
Level of Service		D		D	A			D	C		D	
Approach Delay (s)		38.1			20.5			33.7			35.5	
Approach LOS		D			C			C			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			29.0		HCM 2000 Level of Service				C			
HCM 2000 Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			91.2		Sum of lost time (s)				16.0			
Intersection Capacity Utilization			92.2%		ICU Level of Service				F			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2041  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	700	274	170	329	335	62	287	3409	461	39	2007	608
Future Volume (vph)	700	274	170	329	335	62	287	3409	461	39	2007	608
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.943			0.977				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3269	0	1789	3536	0	1807	5043	1633	1825	4812	1541
Flt Permitted	0.276			0.221			0.068			0.073		
Satd. Flow (perm)	530	3269	0	416	3536	0	129	5043	1633	140	4812	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		90			16				176			378
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			593.3			855.3			488.8	
Travel Time (s)		51.8			30.5			38.5			22.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Adj. Flow (vph)	722	282	175	339	345	64	296	3514	475	40	2069	627
Shared Lane Traffic (%)												
Lane Group Flow (vph)	722	457	0	339	409	0	296	3514	475	40	2069	627
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

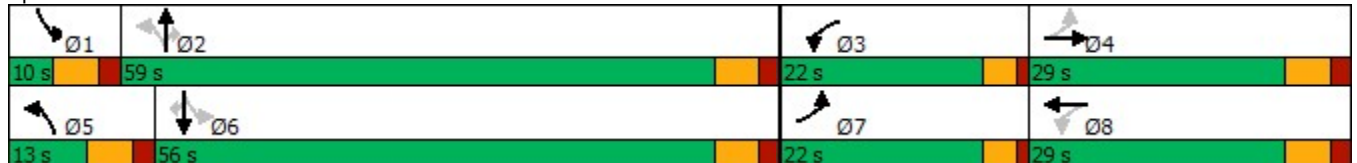
Future Total 2041  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0	29.0	10.0	29.0	29.0
Total Split (s)	22.0	29.0		22.0	29.0		13.0	59.0	59.0	10.0	56.0	56.0
Total Split (%)	18.3%	24.2%		18.3%	24.2%		10.8%	49.2%	49.2%	8.3%	46.7%	46.7%
Maximum Green (s)	18.0	23.0		18.0	23.0		7.0	53.0	53.0	4.0	50.0	50.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		0.0	-2.0		-2.0	-2.0	0.0	-2.0	-2.0	0.0
Total Lost Time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lead/Lag	Lead	Lag		Lead	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
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Walk Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	42.1	20.1		38.1	20.1		64.5	59.2	57.2	58.0	52.0	50.0
Actuated g/C Ratio	0.37	0.17		0.33	0.17		0.56	0.51	0.50	0.50	0.45	0.43
v/c Ratio	1.73	0.71		0.96	0.65		1.46	1.36	0.53	0.25	0.95	0.71
Control Delay	360.8	42.1		70.7	47.5		257.4	189.8	15.7	16.5	42.0	15.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	360.8	42.1		70.7	47.5		257.4	189.8	15.7	16.5	42.0	15.4
LOS	F	D		E	D		F	F	B	B	D	B
Approach Delay		237.3			58.0			175.1			35.5	
Approach LOS		F			E			F			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 115.2  
 Natural Cycle: 150  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.73  
 Intersection Signal Delay: 130.8      Intersection LOS: F  
 Intersection Capacity Utilization 132.6%      ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Total 2041  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	722	457	339	409	296	3514	475	40	2069	627
v/c Ratio	1.73	0.71	0.96	0.65	1.46	1.36	0.53	0.25	0.95	0.71
Control Delay	360.8	42.1	70.7	47.5	257.4	189.8	15.7	16.5	42.0	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	360.8	42.1	70.7	47.5	257.4	189.8	15.7	16.5	42.0	15.4
Queue Length 50th (m)	~218.5	41.4	59.2	43.8	~77.4	~398.0	47.0	3.8	160.8	44.6
Queue Length 95th (m)	#295.1	58.8	#114.9	60.0	#138.0	#446.4	84.0	9.5	#213.2	95.7
Internal Link Dist (m)		983.8		569.3		831.3			464.8	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	418	780	352	780	203	2590	899	158	2173	883
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.73	0.59	0.96	0.52	1.46	1.36	0.53	0.25	0.95	0.71

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.





























Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Total 2041  
PM Peak Hour

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		 			 			  			  			
Traffic Volume (vph)	700	274	170	329	335	62	287	3409	461	39	2007	608		
Future Volume (vph)	700	274	170	329	335	62	287	3409	461	39	2007	608		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0		
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00		
Frt	1.00	0.94		1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00		
Satd. Flow (prot)	1825	3267		1789	3535		1807	5043	1633	1825	4812	1541		
Flt Permitted	0.28	1.00		0.22	1.00		0.07	1.00	1.00	0.07	1.00	1.00		
Satd. Flow (perm)	530	3267		416	3535		130	5043	1633	141	4812	1541		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97		
Adj. Flow (vph)	722	282	175	339	345	64	296	3514	475	40	2069	627		
RTOR Reduction (vph)	0	75	0	0	13	0	0	0	90	0	0	209		
Lane Group Flow (vph)	722	382	0	339	396	0	296	3514	385	40	2069	418		
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%		
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm		
Protected Phases	7	4		3	8		5	2		1	6			
Permitted Phases	4			8			2		2	6		6		
Actuated Green, G (s)	36.1	18.1		36.1	18.1		64.2	57.2	57.2	55.0	52.6	52.6		
Effective Green, g (s)	40.1	20.1		36.1	20.1		67.6	59.2	57.2	59.0	54.6	52.6		
Actuated g/C Ratio	0.34	0.17		0.31	0.17		0.57	0.50	0.49	0.50	0.46	0.45		
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	400	557		337	603		202	2536	793	133	2232	688		
v/s Ratio Prot	c0.31	0.12		0.15	0.11		c0.11	0.70		0.01	0.43			
v/s Ratio Perm	0.31			c0.15			c0.73		0.24	0.14		0.27		
v/c Ratio	1.80	0.69		1.01	0.66		1.47	1.39	0.48	0.30	0.93	0.61		
Uniform Delay, d1	34.3	45.8		36.2	45.6		34.8	29.2	20.3	26.1	29.7	24.7		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	372.1	3.5		50.5	2.6		234.5	176.1	2.1	1.3	8.2	4.0		
Delay (s)	406.4	49.3		86.7	48.2		269.3	205.3	22.5	27.3	37.9	28.7		
Level of Service	F	D		F	D		F	F	C	C	D	C		
Approach Delay (s)		268.0			65.6			189.5			35.6			
Approach LOS		F			E			F			D			
<b>Intersection Summary</b>														
HCM 2000 Control Delay			142.4									HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio			1.47											
Actuated Cycle Length (s)			117.7								16.0			
Intersection Capacity Utilization			132.6%										ICU Level of Service	H
Analysis Period (min)			15											
c Critical Lane Group														

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2041  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔↔		↔	↔↔↔			↔			↔	
Traffic Volume (vph)	51	869	63	302	820	103	42	362	311	56	227	35
Future Volume (vph)	51	869	63	302	820	103	42	362	311	56	227	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.990			0.983			0.941			0.985	
Flt Protected		0.997		0.950				0.997			0.991	
Satd. Flow (prot)	0	5037	0	1825	5022	0	0	1755	0	0	1839	0
Flt Permitted		0.810		0.103				0.959			0.715	
Satd. Flow (perm)	0	4092	0	198	5022	0	0	1688	0	0	1327	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			25			43			7	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		556.4			1419.4			461.5			2784.8	
Travel Time (s)		28.6			73.0			20.8			125.3	
Confl. Peds. (#/hr)							1					1
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
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Adj. Flow (vph)	55	945	68	328	891	112	46	393	338	61	247	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1068	0	328	1003	0	0	777	0	0	346	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

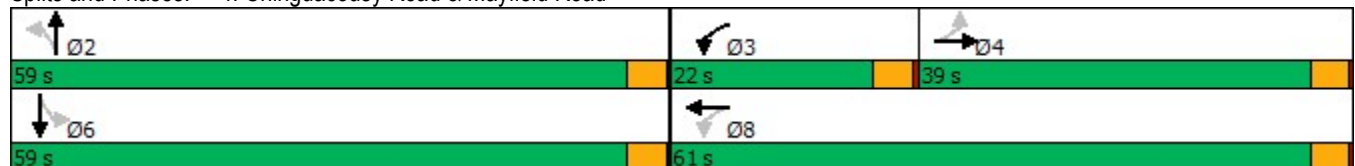
Future Total 2041  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	39.0	39.0		22.0	61.0		59.0	59.0		59.0	59.0	
Total Split (%)	32.5%	32.5%		18.3%	50.8%		49.2%	49.2%		49.2%	49.2%	
Maximum Green (s)	35.0	35.0		18.0	57.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
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	Max	Max		None	Max		None	None		None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		35.0		57.0	57.0			54.5			54.5	
Actuated g/C Ratio		0.29		0.48	0.48			0.46			0.46	
v/c Ratio		0.89		0.97	0.42			0.98			0.57	
Control Delay		50.2		74.2	20.5			58.6			27.8	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		50.2		74.2	20.5			58.6			27.8	
LOS		D		E	C			E			C	
Approach Delay		50.2			33.7			58.6			27.8	
Approach LOS		D			C			E			C	

Intersection Summary

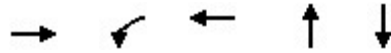
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 119.5  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 43.6  
 Intersection LOS: D  
 Intersection Capacity Utilization 91.5%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Total 2041  
PM Peak Hour



























Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	1068	328	1003	777	346
v/c Ratio	0.89	0.97	0.42	0.98	0.57
Control Delay	50.2	74.2	20.5	58.6	27.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	50.2	74.2	20.5	58.6	27.8
Queue Length 50th (m)	87.5	61.2	53.7	168.4	57.0
Queue Length 95th (m)	#111.8	#118.3	64.7	#253.2	87.2
Internal Link Dist (m)	532.4		1395.4	437.5	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	1205	339	2409	800	615
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.89	0.97	0.42	0.97	0.56

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 4: Chinguacousy Road & Mayfield Road





















Future Total 2041  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  				  			  	
Traffic Volume (vph)	51	869	63	302	820	103	42	362	311	56	227	35
Future Volume (vph)	51	869	63	302	820	103	42	362	311	56	227	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frbp, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		0.99		1.00	0.98			0.94			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		5041		1825	5023			1756			1840	
Flt Permitted		0.81		0.10	1.00			0.96			0.71	
Satd. Flow (perm)		4092		197	5023			1689			1326	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	945	68	328	891	112	46	393	338	61	247	38
RTOR Reduction (vph)	0	6	0	0	13	0	0	23	0	0	4	0
Lane Group Flow (vph)	0	1062	0	328	990	0	0	754	0	0	342	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		35.0		57.0	57.0			54.5			54.5	
Effective Green, g (s)		35.0		57.0	57.0			54.5			54.5	
Actuated g/C Ratio		0.29		0.48	0.48			0.46			0.46	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1198		339	2395			770			604	
v/s Ratio Prot				c0.15	0.20							
v/s Ratio Perm		0.26		c0.32				c0.45			0.26	
v/c Ratio		0.89		0.97	0.41			0.98			0.57	
Uniform Delay, d1		40.3		34.9	20.4			31.9			23.8	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		9.8		39.8	0.5			26.9			1.2	
Delay (s)		50.2		74.7	20.9			58.8			25.1	
Level of Service		D		E	C			E			C	
Approach Delay (s)		50.2			34.1			58.8			25.1	
Approach LOS		D			C			E			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			43.6			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			1.00									
Actuated Cycle Length (s)			119.5			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			91.5%			ICU Level of Service				F		
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Total 2041  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	1063	91	138	1243	312	151	631	142	238	391	182
Future Volume (vph)	180	1063	91	138	1243	312	151	631	142	238	391	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.988			0.970			0.972			0.952	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	5031	0	1755	4892	0	1825	3500	0	1738	3353	0
Flt Permitted	0.098			0.121			0.346			0.118		
Satd. Flow (perm)	179	5031	0	224	4892	0	665	3500	0	216	3353	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			55			22			67	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			341.6			2496.3	
Travel Time (s)		73.0			65.0			15.4			112.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	188	1107	95	144	1295	325	157	657	148	248	407	190
Shared Lane Traffic (%)												
Lane Group Flow (vph)	188	1202	0	144	1620	0	157	805	0	248	597	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

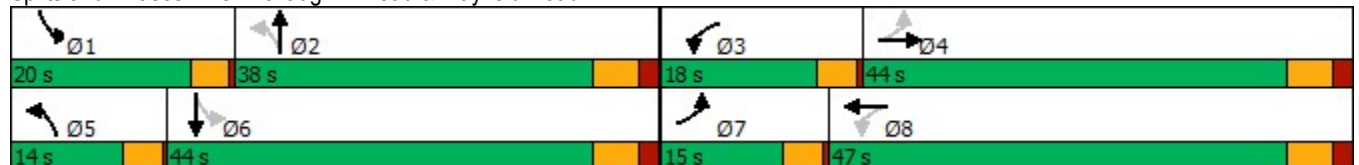
Future Total 2041  
PM Peak Hour

	↖		→		↗		↖		←		↗		↖		↑		↗		↘		↓		↘			
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR														
Permitted Phases	4				8				2				6													
Detector Phase	7	4			3	8			5	2			1	6												
Switch Phase																										
Minimum Initial (s)	4.0	4.0			4.0	4.0			4.0	4.0			4.0	4.0									4.0	4.0		
Minimum Split (s)	8.0	22.0			8.0	22.0			8.0	22.0			8.0	22.0									8.0	22.0		
Total Split (s)	15.0	44.0			18.0	47.0			14.0	38.0			20.0	44.0									20.0	44.0		
Total Split (%)	12.5%	36.7%			15.0%	39.2%			11.7%	31.7%			16.7%	36.7%									16.7%	36.7%		
Maximum Green (s)	11.0	38.0			14.0	41.0			10.0	32.0			16.0	38.0									16.0	38.0		
Yellow Time (s)	3.5	4.0			3.5	4.0			3.5	4.0			3.5	4.0									3.5	4.0		
All-Red Time (s)	0.5	2.0			0.5	2.0			0.5	2.0			0.5	2.0									0.5	2.0		
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)	4.0	6.0			4.0	6.0			4.0	6.0			4.0	6.0									4.0	6.0		
Lead/Lag	Lead	Lag			Lead	Lag			Lead	Lag			Lead	Lag									Lead	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		
Recall Mode	None	Max			None	Max			None	None			None	None									None	None		
Walk Time (s)	5.0				5.0				5.0				5.0										5.0			
Flash Dont Walk (s)	11.0				11.0				11.0				11.0										11.0			
Pedestrian Calls (#/hr)	0				0				0				0										0			
Act Effct Green (s)	53.9	41.0			53.9	41.1			41.5	30.0			51.2	35.6									51.2	35.6		
Actuated g/C Ratio	0.46	0.35			0.46	0.35			0.35	0.26			0.44	0.30									0.44	0.30		
v/c Ratio	0.83	0.68			0.59	0.93			0.48	0.88			0.85	0.56									0.85	0.56		
Control Delay	56.0	35.4			27.8	45.9			25.8	53.2			53.6	32.3									53.6	32.3		
Queue Delay	0.0	0.0			0.0	0.0			0.0	0.0			0.0	0.0									0.0	0.0		
Total Delay	56.0	35.4			27.8	45.9			25.8	53.2			53.6	32.3									53.6	32.3		
LOS	E	D			C	D			C	D			D	C									D	C		
Approach Delay	38.1				44.4				48.7				38.6										38.6			
Approach LOS	D				D				D				D										D			

Intersection Summary

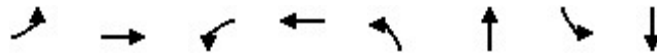
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 117.1  
 Natural Cycle: 75  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 42.5  
 Intersection LOS: D  
 Intersection Capacity Utilization 92.8%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Total 2041  
PM Peak Hour





























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	188	1202	144	1620	157	805	248	597
v/c Ratio	0.83	0.68	0.59	0.93	0.48	0.88	0.85	0.56
Control Delay	56.0	35.4	27.8	45.9	25.8	53.2	53.6	32.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.0	35.4	27.8	45.9	25.8	53.2	53.6	32.3
Queue Length 50th (m)	27.6	88.1	18.6	131.7	21.8	92.4	39.7	53.8
Queue Length 95th (m)	#69.5	108.9	31.7	#163.9	35.5	#117.7	#81.6	71.6
Internal Link Dist (m)		1395.4		1239.7		317.6		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	229	1770	292	1750	337	973	302	1134
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.68	0.49	0.93	0.47	0.83	0.82	0.53

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

































HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Future Total 2041  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (vph)	180	1063	91	138	1243	312	151	631	142	238	391	182
Future Volume (vph)	180	1063	91	138	1243	312	151	631	142	238	391	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1738	5032		1755	4891		1825	3502		1738	3354	
Flt Permitted	0.10	1.00		0.12	1.00		0.35	1.00		0.12	1.00	
Satd. Flow (perm)	179	5032		223	4891		665	3502		215	3354	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	188	1107	95	144	1295	325	157	657	148	248	407	190
RTOR Reduction (vph)	0	8	0	0	36	0	0	16	0	0	47	0
Lane Group Flow (vph)	188	1194	0	144	1584	0	157	789	0	248	550	0
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	51.8	41.0		52.0	41.1		39.6	30.0		49.2	35.6	
Effective Green, g (s)	51.8	41.0		52.0	41.1		39.6	30.0		49.2	35.6	
Actuated g/C Ratio	0.44	0.35		0.44	0.35		0.34	0.26		0.42	0.30	
Clearance Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	222	1761		241	1716		319	897		288	1019	
v/s Ratio Prot	c0.08	0.24		0.06	c0.32		0.04	0.23		c0.11	0.16	
v/s Ratio Perm	0.30			0.21			0.13			c0.25		
v/c Ratio	0.85	0.68		0.60	0.92		0.49	0.88		0.86	0.54	
Uniform Delay, d1	27.3	32.4		22.0	36.5		28.2	41.8		29.8	33.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	24.6	2.1		3.9	9.8		1.2	9.8		22.2	0.6	
Delay (s)	51.9	34.5		26.0	46.3		29.4	51.6		52.0	34.5	
Level of Service	D	C		C	D		C	D		D	C	
Approach Delay (s)		36.9			44.6			48.0			39.6	
Approach LOS		D			D			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			42.3				HCM 2000 Level of Service				D	
HCM 2000 Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			117.1				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			92.8%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2041  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	729	734	134	337	942	188	248	992	322	270	1070	1031
Future Volume (vph)	729	734	134	337	942	188	248	992	322	270	1070	1031
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.96	0.98		0.99			0.96			0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	4995	1601	3404	5092	1585	1789	3614	1555	1825	3510	1585
Flt Permitted	0.148			0.950			0.103			0.089		
Satd. Flow (perm)	273	4995	1538	3349	5092	1562	194	3614	1486	171	3510	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			137			178			195			585
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			749.9			567.8			813.0	
Travel Time (s)		7.3			38.6			29.2			41.8	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Adj. Flow (vph)	752	757	138	347	971	194	256	1023	332	278	1103	1063
Shared Lane Traffic (%)												
Lane Group Flow (vph)	752	757	138	347	971	194	256	1023	332	278	1103	1063
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	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	2		2	6		6
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	8.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	41.0	45.0	45.0	25.0	29.0	29.0	9.0	48.0	48.0	17.0	56.0	56.0
Total Split (%)	30.4%	33.3%	33.3%	18.5%	21.5%	21.5%	6.7%	35.6%	35.6%	12.6%	41.5%	41.5%
Maximum Green (s)	36.0	38.0	38.0	20.0	22.0	22.0	5.0	41.0	41.0	13.0	49.0	49.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.5	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	0.5	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-2.0	0.0	0.0	0.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0	2.0	7.0	7.0
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
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		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

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2041  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	67.0	38.0	38.0	20.0	22.0	22.0	53.0	41.0	41.0	63.0	49.0	49.0
Actuated g/C Ratio	0.50	0.28	0.28	0.15	0.16	0.16	0.39	0.30	0.30	0.47	0.36	0.36
v/c Ratio	1.36	0.54	0.26	0.69	1.17	0.48	1.62	0.93	0.57	1.06	0.87	1.13
Control Delay	206.5	42.8	7.2	62.4	138.4	13.3	329.3	60.9	19.7	106.4	48.4	92.6
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	206.5	42.8	7.2	62.4	138.4	13.3	329.3	60.9	19.7	106.4	48.4	92.6
LOS	F	D	A	E	F	B	F	E	B	F	D	F
Approach Delay	114.6			104.9			95.1			74.2		
Approach LOS	F			F			F			E		

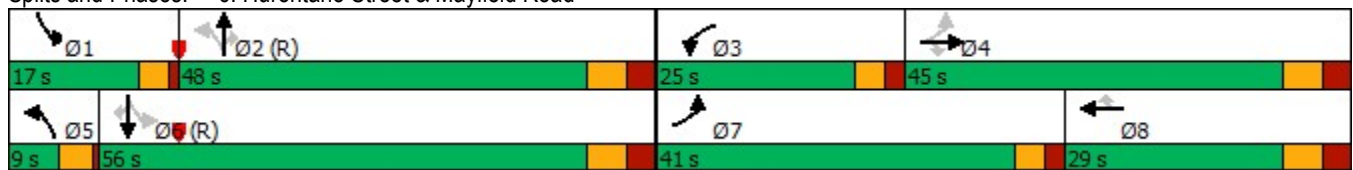
Intersection Summary

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: 120  
 Control Type: Pretimed  
 Maximum v/c Ratio: 1.62  
 Intersection Signal Delay: 94.5  
 Intersection Capacity Utilization 120.2%  
 Analysis Period (min) 15

Intersection LOS: F













ICU Level of Service H

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Total 2041  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	752	757	138	347	971	194	256	1023	332	278	1103	1063
v/c Ratio	1.36	0.54	0.26	0.69	1.17	0.48	1.62	0.93	0.57	1.06	0.87	1.13
Control Delay	206.5	42.8	7.2	62.4	138.4	13.3	329.3	60.9	19.7	106.4	48.4	92.6
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	206.5	42.8	7.2	62.4	138.4	13.3	329.3	60.9	19.7	106.4	48.4	92.6
Queue Length 50th (m)	~248.2	62.7	0.2	45.8	~112.7	3.7	~79.7	139.6	29.6	~63.7	143.1	~223.8
Queue Length 95th (m)	#324.0	76.4	15.6	62.3	#141.2	25.6	#134.2	#179.7	60.5	#119.9	171.8	#304.1
Internal Link Dist (m)		118.1			725.9			543.8			789.0	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	552	1406	531	504	829	403	158	1097	587	263	1274	937
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.36	0.54	0.26	0.69	1.17	0.48	1.62	0.93	0.57	1.06	0.87	1.13

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.










HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Total 2041  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	729	734	134	337	942	188	248	992	322	270	1070	1031
Future Volume (vph)	729	734	134	337	942	188	248	992	322	270	1070	1031
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0	2.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	4995	1538	3404	5092	1562	1789	3614	1486	1825	3510	1555
Flt Permitted	0.15	1.00	1.00	0.95	1.00	1.00	0.10	1.00	1.00	0.09	1.00	1.00
Satd. Flow (perm)	274	4995	1538	3404	5092	1562	193	3614	1486	171	3510	1555
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	752	757	138	347	971	194	256	1023	332	278	1103	1063
RTOR Reduction (vph)	0	0	98	0	0	149	0	0	136	0	0	373
Lane Group Flow (vph)	752	757	40	347	971	45	256	1023	196	278	1103	690
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Turn Type	pm+pt	NA	Perm	Prot	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	2		2	6		6
Actuated Green, G (s)	63.0	38.0	38.0	20.0	22.0	22.0	46.0	41.0	41.0	58.0	49.0	49.0
Effective Green, g (s)	65.0	38.0	38.0	20.0	22.0	22.0	50.0	41.0	41.0	60.0	49.0	49.0
Actuated g/C Ratio	0.48	0.28	0.28	0.15	0.16	0.16	0.37	0.30	0.30	0.44	0.36	0.36
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
Lane Grp Cap (vph)	548	1406	432	504	829	254	154	1097	451	259	1274	564
v/s Ratio Prot	c0.39	0.15		0.10	0.19		c0.09	0.28		c0.12	0.31	
v/s Ratio Perm	c0.27		0.03			0.03	c0.53		0.13	0.36		0.44
v/c Ratio	1.37	0.54	0.09	0.69	1.17	0.18	1.66	0.93	0.44	1.07	0.87	1.22
Uniform Delay, d1	39.4	41.1	35.8	54.5	56.5	48.7	36.1	45.7	37.7	40.8	39.9	43.0
Progression 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
Incremental Delay, d2	178.9	1.5	0.4	7.5	89.8	1.5	325.0	15.1	3.0	76.7	8.0	116.0
Delay (s)	218.2	42.6	36.2	62.0	146.3	50.2	361.0	60.8	40.7	117.5	48.0	159.0
Level of Service	F	D	D	E	F	D	F	E	D	F	D	F
Approach Delay (s)		122.2			114.6			104.4			104.2	
Approach LOS		F			F			F			F	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			110.5				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.57									
Actuated Cycle Length (s)			135.0				Sum of lost time (s)		21.0			
Intersection Capacity Utilization			120.2%				ICU Level of Service		H			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C










Future Total 2041  
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	23	38	758	33	63	569
Future Volume (vph)	23	38	758	33	63	569
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.916		0.994			
Flt Protected	0.981					0.995
Satd. Flow (prot)	1692	0	1872	0	0	1874
Flt Permitted	0.981					0.995
Satd. Flow (perm)	1692	0	1872	0	0	1874
Link Speed (k/h)	48		80			80
Link Distance (m)	204.9		2784.8			298.8
Travel Time (s)	15.4		125.3			13.4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	23	38	758	33	63	569
Shared Lane Traffic (%)						
Lane Group Flow (vph)	61	0	791	0	0	632
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	88.9%			ICU Level of Service E		
Analysis Period (min)	15					



HCM Unsignalized Intersection Capacity Analysis  
7: Chinguacousy Road & Street C

Future Total 2041  
PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	23	38	758	33	63	569
Future Volume (Veh/h)	23	38	758	33	63	569
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)	23	38	758	33	63	569
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						299
pX, platoon unblocked	0.76					
vC, conflicting volume	1470	774	791			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1460	774	791			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	77	90	92			
cM capacity (veh/h)	100	398	829			
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	61	791	632			
Volume Left	23	0	63			
Volume Right	38	33	0			
cSH	188	1700	829			
Volume to Capacity	0.33	0.47	0.08			
Queue Length 95th (m)	10.1	0.0	1.9			
Control Delay (s)	33.2	0.0	2.0			
Lane LOS	D		A			
Approach Delay (s)	33.2	0.0	2.0			
Approach LOS	D					
<b>Intersection Summary</b>						
Average Delay			2.2			
Intersection Capacity Utilization			88.9%	ICU Level of Service		E
Analysis Period (min)	15					










Lanes, Volumes, Timings  
8: Street B & Old School Road

Future Total 2041  
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↖↑	↗	
Traffic Volume (vph)	746	14	85	841	10	50
Future Volume (vph)	746	14	85	841	10	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Fr <sub>t</sub>	0.997			0.887		
Fl <sub>t</sub> Protected				0.995	0.992	
Satd. Flow (prot)	3568	0	0	3561	1657	0
Fl <sub>t</sub> Permitted				0.995	0.992	
Satd. Flow (perm)	3568	0	0	3561	1657	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	746	14	85	841	10	50
Shared Lane Traffic (%)						
Lane Group Flow (vph)	760	0	0	926	60	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	14		24	24		14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	60.4%			ICU Level of Service B		
Analysis Period (min)	15					

















HCM Unsignalized Intersection Capacity Analysis  
 8: Street B & Old School Road

Future Total 2041  
 PM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	746	14	85	841	10	50
Future Volume (Veh/h)	746	14	85	841	10	50
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	746	14	85	841	10	50
<b>Pedestrians</b>						
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			760		1344	380
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			760		1344	380
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			90		92	92
cM capacity (veh/h)			848		129	618
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>WB 1</b>	<b>WB 2</b>	<b>NB 1</b>	
Volume Total	497	263	365	561	60	
Volume Left	0	0	85	0	10	
Volume Right	0	14	0	0	50	
cSH	1700	1700	848	1700	378	
Volume to Capacity	0.29	0.15	0.10	0.33	0.16	
Queue Length 95th (m)	0.0	0.0	2.5	0.0	4.2	
Control Delay (s)	0.0	0.0	3.2	0.0	16.3	
Lane LOS			A	C		
Approach Delay (s)	0.0		1.2		16.3	
Approach LOS					C	
<b>Intersection Summary</b>						
Average Delay			1.2			
Intersection Capacity Utilization			60.4%	ICU Level of Service	B	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2041  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	157	0	34	0	728	234	45	610	0
Future Volume (vph)	0	0	0	157	0	34	0	728	234	45	610	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Fr <sub>t</sub>					0.976			0.964				
Fl <sub>t</sub> Protected					0.961						0.997	
Satd. Flow (prot)	0	1883	0	0	1767	0	0	3450	0	0	3568	0
Fl <sub>t</sub> Permitted					0.764						0.831	
Satd. Flow (perm)	0	1883	0	0	1404	0	0	3450	0	0	2974	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					33			70				
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			403.1			2496.3			588.2	
Travel Time (s)		15.4			30.2			112.3			26.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	157	0	34	0	728	234	45	610	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	191	0	0	962	0	0	655	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	

Lanes, Volumes, Timings  
 9: McLaughlin Road & Street A

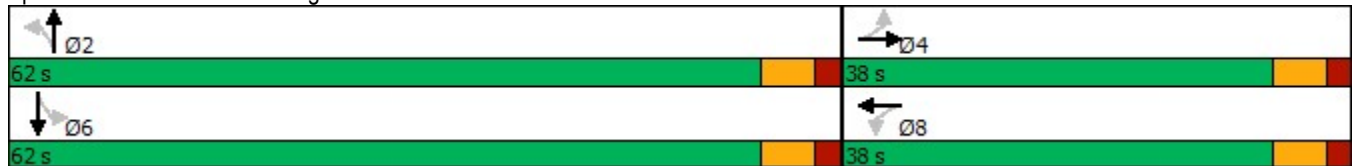
Future Total 2041  
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	38.0	38.0		38.0	38.0		62.0	62.0		62.0	62.0	
Total Split (%)	38.0%	38.0%		38.0%	38.0%		62.0%	62.0%		62.0%	62.0%	
Maximum Green (s)	32.0	32.0		32.0	32.0		56.0	56.0		56.0	56.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effect Green (s)					15.1			59.7			59.7	
Actuated g/C Ratio					0.17			0.69			0.69	
v/c Ratio					0.70			0.40			0.32	
Control Delay					41.1			6.6			6.6	
Queue Delay					0.0			0.0			0.0	
Total Delay					41.1			6.6			6.6	
LOS					D			A			A	
Approach Delay					41.1			6.6			6.6	
Approach LOS					D			A			A	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	86.8
Natural Cycle:	45
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	10.2
Intersection LOS:	B
Intersection Capacity Utilization	71.5%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 9: McLaughlin Road & Street A



Queues  
9: McLaughlin Road & Street A

















Future Total 2041  
PM Peak Hour



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	191	962	655
v/c Ratio	0.70	0.40	0.32
Control Delay	41.1	6.6	6.6
Queue Delay	0.0	0.0	0.0
Total Delay	41.1	6.6	6.6
Queue Length 50th (m)	23.5	27.6	19.2
Queue Length 95th (m)	44.3	50.6	36.1
Internal Link Dist (m)	379.1	2472.3	564.2
Turn Bay Length (m)			
Base Capacity (vph)	539	2393	2044
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.35	0.40	0.32
Intersection Summary			

HCM Signalized Intersection Capacity Analysis  
 9: McLaughlin Road & Street A

Future Total 2041  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	157	0	34	0	728	234	45	610	0
Future Volume (vph)	0	0	0	157	0	34	0	728	234	45	610	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.0			6.0			6.0	
Lane Util. Factor					1.00			0.95			0.95	
Frt					0.98			0.96			1.00	
Flt Protected					0.96			1.00			1.00	
Satd. Flow (prot)					1766			3448			3566	
Flt Permitted					0.76			1.00			0.83	
Satd. Flow (perm)					1404			3448			2975	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	157	0	34	0	728	234	45	610	0
RTOR Reduction (vph)	0	0	0	0	27	0	0	22	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	164	0	0	940	0	0	655	0
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)					15.1			59.7			59.7	
Effective Green, g (s)					15.1			59.7			59.7	
Actuated g/C Ratio					0.17			0.69			0.69	
Clearance Time (s)					6.0			6.0			6.0	
Vehicle Extension (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					244			2371			2046	
v/s Ratio Prot								c0.27				
v/s Ratio Perm					c0.12						0.22	
v/c Ratio					0.67			0.40			0.32	
Uniform Delay, d1					33.5			5.8			5.4	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					7.1			0.5			0.4	
Delay (s)					40.6			6.3			5.8	
Level of Service					D			A			A	
Approach Delay (s)		0.0			40.6			6.3			5.8	
Approach LOS		A			D			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			9.8		HCM 2000 Level of Service						A	
HCM 2000 Volume to Capacity ratio			0.45									
Actuated Cycle Length (s)			86.8		Sum of lost time (s)					12.0		
Intersection Capacity Utilization			71.5%		ICU Level of Service					C		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
10: Street D & Old School Road







Future Total 2041  
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↙↑	↖	↗
Traffic Volume (vph)	1156	72	11	1255	53	1
Future Volume (vph)	1156	72	11	1255	53	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Fr <sub>t</sub>	0.991					0.850
Fl <sub>t</sub> Protected					0.950	
Satd. Flow (prot)	3546	0	0	3579	1789	1601
Fl <sub>t</sub> Permitted					0.950	
Satd. Flow (perm)	3546	0	0	3579	1789	1601
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1156	72	11	1255	53	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1228	0	0	1266	53	1
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	52.4%			ICU Level of Service A		
Analysis Period (min)	15					



HCM Unsignalized Intersection Capacity Analysis  
 10: Street D & Old School Road

Future Total 2041  
 PM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↗	↗
Traffic Volume (veh/h)	1156	72	11	1255	53	1
Future Volume (Veh/h)	1156	72	11	1255	53	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1156	72	11	1255	53	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)	349					
pX, platoon unblocked			0.82		0.82	0.82
vC, conflicting volume			1228		1842	614
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			834		1584	83
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		34	100
cM capacity (veh/h)			650		80	785
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	771	457	429	837	53	1
Volume Left	0	0	11	0	53	0
Volume Right	0	72	0	0	0	1
cSH	1700	1700	650	1700	80	785
Volume to Capacity	0.45	0.27	0.02	0.49	0.66	0.00
Queue Length 95th (m)	0.0	0.0	0.4	0.0	23.5	0.0
Control Delay (s)	0.0	0.0	0.5	0.0	113.1	9.6
Lane LOS			A		F	A
Approach Delay (s)	0.0		0.2		111.2	
Approach LOS					F	
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization			52.4%		ICU Level of Service	A
Analysis Period (min)	15					

Lanes, Volumes, Timings  
11: Street A & Street D

Future Total 2041  
PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	126	219	253	32	21	119
Future Volume (vph)	126	219	253	32	21	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.985		0.885	
Flt Protected		0.982			0.993	
Satd. Flow (prot)	0	1850	1855	0	1655	0
Flt Permitted		0.982			0.993	
Satd. Flow (perm)	0	1850	1855	0	1655	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	126	219	253	32	21	119
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	345	285	0	140	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	52.3%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 11: Street A & Street D

Future Total 2041  
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	126	219	253	32	21	119
Future Volume (Veh/h)	126	219	253	32	21	119
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	126	219	253	32	21	119
<b>Pedestrians</b>						
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	285			740	269	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	285			740	269	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	90			94	85	
cM capacity (veh/h)	1277			346	770	
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	345	285	140			
Volume Left	126	0	21			
Volume Right	0	32	119			
cSH	1277	1700	650			
Volume to Capacity	0.10	0.17	0.22			
Queue Length 95th (m)	2.5	0.0	6.2			
Control Delay (s)	3.6	0.0	12.0			
Lane LOS	A		B			
Approach Delay (s)	3.6	0.0	12.0			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			3.8			
Intersection Capacity Utilization			52.3%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2041  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	272	513	4118	2474	33
Future Volume (vph)	40	272	513	4118	2474	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt		0.850			0.998	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	5142	5132	0
Flt Permitted	0.950		0.062			
Satd. Flow (perm)	1789	1601	117	5142	5132	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1			2	
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	272	513	4118	2474	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	272	513	4118	2507	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2041  
PM Peak Hour

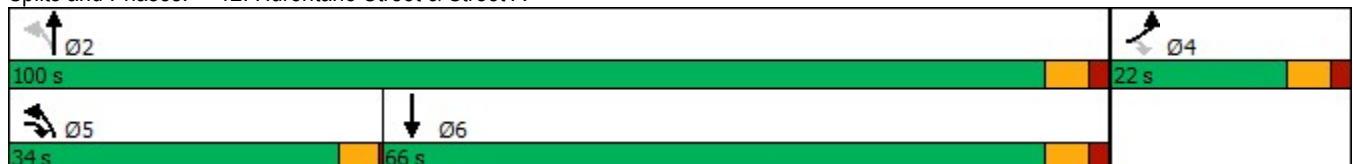


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	8.0	8.0	22.0	22.0	
Total Split (s)	22.0	34.0	34.0	100.0	66.0	
Total Split (%)	18.0%	27.9%	27.9%	82.0%	54.1%	
Maximum Green (s)	16.0	30.0	30.0	94.0	60.0	
Yellow Time (s)	4.0	3.5	3.5	4.0	4.0	
All-Red Time (s)	2.0	0.5	0.5	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	4.0	4.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	7.9	38.8	96.5	97.1	60.3	
Actuated g/C Ratio	0.07	0.36	0.88	0.89	0.55	
v/c Ratio	0.31	0.48	0.91	0.90	0.88	
Control Delay	56.0	29.8	52.9	11.1	27.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	56.0	29.8	52.9	11.1	27.4	
LOS	E	C	D	B	C	
Approach Delay	33.2			15.7	27.4	
Approach LOS	C			B	C	

Intersection Summary

Area Type:	Other
Cycle Length:	122
Actuated Cycle Length:	109.2
Natural Cycle:	130
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.91
Intersection Signal Delay:	20.4
Intersection LOS:	C
Intersection Capacity Utilization:	93.6%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 12: Hurontario Street & Street A



Queues  
12: Hurontario Street & Street A

Future Total 2041  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	40	272	513	4118	2507
v/c Ratio	0.31	0.48	0.91	0.90	0.88
Control Delay	56.0	29.8	52.9	11.1	27.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	56.0	29.8	52.9	11.1	27.4
Queue Length 50th (m)	8.6	44.1	95.4	223.4	181.6
Queue Length 95th (m)	19.6	67.5	#168.3	#377.8	#223.9
Internal Link Dist (m)	932.1			904.0	831.3
Turn Bay Length (m)	30.0		50.0		
Base Capacity (vph)	263	570	564	4573	2835
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.48	0.91	0.90	0.88

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 12: Hurontario Street & Street A

Future Total 2041  
 PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	40	272	513	4118	2474	33
Future Volume (vph)	40	272	513	4118	2474	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1789	1601	1789	5142	5132	
Flt Permitted	0.95	1.00	0.06	1.00	1.00	
Satd. Flow (perm)	1789	1601	117	5142	5132	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	272	513	4118	2474	33
RTOR Reduction (vph)	0	1	0	0	1	0
Lane Group Flow (vph)	40	271	513	4118	2506	0
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	5.3	35.4	94.5	94.5	60.4	
Effective Green, g (s)	5.3	35.4	94.5	94.5	60.4	
Actuated g/C Ratio	0.05	0.32	0.85	0.85	0.54	
Clearance Time (s)	6.0	4.0	4.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	84	506	549	4346	2772	
v/s Ratio Prot	0.02	c0.14	0.25	c0.80	0.49	
v/s Ratio Perm		0.03	0.54			
v/c Ratio	0.48	0.54	0.93	0.95	0.90	
Uniform Delay, d1	51.9	31.4	34.8	6.7	23.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.2	1.1	23.2	6.0	5.4	
Delay (s)	56.1	32.5	58.0	12.7	28.5	
Level of Service	E	C	E	B	C	
Approach Delay (s)	35.6			17.7	28.5	
Approach LOS	D			B	C	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	111.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.6%	ICU Level of Service	F
Analysis Period (min)	15		


















c Critical Lane Group

# **Synchro Outputs - With GTA West**




















Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	211	3	86	130	26	2	141	177	20	146	8
Future Volume (vph)	2	211	3	86	130	26	2	141	177	20	146	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.975			0.925				0.993
Flt Protected				0.950								0.994
Satd. Flow (prot)	0	1917	0	1772	1812	0	0	1711	0	0	1783	0
Flt Permitted				0.950								0.994
Satd. Flow (perm)	0	1917	0	1772	1812	0	0	1711	0	0	1783	0
Link Speed (k/h)		70			70			80				80
Link Distance (m)		590.7			490.2			298.8				342.6
Travel Time (s)		30.4			25.2			13.4				15.4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Adj. Flow (vph)	2	224	3	91	138	28	2	150	188	21	155	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	229	0	91	166	0	0	340	0	0	185	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)		3.7			3.7			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop				Stop
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	52.5%						ICU Level of Service A					
Analysis Period (min)	15											



















HCM Unsignalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Background 2026  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	211	3	86	130	26	2	141	177	20	146	8
Future Volume (vph)	2	211	3	86	130	26	2	141	177	20	146	8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	2	224	3	91	138	28	2	150	188	21	155	9
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1							
Volume Total (vph)	229	91	166	340	185							
Volume Left (vph)	2	91	0	2	21							
Volume Right (vph)	3	0	28	188	9							
Hadj (s)	-0.01	0.55	-0.06	-0.26	0.10							
Departure Headway (s)	6.0	7.0	6.4	5.4	6.1							
Degree Utilization, x	0.38	0.18	0.29	0.51	0.31							
Capacity (veh/h)	542	474	518	615	532							
Control Delay (s)	12.8	10.3	10.8	14.1	11.8							
Approach Delay (s)	12.8	10.6		14.1	11.8							
Approach LOS	B	B		B	B							
Intersection Summary												
Delay			12.5									
Level of Service			B									
Intersection Capacity Utilization			52.5%		ICU Level of Service				A			
Analysis Period (min)			15									



















Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Background 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	384	21	153	219	21	22	55	263	34	109	10
Future Volume (vph)	6	384	21	153	219	21	22	55	263	34	109	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.987				0.850		0.991	
Flt Protected		0.999		0.950				0.986			0.989	
Satd. Flow (prot)	0	1875	0	1789	1830	0	0	1867	1617	0	1858	0
Flt Permitted		0.999		0.950				0.986			0.989	
Satd. Flow (perm)	0	1875	0	1789	1830	0	0	1867	1617	0	1858	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Adj. Flow (vph)	6	409	22	163	233	22	23	59	280	36	116	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	437	0	163	255	0	0	82	280	0	163	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	59.5%						ICU Level of Service B					
Analysis Period (min)	15											
























HCM Unsignalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road

Future Background 2026  
AM Peak Hour

												
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	384	21	153	219	21	22	55	263	34	109	10
Future Volume (vph)	6	384	21	153	219	21	22	55	263	34	109	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	6	409	22	163	233	22	23	59	280	36	116	11
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1						
Volume Total (vph)	437	163	255	82	280	163						
Volume Left (vph)	6	163	0	23	0	36						
Volume Right (vph)	22	0	22	0	280	11						
Hadj (s)	0.00	0.53	0.00	0.16	-0.68	0.03						
Departure Headway (s)	7.3	8.0	7.5	8.0	7.2	8.5						
Degree Utilization, x	0.89	0.36	0.53	0.18	0.56	0.38						
Capacity (veh/h)	475	417	451	430	482	402						
Control Delay (s)	44.7	14.4	17.5	11.6	17.6	16.6						
Approach Delay (s)	44.7	16.3		16.3		16.6						
Approach LOS	E	C		C		C						
Intersection Summary												
Delay			25.3									
Level of Service			D									
Intersection Capacity Utilization			59.5%		ICU Level of Service		B					
Analysis Period (min)			15									

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2026  
AM Peak Hour

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	327	189	158	206	145	101	53	1396	117	56	2054	181	
Future Volume (vph)	327	189	158	206	145	101	53	1396	117	56	2054	181	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0	
Storage Lanes	1		0	1		0	1		1	1		1	
Taper Length (m)	2.5			2.5			2.5			2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	
Frt		0.932			0.938				0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1755	1745	0	1722	1730	0	1722	4445	1471	1615	5043	1633	
Flt Permitted	0.526			0.394			0.067			0.112			
Satd. Flow (perm)	972	1745	0	714	1730	0	121	4445	1471	190	5043	1633	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		2			18				122			129	
Link Speed (k/h)		70			70			80			80		
Link Distance (m)		1007.8			572.8			855.3			482.7		
Travel Time (s)		51.8			29.5			38.5			21.7		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%	
Adj. Flow (vph)	352	203	170	222	156	109	57	1501	126	60	2209	195	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	352	373	0	222	265	0	57	1501	126	60	2209	195	
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)		3.7			3.7			3.7			3.7		
Link Offset(m)		0.0			0.0			0.0			0.0		
Crosswalk Width(m)		1.6			1.6			1.6			1.6		
Two way Left Turn Lane								Yes					
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Number of Detectors	1	2		1	2		1	2	1	1	2	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7		
Detector 2 Size(m)		1.8			1.8			1.8			1.8		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
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	Perm	
Protected Phases		4			8			2			6		

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2026  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	24.0	24.0		24.0	24.0		29.0	29.0	29.0	29.0	29.0	29.0
Total Split (s)	52.0	52.0		52.0	52.0		68.0	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%	56.7%
Maximum Green (s)	44.0	44.0		44.0	44.0		60.0	60.0	60.0	60.0	60.0	60.0
Yellow Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	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	0.0
Total Lost Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
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	3.0
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	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	0
Act Effct Green (s)	44.0	44.0		44.0	44.0		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.37	0.37		0.37	0.37		0.50	0.50	0.50	0.50	0.50	0.50
v/c Ratio	0.99	0.58		0.85	0.41		0.95	0.68	0.16	0.63	0.88	0.22
Control Delay	83.7	34.9		64.6	28.7		138.1	24.6	3.5	55.4	31.7	6.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.7	34.9		64.6	28.7		138.1	24.6	3.5	55.4	31.7	6.6
LOS	F	C		E	C		F	C	A	E	C	A
Approach Delay		58.6			45.0			26.8			30.3	
Approach LOS		E			D			C			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 75  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.99  
 Intersection Signal Delay: 34.4  
 Intersection LOS: C  
 Intersection Capacity Utilization 98.5%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Background 2026  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	352	373	222	265	57	1501	126	60	2209	195
v/c Ratio	0.99	0.58	0.85	0.41	0.95	0.68	0.16	0.63	0.88	0.22
Control Delay	83.7	34.9	64.6	28.7	138.1	24.6	3.5	55.4	31.7	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.7	34.9	64.6	28.7	138.1	24.6	3.5	55.4	31.7	6.6
Queue Length 50th (m)	81.6	69.7	47.6	42.9	12.3	94.6	0.5	10.0	164.2	7.8
Queue Length 95th (m)	#142.5	100.9	#92.7	66.2	#40.6	111.1	9.9	#34.1	186.5	20.2
Internal Link Dist (m)		983.8		548.8		831.3			458.7	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	356	641	261	645	60	2222	796	95	2521	881
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.58	0.85	0.41	0.95	0.68	0.16	0.63	0.88	0.22

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Background 2026  
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	327	189	158	206	145	101	53	1396	117	56	2054	181
Future Volume (vph)	327	189	158	206	145	101	53	1396	117	56	2054	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	1744		1722	1730		1722	4445	1471	1615	5043	1633
Flt Permitted	0.53	1.00		0.39	1.00		0.07	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	972	1744		714	1730		121	4445	1471	191	5043	1633
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	352	203	170	222	156	109	57	1501	126	60	2209	195
RTOR Reduction (vph)	0	1	0	0	11	0	0	0	61	0	0	65
Lane Group Flow (vph)	352	372	0	222	254	0	57	1501	65	60	2209	131
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	44.0	44.0		44.0	44.0		60.0	60.0	60.0	60.0	60.0	60.0
Effective Green, g (s)	44.0	44.0		44.0	44.0		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.37	0.37		0.37	0.37		0.50	0.50	0.50	0.50	0.50	0.50
Clearance Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	356	639		261	634		60	2222	735	95	2521	816
v/s Ratio Prot		0.21			0.15			0.34			0.44	
v/s Ratio Perm	c0.36			0.31			c0.47		0.04	0.31		0.08
v/c Ratio	0.99	0.58		0.85	0.40		0.95	0.68	0.09	0.63	0.88	0.16
Uniform Delay, d1	37.8	30.6		35.0	28.2		28.6	22.7	15.7	21.9	26.7	16.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	44.2	1.4		22.4	0.4		102.6	1.7	0.2	27.8	4.7	0.4
Delay (s)	82.0	31.9		57.4	28.6		131.1	24.3	15.9	49.7	31.4	16.7
Level of Service	F	C		E	C		F	C	B	D	C	B
Approach Delay (s)		56.2			41.7			27.3			30.6	
Approach LOS		E			D			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			34.1									C
HCM 2000 Volume to Capacity ratio			0.96									
Actuated Cycle Length (s)			120.0								16.0	
Intersection Capacity Utilization			98.5%									F
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2026  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕↕↕			↕↕↕				↕			↕	
Traffic Volume (vph)	35	609	45	125	530	18	22	151	126	57	182	33
Future Volume (vph)	35	609	45	125	530	18	22	151	126	57	182	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.990			0.996			0.943				0.984
Fl <sub>t</sub> Protected		0.997			0.991			0.996				0.990
Satd. Flow (prot)	0	4860	0	0	4872	0	0	1736	0	0	1786	0
Fl <sub>t</sub> Permitted		0.874			0.719			0.967				0.789
Satd. Flow (perm)	0	4260	0	0	3535	0	0	1685	0	0	1423	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			7			31				6
Link Speed (k/h)		70			70			80				80
Link Distance (m)		488.4			1419.4			405.8				2784.8
Travel Time (s)		25.1			73.0			18.3				125.3
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Adj. Flow (vph)	35	615	45	126	535	18	22	153	127	58	184	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	695	0	0	679	0	0	302	0	0	275	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)		3.7			3.7			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2				6
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	81.0	81.0		81.0	81.0		39.0	39.0		39.0	39.0	
Total Split (%)	67.5%	67.5%		67.5%	67.5%		32.5%	32.5%		32.5%	32.5%	
Maximum Green (s)	77.0	77.0		77.0	77.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		77.0			77.0			35.0			35.0	
Actuated g/C Ratio		0.64			0.64			0.29			0.29	
v/c Ratio		0.25			0.30			0.59			0.66	
Control Delay		9.2			23.9			37.9			45.1	
Queue Delay		0.0			0.0			0.0			0.0	

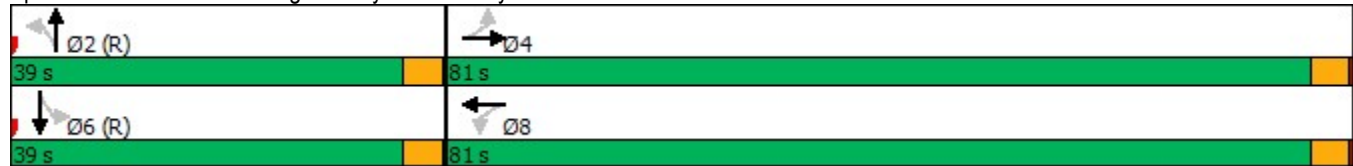
Lanes, Volumes, Timings  
 4: Chinguacousy Road & Mayfield Road

Future Background 2026  
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		9.2			23.9			37.9			45.1	
LOS		A			C			D			D	
Approach Delay		9.2			23.9			37.9			45.1	
Approach LOS		A			C			D			D	

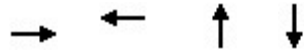
Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	40
Control Type:	Pretimed
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	23.8
Intersection LOS:	C
Intersection Capacity Utilization	66.0%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

























Future Background 2026  
AM Peak Hour



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	695	679	302	275
v/c Ratio	0.25	0.30	0.59	0.66
Control Delay	9.2	23.9	37.9	45.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	9.2	23.9	37.9	45.1
Queue Length 50th (m)	23.0	42.5	54.6	55.6
Queue Length 95th (m)	29.1	54.9	83.9	85.7
Internal Link Dist (m)	464.4	1395.4	381.8	2760.8
Turn Bay Length (m)				
Base Capacity (vph)	2739	2270	513	419
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.30	0.59	0.66
<b>Intersection Summary</b>				

HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road






















Future Background 2026  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  			  			  				  	
Traffic Volume (vph)	35	609	45	125	530	18	22	151	126	57	182	33	
Future Volume (vph)	35	609	45	125	530	18	22	151	126	57	182	33	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0			4.0			4.0			4.0		
Lane Util. Factor		0.91			0.91			1.00			1.00		
Frt		0.99			1.00			0.94			0.98		
Flt Protected		1.00			0.99			1.00			0.99		
Satd. Flow (prot)		4864			4871			1737			1785		
Flt Permitted		0.87			0.72			0.97			0.79		
Satd. Flow (perm)		4260			3536			1686			1423		
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Adj. Flow (vph)	35	615	45	126	535	18	22	153	127	58	184	33	
RTOR Reduction (vph)	0	6	0	0	3	0	0	22	0	0	4	0	
Lane Group Flow (vph)	0	689	0	0	676	0	0	280	0	0	271	0	
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		77.0			77.0			35.0			35.0		
Effective Green, g (s)		77.0			77.0			35.0			35.0		
Actuated g/C Ratio		0.64			0.64			0.29			0.29		
Clearance Time (s)		4.0			4.0			4.0			4.0		
Lane Grp Cap (vph)		2733			2268			491			415		
v/s Ratio Prot													
v/s Ratio Perm		0.16			c0.19			0.17			c0.19		
v/c Ratio		0.25			0.30			0.57			0.65		
Uniform Delay, d1		9.2			9.5			36.1			37.2		
Progression Factor		1.00			2.48			1.00			1.00		
Incremental Delay, d2		0.2			0.3			4.7			7.8		
Delay (s)		9.4			23.9			40.9			44.9		
Level of Service		A			C			D			D		
Approach Delay (s)		9.4			23.9			40.9			44.9		
Approach LOS		A			C			D			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			24.3									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.41										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			66.0%									ICU Level of Service	C
Analysis Period (min)			15										

c Critical Lane Group

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	795	88	115	646	91	39	177	86	213	305	55
Future Volume (vph)	14	795	88	115	646	91	39	177	86	213	305	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.981				0.850		0.977	
Flt Protected	0.950			0.950				0.991		0.950		
Satd. Flow (prot)	1825	4892	0	1706	4781	0	0	1837	1570	1690	1818	0
Flt Permitted	0.341			0.284				0.671		0.521		
Satd. Flow (perm)	655	4892	0	510	4781	0	0	1244	1570	927	1818	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			38				84			8
Link Speed (k/h)		70			70			80				80
Link Distance (m)		1419.4			1263.7			341.6			2496.3	
Travel Time (s)		73.0			65.0			15.4			112.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Adj. Flow (vph)	14	811	90	117	659	93	40	181	88	217	311	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	901	0	117	752	0	0	221	88	217	367	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4			8			2				6
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	23.0	23.0	
Total Split (s)	78.0	78.0		78.0	78.0		42.0	42.0	42.0	42.0	42.0	
Total Split (%)	65.0%	65.0%		65.0%	65.0%		35.0%	35.0%	35.0%	35.0%	35.0%	
Maximum Green (s)	72.0	72.0		72.0	72.0		36.0	36.0	36.0	36.0	36.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		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	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
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)	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)	72.0	72.0		72.0	72.0			36.0	36.0	36.0	36.0	
Actuated g/C Ratio	0.60	0.60		0.60	0.60			0.30	0.30	0.30	0.30	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2026  
AM Peak Hour

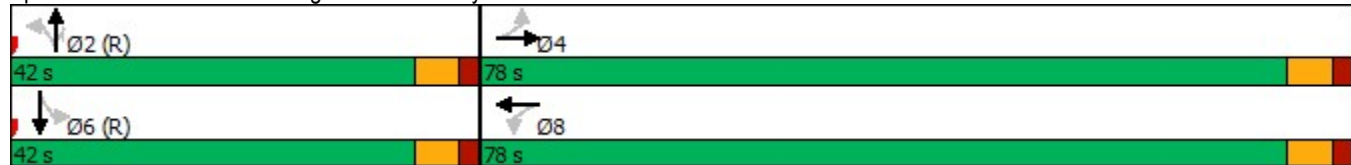


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.04	0.31		0.38	0.26			0.59	0.17	0.78	0.67	
Control Delay	17.5	18.9		17.0	11.0			43.5	8.0	59.1	42.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay	17.5	18.9		17.0	11.0			43.5	8.0	59.1	42.9	
LOS	B	B		B	B			D	A	E	D	
Approach Delay		18.9			11.8			33.4			48.9	
Approach LOS		B			B			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: 50  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 24.8  
 Intersection LOS: C  
 Intersection Capacity Utilization 74.6%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Background 2026  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	14	901	117	752	221	88	217	367
v/c Ratio	0.04	0.31	0.38	0.26	0.59	0.17	0.78	0.67
Control Delay	17.5	18.9	17.0	11.0	43.5	8.0	59.1	42.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	18.9	17.0	11.0	43.5	8.0	59.1	42.9
Queue Length 50th (m)	1.6	44.1	13.5	27.3	44.3	0.7	46.7	73.9
Queue Length 95th (m)	m4.8	55.0	27.6	34.2	71.0	12.4	#86.2	107.3
Internal Link Dist (m)		1395.4		1239.7	317.6			2472.3
Turn Bay Length (m)	30.0		30.0			30.0		
Base Capacity (vph)	393	2946	306	2883	373	529	278	551
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.31	0.38	0.26	0.59	0.17	0.78	0.67


























Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

# HCM Signalized Intersection Capacity Analysis

## 5: McLaughlin Road & Mayfield Road

Future Background 2026  
AM Peak Hour

































													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  			  								
Traffic Volume (vph)	14	795	88	115	646	91	39	177	86	213	305	55	
Future Volume (vph)	14	795	88	115	646	91	39	177	86	213	305	55	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0	6.0		
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00		
Frt	1.00	0.99		1.00	0.98			1.00	0.85	1.00	0.98		
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00		
Satd. Flow (prot)	1825	4892		1706	4783			1837	1570	1690	1819		
Flt Permitted	0.34	1.00		0.28	1.00			0.67	1.00	0.52	1.00		
Satd. Flow (perm)	656	4892		510	4783			1244	1570	927	1819		
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
Adj. Flow (vph)	14	811	90	117	659	93	40	181	88	217	311	56	
RTOR Reduction (vph)	0	11	0	0	15	0	0	0	59	0	6	0	
Lane Group Flow (vph)	14	890	0	117	737	0	0	221	29	217	361	0	
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		4			8			2		2	6	6	
Permitted Phases	4			8			2		2	6			
Actuated Green, G (s)	72.0	72.0		72.0	72.0			36.0	36.0	36.0	36.0	36.0	
Effective Green, g (s)	72.0	72.0		72.0	72.0			36.0	36.0	36.0	36.0	36.0	
Actuated g/C Ratio	0.60	0.60		0.60	0.60			0.30	0.30	0.30	0.30	0.30	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	393	2935		306	2869			373	471	278	545		
v/s Ratio Prot		0.18			0.15							0.20	
v/s Ratio Perm	0.02			c0.23				0.18	0.02	c0.23			
v/c Ratio	0.04	0.30		0.38	0.26			0.59	0.06	0.78	0.66		
Uniform Delay, d1	9.8	11.7		12.5	11.3			35.8	30.0	38.4	36.7		
Progression Factor	1.72	1.63		1.00	1.00			1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.2	0.3		3.6	0.2			6.8	0.3	19.3	6.2		
Delay (s)	17.1	19.4		16.1	11.6			42.5	30.2	57.7	42.9		
Level of Service	B	B		B	B			D	C	E	D		
Approach Delay (s)		19.4			12.2			39.0			48.4		
Approach LOS		B			B			D			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			25.6									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.52										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	12.0
Intersection Capacity Utilization			74.6%									ICU Level of Service	D
Analysis Period (min)			15										

c Critical Lane Group



Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	220	750	89	188	503	117	73	329	191	239	768	293
Future Volume (vph)	220	750	89	188	503	117	73	329	191	239	768	293
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	1.00		0.98			0.97	0.99		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	4902	1541	3340	4948	1420	1807	3476	1512	1706	3544	1585
Flt Permitted	0.329			0.950			0.253			0.523		
Satd. Flow (perm)	601	4902	1508	3324	4948	1395	481	3476	1467	929	3544	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			95			124			203			312
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			749.9			381.1			609.4	
Travel Time (s)		7.3			38.6			19.6			31.3	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Adj. Flow (vph)	234	798	95	200	535	124	78	350	203	254	817	312
Shared Lane Traffic (%)												
Lane Group Flow (vph)	234	798	95	200	535	124	78	350	203	254	817	312
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	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)	9.0	23.0	23.0	9.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	28.0	58.0	58.0	20.0	50.0	50.0	82.0	82.0	82.0	82.0	82.0	82.0
Total Split (%)	17.5%	36.3%	36.3%	12.5%	31.3%	31.3%	51.3%	51.3%	51.3%	51.3%	51.3%	51.3%
Maximum Green (s)	23.0	51.0	51.0	15.0	43.0	43.0	75.0	75.0	75.0	75.0	75.0	75.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	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	0

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2026  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	73.0	51.0	51.0	15.0	43.0	43.0	75.0	75.0	75.0	75.0	75.0	75.0
Actuated g/C Ratio	0.46	0.32	0.32	0.09	0.27	0.27	0.47	0.47	0.47	0.47	0.47	0.47
v/c Ratio	0.54	0.51	0.17	0.64	0.40	0.27	0.35	0.21	0.26	0.58	0.49	0.35
Control Delay	32.3	45.7	7.4	79.9	49.1	8.3	32.5	25.5	3.7	37.8	30.6	3.4
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	32.3	45.7	7.4	79.9	49.1	8.3	32.5	25.5	3.7	37.8	30.6	3.4
LOS	C	D	A	E	D	A	C	C	A	D	C	A
Approach Delay		39.7			50.4			19.4			25.8	
Approach LOS		D			D			B			C	

Intersection Summary













Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	122 (76%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	34.0
Intersection LOS:	C
Intersection Capacity Utilization	73.8%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

































Future Background 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	234	798	95	200	535	124	78	350	203	254	817	312
v/c Ratio	0.54	0.51	0.17	0.64	0.40	0.27	0.35	0.21	0.26	0.58	0.49	0.35
Control Delay	32.3	45.7	7.4	79.9	49.1	8.3	32.5	25.5	3.7	37.8	30.6	3.4
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	32.3	45.7	7.4	79.9	49.1	8.3	32.5	25.5	3.7	37.8	30.6	3.4
Queue Length 50th (m)	46.3	75.9	0.0	32.1	51.5	0.0	15.6	34.1	0.0	58.3	93.2	0.0
Queue Length 95th (m)	66.6	89.7	13.4	46.0	63.5	16.3	30.4	44.9	14.1	89.5	111.7	16.5
Internal Link Dist (m)		118.1			725.9			357.1			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	437	1562	545	313	1329	465	225	1629	795	435	1661	895
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.51	0.17	0.64	0.40	0.27	0.35	0.21	0.26	0.58	0.49	0.35
Intersection Summary												

# HCM Signalized Intersection Capacity Analysis


















## 6: Hurontario Street & Mayfield Road

Future Background 2026  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		 	  			 		 	 		
Traffic Volume (vph)	220	750	89	188	503	117	73	329	191	239	768	293	
Future Volume (vph)	220	750	89	188	503	117	73	329	191	239	768	293	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1737	4902	1508	3340	4948	1395	1807	3476	1467	1688	3544	1557	
Flt Permitted	0.33	1.00	1.00	0.95	1.00	1.00	0.25	1.00	1.00	0.52	1.00	1.00	
Satd. Flow (perm)	602	4902	1508	3340	4948	1395	482	3476	1467	929	3544	1557	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	234	798	95	200	535	124	78	350	203	254	817	312	
RTOR Reduction (vph)	0	0	65	0	0	91	0	0	108	0	0	166	
Lane Group Flow (vph)	234	798	30	200	535	33	78	350	95	254	817	146	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2	
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	
Protected Phases	7	4		3	8			2			6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	71.0	51.0	51.0	15.0	43.0	43.0	75.0	75.0	75.0	75.0	75.0	75.0	
Effective Green, g (s)	71.0	51.0	51.0	15.0	43.0	43.0	75.0	75.0	75.0	75.0	75.0	75.0	
Actuated g/C Ratio	0.44	0.32	0.32	0.09	0.27	0.27	0.47	0.47	0.47	0.47	0.47	0.47	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Lane Grp Cap (vph)	430	1562	480	313	1329	374	225	1629	687	435	1661	729	
v/s Ratio Prot	c0.08	0.16		c0.06	0.11			0.10			0.23		
v/s Ratio Perm	c0.16		0.02			0.02	0.16		0.06	c0.27		0.09	
v/c Ratio	0.54	0.51	0.06	0.64	0.40	0.09	0.35	0.21	0.14	0.58	0.49	0.20	
Uniform Delay, d1	29.3	44.4	37.9	69.9	48.0	43.8	27.0	25.1	24.1	31.1	29.3	24.9	
Progression 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	
Incremental Delay, d2	4.9	1.2	0.3	9.6	0.9	0.5	4.2	0.3	0.4	5.6	1.0	0.6	
Delay (s)	34.2	45.5	38.1	79.5	48.9	44.3	31.1	25.4	24.6	36.7	30.4	25.5	
Level of Service	C	D	D	E	D	D	C	C	C	D	C	C	
Approach Delay (s)		42.6			55.3			25.8			30.5		
Approach LOS		D			E			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			38.5									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.58										
Actuated Cycle Length (s)			160.0									Sum of lost time (s)	19.0
Intersection Capacity Utilization			73.8%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													


















Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2026  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	185	2	174	275	32	10	229	199	25	154	4
Future Volume (vph)	4	185	2	174	275	32	10	229	199	25	154	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.984			0.939			0.997	
Flt Protected		0.999		0.950				0.999			0.993	
Satd. Flow (prot)	0	1863	0	1825	1849	0	0	1723	0	0	1842	0
Flt Permitted		0.999		0.950				0.999			0.993	
Satd. Flow (perm)	0	1863	0	1825	1849	0	0	1723	0	0	1842	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			342.6	
Travel Time (s)		30.4			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	4	197	2	185	293	34	11	244	212	27	164	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	203	0	185	327	0	0	467	0	0	195	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	62.4%						ICU Level of Service B					
Analysis Period (min)	15											



















HCM Unsignalized Intersection Capacity Analysis  
 1: Chinguacousy Road & Old School Road

Future Background 2026  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	185	2	174	275	32	10	229	199	25	154	4
Future Volume (vph)	4	185	2	174	275	32	10	229	199	25	154	4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	4	197	2	185	293	34	11	244	212	27	164	4
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1							
Volume Total (vph)	203	185	327	467	195							
Volume Left (vph)	4	185	0	11	27							
Volume Right (vph)	2	0	34	212	4							
Hadj (s)	0.05	0.50	-0.03	-0.19	0.07							
Departure Headway (s)	7.6	7.9	7.3	6.5	7.5							
Degree Utilization, x	0.43	0.40	0.66	0.84	0.41							
Capacity (veh/h)	435	438	469	531	433							
Control Delay (s)	16.3	14.9	22.5	35.3	15.6							
Approach Delay (s)	16.3	19.7		35.3	15.6							
Approach LOS	C	C		E	C							
Intersection Summary												
Delay			23.9									
Level of Service			C									
Intersection Capacity Utilization			62.4%		ICU Level of Service				B			
Analysis Period (min)			15									



















Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Background 2026  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	381	22	274	447	23	29	124	280	19	53	6
Future Volume (vph)	9	381	22	274	447	23	29	124	280	19	53	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.993				0.850		0.990	
Flt Protected		0.999		0.950				0.991			0.988	
Satd. Flow (prot)	0	1829	0	1755	1886	0	0	1839	1555	0	1805	0
Flt Permitted		0.999		0.950				0.991			0.988	
Satd. Flow (perm)	0	1829	0	1755	1886	0	0	1839	1555	0	1805	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	10	405	23	291	476	24	31	132	298	20	56	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	438	0	291	500	0	0	163	298	0	82	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	72.5%						ICU Level of Service C					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
 2: McLaughlin Road & Old School Road
























Future Background 2026  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	381	22	274	447	23	29	124	280	19	53	6
Future Volume (vph)	9	381	22	274	447	23	29	124	280	19	53	6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	10	405	23	291	476	24	31	132	298	20	56	6
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1						
Volume Total (vph)	438	291	500	163	298	82						
Volume Left (vph)	10	291	0	31	0	20						
Volume Right (vph)	23	0	24	0	298	6						
Hadj (s)	0.04	0.57	-0.01	0.15	-0.61	0.07						
Departure Headway (s)	7.6	8.1	7.5	8.2	7.4	9.3						
Degree Utilization, x	0.92	0.65	1.04	0.37	0.61	0.21						
Capacity (veh/h)	471	435	486	430	468	367						
Control Delay (s)	51.1	23.7	77.0	14.7	20.3	14.8						
Approach Delay (s)	51.1	57.4		18.3		14.8						
Approach LOS	F	F		C		B						
Intersection Summary												
Delay			43.7									
Level of Service			E									
Intersection Capacity Utilization			72.5%		ICU Level of Service		C					
Analysis Period (min)			15									



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2026  
PM Peak Hour

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	399	176	96	220	232	111	177	2435	259	113	1437	337	
Future Volume (vph)	399	176	96	220	232	111	177	2435	259	113	1437	337	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0	
Storage Lanes	1		0	1		0	1		1	1		1	
Taper Length (m)	2.5			2.5			2.5			2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	
Frt		0.947			0.952				0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1825	1731	0	1789	1817	0	1807	5043	1633	1825	4812	1541	
Flt Permitted	0.148			0.481			0.079			0.089			
Satd. Flow (perm)	284	1731	0	906	1817	0	150	5043	1633	171	4812	1541	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		22			15				160			204	
Link Speed (k/h)		70			70			80			80		
Link Distance (m)		1007.8			572.8			855.3			482.7		
Travel Time (s)		51.8			29.5			38.5			21.7		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%	
Adj. Flow (vph)	411	181	99	227	239	114	182	2510	267	116	1481	347	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	411	280	0	227	353	0	182	2510	267	116	1481	347	
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)		3.7			3.7			3.7			3.7		
Link Offset(m)		0.0			0.0			0.0			0.0		
Crosswalk Width(m)		1.6			1.6			1.6			1.6		
Two way Left Turn Lane								Yes					
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Number of Detectors	1	2		1	2		1	2	1	1	2	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7		
Detector 2 Size(m)		1.8			1.8			1.8			1.8		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0			0.0		
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov	
Protected Phases	7	4		3	8		5	2			6	7	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2026  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	6	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0	29.0	29.0	29.0	10.0
Total Split (s)	23.0	35.0		17.0	29.0		18.0	68.0	68.0	50.0	50.0	23.0
Total Split (%)	19.2%	29.2%		14.2%	24.2%		15.0%	56.7%	56.7%	41.7%	41.7%	19.2%
Maximum Green (s)	19.0	29.0		13.0	23.0		12.0	62.0	62.0	44.0	44.0	19.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	1.0
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)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lead
Lead-Lag Optimize?	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
Recall Mode	None	None		None	None		None	Max	Max	Max	Max	None
Walk Time (s)		5.0			5.0			5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0			11.0			11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0			0			0	0	0	0	
Act Effct Green (s)	48.0	29.5		37.5	23.0		62.0	62.0	62.0	44.8	44.8	69.8
Actuated g/C Ratio	0.40	0.25		0.31	0.19		0.52	0.52	0.52	0.37	0.37	0.58
v/c Ratio	1.15	0.63		0.61	0.98		0.78	0.96	0.29	1.84	0.82	0.35
Control Delay	126.7	44.8		33.5	89.5		48.6	39.2	7.2	456.9	39.0	6.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.7	44.8		33.5	89.5		48.6	39.2	7.2	456.9	39.0	6.2
LOS	F	D		C	F		D	D	A	F	D	A
Approach Delay		93.5			67.6			36.9			58.1	
Approach LOS		F			E			D			E	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Natural Cycle:	90
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.84
Intersection Signal Delay:	52.8
Intersection LOS:	D
Intersection Capacity Utilization:	112.7%
ICU Level of Service:	H
Analysis Period (min):	15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Background 2026  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	411	280	227	353	182	2510	267	116	1481	347
v/c Ratio	1.15	0.63	0.61	0.98	0.78	0.96	0.29	1.84	0.82	0.35
Control Delay	126.7	44.8	33.5	89.5	48.6	39.2	7.2	456.9	39.0	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.7	44.8	33.5	89.5	48.6	39.2	7.2	456.9	39.0	6.2
Queue Length 50th (m)	~96.8	54.9	36.2	80.4	25.9	200.9	12.6	~41.5	115.7	15.0
Queue Length 95th (m)	#158.6	84.3	55.8	#139.9	#59.1	#244.5	27.7	#65.3	135.2	31.7
Internal Link Dist (m)		983.8		548.8		831.3			458.7	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	357	441	382	360	243	2605	921	63	1796	981
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.15	0.63	0.59	0.98	0.75	0.96	0.29	1.84	0.82	0.35

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Background 2026  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	399	176	96	220	232	111	177	2435	259	113	1437	337	
Future Volume (vph)	399	176	96	220	232	111	177	2435	259	113	1437	337	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00	
Frt	1.00	0.95		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1825	1731		1789	1816		1807	5043	1633	1825	4812	1541	
Flt Permitted	0.15	1.00		0.48	1.00		0.08	1.00	1.00	0.09	1.00	1.00	
Satd. Flow (perm)	285	1731		906	1816		150	5043	1633	172	4812	1541	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	411	181	99	227	239	114	182	2510	267	116	1481	347	
RTOR Reduction (vph)	0	17	0	0	12	0	0	0	77	0	0	96	
Lane Group Flow (vph)	411	263	0	227	341	0	182	2510	190	116	1481	251	
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov	
Protected Phases	7	4		3	8		5	2			6	7	
Permitted Phases	4			8			2		2	6		6	
Actuated Green, G (s)	46.0	29.5		35.5	23.0		62.0	62.0	62.0	44.8	44.8	63.8	
Effective Green, g (s)	46.0	29.5		35.5	23.0		62.0	62.0	62.0	44.8	44.8	63.8	
Actuated g/C Ratio	0.38	0.25		0.30	0.19		0.52	0.52	0.52	0.37	0.37	0.53	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	353	425		360	348		232	2605	843	64	1796	819	
v/s Ratio Prot	c0.18	0.15		0.07	0.19		0.07	c0.50			0.31	0.05	
v/s Ratio Perm	c0.26			0.12			0.33		0.12	c0.68		0.11	
v/c Ratio	1.16	0.62		0.63	0.98		0.78	0.96	0.22	1.81	0.82	0.31	
Uniform Delay, d1	34.9	40.3		34.2	48.3		28.0	27.9	15.9	37.6	34.0	15.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	100.5	2.7		3.6	42.2		15.8	11.0	0.6	420.2	4.5	0.2	
Delay (s)	135.4	43.0		37.7	90.5		43.8	38.9	16.5	457.8	38.5	15.9	
Level of Service	F	D		D	F		D	D	B	F	D	B	
Approach Delay (s)		97.9			69.8			37.1			59.5		
Approach LOS		F			E			D			E		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			54.1									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			1.50										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	22.0
Intersection Capacity Utilization			112.7%									ICU Level of Service	H
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2026  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕			↕↕↕			↕			↕	
Traffic Volume (vph)	36	636	46	165	601	46	31	207	135	26	139	25
Future Volume (vph)	36	636	46	165	601	46	31	207	135	26	139	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.990			0.991			0.951			0.982	
Flt Protected		0.998			0.990			0.996			0.993	
Satd. Flow (prot)	0	5041	0	0	5034	0	0	1778	0	0	1832	0
Flt Permitted		0.849			0.676			0.962			0.918	
Satd. Flow (perm)	0	4289	0	0	3437	0	0	1717	0	0	1694	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			10			31			8	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		488.4			1419.4			405.8			2784.8	
Travel Time (s)		25.1			73.0			18.3			125.3	
Confl. Peds. (#/hr)							1					1
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
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Adj. Flow (vph)	39	691	50	179	653	50	34	225	147	28	151	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	780	0	0	882	0	0	406	0	0	206	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	61.0	61.0		61.0	61.0		59.0	59.0		59.0	59.0	
Total Split (%)	50.8%	50.8%		50.8%	50.8%		49.2%	49.2%		49.2%	49.2%	
Maximum Green (s)	57.0	57.0		57.0	57.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		57.0			57.0			55.0			55.0	
Actuated g/C Ratio		0.48			0.48			0.46			0.46	
v/c Ratio		0.38			0.54			0.51			0.26	

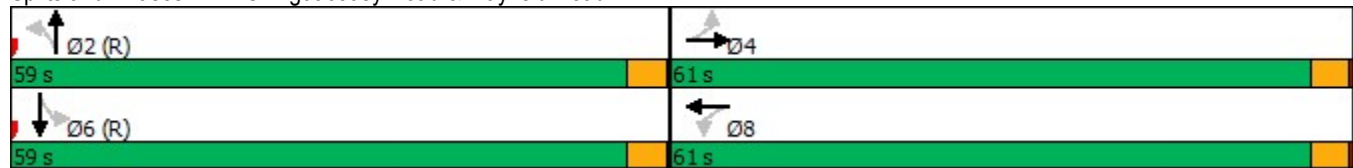
Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2026  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		20.5			44.8			23.7			20.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		20.5			44.8			23.7			20.3	
LOS		C			D			C			C	
Approach Delay		20.5			44.8			23.7			20.3	
Approach LOS		C			D			C			C	

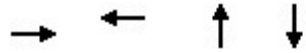
Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	40
Control Type:	Pretimed
Maximum v/c Ratio:	0.54
Intersection Signal Delay:	30.5
Intersection LOS:	C
Intersection Capacity Utilization	64.8%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Background 2026  
PM Peak Hour



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	780	882	406	206
v/c Ratio	0.38	0.54	0.51	0.26
Control Delay	20.5	44.8	23.7	20.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	20.5	44.8	23.7	20.3
Queue Length 50th (m)	41.3	73.8	60.7	28.0
Queue Length 95th (m)	51.5	87.8	89.2	44.5
Internal Link Dist (m)	464.4	1395.4	381.8	2760.8
Turn Bay Length (m)				
Base Capacity (vph)	2043	1637	803	780
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.38	0.54	0.51	0.26
<b>Intersection Summary</b>				

# HCM Signalized Intersection Capacity Analysis

## 4: Chinguacousy Road & Mayfield Road

Future Background 2026  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔↔↔			↔↔↔			↔			↔		
Traffic Volume (vph)	36	636	46	165	601	46	31	207	135	26	139	25	
Future Volume (vph)	36	636	46	165	601	46	31	207	135	26	139	25	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0			4.0			4.0			4.0		
Lane Util. Factor		0.91			0.91			1.00			1.00		
Frbp, ped/bikes		1.00			1.00			1.00			1.00		
Flpb, ped/bikes		1.00			1.00			1.00			1.00		
Frt		0.99			0.99			0.95			0.98		
Flt Protected		1.00			0.99			1.00			0.99		
Satd. Flow (prot)		5041			5036			1777			1833		
Flt Permitted		0.85			0.68			0.96			0.92		
Satd. Flow (perm)		4288			3438			1717			1694		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	39	691	50	179	653	50	34	225	147	28	151	27	
RTOR Reduction (vph)	0	6	0	0	5	0	0	17	0	0	4	0	
Lane Group Flow (vph)	0	774	0	0	877	0	0	389	0	0	202	0	
Confl. Peds. (#/hr)							1					1	
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		57.0			57.0			55.0			55.0		
Effective Green, g (s)		57.0			57.0			55.0			55.0		
Actuated g/C Ratio		0.48			0.48			0.46			0.46		
Clearance Time (s)		4.0			4.0			4.0			4.0		
Lane Grp Cap (vph)		2036			1633			786			776		
v/s Ratio Prot													
v/s Ratio Perm		0.18			c0.26			c0.23			0.12		
v/c Ratio		0.38			0.54			0.50			0.26		
Uniform Delay, d1		20.2			22.2			22.8			20.0		
Progression Factor		1.00			1.97			1.00			1.00		
Incremental Delay, d2		0.5			1.1			2.2			0.8		
Delay (s)		20.7			44.8			25.0			20.8		
Level of Service		C			D			C			C		
Approach Delay (s)		20.7			44.8			25.0			20.8		
Approach LOS		C			D			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			30.8									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.52										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			64.8%									ICU Level of Service	C
Analysis Period (min)			15										
c	Critical Lane Group												



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2026  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	762	56	102	879	190	92	315	104	158	192	57
Future Volume (vph)	34	762	56	102	879	190	92	315	104	158	192	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.973				0.850		0.966	
Flt Protected	0.950			0.950				0.989		0.950		
Satd. Flow (prot)	1738	5041	0	1755	4902	0	0	1885	1585	1738	1794	0
Flt Permitted	0.173			0.264				0.852		0.301		
Satd. Flow (perm)	317	5041	0	488	4902	0	0	1624	1585	551	1794	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			48				64			17
Link Speed (k/h)		70			70			80				80
Link Distance (m)		1419.4			1263.7			341.6			2496.3	
Travel Time (s)		73.0			65.0			15.4			112.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	35	794	58	106	916	198	96	328	108	165	200	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	852	0	106	1114	0	0	424	108	165	259	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	8.0	22.0	
Total Split (s)	56.0	56.0		56.0	56.0		52.0	52.0	52.0	12.0	64.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		43.3%	43.3%	43.3%	10.0%	53.3%	
Maximum Green (s)	50.0	50.0		50.0	50.0		46.0	46.0	46.0	8.0	58.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.5	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	0.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	4.0	6.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0		5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)	50.0	50.0		50.0	50.0			46.0	46.0	60.0	58.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42			0.38	0.38	0.50	0.48	

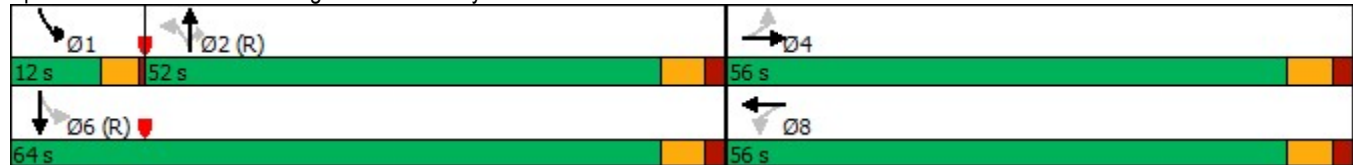
Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2026  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.27	0.40		0.52	0.54			0.68	0.17	0.47	0.30	
Control Delay	32.8	28.1		37.4	26.2			37.6	11.7	21.3	18.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay	32.8	28.1		37.4	26.2			37.6	11.7	21.3	18.5	
LOS	C	C		D	C			D	B	C	B	
Approach Delay		28.3			27.2			32.4			19.6	
Approach LOS		C			C			C			B	

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:	55
Control Type:	Pretimed
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	27.4
Intersection LOS:	C
Intersection Capacity Utilization	79.8%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Background 2026  
PM Peak Hour




























Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	35	852	106	1114	424	108	165	259
v/c Ratio	0.27	0.40	0.52	0.54	0.68	0.17	0.47	0.30
Control Delay	32.8	28.1	37.4	26.2	37.6	11.7	21.3	18.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.8	28.1	37.4	26.2	37.6	11.7	21.3	18.5
Queue Length 50th (m)	6.6	62.1	18.3	67.9	82.4	6.5	20.8	33.2
Queue Length 95th (m)	m16.5	75.4	38.2	81.6	119.1	18.3	33.8	51.2
Internal Link Dist (m)		1395.4		1239.7	317.6			2472.3
Turn Bay Length (m)	30.0		30.0			30.0		
Base Capacity (vph)	132	2107	203	2070	622	647	354	875
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.40	0.52	0.54	0.68	0.17	0.47	0.30

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

































Future Background 2026  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	34	762	56	102	879	190	92	315	104	158	192	57
Future Volume (vph)	34	762	56	102	879	190	92	315	104	158	192	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0	4.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.97			1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00	
Satd. Flow (prot)	1738	5040		1755	4903			1885	1585	1738	1793	
Flt Permitted	0.17	1.00		0.26	1.00			0.85	1.00	0.30	1.00	
Satd. Flow (perm)	316	5040		488	4903			1623	1585	550	1793	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	35	794	58	106	916	198	96	328	108	165	200	59
RTOR Reduction (vph)	0	7	0	0	28	0	0	0	39	0	9	0
Lane Group Flow (vph)	35	845	0	106	1086	0	0	424	69	165	250	0
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	50.0	50.0		50.0	50.0			46.0	46.0	58.0	58.0	
Effective Green, g (s)	50.0	50.0		50.0	50.0			46.0	46.0	58.0	58.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42			0.38	0.38	0.48	0.48	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	4.0	6.0	
Lane Grp Cap (vph)	131	2100		203	2042			622	607	345	866	
v/s Ratio Prot		0.17			c0.22					c0.03	0.14	
v/s Ratio Perm	0.11			0.22				c0.26	0.04	0.20		
v/c Ratio	0.27	0.40		0.52	0.53			0.68	0.11	0.48	0.29	
Uniform Delay, d1	23.0	24.5		26.1	26.2			30.9	23.8	19.9	18.6	
Progression Factor	1.13	1.14		1.00	1.00			1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.6	0.5		9.3	1.0			5.9	0.4	4.7	0.8	
Delay (s)	30.7	28.4		35.4	27.2			36.8	24.2	24.6	19.5	
Level of Service	C	C		D	C			D	C	C	B	
Approach Delay (s)		28.5			27.9			34.3			21.4	
Approach LOS		C			C			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			28.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				16.0		
Intersection Capacity Utilization			79.8%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2026  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	474	535	86	250	670	120	154	606	239	183	700	672
Future Volume (vph)	474	535	86	250	670	120	154	606	239	183	700	672
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.96	0.98		0.99	1.00		0.96			0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	4995	1601	3404	5092	1585	1789	3614	1555	1825	3510	1585
Fl <sub>t</sub> Permitted	0.160			0.950			0.349			0.284		
Satd. Flow (perm)	296	4995	1538	3331	5092	1562	656	3614	1486	546	3510	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			145			246			680
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			749.9			381.1			609.4	
Travel Time (s)		7.3			38.6			19.6			31.3	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Adj. Flow (vph)	489	552	89	258	691	124	159	625	246	189	722	693
Shared Lane Traffic (%)												
Lane Group Flow (vph)	489	552	89	258	691	124	159	625	246	189	722	693
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	43.0	49.0	49.0	21.0	27.0	27.0	55.0	55.0	55.0	10.0	65.0	65.0
Total Split (%)	31.9%	36.3%	36.3%	15.6%	20.0%	20.0%	40.7%	40.7%	40.7%	7.4%	48.1%	48.1%
Maximum Green (s)	38.0	42.0	42.0	16.0	20.0	20.0	48.0	48.0	48.0	6.0	58.0	58.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	1.0	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
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)		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

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

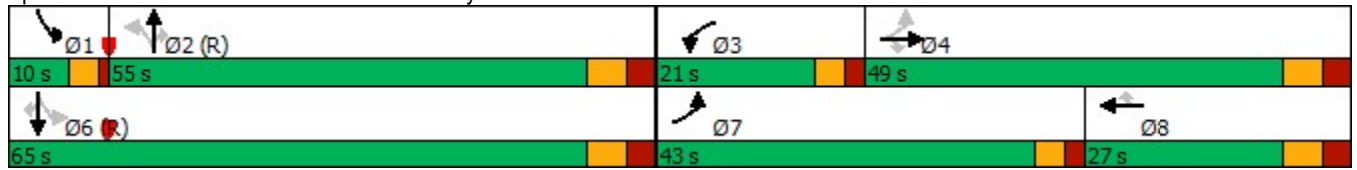
Future Background 2026  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	65.0	42.0	42.0	16.0	20.0	20.0	48.0	48.0	48.0	61.0	58.0	58.0
Actuated g/C Ratio	0.48	0.31	0.31	0.12	0.15	0.15	0.36	0.36	0.36	0.45	0.43	0.43
v/c Ratio	0.88	0.36	0.16	0.64	0.92	0.35	0.68	0.49	0.36	0.62	0.48	0.66
Control Delay	53.0	36.8	4.8	64.7	74.4	7.8	53.9	35.5	5.1	34.5	29.0	5.4
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	53.0	36.8	4.8	64.7	74.4	7.8	53.9	35.5	5.1	34.5	29.0	5.4
LOS	D	D	A	E	E	A	D	D	A	C	C	A
Approach Delay		41.3			64.4			31.1			19.4	
Approach LOS		D			E			C			B	

Intersection Summary

Area Type:	Other
Cycle Length:	135
Actuated Cycle Length:	135
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	90
Control Type:	Pretimed
Maximum v/c Ratio:	0.92
Intersection Signal Delay:	37.0
Intersection LOS:	D
Intersection Capacity Utilization	89.1%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Background 2026  
PM Peak Hour




































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	489	552	89	258	691	124	159	625	246	189	722	693
v/c Ratio	0.88	0.36	0.16	0.64	0.92	0.35	0.68	0.49	0.36	0.62	0.48	0.66
Control Delay	53.0	36.8	4.8	64.7	74.4	7.8	53.9	35.5	5.1	34.5	29.0	5.4
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	53.0	36.8	4.8	64.7	74.4	7.8	53.9	35.5	5.1	34.5	29.0	5.4
Queue Length 50th (m)	106.9	41.7	0.0	34.3	67.3	0.0	35.9	68.0	0.0	30.3	71.7	2.0
Queue Length 95th (m)	#167.5	52.7	8.9	48.7	#90.3	12.4	#67.7	85.5	17.4	46.5	89.1	28.0
Internal Link Dist (m)		118.1			725.9			357.1			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	553	1554	550	403	754	354	233	1284	686	303	1508	1055
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.36	0.16	0.64	0.92	0.35	0.68	0.49	0.36	0.62	0.48	0.66

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road


















Future Background 2026  
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		  	  			 		 	 		
Traffic Volume (vph)	474	535	86	250	670	120	154	606	239	183	700	672	
Future Volume (vph)	474	535	86	250	670	120	154	606	239	183	700	672	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1755	4995	1538	3404	5092	1562	1785	3614	1486	1825	3510	1555	
Flt Permitted	0.16	1.00	1.00	0.95	1.00	1.00	0.35	1.00	1.00	0.28	1.00	1.00	
Satd. Flow (perm)	296	4995	1538	3404	5092	1562	655	3614	1486	545	3510	1555	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	489	552	89	258	691	124	159	625	246	189	722	693	
RTOR Reduction (vph)	0	0	61	0	0	106	0	0	159	0	0	388	
Lane Group Flow (vph)	489	552	28	258	691	18	159	625	87	189	722	305	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3	
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8			2		1	6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	63.0	42.0	42.0	16.0	20.0	20.0	48.0	48.0	48.0	58.0	58.0	58.0	
Effective Green, g (s)	63.0	42.0	42.0	16.0	20.0	20.0	48.0	48.0	48.0	58.0	58.0	58.0	
Actuated g/C Ratio	0.47	0.31	0.31	0.12	0.15	0.15	0.36	0.36	0.36	0.43	0.43	0.43	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Grp Cap (vph)	548	1554	478	403	754	231	232	1284	528	291	1508	668	
v/s Ratio Prot	c0.25	0.11		0.08	0.14			0.17		c0.03	0.21		
v/s Ratio Perm	c0.17		0.02			0.01	0.24		0.06	c0.25		0.20	
v/c Ratio	0.89	0.36	0.06	0.64	0.92	0.08	0.69	0.49	0.17	0.65	0.48	0.46	
Uniform Delay, d1	35.9	36.0	32.6	56.8	56.7	49.6	37.1	33.9	29.8	30.3	27.6	27.3	
Progression 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	
Incremental Delay, d2	19.4	0.6	0.2	7.6	17.8	0.7	15.3	1.3	0.7	10.7	1.1	2.2	
Delay (s)	55.4	36.6	32.9	64.3	74.5	50.2	52.3	35.2	30.5	41.0	28.7	29.6	
Level of Service	E	D	C	E	E	D	D	D	C	D	C	C	
Approach Delay (s)		44.4			69.2			36.7			30.5		
Approach LOS		D			E			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			43.7		HCM 2000 Level of Service						D		
HCM 2000 Volume to Capacity ratio			0.81										
Actuated Cycle Length (s)			135.0		Sum of lost time (s)						23.0		
Intersection Capacity Utilization			89.1%		ICU Level of Service						E		
Analysis Period (min)			15										
c Critical Lane Group													




















Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Total 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	213	3	86	137	33	2	141	177	22	146	8
Future Volume (vph)	2	213	3	86	137	33	2	141	177	22	146	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.971			0.925				0.994
Flt Protected				0.950								0.994
Satd. Flow (prot)	0	1917	0	1772	1802	0	0	1711	0	0	1786	0
Flt Permitted				0.950								0.994
Satd. Flow (perm)	0	1917	0	1772	1802	0	0	1711	0	0	1786	0
Link Speed (k/h)		70			70			80				80
Link Distance (m)		590.7			490.2			298.8				342.6
Travel Time (s)		30.4			25.2			13.4				15.4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Adj. Flow (vph)	2	227	3	91	146	35	2	150	188	23	155	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	232	0	91	181	0	0	340	0	0	187	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)		3.7			3.7			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop				Stop
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	54.9%						ICU Level of Service A					
Analysis Period (min)	15											



















HCM Unsignalized Intersection Capacity Analysis  
 1: Chinguacousy Road & Old School Road

Future Total 2026  
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	213	3	86	137	33	2	141	177	22	146	8
Future Volume (vph)	2	213	3	86	137	33	2	141	177	22	146	8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	2	227	3	91	146	35	2	150	188	23	155	9
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1							
Volume Total (vph)	232	91	181	340	187							
Volume Left (vph)	2	91	0	2	23							
Volume Right (vph)	3	0	35	188	9							
Hadj (s)	-0.01	0.55	-0.08	-0.26	0.10							
Departure Headway (s)	6.1	7.0	6.4	5.5	6.2							
Degree Utilization, x	0.39	0.18	0.32	0.52	0.32							
Capacity (veh/h)	537	472	508	607	525							
Control Delay (s)	13.0	10.3	11.2	14.4	12.0							
Approach Delay (s)	13.0	10.9		14.4	12.0							
Approach LOS	B	B		B	B							
Intersection Summary												
Delay			12.7									
Level of Service			B									
Intersection Capacity Utilization			54.9%		ICU Level of Service		A					
Analysis Period (min)			15									



















Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Total 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	384	26	157	219	21	36	62	270	34	113	10
Future Volume (vph)	6	384	26	157	219	21	36	62	270	34	113	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.987				0.850		0.991	
Flt Protected		0.999		0.950				0.982			0.989	
Satd. Flow (prot)	0	1868	0	1789	1830	0	0	1863	1617	0	1859	0
Flt Permitted		0.999		0.950				0.982			0.989	
Satd. Flow (perm)	0	1868	0	1789	1830	0	0	1863	1617	0	1859	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Adj. Flow (vph)	6	409	28	167	233	22	38	66	287	36	120	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	443	0	167	255	0	0	104	287	0	167	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	60.0%						ICU Level of Service B					
Analysis Period (min)	15											
























HCM Unsignalized Intersection Capacity Analysis  
 2: McLaughlin Road & Old School Road

Future Total 2026  
 AM Peak Hour

												
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	384	26	157	219	21	36	62	270	34	113	10
Future Volume (vph)	6	384	26	157	219	21	36	62	270	34	113	10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	6	409	28	167	233	22	38	66	287	36	120	11
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1						
Volume Total (vph)	443	167	255	104	287	167						
Volume Left (vph)	6	167	0	38	0	36						
Volume Right (vph)	28	0	22	0	287	11						
Hadj (s)	0.00	0.53	0.00	0.20	-0.68	0.03						
Departure Headway (s)	7.5	8.2	7.7	8.2	7.3	8.7						
Degree Utilization, x	0.92	0.38	0.54	0.24	0.58	0.40						
Capacity (veh/h)	466	409	441	428	473	399						
Control Delay (s)	50.6	15.0	18.3	12.5	18.7	17.4						
Approach Delay (s)	50.6	17.0		17.0		17.4						
Approach LOS	F	C		C		C						
Intersection Summary												
Delay			27.5									
Level of Service			D									
Intersection Capacity Utilization			60.0%		ICU Level of Service				B			
Analysis Period (min)			15									

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2026  
AM Peak Hour

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	334	189	158	206	145	101	53	1396	117	56	2054	185	
Future Volume (vph)	334	189	158	206	145	101	53	1396	117	56	2054	185	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0	
Storage Lanes	1		0	1		0	1		1	1		1	
Taper Length (m)	2.5			2.5			2.5			2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	
Frt		0.932			0.938				0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1755	1745	0	1722	1730	0	1722	4445	1471	1615	5043	1633	
Flt Permitted	0.526			0.394			0.067			0.112			
Satd. Flow (perm)	972	1745	0	714	1730	0	121	4445	1471	190	5043	1633	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		2			18				122			131	
Link Speed (k/h)		70			70			80			80		
Link Distance (m)		1007.8			552.5			855.3			758.5		
Travel Time (s)		51.8			28.4			38.5			34.1		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%	
Adj. Flow (vph)	359	203	170	222	156	109	57	1501	126	60	2209	199	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	359	373	0	222	265	0	57	1501	126	60	2209	199	
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)		3.7			3.7			3.7			3.7		
Link Offset(m)		0.0			0.0			0.0			0.0		
Crosswalk Width(m)		1.6			1.6			1.6			1.6		
Two way Left Turn Lane								Yes					
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Number of Detectors	1	2		1	2		1	2	1	1	2	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7		
Detector 2 Size(m)		1.8			1.8			1.8			1.8		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
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	Perm	
Protected Phases		4			8			2			6		

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2026  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	24.0	24.0		24.0	24.0		29.0	29.0	29.0	29.0	29.0	29.0
Total Split (s)	52.0	52.0		52.0	52.0		68.0	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%	56.7%
Maximum Green (s)	44.0	44.0		44.0	44.0		60.0	60.0	60.0	60.0	60.0	60.0
Yellow Time (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	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	0.0
Total Lost Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
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	3.0
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	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	0
Act Effct Green (s)	44.0	44.0		44.0	44.0		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.37	0.37		0.37	0.37		0.50	0.50	0.50	0.50	0.50	0.50
v/c Ratio	1.01	0.58		0.85	0.41		0.95	0.68	0.16	0.63	0.88	0.23
Control Delay	88.6	34.9		64.6	28.7		138.1	24.6	3.5	55.4	31.7	6.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.6	34.9		64.6	28.7		138.1	24.6	3.5	55.4	31.7	6.7
LOS	F	C		E	C		F	C	A	E	C	A
Approach Delay		61.2			45.0			26.8			30.3	
Approach LOS		E			D			C			C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Natural Cycle:	80
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.01
Intersection Signal Delay:	34.8
Intersection LOS:	C
Intersection Capacity Utilization:	98.8%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Total 2026  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	359	373	222	265	57	1501	126	60	2209	199
v/c Ratio	1.01	0.58	0.85	0.41	0.95	0.68	0.16	0.63	0.88	0.23
Control Delay	88.6	34.9	64.6	28.7	138.1	24.6	3.5	55.4	31.7	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.6	34.9	64.6	28.7	138.1	24.6	3.5	55.4	31.7	6.7
Queue Length 50th (m)	~85.2	69.7	47.6	42.9	12.3	94.6	0.5	10.0	164.2	8.1
Queue Length 95th (m)	#146.4	100.9	#92.7	66.2	#40.6	111.1	9.9	#34.1	186.5	20.5
Internal Link Dist (m)		983.8		528.5		831.3			734.5	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	356	641	261	645	60	2222	796	95	2521	882
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.58	0.85	0.41	0.95	0.68	0.16	0.63	0.88	0.23

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.























Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

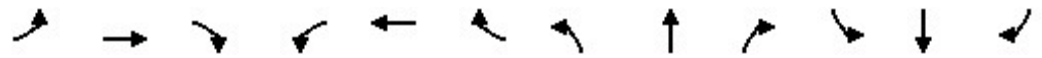
Future Total 2026  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	334	189	158	206	145	101	53	1396	117	56	2054	185
Future Volume (vph)	334	189	158	206	145	101	53	1396	117	56	2054	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	1744		1722	1730		1722	4445	1471	1615	5043	1633
Flt Permitted	0.53	1.00		0.39	1.00		0.07	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	972	1744		714	1730		121	4445	1471	191	5043	1633
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	359	203	170	222	156	109	57	1501	126	60	2209	199
RTOR Reduction (vph)	0	1	0	0	11	0	0	0	61	0	0	66
Lane Group Flow (vph)	359	372	0	222	254	0	57	1501	65	60	2209	134
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2		2	6	6
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	44.0	44.0		44.0	44.0		60.0	60.0	60.0	60.0	60.0	60.0
Effective Green, g (s)	44.0	44.0		44.0	44.0		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.37	0.37		0.37	0.37		0.50	0.50	0.50	0.50	0.50	0.50
Clearance Time (s)	8.0	8.0		8.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	356	639		261	634		60	2222	735	95	2521	816
v/s Ratio Prot		0.21			0.15			0.34			0.44	
v/s Ratio Perm	c0.37			0.31			c0.47		0.04	0.31		0.08
v/c Ratio	1.01	0.58		0.85	0.40		0.95	0.68	0.09	0.63	0.88	0.16
Uniform Delay, d1	38.0	30.6		35.0	28.2		28.6	22.7	15.7	21.9	26.7	16.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	49.8	1.4		22.4	0.4		102.6	1.7	0.2	27.8	4.7	0.4
Delay (s)	87.8	31.9		57.4	28.6		131.1	24.3	15.9	49.7	31.4	16.8
Level of Service	F	C		E	C		F	C	B	D	C	B
Approach Delay (s)		59.4			41.7			27.3			30.6	
Approach LOS		E			D			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			34.5									C
HCM 2000 Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			120.0								16.0	
Intersection Capacity Utilization			98.8%									F
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2026  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕			↕↕↕			↕			↕	
Traffic Volume (vph)	35	609	45	139	530	18	22	151	133	57	182	33
Future Volume (vph)	35	609	45	139	530	18	22	151	133	57	182	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.990			0.996			0.941			0.984	
Fl <sub>t</sub> Protected		0.997			0.990			0.996			0.990	
Satd. Flow (prot)	0	4860	0	0	4864	0	0	1733	0	0	1786	0
Fl <sub>t</sub> Permitted		0.872			0.706			0.968			0.782	
Satd. Flow (perm)	0	4251	0	0	3469	0	0	1684	0	0	1411	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			6			32			6	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		919.1			1419.4			559.1			2784.8	
Travel Time (s)		47.3			73.0			25.2			125.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Adj. Flow (vph)	35	615	45	140	535	18	22	153	134	58	184	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	695	0	0	693	0	0	309	0	0	275	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	81.0	81.0		81.0	81.0		39.0	39.0		39.0	39.0	
Total Split (%)	67.5%	67.5%		67.5%	67.5%		32.5%	32.5%		32.5%	32.5%	
Maximum Green (s)	77.0	77.0		77.0	77.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		77.0			77.0			35.0			35.0	
Actuated g/C Ratio		0.64			0.64			0.29			0.29	
v/c Ratio		0.25			0.31			0.60			0.66	
Control Delay		9.2			23.7			38.3			45.4	
Queue Delay		0.0			0.0			0.0			0.0	

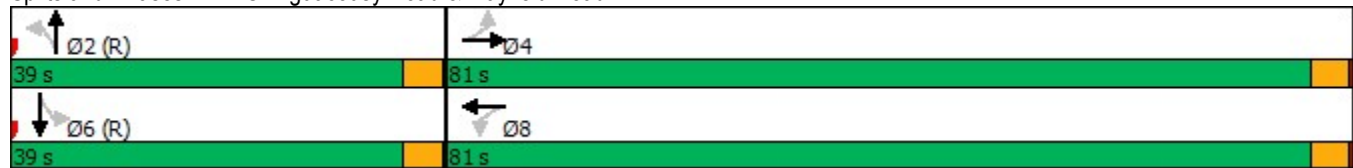
Lanes, Volumes, Timings  
 4: Chinguacousy Road & Mayfield Road

Future Total 2026  
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		9.2			23.7			38.3			45.4	
LOS		A			C			D			D	
Approach Delay		9.2			23.7			38.3			45.4	
Approach LOS		A			C			D			D	

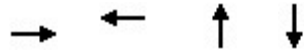
Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	40
Control Type:	Pretimed
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	23.9
Intersection LOS:	C
Intersection Capacity Utilization	66.6%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

























Future Total 2026  
AM Peak Hour



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	695	693	309	275
v/c Ratio	0.25	0.31	0.60	0.66
Control Delay	9.2	23.7	38.3	45.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	9.2	23.7	38.3	45.4
Queue Length 50th (m)	23.0	42.9	56.2	55.7
Queue Length 95th (m)	29.1	55.2	85.6	85.9
Internal Link Dist (m)	895.1	1395.4	535.1	2760.8
Turn Bay Length (m)				
Base Capacity (vph)	2734	2228	513	415
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.31	0.60	0.66
Intersection Summary				

HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road





















Future Total 2026  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  			  			  				  	
Traffic Volume (vph)	35	609	45	139	530	18	22	151	133	57	182	33	
Future Volume (vph)	35	609	45	139	530	18	22	151	133	57	182	33	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0			4.0			4.0			4.0		
Lane Util. Factor		0.91			0.91			1.00			1.00		
Frt		0.99			1.00			0.94			0.98		
Flt Protected		1.00			0.99			1.00			0.99		
Satd. Flow (prot)		4864			4864			1734			1785		
Flt Permitted		0.87			0.71			0.97			0.78		
Satd. Flow (perm)		4253			3470			1685			1411		
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Adj. Flow (vph)	35	615	45	140	535	18	22	153	134	58	184	33	
RTOR Reduction (vph)	0	6	0	0	2	0	0	23	0	0	4	0	
Lane Group Flow (vph)	0	689	0	0	691	0	0	286	0	0	271	0	
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		77.0			77.0			35.0			35.0		
Effective Green, g (s)		77.0			77.0			35.0			35.0		
Actuated g/C Ratio		0.64			0.64			0.29			0.29		
Clearance Time (s)		4.0			4.0			4.0			4.0		
Lane Grp Cap (vph)		2729			2226			491			411		
v/s Ratio Prot													
v/s Ratio Perm		0.16			c0.20			0.17			c0.19		
v/c Ratio		0.25			0.31			0.58			0.66		
Uniform Delay, d1		9.2			9.6			36.3			37.3		
Progression Factor		1.00			2.43			1.00			1.00		
Incremental Delay, d2		0.2			0.3			5.0			8.0		
Delay (s)		9.4			23.7			41.3			45.3		
Level of Service		A			C			D			D		
Approach Delay (s)		9.4			23.7			41.3			45.3		
Approach LOS		A			C			D			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			24.4									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.42										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			66.6%									ICU Level of Service	C
Analysis Period (min)			15										

c Critical Lane Group

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Total 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	795	88	115	646	91	39	184	86	213	319	69
Future Volume (vph)	21	795	88	115	646	91	39	184	86	213	319	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.981				0.850		0.973	
Flt Protected	0.950			0.950				0.991		0.950		
Satd. Flow (prot)	1825	4892	0	1706	4781	0	0	1838	1570	1690	1808	0
Flt Permitted	0.341			0.284				0.618		0.510		
Satd. Flow (perm)	655	4892	0	510	4781	0	0	1146	1570	907	1808	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			38				82			9
Link Speed (k/h)		70			70			80				80
Link Distance (m)		1419.4			1263.7			341.6			2496.3	
Travel Time (s)		73.0			65.0			15.4			112.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Adj. Flow (vph)	21	811	90	117	659	93	40	188	88	217	326	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	901	0	117	752	0	0	228	88	217	396	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4			8			2				6
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	23.0	23.0	
Total Split (s)	78.0	78.0		78.0	78.0		42.0	42.0	42.0	42.0	42.0	
Total Split (%)	65.0%	65.0%		65.0%	65.0%		35.0%	35.0%	35.0%	35.0%	35.0%	
Maximum Green (s)	72.0	72.0		72.0	72.0		36.0	36.0	36.0	36.0	36.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		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	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
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)	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)	72.0	72.0		72.0	72.0			36.0	36.0	36.0	36.0	
Actuated g/C Ratio	0.60	0.60		0.60	0.60			0.30	0.30	0.30	0.30	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Total 2026  
AM Peak Hour

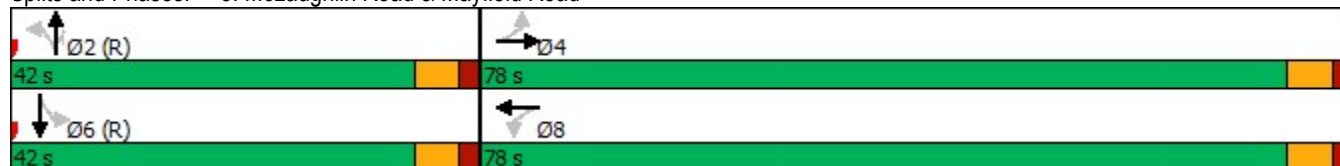


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.05	0.31		0.38	0.26			0.66	0.17	0.80	0.72	
Control Delay	17.3	18.8		17.0	11.0			47.6	8.4	61.3	45.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay	17.3	18.8		17.0	11.0			47.6	8.4	61.3	45.4	
LOS	B	B		B	B			D	A	E	D	
Approach Delay		18.7			11.8			36.7			51.0	
Approach LOS		B			B			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:	50
Control Type:	Pretimed
Maximum v/c Ratio:	0.80
Intersection Signal Delay:	25.9
Intersection LOS:	C
Intersection Capacity Utilization	76.5%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Total 2026  
AM Peak Hour




























Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	21	901	117	752	228	88	217	396
v/c Ratio	0.05	0.31	0.38	0.26	0.66	0.17	0.80	0.72
Control Delay	17.3	18.8	17.0	11.0	47.6	8.4	61.3	45.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	18.8	17.0	11.0	47.6	8.4	61.3	45.4
Queue Length 50th (m)	2.5	43.8	13.5	27.3	46.9	1.0	47.0	81.5
Queue Length 95th (m)	m6.5	54.5	27.6	34.2	75.7	12.8	#87.7	117.3
Internal Link Dist (m)		1395.4		1239.7	317.6			2472.3
Turn Bay Length (m)	30.0		30.0			30.0		
Base Capacity (vph)	393	2946	306	2883	343	528	272	548
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.31	0.38	0.26	0.66	0.17	0.80	0.72

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Future Total 2026  
AM Peak Hour


































													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  			  								
Traffic Volume (vph)	21	795	88	115	646	91	39	184	86	213	319	69	
Future Volume (vph)	21	795	88	115	646	91	39	184	86	213	319	69	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0	6.0		
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00		
Frt	1.00	0.99		1.00	0.98			1.00	0.85	1.00	0.97		
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00		
Satd. Flow (prot)	1825	4892		1706	4783			1839	1570	1690	1808		
Flt Permitted	0.34	1.00		0.28	1.00			0.62	1.00	0.51	1.00		
Satd. Flow (perm)	656	4892		510	4783			1146	1570	908	1808		
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
Adj. Flow (vph)	21	811	90	117	659	93	40	188	88	217	326	70	
RTOR Reduction (vph)	0	11	0	0	15	0	0	0	57	0	6	0	
Lane Group Flow (vph)	21	890	0	117	737	0	0	228	31	217	390	0	
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2		2	6			
Actuated Green, G (s)	72.0	72.0		72.0	72.0			36.0	36.0	36.0	36.0		
Effective Green, g (s)	72.0	72.0		72.0	72.0			36.0	36.0	36.0	36.0		
Actuated g/C Ratio	0.60	0.60		0.60	0.60			0.30	0.30	0.30	0.30		
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	6.0	6.0		
Lane Grp Cap (vph)	393	2935		306	2869			343	471	272	542		
v/s Ratio Prot		0.18			0.15						0.22		
v/s Ratio Perm	0.03			c0.23				0.20	0.02	c0.24			
v/c Ratio	0.05	0.30		0.38	0.26			0.66	0.06	0.80	0.72		
Uniform Delay, d1	9.9	11.7		12.5	11.3			36.7	30.0	38.7	37.5		
Progression Factor	1.67	1.62		1.00	1.00			1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.3	0.3		3.6	0.2			9.8	0.3	21.2	8.0		
Delay (s)	16.8	19.3		16.1	11.6			46.5	30.2	59.8	45.5		
Level of Service	B	B		B	B			D	C	E	D		
Approach Delay (s)		19.2			12.2			42.0			50.6		
Approach LOS		B			B			D			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			26.7									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.52										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	12.0
Intersection Capacity Utilization			76.5%									ICU Level of Service	D
Analysis Period (min)			15										

c Critical Lane Group



Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 		 	 	
Traffic Volume (vph)	220	750	89	188	503	117	73	338	191	239	803	293
Future Volume (vph)	220	750	89	188	503	117	73	338	191	239	803	293
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00		0.98	1.00		0.98			0.97	0.99		0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	4902	1541	3340	4948	1420	1807	3476	1512	1706	3544	1585
Fl <sub>t</sub> Permitted	0.329			0.950			0.237			0.515		
Satd. Flow (perm)	601	4902	1508	3324	4948	1395	451	3476	1467	915	3544	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91			124			203			312
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			1040.2			870.0			609.4	
Travel Time (s)		7.3			53.5			44.7			31.3	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Adj. Flow (vph)	234	798	95	200	535	124	78	360	203	254	854	312
Shared Lane Traffic (%)												
Lane Group Flow (vph)	234	798	95	200	535	124	78	360	203	254	854	312
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	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)	9.0	23.0	23.0	9.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	28.0	58.0	58.0	20.0	50.0	50.0	82.0	82.0	82.0	82.0	82.0	82.0
Total Split (%)	17.5%	36.3%	36.3%	12.5%	31.3%	31.3%	51.3%	51.3%	51.3%	51.3%	51.3%	51.3%
Maximum Green (s)	23.0	51.0	51.0	15.0	43.0	43.0	75.0	75.0	75.0	75.0	75.0	75.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	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	0

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

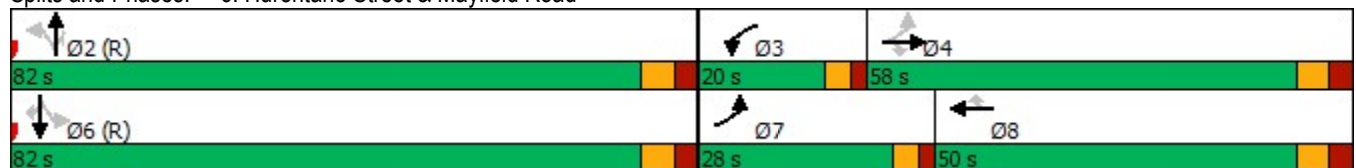
Future Total 2026  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	73.0	51.0	51.0	15.0	43.0	43.0	75.0	75.0	75.0	75.0	75.0	75.0
Actuated g/C Ratio	0.46	0.32	0.32	0.09	0.27	0.27	0.47	0.47	0.47	0.47	0.47	0.47
v/c Ratio	0.54	0.51	0.18	0.64	0.40	0.27	0.37	0.22	0.26	0.59	0.51	0.35
Control Delay	32.3	45.7	8.4	79.9	49.1	8.3	33.8	25.6	3.7	38.3	31.1	3.4
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	32.3	45.7	8.4	79.9	49.1	8.3	33.8	25.6	3.7	38.3	31.1	3.4
LOS	C	D	A	E	D	A	C	C	A	D	C	A
Approach Delay		39.8			50.4			19.7			26.3	
Approach LOS		D			D			B			C	

Intersection Summary













Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	122 (76%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	34.1
Intersection LOS:	C
Intersection Capacity Utilization	73.8%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road




































Queues  
6: Hurontario Street & Mayfield Road

Future Total 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	234	798	95	200	535	124	78	360	203	254	854	312
v/c Ratio	0.54	0.51	0.18	0.64	0.40	0.27	0.37	0.22	0.26	0.59	0.51	0.35
Control Delay	32.3	45.7	8.4	79.9	49.1	8.3	33.8	25.6	3.7	38.3	31.1	3.4
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	32.3	45.7	8.4	79.9	49.1	8.3	33.8	25.6	3.7	38.3	31.1	3.4
Queue Length 50th (m)	46.3	75.9	0.9	32.1	51.5	0.0	15.7	35.2	0.0	58.6	98.7	0.0
Queue Length 95th (m)	66.6	89.7	14.3	46.0	63.5	16.3	31.1	46.1	14.1	90.3	117.8	16.5
Internal Link Dist (m)		118.1			1016.2			846.0			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	437	1562	542	313	1329	465	211	1629	795	428	1661	895
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.51	0.18	0.64	0.40	0.27	0.37	0.22	0.26	0.59	0.51	0.35
Intersection Summary												










HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Total 2026  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		  	  			 		 	 		
Traffic Volume (vph)	220	750	89	188	503	117	73	338	191	239	803	293	
Future Volume (vph)	220	750	89	188	503	117	73	338	191	239	803	293	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1737	4902	1508	3340	4948	1395	1807	3476	1467	1689	3544	1557	
Flt Permitted	0.33	1.00	1.00	0.95	1.00	1.00	0.24	1.00	1.00	0.52	1.00	1.00	
Satd. Flow (perm)	602	4902	1508	3340	4948	1395	451	3476	1467	916	3544	1557	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	234	798	95	200	535	124	78	360	203	254	854	312	
RTOR Reduction (vph)	0	0	62	0	0	91	0	0	108	0	0	166	
Lane Group Flow (vph)	234	798	33	200	535	33	78	360	95	254	854	146	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2	
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	
Protected Phases	7	4		3	8			2			6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	71.0	51.0	51.0	15.0	43.0	43.0	75.0	75.0	75.0	75.0	75.0	75.0	
Effective Green, g (s)	71.0	51.0	51.0	15.0	43.0	43.0	75.0	75.0	75.0	75.0	75.0	75.0	
Actuated g/C Ratio	0.44	0.32	0.32	0.09	0.27	0.27	0.47	0.47	0.47	0.47	0.47	0.47	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Lane Grp Cap (vph)	430	1562	480	313	1329	374	211	1629	687	429	1661	729	
v/s Ratio Prot	c0.08	0.16		c0.06	0.11			0.10			0.24		
v/s Ratio Perm	c0.16		0.02			0.02	0.17		0.06	c0.28		0.09	
v/c Ratio	0.54	0.51	0.07	0.64	0.40	0.09	0.37	0.22	0.14	0.59	0.51	0.20	
Uniform Delay, d1	29.3	44.4	38.0	69.9	48.0	43.8	27.3	25.2	24.1	31.3	29.7	24.9	
Progression 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	
Incremental Delay, d2	4.9	1.2	0.3	9.6	0.9	0.5	4.9	0.3	0.4	5.9	1.1	0.6	
Delay (s)	34.2	45.5	38.2	79.5	48.9	44.3	32.2	25.5	24.6	37.2	30.9	25.5	
Level of Service	C	D	D	E	D	D	C	C	C	D	C	C	
Approach Delay (s)		42.6			55.3			26.0			30.8		
Approach LOS		D			E			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			38.5									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.58										
Actuated Cycle Length (s)			160.0									Sum of lost time (s)	19.0
Intersection Capacity Utilization			73.8%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													










Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C

Future Total 2026  
AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	320	0	0	235
Future Volume (vph)	0	0	320	0	0	235
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	0	0	1883
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	0	0	1883
Link Speed (k/h)	48		80			80
Link Distance (m)	204.9		2784.8			298.8
Travel Time (s)	15.4		125.3			13.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	348	0	0	255
<b>Shared Lane Traffic (%)</b>						
Lane Group Flow (vph)	0	0	348	0	0	255
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
<b>Two way Left Turn Lane</b>						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	20.2%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
7: Chinguacousy Road & Street C

Future Total 2026  
AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	320	0	0	235
Future Volume (Veh/h)	0	0	320	0	0	235
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)	0	0	348	0	0	255
<b>Pedestrians</b>						
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	603	348			348	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	603	348			348	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	462	695			1211	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	0	348	255			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1211			
Volume to Capacity	0.00	0.20	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			20.2%	ICU Level of Service	A	
Analysis Period (min)			15			










Lanes, Volumes, Timings  
8: Street B & Old School Road

Future Total 2026  
AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	
Traffic Volume (vph)	410	0	0	243	0	0
Future Volume (vph)	410	0	0	243	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Frt</b>						
Flt Protected						
Satd. Flow (prot)	1883	0	0	1883	1883	0
Flt Permitted						
Satd. Flow (perm)	1883	0	0	1883	1883	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	446	0	0	264	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	446	0	0	264	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	24.9%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 8: Street B & Old School Road

















Future Total 2026  
 AM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	410	0	0	243	0	0
Future Volume (Veh/h)	410	0	0	243	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	446	0	0	264	0	0
<b>Pedestrians</b>						
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			446		710	446
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			446		710	446
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1114		400	612
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	446	264	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1114	1700			
Volume to Capacity	0.26	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			24.9%	ICU Level of Service		A
Analysis Period (min)			15			



















Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2026  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	112	0	28	0	341	33	12	283	0
Future Volume (vph)	0	0	0	112	0	28	0	341	33	12	283	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Fr <sub>t</sub>					0.973			0.987				
Fl <sub>t</sub> Protected					0.961						0.998	
Satd. Flow (prot)	0	1883	0	0	1761	0	0	3532	0	0	3571	0
Fl <sub>t</sub> Permitted					0.961						0.998	
Satd. Flow (perm)	0	1883	0	0	1761	0	0	3532	0	0	3571	0
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			403.1			2496.3			588.2	
Travel Time (s)		15.4			30.2			112.3			26.5	
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
Adj. Flow (vph)	0	0	0	122	0	30	0	371	36	13	308	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	152	0	0	407	0	0	321	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	31.2%						ICU Level of Service A					
Analysis Period (min)	15											











HCM Unsignalized Intersection Capacity Analysis  
 9: McLaughlin Road & Street A

Future Total 2026  
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	112	0	28	0	341	33	12	283	0
Future Volume (Veh/h)	0	0	0	112	0	28	0	341	33	12	283	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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	0	0	122	0	30	0	371	36	13	308	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	550	741	154	569	723	204	308			407		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	550	741	154	569	723	204	308			407		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	70	100	96	100			99		
cM capacity (veh/h)	399	339	864	401	347	803	1249			1148		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	0	152	186	222	167	154						
Volume Left	0	122	0	0	13	0						
Volume Right	0	30	0	36	0	0						
cSH	1700	445	1249	1700	1148	1700						
Volume to Capacity	0.00	0.34	0.00	0.13	0.01	0.09						
Queue Length 95th (m)	0.0	11.3	0.0	0.0	0.3	0.0						
Control Delay (s)	0.0	17.2	0.0	0.0	0.7	0.0						
Lane LOS	A	C			A							
Approach Delay (s)	0.0	17.2	0.0		0.4							
Approach LOS	A	C										
Intersection Summary												
Average Delay			3.1									
Intersection Capacity Utilization			31.2%		ICU Level of Service				A			
Analysis Period (min)			15									










Lanes, Volumes, Timings  
10: Street D & Old School Road

Future Total 2026  
AM Peak Hour

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	682	0	0	394	0	0
Future Volume (vph)	682	0	0	394	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	1883	0	0	1883	1883	0
Flt Permitted						
Satd. Flow (perm)	1883	0	0	1883	1883	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	741	0	0	428	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	741	0	0	428	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	39.2%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 10: Street D & Old School Road

Future Total 2026  
 AM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	682	0	0	394	0	0
Future Volume (Veh/h)	682	0	0	394	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	741	0	0	428	0	0
<b>Pedestrians</b>						
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			741		1169	741
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			741		1169	741
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			866		213	416
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	741	428	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	866	1700			
Volume to Capacity	0.44	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			39.2%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings  
11: Street A & Street D

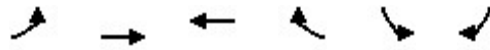
Future Total 2026  
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	0	1883	1883	0	1883	0
Flt Permitted						
Satd. Flow (perm)	0	1883	1883	0	1883	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	97			97	97	97
Sign Control		Free	Free		Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	0.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 11: Street A & Street D

Future Total 2026  
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
<b>Pedestrians</b>						
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	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1623				1023	1085
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2026  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	1566	2419	0
Future Volume (vph)	0	0	0	1566	2419	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	50.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	5142	5142	0
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	5142	5142	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	1702	2629	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	1702	2629	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Minimum Split (s)	20.0		20.0	20.0	20.0	
Total Split (s)	20.0		20.0	20.0	20.0	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	16.0		16.0	16.0	16.0	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	0.5		0.5	0.5	0.5	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.0		4.0	4.0	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	5.0		5.0	5.0	5.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)				16.0	16.0	
Actuated g/C Ratio				0.40	0.40	
v/c Ratio				0.83	1.28	

Lanes, Volumes, Timings  
 12: Hurontario Street & Street A

Future Total 2026  
 AM Peak Hour

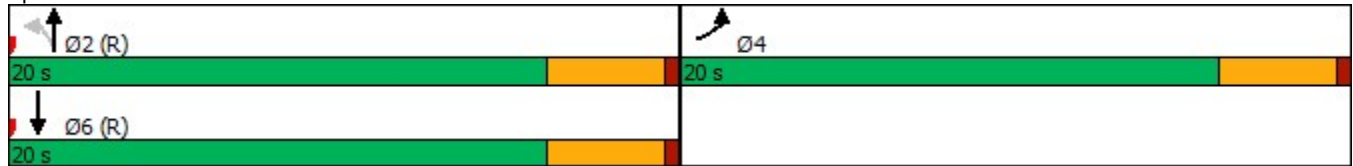


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Control Delay				15.8	147.0	
Queue Delay				0.0	0.0	
Total Delay				15.8	147.0	
LOS				B	F	
Approach Delay				15.8	147.0	
Approach LOS				B	F	

Intersection Summary

Area Type:	Other
Cycle Length:	40
Actuated Cycle Length:	40
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	1.28
Intersection Signal Delay:	95.4
Intersection LOS:	F
Intersection Capacity Utilization	50.1%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 12: Hurontario Street & Street A





Queues  
12: Hurontario Street & Street A

Future Total 2026  
AM Peak Hour

	↑	↓
Lane Group	NBT	SBT
Lane Group Flow (vph)	1702	2629
v/c Ratio	0.83	1.28
Control Delay	15.8	147.0
Queue Delay	0.0	0.0
Total Delay	15.8	147.0
Queue Length 50th (m)	35.4	~89.2
Queue Length 95th (m)	#52.1	#114.7
Internal Link Dist (m)	904.0	831.3
Turn Bay Length (m)		
Base Capacity (vph)	2056	2056
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.83	1.28

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 12: Hurontario Street & Street A

Future Total 2026  
 AM Peak Hour




















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	1566	2419	0
Future Volume (vph)	0	0	0	1566	2419	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	
Lane Util. Factor				0.91	0.91	
Frt				1.00	1.00	
Flt Protected				1.00	1.00	
Satd. Flow (prot)				5142	5142	
Flt Permitted				1.00	1.00	
Satd. Flow (perm)				5142	5142	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	1702	2629	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	1702	2629	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Actuated Green, G (s)				16.0	16.0	
Effective Green, g (s)				16.0	16.0	
Actuated g/C Ratio				0.40	0.40	
Clearance Time (s)				4.0	4.0	
Lane Grp Cap (vph)				2056	2056	
v/s Ratio Prot				0.33	c0.51	
v/s Ratio Perm						
v/c Ratio				0.83	1.28	
Uniform Delay, d1				10.8	12.0	
Progression Factor				1.00	1.00	
Incremental Delay, d2				4.0	129.3	
Delay (s)				14.8	141.3	
Level of Service				B	F	
Approach Delay (s)	0.0			14.8	141.3	
Approach LOS	A			B	F	

Intersection Summary				
HCM 2000 Control Delay		91.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio		0.64		
Actuated Cycle Length (s)		40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization		50.1%	ICU Level of Service	A
Analysis Period (min)		15		
c Critical Lane Group				

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road


















PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	189	2	174	279	36	10	229	199	32	154	4
Future Volume (vph)	4	189	2	174	279	36	10	229	199	32	154	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.983			0.939			0.997	
Flt Protected		0.999		0.950				0.999			0.992	
Satd. Flow (prot)	0	1863	0	1825	1845	0	0	1723	0	0	1836	0
Flt Permitted		0.999		0.950				0.999			0.992	
Satd. Flow (perm)	0	1863	0	1825	1845	0	0	1723	0	0	1836	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			342.6	
Travel Time (s)		30.4			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	4	201	2	185	297	38	11	244	212	34	164	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	207	0	185	335	0	0	467	0	0	202	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	62.8%						ICU Level of Service B					
Analysis Period (min)	15											

# HCM Unsignalized Intersection Capacity Analysis



















## 1: Chinguacousy Road & Old School Road

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	189	2	174	279	36	10	229	199	32	154	4
Future Volume (vph)	4	189	2	174	279	36	10	229	199	32	154	4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	4	201	2	185	297	38	11	244	212	34	164	4
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1							
Volume Total (vph)	207	185	335	467	202							
Volume Left (vph)	4	185	0	11	34							
Volume Right (vph)	2	0	38	212	4							
Hadj (s)	0.05	0.50	-0.04	-0.19	0.08							
Departure Headway (s)	7.7	7.9	7.4	6.6	7.6							
Degree Utilization, x	0.44	0.41	0.69	0.86	0.43							
Capacity (veh/h)	431	434	466	526	429							
Control Delay (s)	16.8	15.1	24.0	37.2	16.2							
Approach Delay (s)	16.8	20.8		37.2	16.2							
Approach LOS	C	C		E	C							
Intersection Summary												
Delay			25.0									
Level of Service			D									
Intersection Capacity Utilization			62.8%	ICU Level of Service	B							
Analysis Period (min)			15									



















Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	381	34	280	447	23	38	128	284	19	57	6
Future Volume (vph)	9	381	34	280	447	23	38	128	284	19	57	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989			0.993				0.850		0.991	
Flt Protected		0.999		0.950				0.989			0.989	
Satd. Flow (prot)	0	1818	0	1755	1886	0	0	1830	1555	0	1807	0
Flt Permitted		0.999		0.950				0.989			0.989	
Satd. Flow (perm)	0	1818	0	1755	1886	0	0	1830	1555	0	1807	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	10	405	36	298	476	24	40	136	302	20	61	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	451	0	298	500	0	0	176	302	0	87	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Stop			Stop	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	74.1%						ICU Level of Service D					
Analysis Period (min)	15											
























## HCM Unsignalized Intersection Capacity Analysis 2: McLaughlin Road & Old School Road

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	381	34	280	447	23	38	128	284	19	57	6
Future Volume (vph)	9	381	34	280	447	23	38	128	284	19	57	6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	10	405	36	298	476	24	40	136	302	20	61	6
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1						
Volume Total (vph)	451	298	500	176	302	87						
Volume Left (vph)	10	298	0	40	0	20						
Volume Right (vph)	36	0	24	0	302	6						
Hadj (s)	0.03	0.57	-0.01	0.18	-0.61	0.08						
Departure Headway (s)	7.6	8.2	7.6	8.3	7.5	9.4						
Degree Utilization, x	0.96	0.68	1.06	0.40	0.63	0.23						
Capacity (veh/h)	467	429	479	427	465	365						
Control Delay (s)	58.9	25.7	83.5	15.6	21.1	15.2						
Approach Delay (s)	58.9	61.9		19.1		15.2						
Approach LOS	F	F		C		C						
Intersection Summary												
Delay			47.6									
Level of Service			E									
Intersection Capacity Utilization			74.1%		ICU Level of Service		D					
Analysis Period (min)			15									

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

PM Peak Hour

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	403	176	96	220	232	111	177	2435	259	113	1437	343	
Future Volume (vph)	403	176	96	220	232	111	177	2435	259	113	1437	343	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0	
Storage Lanes	1		0	1		0	1		1	1		1	
Taper Length (m)	2.5			2.5			2.5			2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	
Frt		0.947			0.952				0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1825	1731	0	1789	1817	0	1807	5043	1633	1825	4812	1541	
Flt Permitted	0.148			0.511			0.080			0.090			
Satd. Flow (perm)	284	1731	0	962	1817	0	152	5043	1633	173	4812	1541	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		22			17				158			197	
Link Speed (k/h)		70			70			80				80	
Link Distance (m)		1007.8			552.5			855.3				758.5	
Travel Time (s)		51.8			28.4			38.5				34.1	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%	
Adj. Flow (vph)	415	181	99	227	239	114	182	2510	267	116	1481	354	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	415	280	0	227	353	0	182	2510	267	116	1481	354	
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)		3.7			3.7			3.7				3.7	
Link Offset(m)		0.0			0.0			0.0				0.0	
Crosswalk Width(m)		1.6			1.6			1.6				1.6	
Two way Left Turn Lane								Yes					
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Number of Detectors	1	2		1	2		1	2	1	1	2	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7				28.7	
Detector 2 Size(m)		1.8			1.8			1.8				1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex	
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0				0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov	
Protected Phases	7	4		3	8		5	2			6	7	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	6	6	7
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0	29.0	29.0	29.0	10.0
Total Split (s)	24.0	36.0		17.0	29.0		17.0	67.0	67.0	50.0	50.0	24.0
Total Split (%)	20.0%	30.0%		14.2%	24.2%		14.2%	55.8%	55.8%	41.7%	41.7%	20.0%
Maximum Green (s)	20.0	30.0		13.0	23.0		11.0	61.0	61.0	44.0	44.0	20.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	3.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	1.0
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)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead			Lag	Lag	Lead
Lead-Lag Optimize?	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
Recall Mode	None	None		None	None		None	Max	Max	Max	Max	None
Walk Time (s)		5.0			5.0			5.0	5.0	5.0	5.0	
Flash Dont Walk (s)		11.0			11.0			11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)		0			0			0	0	0	0	
Act Effct Green (s)	49.0	30.5		37.5	23.0		61.0	61.0	61.0	44.3	44.3	70.3
Actuated g/C Ratio	0.41	0.25		0.31	0.19		0.51	0.51	0.51	0.37	0.37	0.59
v/c Ratio	1.12	0.61		0.59	0.98		0.81	0.98	0.29	1.84	0.83	0.36
Control Delay	113.6	43.2		32.2	87.8		52.7	42.7	7.6	454.4	39.6	6.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	113.6	43.2		32.2	87.8		52.7	42.7	7.6	454.4	39.6	6.5
LOS	F	D		C	F		D	D	A	F	D	A
Approach Delay		85.3			66.1			40.2			58.3	
Approach LOS		F			E			D			E	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 100  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.84  
 Intersection Signal Delay: 53.4  
 Intersection LOS: D  
 Intersection Capacity Utilization 112.9%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 3: Hurontario Street & Old School Road





# Queues

## 3: Hurontario Street & Old School Road

PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	415	280	227	353	182	2510	267	116	1481	354
v/c Ratio	1.12	0.61	0.59	0.98	0.81	0.98	0.29	1.84	0.83	0.36
Control Delay	113.6	43.2	32.2	87.8	52.7	42.7	7.6	454.4	39.6	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	113.6	43.2	32.2	87.8	52.7	42.7	7.6	454.4	39.6	6.5
Queue Length 50th (m)	~95.0	54.3	35.7	79.9	26.2	204.8	13.1	~41.3	115.7	16.3
Queue Length 95th (m)	#156.8	83.4	54.9	#139.0	#62.5	#248.2	28.6	#65.0	135.2	33.3
Internal Link Dist (m)		983.8		528.5		831.3			734.5	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	372	456	394	362	228	2563	907	63	1777	984
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	0.61	0.58	0.98	0.80	0.98	0.29	1.84	0.83	0.36

### Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 3: Hurontario Street & Old School Road

PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	403	176	96	220	232	111	177	2435	259	113	1437	343	
Future Volume (vph)	403	176	96	220	232	111	177	2435	259	113	1437	343	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00	
Frt	1.00	0.95		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1825	1731		1789	1816		1807	5043	1633	1825	4812	1541	
Flt Permitted	0.15	1.00		0.51	1.00		0.08	1.00	1.00	0.09	1.00	1.00	
Satd. Flow (perm)	285	1731		963	1816		151	5043	1633	173	4812	1541	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	415	181	99	227	239	114	182	2510	267	116	1481	354	
RTOR Reduction (vph)	0	16	0	0	14	0	0	0	78	0	0	91	
Lane Group Flow (vph)	415	264	0	227	339	0	182	2510	189	116	1481	263	
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	Perm	NA	pm+ov	
Protected Phases	7	4		3	8		5	2			6	7	
Permitted Phases	4			8			2		2	6		6	
Actuated Green, G (s)	47.0	30.5		35.5	23.0		61.0	61.0	61.0	44.3	44.3	64.3	
Effective Green, g (s)	47.0	30.5		35.5	23.0		61.0	61.0	61.0	44.3	44.3	64.3	
Actuated g/C Ratio	0.39	0.25		0.30	0.19		0.51	0.51	0.51	0.37	0.37	0.54	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	368	439		370	348		224	2563	830	63	1776	825	
v/s Ratio Prot	c0.19	0.15		0.06	0.19		0.07	c0.50			0.31	0.05	
v/s Ratio Perm	c0.25			0.12			0.34		0.12	c0.67		0.12	
v/c Ratio	1.13	0.60		0.61	0.97		0.81	0.98	0.23	1.84	0.83	0.32	
Uniform Delay, d1	35.1	39.4		34.1	48.2		28.3	28.9	16.4	37.9	34.5	15.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	86.3	2.3		3.0	41.2		19.7	13.5	0.6	433.2	4.8	0.2	
Delay (s)	121.3	41.7		37.1	89.4		47.9	42.4	17.0	471.1	39.3	15.8	
Level of Service	F	D		D	F		D	D	B	F	D	B	
Approach Delay (s)		89.3			68.9			40.5			60.7		
Approach LOS		F			E			D			E		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			55.0									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			1.49										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	22.0
Intersection Capacity Utilization			112.9%									ICU Level of Service	H
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕			↕↕↕			↕↕				↕↕
Traffic Volume (vph)	36	636	46	178	601	46	31	207	156	26	139	25
Future Volume (vph)	36	636	46	178	601	46	31	207	156	26	139	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.990			0.992			0.947			0.982	
Flt Protected		0.998			0.989			0.996			0.993	
Satd. Flow (prot)	0	5041	0	0	5035	0	0	1768	0	0	1832	0
Flt Permitted		0.847			0.673			0.964			0.915	
Satd. Flow (perm)	0	4279	0	0	3426	0	0	1711	0	0	1688	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			10			36			8	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		919.1			1419.4			559.1			2784.8	
Travel Time (s)		47.3			73.0			25.2			125.3	
Confl. Peds. (#/hr)							1					1
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
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Adj. Flow (vph)	39	691	50	193	653	50	34	225	170	28	151	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	780	0	0	896	0	0	429	0	0	206	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	61.0	61.0		61.0	61.0		59.0	59.0		59.0	59.0	
Total Split (%)	50.8%	50.8%		50.8%	50.8%		49.2%	49.2%		49.2%	49.2%	
Maximum Green (s)	57.0	57.0		57.0	57.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		57.0			57.0			55.0			55.0	
Actuated g/C Ratio		0.48			0.48			0.46			0.46	
v/c Ratio		0.38			0.55			0.53			0.26	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

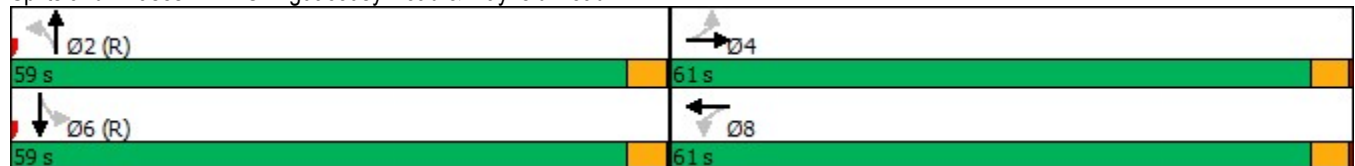
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		20.6			44.5			24.1			20.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		20.6			44.5			24.1			20.3	
LOS		C			D			C			C	
Approach Delay		20.6			44.5			24.1			20.3	
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:	40
Control Type:	Pretimed
Maximum v/c Ratio:	0.55
Intersection Signal Delay:	30.5
Intersection LOS:	C
Intersection Capacity Utilization	66.3%
ICU Level of Service	C
Analysis Period (min)	15

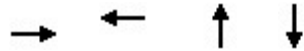
Splits and Phases: 4: Chinguacousy Road & Mayfield Road



# Queues

## 4: Chinguacousy Road & Mayfield Road

PM Peak Hour



























Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	780	896	429	206
v/c Ratio	0.38	0.55	0.53	0.26
Control Delay	20.6	44.5	24.1	20.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	20.6	44.5	24.1	20.3
Queue Length 50th (m)	41.3	74.9	64.8	28.0
Queue Length 95th (m)	51.6	88.9	94.9	44.5
Internal Link Dist (m)	895.1	1395.4	535.1	2760.8
Turn Bay Length (m)				
Base Capacity (vph)	2038	1632	803	778
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.38	0.55	0.53	0.26
<b>Intersection Summary</b>				

# HCM Signalized Intersection Capacity Analysis





















## 4: Chinguacousy Road & Mayfield Road

PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  			  			  				  	
Traffic Volume (vph)	36	636	46	178	601	46	31	207	156	26	139	25	
Future Volume (vph)	36	636	46	178	601	46	31	207	156	26	139	25	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0			4.0			4.0			4.0		
Lane Util. Factor		0.91			0.91			1.00			1.00		
Frbp, ped/bikes		1.00			1.00			1.00			1.00		
Flpb, ped/bikes		1.00			1.00			1.00			1.00		
Frt		0.99			0.99			0.95			0.98		
Flt Protected		1.00			0.99			1.00			0.99		
Satd. Flow (prot)		5041			5035			1767			1833		
Flt Permitted		0.85			0.67			0.96			0.91		
Satd. Flow (perm)		4281			3424			1710			1689		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	39	691	50	193	653	50	34	225	170	28	151	27	
RTOR Reduction (vph)	0	6	0	0	5	0	0	20	0	0	4	0	
Lane Group Flow (vph)	0	774	0	0	891	0	0	410	0	0	202	0	
Confl. Peds. (#/hr)							1					1	
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		57.0			57.0			55.0			55.0		
Effective Green, g (s)		57.0			57.0			55.0			55.0		
Actuated g/C Ratio		0.48			0.48			0.46			0.46		
Clearance Time (s)		4.0			4.0			4.0			4.0		
Lane Grp Cap (vph)		2033			1626			783			774		
v/s Ratio Prot													
v/s Ratio Perm		0.18			c0.26			c0.24			0.12		
v/c Ratio		0.38			0.55			0.52			0.26		
Uniform Delay, d1		20.2			22.4			23.2			20.0		
Progression Factor		1.00			1.94			1.00			1.00		
Incremental Delay, d2		0.5			1.1			2.5			0.8		
Delay (s)		20.7			44.6			25.6			20.8		
Level of Service		C			D			C			C		
Approach Delay (s)		20.7			44.6			25.6			20.8		
Approach LOS		C			D			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			30.9									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.54										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			66.3%									ICU Level of Service	C
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	762	56	102	879	190	92	336	104	158	205	70
Future Volume (vph)	55	762	56	102	879	190	92	336	104	158	205	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		0	1		0	0		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.973				0.850		0.962	
Flt Protected	0.950			0.950				0.989		0.950		
Satd. Flow (prot)	1738	5041	0	1755	4902	0	0	1885	1585	1738	1785	0
Flt Permitted	0.173			0.264				0.850		0.279		
Satd. Flow (perm)	317	5041	0	488	4902	0	0	1620	1585	510	1785	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			48				64		20	
Link Speed (k/h)		70			70			80		80		
Link Distance (m)		1419.4			1263.7			341.6		2496.3		
Travel Time (s)		73.0			65.0			15.4		112.3		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	57	794	58	106	916	198	96	350	108	165	214	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	57	852	0	106	1114	0	0	446	108	165	287	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)		3.7			3.7			3.7		3.7		
Link Offset(m)		0.0			0.0			0.0		0.0		
Crosswalk Width(m)		1.6			1.6			1.6		1.6		
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	8.0	22.0	
Total Split (s)	56.0	56.0		56.0	56.0		52.0	52.0	52.0	12.0	64.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		43.3%	43.3%	43.3%	10.0%	53.3%	
Maximum Green (s)	50.0	50.0		50.0	50.0		46.0	46.0	46.0	8.0	58.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.5	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	0.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	4.0	6.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0		5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)	50.0	50.0		50.0	50.0			46.0	46.0	60.0	58.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42			0.38	0.38	0.50	0.48	

Lanes, Volumes, Timings  
 5: McLaughlin Road & Mayfield Road

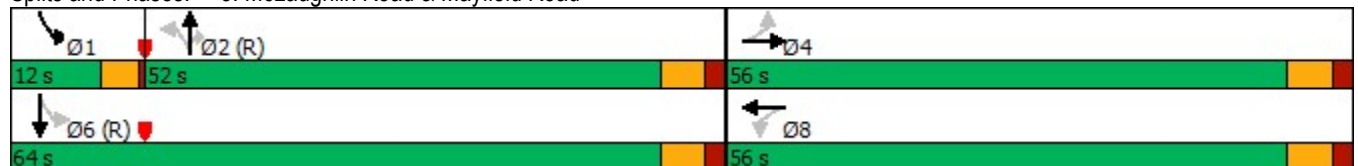
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.43	0.40		0.52	0.54			0.72	0.17	0.49	0.33	
Control Delay	40.6	27.8		37.4	26.2			39.3	11.7	22.1	18.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Total Delay	40.6	27.8		37.4	26.2			39.3	11.7	22.1	18.9	
LOS	D	C		D	C			D	B	C	B	
Approach Delay		28.6			27.2			33.9			20.1	
Approach LOS		C			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:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	27.8
Intersection LOS:	C
Intersection Capacity Utilization	82.4%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 5: McLaughlin Road & Mayfield Road

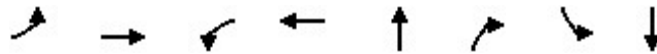




Queues

5: McLaughlin Road & Mayfield Road

PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	57	852	106	1114	446	108	165	287
v/c Ratio	0.43	0.40	0.52	0.54	0.72	0.17	0.49	0.33
Control Delay	40.6	27.8	37.4	26.2	39.3	11.7	22.1	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.6	27.8	37.4	26.2	39.3	11.7	22.1	18.9
Queue Length 50th (m)	11.4	61.0	18.3	67.9	88.4	6.5	20.8	37.3
Queue Length 95th (m)	m25.3	74.5	38.2	81.6	127.0	18.3	33.8	56.8
Internal Link Dist (m)		1395.4		1239.7	317.6			2472.3
Turn Bay Length (m)	30.0		30.0			30.0		
Base Capacity (vph)	132	2107	203	2070	621	647	336	873
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.40	0.52	0.54	0.72	0.17	0.49	0.33






















Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

# HCM Signalized Intersection Capacity Analysis

## 5: McLaughlin Road & Mayfield Road



































PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	55	762	56	102	879	190	92	336	104	158	205	70	
Future Volume (vph)	55	762	56	102	879	190	92	336	104	158	205	70	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0	4.0	6.0		
Lane Util. Factor	1.00	0.91		1.00	0.91			1.00	1.00	1.00	1.00		
Frt	1.00	0.99		1.00	0.97			1.00	0.85	1.00	0.96		
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00	0.95	1.00		
Satd. Flow (prot)	1738	5040		1755	4903			1886	1585	1738	1785		
Flt Permitted	0.17	1.00		0.26	1.00			0.85	1.00	0.28	1.00		
Satd. Flow (perm)	316	5040		488	4903			1620	1585	510	1785		
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	57	794	58	106	916	198	96	350	108	165	214	73	
RTOR Reduction (vph)	0	7	0	0	28	0	0	0	39	0	10	0	
Lane Group Flow (vph)	57	845	0	106	1086	0	0	446	69	165	277	0	
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA		
Protected Phases		4			8			2		2	1	6	
Permitted Phases	4			8			2		2	6			
Actuated Green, G (s)	50.0	50.0		50.0	50.0			46.0	46.0	58.0	58.0		
Effective Green, g (s)	50.0	50.0		50.0	50.0			46.0	46.0	58.0	58.0		
Actuated g/C Ratio	0.42	0.42		0.42	0.42			0.38	0.38	0.48	0.48		
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0	6.0	4.0	6.0		
Lane Grp Cap (vph)	131	2100		203	2042			621	607	328	862		
v/s Ratio Prot		0.17			c0.22					c0.03	0.15		
v/s Ratio Perm	0.18			0.22				c0.28	0.04	0.21			
v/c Ratio	0.44	0.40		0.52	0.53			0.72	0.11	0.50	0.32		
Uniform Delay, d1	24.9	24.5		26.1	26.2			31.5	23.8	20.2	19.0		
Progression Factor	1.13	1.12		1.00	1.00			1.00	1.00	1.00	1.00		
Incremental Delay, d2	9.5	0.5		9.3	1.0			7.0	0.4	5.4	1.0		
Delay (s)	37.7	28.1		35.4	27.2			38.5	24.2	25.7	19.9		
Level of Service	D	C		D	C			D	C	C	B		
Approach Delay (s)		28.7			27.9			35.7			22.0		
Approach LOS		C			C			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			28.7									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.61										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			82.4%									ICU Level of Service	E
Analysis Period (min)			15										

c Critical Lane Group

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

PM Peak Hour

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		  	  			 		 		 	
Traffic Volume (vph)	474	535	86	250	670	120	154	642	239	183	718	672	
Future Volume (vph)	474	535	86	250	670	120	154	642	239	183	718	672	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0	
Storage Lanes	1		1	2		1	1		1	1		1	
Taper Length (m)	2.5			2.5			2.5			2.5			
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Ped Bike Factor			0.96	0.98		0.99	1.00		0.96			0.98	
Frt			0.850			0.850			0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1755	4995	1601	3404	5092	1585	1789	3614	1555	1825	3510	1585	
Flt Permitted	0.160			0.950			0.338			0.263			
Satd. Flow (perm)	296	4995	1538	3331	5092	1562	635	3614	1486	505	3510	1555	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			105			145			241			680	
Link Speed (k/h)		70			70			70			70		
Link Distance (m)		142.1			1040.2			870.0			609.4		
Travel Time (s)		7.3			53.5			44.7			31.3		
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%	
Adj. Flow (vph)	489	552	89	258	691	124	159	662	246	189	740	693	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	489	552	89	258	691	124	159	662	246	189	740	693	
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)		7.4			7.4			3.7			3.7		
Link Offset(m)		0.0			0.0			0.0			0.0		
Crosswalk Width(m)		1.6			1.6			1.6			1.6		
Two way Left Turn Lane													
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8			2		1	6		
Permitted Phases	4		4			8	2		2	6		6	
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0	
Total Split (s)	43.0	49.0	49.0	21.0	27.0	27.0	55.0	55.0	55.0	10.0	65.0	65.0	
Total Split (%)	31.9%	36.3%	36.3%	15.6%	20.0%	20.0%	40.7%	40.7%	40.7%	7.4%	48.1%	48.1%	
Maximum Green (s)	38.0	42.0	42.0	16.0	20.0	20.0	48.0	48.0	48.0	6.0	58.0	58.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0	
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	1.0	3.0	3.0	
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
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)		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	

# Lanes, Volumes, Timings

## 6: Hurontario Street & Mayfield Road

PM Peak Hour

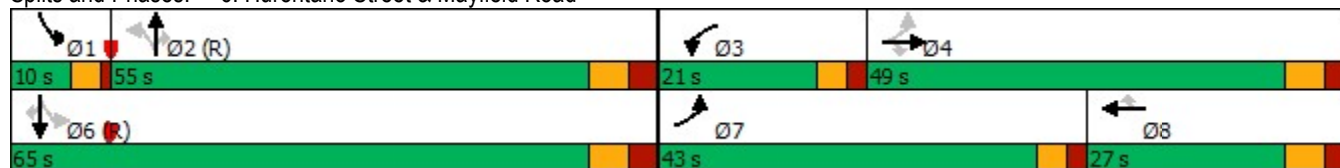


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	65.0	42.0	42.0	16.0	20.0	20.0	48.0	48.0	48.0	61.0	58.0	58.0
Actuated g/C Ratio	0.48	0.31	0.31	0.12	0.15	0.15	0.36	0.36	0.36	0.45	0.43	0.43
v/c Ratio	0.88	0.36	0.16	0.64	0.92	0.35	0.71	0.52	0.36	0.66	0.49	0.66
Control Delay	53.0	36.8	4.8	64.7	74.4	7.8	56.4	36.1	5.4	37.1	29.2	5.4
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	53.0	36.8	4.8	64.7	74.4	7.8	56.4	36.1	5.4	37.1	29.2	5.4
LOS	D	D	A	E	E	A	E	D	A	D	C	A
Approach Delay		41.3			64.4			32.0			19.9	
Approach LOS		D			E			C			B	

### Intersection Summary

Area Type:	Other
Cycle Length:	135
Actuated Cycle Length:	135
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	90
Control Type:	Pretimed
Maximum v/c Ratio:	0.92
Intersection Signal Delay:	37.3
Intersection LOS:	D
Intersection Capacity Utilization	89.6%
ICU Level of Service	E
Analysis Period (min)	15

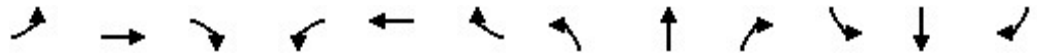
### Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues

6: Hurontario Street & Mayfield Road

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	489	552	89	258	691	124	159	662	246	189	740	693
v/c Ratio	0.88	0.36	0.16	0.64	0.92	0.35	0.71	0.52	0.36	0.66	0.49	0.66
Control Delay	53.0	36.8	4.8	64.7	74.4	7.8	56.4	36.1	5.4	37.1	29.2	5.4
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	53.0	36.8	4.8	64.7	74.4	7.8	56.4	36.1	5.4	37.1	29.2	5.4
Queue Length 50th (m)	106.9	41.7	0.0	34.3	67.3	0.0	36.3	73.0	0.9	30.3	73.9	2.0
Queue Length 95th (m)	#167.5	52.7	8.9	48.7	#90.3	12.4	#69.8	91.4	18.3	46.5	91.8	28.0
Internal Link Dist (m)		118.1			1016.2			846.0			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	553	1554	550	403	754	354	225	1284	683	286	1508	1055
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.36	0.16	0.64	0.92	0.35	0.71	0.52	0.36	0.66	0.49	0.66

























Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 6: Hurontario Street & Mayfield Road

PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	474	535	86	250	670	120	154	642	239	183	718	672	
Future Volume (vph)	474	535	86	250	670	120	154	642	239	183	718	672	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1755	4995	1538	3404	5092	1562	1785	3614	1486	1825	3510	1555	
Flt Permitted	0.16	1.00	1.00	0.95	1.00	1.00	0.34	1.00	1.00	0.26	1.00	1.00	
Satd. Flow (perm)	296	4995	1538	3404	5092	1562	635	3614	1486	504	3510	1555	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	489	552	89	258	691	124	159	662	246	189	740	693	
RTOR Reduction (vph)	0	0	61	0	0	106	0	0	155	0	0	388	
Lane Group Flow (vph)	489	552	28	258	691	18	159	662	91	189	740	305	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3	
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8			2		1	6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	63.0	42.0	42.0	16.0	20.0	20.0	48.0	48.0	48.0	58.0	58.0	58.0	
Effective Green, g (s)	63.0	42.0	42.0	16.0	20.0	20.0	48.0	48.0	48.0	58.0	58.0	58.0	
Actuated g/C Ratio	0.47	0.31	0.31	0.12	0.15	0.15	0.36	0.36	0.36	0.43	0.43	0.43	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Grp Cap (vph)	548	1554	478	403	754	231	225	1284	528	275	1508	668	
v/s Ratio Prot	c0.25	0.11		0.08	0.14			0.18		c0.03	0.21		
v/s Ratio Perm	c0.17		0.02			0.01	0.25		0.06	c0.26		0.20	
v/c Ratio	0.89	0.36	0.06	0.64	0.92	0.08	0.71	0.52	0.17	0.69	0.49	0.46	
Uniform Delay, d1	35.9	36.0	32.6	56.8	56.7	49.6	37.4	34.3	29.9	31.0	27.8	27.3	
Progression 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	
Incremental Delay, d2	19.4	0.6	0.2	7.6	17.8	0.7	17.1	1.5	0.7	13.2	1.1	2.2	
Delay (s)	55.4	36.6	32.9	64.3	74.5	50.2	54.5	35.8	30.6	44.1	29.0	29.6	
Level of Service	E	D	C	E	E	D	D	D	C	D	C	C	
Approach Delay (s)		44.4			69.2			37.4			31.0		
Approach LOS		D			E			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			43.9									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.83										
Actuated Cycle Length (s)			135.0									Sum of lost time (s)	23.0
Intersection Capacity Utilization			89.6%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C

PM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	438	0	0	331
Future Volume (vph)	0	0	438	0	0	331
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	0	0	1883
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	0	0	1883
Link Speed (k/h)	48		80			80
Link Distance (m)	204.9		2784.8			298.8
Travel Time (s)	15.4		125.3			13.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	476	0	0	360
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	476	0	0	360
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free










Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	26.4%
Analysis Period (min)	15
	ICU Level of Service A

# HCM Unsignalized Intersection Capacity Analysis

## 7: Chinguacousy Road & Street C

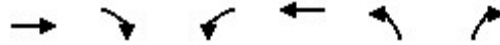
PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	438	0	0	331
Future Volume (Veh/h)	0	0	438	0	0	331
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)	0	0	476	0	0	360
<b>Pedestrians</b>						
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	836	476			476	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	836	476			476	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	337	589			1086	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	0	476	360			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1086			
Volume to Capacity	0.00	0.28	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			26.4%	ICU Level of Service	A	
Analysis Period (min)			15			



Lanes, Volumes, Timings  
8: Street B & Old School Road

PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	410	0	0	481	0	0
Future Volume (vph)	410	0	0	481	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	0	1883	1883	0
Flt Permitted						
Satd. Flow (perm)	1883	0	0	1883	1883	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	446	0	0	523	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	446	0	0	523	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

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

# HCM Unsignalized Intersection Capacity Analysis

## 8: Street B & Old School Road

















PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↔	↔
Traffic Volume (veh/h)	410	0	0	481	0	0
Future Volume (Veh/h)	410	0	0	481	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	446	0	0	523	0	0
<b>Pedestrians</b>						
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			446		969	446
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			446		969	446
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1114		281	612
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	446	523	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1114	1700			
Volume to Capacity	0.26	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			28.6%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
 9: McLaughlin Road & Street A

















PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	70	0	18	0	434	126	22	350	0
Future Volume (vph)	0	0	0	70	0	18	0	434	126	22	350	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Fr <sub>t</sub>					0.972			0.966				
Fl <sub>t</sub> Protected					0.962						0.997	
Satd. Flow (prot)	0	1883	0	0	1761	0	0	3457	0	0	3568	0
Fl <sub>t</sub> Permitted					0.962						0.997	
Satd. Flow (perm)	0	1883	0	0	1761	0	0	3457	0	0	3568	0
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			403.1			2496.3			588.2	
Travel Time (s)		15.4			30.2			112.3			26.5	
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
Adj. Flow (vph)	0	0	0	76	0	20	0	472	137	24	380	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	96	0	0	609	0	0	404	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	37.8%						ICU Level of Service A					
Analysis Period (min)	15											

# HCM Unsignalized Intersection Capacity Analysis










## 9: McLaughlin Road & Street A

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	70	0	18	0	434	126	22	350	0
Future Volume (Veh/h)	0	0	0	70	0	18	0	434	126	22	350	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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	0	0	76	0	20	0	472	137	24	380	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
								None			None	
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	684	1037	190	778	968	304	380			609		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	684	1037	190	778	968	304	380			609		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	73	100	97	100			98		
cM capacity (veh/h)	319	224	820	281	246	691	1175			966		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2						
Volume Total	0	96	236	373	214	190						
Volume Left	0	76	0	0	24	0						
Volume Right	0	20	0	137	0	0						
cSH	1700	320	1175	1700	966	1700						
Volume to Capacity	0.00	0.30	0.00	0.22	0.02	0.11						
Queue Length 95th (m)	0.0	9.3	0.0	0.0	0.6	0.0						
Control Delay (s)	0.0	21.0	0.0	0.0	1.2	0.0						
Lane LOS	A	C			A							
Approach Delay (s)	0.0	21.0	0.0		0.6							
Approach LOS	A	C										
Intersection Summary												
Average Delay			2.0									
Intersection Capacity Utilization			37.8%		ICU Level of Service				A			
Analysis Period (min)			15									

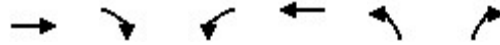
Lanes, Volumes, Timings  
10: Street D & Old School Road

PM Peak Hour

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	681	0	0	745	0	0
Future Volume (vph)	681	0	0	745	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
<b>Flt Protected</b>						
Satd. Flow (prot)	1883	0	0	1883	1883	0
<b>Flt Permitted</b>						
Satd. Flow (perm)	1883	0	0	1883	1883	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	740	0	0	810	0	0
<b>Shared Lane Traffic (%)</b>						
Lane Group Flow (vph)	740	0	0	810	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
<b>Two way Left Turn Lane</b>						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	42.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 10: Street D & Old School Road

PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻			↻	↻	
Traffic Volume (veh/h)	681	0	0	745	0	0
Future Volume (Veh/h)	681	0	0	745	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	740	0	0	810	0	0
<b>Pedestrians</b>						
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			740		1550	740
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			740		1550	740
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			867		125	417
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	740	810	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	867	1700			
Volume to Capacity	0.44	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			42.5%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
11: Street A & Street D

PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	0	1883	1883	0	1883	0
Flt Permitted						
Satd. Flow (perm)	0	1883	1883	0	1883	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Stop	Stop		Stop	

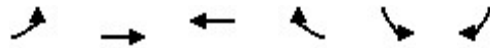
**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	0.0%
ICU Level of Service	A
Analysis Period (min)	15

# HCM Unsignalized Intersection Capacity Analysis

## 11: Street A & Street D

PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total (vph)	0	0	0			
Volume Left (vph)	0	0	0			
Volume Right (vph)	0	0	0			
Hadj (s)	0.00	0.00	0.00			
Departure Headway (s)	3.9	3.9	3.9			
Degree Utilization, x	0.00	0.00	0.00			
Capacity (veh/h)	917	917	917			
Control Delay (s)	6.9	6.9	6.9			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A	A	A			
Intersection Summary						
Delay			0.0			
Level of Service			A			
Intersection Capacity Utilization			0.0%	ICU Level of Service	A	
Analysis Period (min)			15			



Lanes, Volumes, Timings  
12: Hurontario Street & Street A

PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	2871	1754	0
Future Volume (vph)	0	0	0	2871	1754	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	50.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	5142	5142	0
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	5142	5142	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	3121	1907	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	3121	1907	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Minimum Split (s)	20.0		20.0	20.0	20.0	
Total Split (s)	20.0		20.0	20.0	20.0	
Total Split (%)	50.0%		50.0%	50.0%	50.0%	
Maximum Green (s)	16.0		16.0	16.0	16.0	
Yellow Time (s)	3.5		3.5	3.5	3.5	
All-Red Time (s)	0.5		0.5	0.5	0.5	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.0		4.0	4.0	4.0	
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	5.0		5.0	5.0	5.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	
Act Effct Green (s)				16.0	16.0	
Actuated g/C Ratio				0.40	0.40	
v/c Ratio				1.52	0.93	

Lanes, Volumes, Timings  
 12: Hurontario Street & Street A

PM Peak Hour

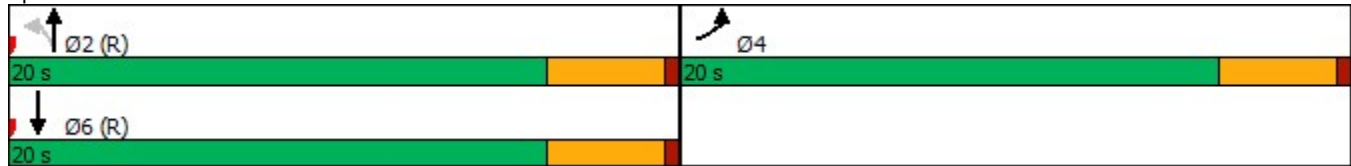


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Control Delay				254.3	22.4	
Queue Delay				0.0	0.0	
Total Delay				254.3	22.4	
LOS				F	C	
Approach Delay				254.3	22.4	
Approach LOS				F	C	

Intersection Summary

Area Type:	Other
Cycle Length:	40
Actuated Cycle Length:	40
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	1.52
Intersection Signal Delay:	166.4
Intersection LOS:	F
Intersection Capacity Utilization	58.8%
ICU Level of Service	B
Analysis Period (min)	15

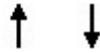
Splits and Phases: 12: Hurontario Street & Street A



# Queues

## 12: Hurontario Street & Street A

PM Peak Hour



Lane Group	NBT	SBT
Lane Group Flow (vph)	3121	1907
v/c Ratio	1.52	0.93
Control Delay	254.3	22.4
Queue Delay	0.0	0.0
Total Delay	254.3	22.4
Queue Length 50th (m)	~116.6	42.2
Queue Length 95th (m)	#143.0	#72.5
Internal Link Dist (m)	904.0	831.3
Turn Bay Length (m)		
Base Capacity (vph)	2056	2056
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	1.52	0.93

### Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 12: Hurontario Street & Street A

PM Peak Hour




















Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	2871	1754	0
Future Volume (vph)	0	0	0	2871	1754	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0	4.0	
Lane Util. Factor				0.91	0.91	
Frt				1.00	1.00	
Flt Protected				1.00	1.00	
Satd. Flow (prot)				5142	5142	
Flt Permitted				1.00	1.00	
Satd. Flow (perm)				5142	5142	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	3121	1907	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	3121	1907	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Actuated Green, G (s)				16.0	16.0	
Effective Green, g (s)				16.0	16.0	
Actuated g/C Ratio				0.40	0.40	
Clearance Time (s)				4.0	4.0	
Lane Grp Cap (vph)				2056	2056	
v/s Ratio Prot				0.61	0.37	
v/s Ratio Perm						
v/c Ratio				1.52	0.93	
Uniform Delay, d1				12.0	11.4	
Progression Factor				1.00	1.00	
Incremental Delay, d2				235.6	8.8	
Delay (s)				247.6	20.3	
Level of Service				F	C	
Approach Delay (s)	0.0			247.6	20.3	
Approach LOS	A			F	C	

### Intersection Summary

HCM 2000 Control Delay	161.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2029  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	228	3	112	147	35	2	187	233	27	181	8
Future Volume (vph)	2	228	3	112	147	35	2	187	233	27	181	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.971			0.925				0.995
Flt Protected				0.950								0.994
Satd. Flow (prot)	0	1917	0	1772	1802	0	0	1711	0	0	1788	0
Flt Permitted		0.997		0.605				0.999			0.931	
Satd. Flow (perm)	0	1912	0	1128	1802	0	0	1709	0	0	1675	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			36			185				6
Link Speed (k/h)		70			70			80				80
Link Distance (m)		590.7			490.2			298.8				342.6
Travel Time (s)		30.4			25.2			13.4				15.4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Adj. Flow (vph)	2	243	3	119	156	37	2	199	248	29	193	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	248	0	119	193	0	0	449	0	0	231	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)		3.7			3.7			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

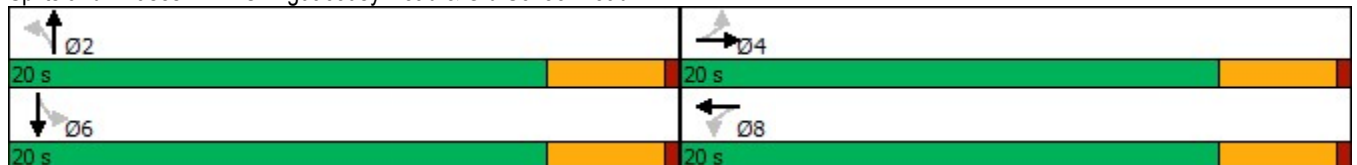
Future Background 2029  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		9.6		9.4	9.4			19.8			19.8	
Actuated g/C Ratio		0.28		0.27	0.27			0.57			0.57	
v/c Ratio		0.47		0.39	0.37			0.42			0.24	
Control Delay		12.9		13.4	9.9			5.5			6.7	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		12.9		13.4	9.9			5.5			6.7	
LOS		B		B	A			A			A	
Approach Delay		12.9			11.2			5.5			6.7	
Approach LOS		B			B			A			A	

Intersection Summary

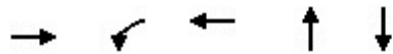
Area Type: Other  
 Cycle Length: 40  
 Actuated Cycle Length: 34.6  
 Natural Cycle: 40  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.47  
 Intersection Signal Delay: 8.6  
 Intersection Capacity Utilization 62.5%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 1: Chinguacousy Road & Old School Road



Queues

1: Chinguacousy Road & Old School Road




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	248	119	193	449	231
v/c Ratio	0.47	0.39	0.37	0.42	0.24
Control Delay	12.9	13.4	9.9	5.5	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	12.9	13.4	9.9	5.5	6.7
Queue Length 50th (m)	10.7	5.1	6.5	7.6	6.3
Queue Length 95th (m)	21.9	12.8	15.5	24.9	18.1
Internal Link Dist (m)	566.7		466.2	274.8	318.6
Turn Bay Length (m)		30.0			
Base Capacity (vph)	888	523	855	1058	962
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.28	0.23	0.23	0.42	0.24

Intersection Summary

HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road



















Future Background 2029  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	2	228	3	112	147	35	2	187	233	27	181	8	
Future Volume (vph)	2	228	3	112	147	35	2	187	233	27	181	8	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0		
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00		
Frt		1.00		1.00	0.97			0.93			0.99		
Flt Protected		1.00		0.95	1.00			1.00			0.99		
Satd. Flow (prot)		1917		1772	1802			1711			1788		
Flt Permitted		1.00		0.60	1.00			1.00			0.93		
Satd. Flow (perm)		1912		1128	1802			1710			1674		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	2	243	3	119	156	37	2	199	248	29	193	9	
RTOR Reduction (vph)	0	2	0	0	28	0	0	85	0	0	3	0	
Lane Group Flow (vph)	0	246	0	119	165	0	0	364	0	0	228	0	
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		8.3		8.3	8.3			19.0			19.0		
Effective Green, g (s)		8.3		8.3	8.3			19.0			19.0		
Actuated g/C Ratio		0.24		0.24	0.24			0.54			0.54		
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0		
Lane Grp Cap (vph)		449		265	423			920			901		
v/s Ratio Prot					0.09								
v/s Ratio Perm		c0.13		0.11				c0.21			0.14		
v/c Ratio		0.55		0.45	0.39			0.40			0.25		
Uniform Delay, d1		11.9		11.5	11.4			4.8			4.4		
Progression Factor		1.00		1.00	1.00			1.00			1.00		
Incremental Delay, d2		1.4		1.2	0.6			1.3			0.7		
Delay (s)		13.2		12.8	12.0			6.1			5.0		
Level of Service		B		B	B			A			A		
Approach Delay (s)		13.2			12.3			6.1			5.0		
Approach LOS		B			B			A			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			8.9									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.44										
Actuated Cycle Length (s)			35.3									Sum of lost time (s)	8.0
Intersection Capacity Utilization			62.5%									ICU Level of Service	B
Analysis Period (min)			15										
c Critical Lane Group													



Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Background 2029  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	456	28	197	262	23	32	58	347	36	115	11
Future Volume (vph)	6	456	28	197	262	23	32	58	347	36	115	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.988				0.850		0.991	
Flt Protected		0.999		0.950				0.983			0.989	
Satd. Flow (prot)	0	1871	0	1789	1833	0	0	1864	1617	0	1858	0
Flt Permitted		0.995		0.264				0.866			0.923	
Satd. Flow (perm)	0	1864	0	497	1833	0	0	1642	1617	0	1734	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			8				369			5
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Adj. Flow (vph)	6	485	30	210	279	24	34	62	369	38	122	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	521	0	210	303	0	0	96	369	0	172	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

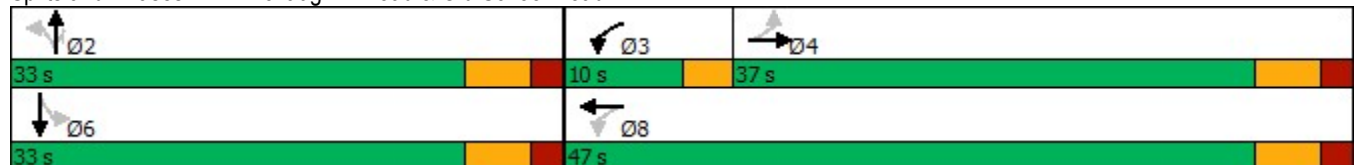
Future Background 2029  
AM Peak Hour

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	37.0	37.0		10.0	47.0		33.0	33.0	33.0	33.0	33.0	
Total Split (%)	46.3%	46.3%		12.5%	58.8%		41.3%	41.3%	41.3%	41.3%	41.3%	
Maximum Green (s)	31.0	31.0		7.0	41.0		27.0	27.0	27.0	27.0	27.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		0.0	2.0		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	
Total Lost Time (s)		6.0		3.0	6.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		24.6		37.7	34.7			27.2	27.2		27.2	
Actuated g/C Ratio		0.33		0.51	0.47			0.37	0.37		0.37	
v/c Ratio		0.84		0.56	0.35			0.16	0.45		0.27	
Control Delay		35.3		15.9	13.1			18.5	4.3		18.8	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		35.3		15.9	13.1			18.5	4.3		18.8	
LOS		D		B	B			B	A		B	
Approach Delay		35.3			14.2			7.2			18.8	
Approach LOS		D			B			A			B	

Intersection Summary

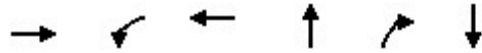
Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 73.9  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.84  
 Intersection Signal Delay: 19.3  
 Intersection Capacity Utilization 71.6%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service C

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road



















Future Background 2029  
AM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	521	210	303	96	369	172
v/c Ratio	0.84	0.56	0.35	0.16	0.45	0.27
Control Delay	35.3	15.9	13.1	18.5	4.3	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	15.9	13.1	18.5	4.3	18.8
Queue Length 50th (m)	65.1	15.1	24.5	8.9	0.0	16.1
Queue Length 95th (m)	100.3	26.0	40.3	20.6	16.9	33.2
Internal Link Dist (m)	869.1		325.1	564.2		239.1
Turn Bay Length (m)		30.0				
Base Capacity (vph)	789	376	1026	603	828	640
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.56	0.30	0.16	0.45	0.27
Intersection Summary						
























HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road

Future Background 2029  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	456	28	197	262	23	32	58	347	36	115	11
Future Volume (vph)	6	456	28	197	262	23	32	58	347	36	115	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		3.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Frt		0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	
Satd. Flow (prot)		1873		1789	1833			1864	1617		1857	
Flt Permitted		1.00		0.26	1.00			0.87	1.00		0.92	
Satd. Flow (perm)		1865		498	1833			1642	1617		1733	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	6	485	30	210	279	24	34	62	369	38	122	12
RTOR Reduction (vph)	0	3	0	0	4	0	0	0	233	0	3	0
Lane Group Flow (vph)	0	518	0	210	299	0	0	96	136	0	169	0
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		24.6		34.6	34.6			27.2	27.2		27.2	
Effective Green, g (s)		24.6		34.6	34.6			27.2	27.2		27.2	
Actuated g/C Ratio		0.33		0.47	0.47			0.37	0.37		0.37	
Clearance Time (s)		6.0		3.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		621		355	859			605	595		638	
v/s Ratio Prot				c0.06	0.16							
v/s Ratio Perm		c0.28		0.22				0.06	0.08		c0.10	
v/c Ratio		0.83		0.59	0.35			0.16	0.23		0.26	
Uniform Delay, d1		22.7		14.0	12.4			15.6	16.1		16.3	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		9.5		2.6	0.2			0.6	0.9		1.0	
Delay (s)		32.2		16.7	12.7			16.2	17.0		17.3	
Level of Service		C		B	B			B	B		B	
Approach Delay (s)		32.2			14.3			16.8			17.3	
Approach LOS		C			B			B			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			20.9		HCM 2000 Level of Service				C			
HCM 2000 Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			73.8		Sum of lost time (s)			15.0				
Intersection Capacity Utilization			71.6%		ICU Level of Service			C				
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2029  
AM Peak Hour

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	455	208	167	310	164	149	54	1629	154	73	2297	245	
Future Volume (vph)	455	208	167	310	164	149	54	1629	154	73	2297	245	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0	
Storage Lanes	1		0	1		0	1		1	1		1	
Taper Length (m)	2.5			2.5			2.5			2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	
Frt		0.933			0.929				0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1755	1746	0	1722	1715	0	1722	4445	1471	1615	5043	1633	
Flt Permitted	0.182			0.222			0.070			0.070			
Satd. Flow (perm)	336	1746	0	402	1715	0	127	4445	1471	119	5043	1633	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		30			27				131			148	
Link Speed (k/h)		70			70			80			80		
Link Distance (m)		1007.8			596.4			855.3			603.9		
Travel Time (s)		51.8			30.7			38.5			27.2		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%	
Adj. Flow (vph)	489	224	180	333	176	160	58	1752	166	78	2470	263	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	489	404	0	333	336	0	58	1752	166	78	2470	263	
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)		3.7			3.7			3.7			3.7		
Link Offset(m)		0.0			0.0			0.0			0.0		
Crosswalk Width(m)		1.6			1.6			1.6			1.6		
Two way Left Turn Lane								Yes					
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Number of Detectors	1	2		1	2		1	2	1	1	2	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7		
Detector 2 Size(m)		1.8			1.8			1.8			1.8		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0			0.0		
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm	
Protected Phases	7	4		3	8			2			6		

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2029  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	24.0		8.0	24.0		29.0	29.0	29.0	29.0	29.0	29.0
Total Split (s)	29.0	32.0		23.0	26.0		65.0	65.0	65.0	65.0	65.0	65.0
Total Split (%)	24.2%	26.7%		19.2%	21.7%		54.2%	54.2%	54.2%	54.2%	54.2%	54.2%
Maximum Green (s)	25.0	24.0		19.0	18.0		57.0	57.0	57.0	57.0	57.0	57.0
Yellow Time (s)	3.5	6.0		3.5	6.0		6.0	6.0	6.0	6.0	6.0	6.0
All-Red Time (s)	0.5	2.0		0.5	2.0		2.0	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	0.0
Total Lost Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lead/Lag	Lead	Lag		Lead	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	None		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		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
Act Effct Green (s)	51.0	24.0		41.0	18.0		57.0	57.0	57.0	57.0	57.0	57.0
Actuated g/C Ratio	0.42	0.20		0.34	0.15		0.48	0.48	0.48	0.48	0.48	0.48
v/c Ratio	1.12	1.08		0.96	1.20		0.97	0.83	0.22	1.39	1.03	0.31
Control Delay	109.9	112.8		71.6	159.6		143.9	31.6	5.6	285.6	58.5	9.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	109.9	112.8		71.6	159.6		143.9	31.6	5.6	285.6	58.5	9.1
LOS	F	F		E	F		F	C	A	F	E	A
Approach Delay		111.2			115.8			32.7			60.2	
Approach LOS		F			F			C			E	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 130  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.39  
 Intersection Signal Delay: 64.7  
 Intersection Capacity Utilization 114.0%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service H

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Background 2029  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	489	404	333	336	58	1752	166	78	2470	263
v/c Ratio	1.12	1.08	0.96	1.20	0.97	0.83	0.22	1.39	1.03	0.31
Control Delay	109.9	112.8	71.6	159.6	143.9	31.6	5.6	285.6	58.5	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	109.9	112.8	71.6	159.6	143.9	31.6	5.6	285.6	58.5	9.1
Queue Length 50th (m)	~114.2	~100.7	59.3	~90.7	12.9	127.4	4.3	~24.4	~228.3	14.9
Queue Length 95th (m)	#179.0	#162.0	#116.4	#148.0	#41.1	148.5	16.2	#43.1	#256.3	31.8
Internal Link Dist (m)		983.8		572.4		831.3			579.9	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	438	373	346	280	60	2111	767	56	2395	853
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	1.08	0.96	1.20	0.97	0.83	0.22	1.39	1.03	0.31

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Background 2029  
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	455	208	167	310	164	149	54	1629	154	73	2297	245
Future Volume (vph)	455	208	167	310	164	149	54	1629	154	73	2297	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	1746		1722	1714		1722	4445	1471	1615	5043	1633
Flt Permitted	0.18	1.00		0.22	1.00		0.07	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	336	1746		403	1714		127	4445	1471	119	5043	1633
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	489	224	180	333	176	160	58	1752	166	78	2470	263
RTOR Reduction (vph)	0	24	0	0	23	0	0	0	69	0	0	78
Lane Group Flow (vph)	489	380	0	333	313	0	58	1752	97	78	2470	185
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	47.0	24.0		37.0	18.0		57.0	57.0	57.0	57.0	57.0	57.0
Effective Green, g (s)	47.0	24.0		37.0	18.0		57.0	57.0	57.0	57.0	57.0	57.0
Actuated g/C Ratio	0.39	0.20		0.31	0.15		0.48	0.48	0.48	0.48	0.48	0.48
Clearance Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	427	349		333	257		60	2111	698	56	2395	775
v/s Ratio Prot	c0.24	0.22		0.16	0.18			0.39			0.49	
v/s Ratio Perm	c0.21			0.15			0.46		0.07	c0.65		0.11
v/c Ratio	1.15	1.09		1.00	1.22		0.97	0.83	0.14	1.39	1.03	0.24
Uniform Delay, d1	34.9	48.0		37.1	51.0		30.6	27.3	17.7	31.5	31.5	18.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	89.6	74.1		49.3	128.1		107.0	4.0	0.4	255.6	27.0	0.7
Delay (s)	124.5	122.1		86.4	179.1		137.6	31.3	18.1	287.1	58.5	19.4
Level of Service	F	F		F	F		F	C	B	F	E	B
Approach Delay (s)		123.4			133.0			33.3			61.2	
Approach LOS		F			F			C			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			68.8				HCM 2000 Level of Service				E	
HCM 2000 Volume to Capacity ratio			1.31									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			114.0%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2029  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔			↔↔↔				↔			↔	
Traffic Volume (vph)	41	647	48	140	563	24	24	178	136	80	220	36
Future Volume (vph)	41	647	48	140	563	24	24	178	136	80	220	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.990			0.995			0.946			0.986	
Fl <sub>t</sub> Protected		0.997			0.990			0.996			0.988	
Satd. Flow (prot)	0	4861	0	0	4858	0	0	1741	0	0	1782	0
Fl <sub>t</sub> Permitted		0.855			0.682			0.963			0.842	
Satd. Flow (perm)	0	4169	0	0	3346	0	0	1684	0	0	1519	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			5			40			7	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		777.9			1419.4			345.5			2784.8	
Travel Time (s)		40.0			73.0			15.5			125.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Adj. Flow (vph)	41	654	48	141	569	24	24	180	137	81	222	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	743	0	0	734	0	0	341	0	0	339	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	56.0	56.0		56.0	56.0		64.0	64.0		64.0	64.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	52.0	52.0		52.0	52.0		60.0	60.0		60.0	60.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		52.0			52.0			60.0			60.0	
Actuated g/C Ratio		0.43			0.43			0.50			0.50	
v/c Ratio		0.41			0.51			0.40			0.44	
Control Delay		23.9			44.4			17.9			21.2	
Queue Delay		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

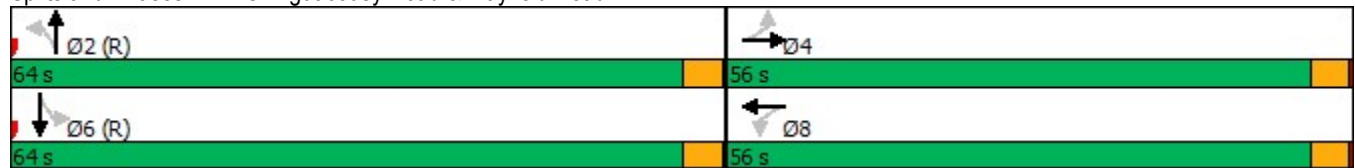
Future Background 2029  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		23.9			44.4			17.9			21.2	
LOS		C			D			B			C	
Approach Delay		23.9			44.4			17.9			21.2	
Approach LOS		C			D			B			C	

Intersection Summary

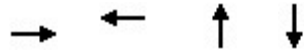
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	40
Control Type:	Pretimed
Maximum v/c Ratio:	0.51
Intersection Signal Delay:	29.5
Intersection LOS:	C
Intersection Capacity Utilization	78.5%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Background 2029  
AM Peak Hour



























Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	743	734	341	339
v/c Ratio	0.41	0.51	0.40	0.44
Control Delay	23.9	44.4	17.9	21.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	23.9	44.4	17.9	21.2
Queue Length 50th (m)	42.6	64.5	42.4	48.6
Queue Length 95th (m)	53.5	78.1	64.4	72.8
Internal Link Dist (m)	753.9	1395.4	321.5	2760.8
Turn Bay Length (m)				
Base Capacity (vph)	1812	1452	862	763
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.41	0.51	0.40	0.44
<b>Intersection Summary</b>				

# HCM Signalized Intersection Capacity Analysis

## 4: Chinguacousy Road & Mayfield Road





















Future Background 2029  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			  				  
Traffic Volume (vph)	41	647	48	140	563	24	24	178	136	80	220	36
Future Volume (vph)	41	647	48	140	563	24	24	178	136	80	220	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frt		0.99			1.00			0.95			0.99	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		4864			4860			1742			1782	
Flt Permitted		0.86			0.68			0.96			0.84	
Satd. Flow (perm)		4171			3346			1682			1519	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	41	654	48	141	569	24	24	180	137	81	222	36
RTOR Reduction (vph)	0	6	0	0	3	0	0	20	0	0	4	0
Lane Group Flow (vph)	0	737	0	0	731	0	0	321	0	0	336	0
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		52.0			52.0			60.0			60.0	
Effective Green, g (s)		52.0			52.0			60.0			60.0	
Actuated g/C Ratio		0.43			0.43			0.50			0.50	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		1807			1449			841			759	
v/s Ratio Prot												
v/s Ratio Perm		0.18			0.22			0.19			0.22	
v/c Ratio		0.41			0.50			0.38			0.44	
Uniform Delay, d1		23.4			24.7			18.5			19.3	
Progression Factor		1.00			1.74			1.00			1.00	
Incremental Delay, d2		0.7			1.2			1.3			1.9	
Delay (s)		24.1			44.2			19.9			21.1	
Level of Service		C			D			B			C	
Approach Delay (s)		24.1			44.2			19.9			21.1	
Approach LOS		C			D			B			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			29.8									C
HCM 2000 Volume to Capacity ratio			0.47									
Actuated Cycle Length (s)			120.0								8.0	
Intersection Capacity Utilization			78.5%									D
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2029  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	877	104	123	696	109	46	214	92	264	360	72
Future Volume (vph)	16	877	104	123	696	109	46	214	92	264	360	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.984			0.980			0.955			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4888	0	1706	4770	0	1644	3397	0	1690	3444	0
Flt Permitted	0.294			0.227			0.454			0.551		
Satd. Flow (perm)	565	4888	0	408	4770	0	786	3397	0	980	3444	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			34			69			24	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			341.6			2496.3	
Travel Time (s)		73.0			65.0			15.4			112.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Adj. Flow (vph)	16	895	106	126	710	111	47	218	94	269	367	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	1001	0	126	821	0	47	312	0	269	440	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		23.0	23.0	
Total Split (s)	64.0	64.0		64.0	64.0		56.0	56.0		56.0	56.0	
Total Split (%)	53.3%	53.3%		53.3%	53.3%		46.7%	46.7%		46.7%	46.7%	
Maximum Green (s)	58.0	58.0		58.0	58.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	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	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)	58.0	58.0		58.0	58.0		50.0	50.0		50.0	50.0	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.42	0.42		0.42	0.42	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

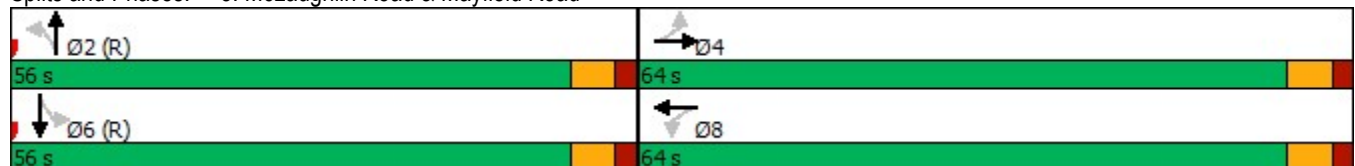
Future Background 2029  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.06	0.42		0.64	0.35		0.14	0.21		0.66	0.30	
Control Delay	21.9	26.6		40.9	19.0		23.3	17.7		37.5	22.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	21.9	26.6		40.9	19.0		23.3	17.7		37.5	22.7	
LOS	C	C		D	B		C	B		D	C	
Approach Delay		26.5			21.9			18.4			28.3	
Approach LOS		C			C			B			C	

Intersection Summary

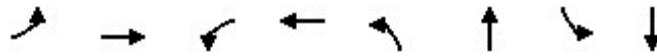
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	50
Control Type:	Pretimed
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	24.5
Intersection LOS:	C
Intersection Capacity Utilization	69.6%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Background 2029  
AM Peak Hour





























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	16	1001	126	821	47	312	269	440
v/c Ratio	0.06	0.42	0.64	0.35	0.14	0.21	0.66	0.30
Control Delay	21.9	26.6	40.9	19.0	23.3	17.7	37.5	22.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	26.6	40.9	19.0	23.3	17.7	37.5	22.7
Queue Length 50th (m)	2.6	70.2	21.6	41.0	6.8	18.6	50.1	33.6
Queue Length 95th (m)	m6.9	81.8	#51.7	50.7	15.1	28.3	82.1	45.8
Internal Link Dist (m)		1395.4		1239.7		317.6		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	273	2374	197	2323	327	1455	408	1449
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.42	0.64	0.35	0.14	0.21	0.66	0.30

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Future Background 2029  
AM Peak Hour

































												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (vph)	16	877	104	123	696	109	46	214	92	264	360	72
Future Volume (vph)	16	877	104	123	696	109	46	214	92	264	360	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	4889		1706	4768		1644	3397		1690	3445	
Flt Permitted	0.29	1.00		0.23	1.00		0.45	1.00		0.55	1.00	
Satd. Flow (perm)	564	4889		408	4768		785	3397		980	3445	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	16	895	106	126	710	111	47	218	94	269	367	73
RTOR Reduction (vph)	0	12	0	0	18	0	0	40	0	0	14	0
Lane Group Flow (vph)	16	989	0	126	803	0	47	272	0	269	426	0
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	58.0	58.0		58.0	58.0		50.0	50.0		50.0	50.0	
Effective Green, g (s)	58.0	58.0		58.0	58.0		50.0	50.0		50.0	50.0	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.42	0.42		0.42	0.42	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	272	2363		197	2304		327	1415		408	1435	
v/s Ratio Prot		0.20			0.17			0.08			0.12	
v/s Ratio Perm	0.03			c0.31			0.06			c0.27		
v/c Ratio	0.06	0.42		0.64	0.35		0.14	0.19		0.66	0.30	
Uniform Delay, d1	16.5	20.1		23.2	19.3		21.7	22.2		28.1	23.3	
Progression Factor	1.26	1.32		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.5		14.9	0.4		0.9	0.3		8.1	0.5	
Delay (s)	21.2	27.1		38.0	19.7		22.6	22.5		36.3	23.8	
Level of Service	C	C		D	B		C	C		D	C	
Approach Delay (s)		27.0			22.1			22.5			28.5	
Approach LOS		C			C			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			25.3				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			69.6%				ICU Level of Service			C		
Analysis Period (min)			15									

c Critical Lane Group



Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

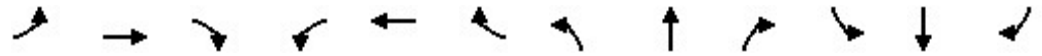
Future Background 2029  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	236	865	94	199	556	148	78	349	203	315	815	315
Future Volume (vph)	236	865	94	199	556	148	78	349	203	315	815	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	1.00		0.98			0.97	0.99		0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	4902	1541	3340	4948	1420	1807	3476	1512	1706	3544	1585
Fl <sub>t</sub> Permitted	0.198			0.950			0.264			0.521		
Satd. Flow (perm)	362	4902	1508	3326	4948	1395	502	3476	1467	926	3544	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			100			157			216			335
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			749.9			381.1			609.4	
Travel Time (s)		7.3			38.6			19.6			31.3	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Adj. Flow (vph)	251	920	100	212	591	157	83	371	216	335	867	335
Shared Lane Traffic (%)												
Lane Group Flow (vph)	251	920	100	212	591	157	83	371	216	335	867	335
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	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)	9.0	23.0	23.0	9.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	31.0	44.0	44.0	20.0	33.0	33.0	96.0	96.0	96.0	96.0	96.0	96.0
Total Split (%)	19.4%	27.5%	27.5%	12.5%	20.6%	20.6%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%
Maximum Green (s)	26.0	37.0	37.0	15.0	26.0	26.0	89.0	89.0	89.0	89.0	89.0	89.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	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	0



Queues  
6: Hurontario Street & Mayfield Road

Future Background 2029  
AM Peak Hour




































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	251	920	100	212	591	157	83	371	216	335	867	335
v/c Ratio	0.70	0.81	0.24	0.68	0.74	0.44	0.30	0.19	0.24	0.65	0.44	0.33
Control Delay	48.8	64.9	9.7	81.8	69.9	11.9	22.5	17.9	2.6	32.1	21.7	2.5
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	48.8	64.9	9.7	81.8	69.9	11.9	22.5	17.9	2.6	32.1	21.7	2.5
Queue Length 50th (m)	58.9	102.4	0.0	34.2	66.4	0.0	13.6	30.0	0.0	72.1	82.8	0.0
Queue Length 95th (m)	84.2	119.5	15.4	48.6	81.0	21.2	26.4	39.1	11.9	110.3	98.8	13.9
Internal Link Dist (m)		118.1			725.9			357.1			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	357	1133	425	313	804	358	279	1933	911	515	1971	1014
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.81	0.24	0.68	0.74	0.44	0.30	0.19	0.24	0.65	0.44	0.33

Intersection Summary

HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Background 2029  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 		 	 	
Traffic Volume (vph)	236	865	94	199	556	148	78	349	203	315	815	315
Future Volume (vph)	236	865	94	199	556	148	78	349	203	315	815	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1738	4902	1508	3340	4948	1395	1807	3476	1467	1688	3544	1557
Flt Permitted	0.20	1.00	1.00	0.95	1.00	1.00	0.26	1.00	1.00	0.52	1.00	1.00
Satd. Flow (perm)	362	4902	1508	3340	4948	1395	502	3476	1467	926	3544	1557
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	251	920	100	212	591	157	83	371	216	335	867	335
RTOR Reduction (vph)	0	0	77	0	0	131	0	0	96	0	0	149
Lane Group Flow (vph)	251	920	23	212	591	26	83	371	120	335	867	186
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4			8	2		2	6		6
Actuated Green, G (s)	57.0	37.0	37.0	15.0	26.0	26.0	89.0	89.0	89.0	89.0	89.0	89.0
Effective Green, g (s)	57.0	37.0	37.0	15.0	26.0	26.0	89.0	89.0	89.0	89.0	89.0	89.0
Actuated g/C Ratio	0.36	0.23	0.23	0.09	0.16	0.16	0.56	0.56	0.56	0.56	0.56	0.56
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lane Grp Cap (vph)	352	1133	348	313	804	226	279	1933	816	515	1971	866
v/s Ratio Prot	c0.12	c0.19		0.06	0.12			0.11			0.24	
v/s Ratio Perm	0.14		0.02			0.02	0.17		0.08	c0.36		0.12
v/c Ratio	0.71	0.81	0.07	0.68	0.74	0.11	0.30	0.19	0.15	0.65	0.44	0.22
Uniform Delay, d1	40.0	58.2	48.0	70.2	63.7	57.2	18.9	17.6	17.2	24.7	20.9	17.9
Progression 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
Incremental Delay, d2	11.7	6.4	0.4	11.2	5.9	1.0	2.7	0.2	0.4	6.3	0.7	0.6
Delay (s)	51.6	64.6	48.4	81.4	69.6	58.2	21.6	17.9	17.5	30.9	21.6	18.5
Level of Service	D	E	D	F	E	E	C	B	B	C	C	B
Approach Delay (s)		60.8			70.4			18.2			22.9	
Approach LOS		E			E			B			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			43.3									HCM 2000 Level of Service D
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			160.0									Sum of lost time (s) 19.0
Intersection Capacity Utilization			78.9%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2029  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	209	2	234	301	44	11	308	268	34	202	4
Future Volume (vph)	4	209	2	234	301	44	11	308	268	34	202	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.981			0.938			0.998	
Flt Protected		0.999		0.950				0.999			0.993	
Satd. Flow (prot)	0	1863	0	1825	1838	0	0	1721	0	0	1844	0
Flt Permitted		0.993		0.589				0.993			0.875	
Satd. Flow (perm)	0	1852	0	1132	1838	0	0	1711	0	0	1625	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			10			74			1	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			342.6	
Travel Time (s)		30.4			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	4	222	2	249	320	47	12	328	285	36	215	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	228	0	249	367	0	0	625	0	0	255	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	35.0	35.0		35.0	35.0		45.0	45.0		45.0	45.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%		56.3%	56.3%		56.3%	56.3%	
Maximum Green (s)	29.0	29.0		29.0	29.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		29.0		29.0	29.0			39.0			39.0	
Actuated g/C Ratio		0.36		0.36	0.36			0.49			0.49	

Lanes, Volumes, Timings  
 1: Chinguacousy Road & Old School Road

Future Background 2029  
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.34		0.61	0.55			0.72			0.32	
Control Delay		20.3		28.4	23.4			19.8			13.8	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		20.3		28.4	23.4			19.8			13.8	
LOS		C		C	C			B			B	
Approach Delay		20.3			25.4			19.8			13.8	
Approach LOS		C			C			B			B	

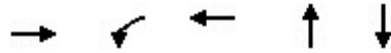
Intersection Summary	
Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	50
Control Type:	Pretimed
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	21.0
Intersection LOS:	C
Intersection Capacity Utilization	79.3%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road



Queues

1: Chinguacousy Road & Old School Road




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	228	249	367	625	255
v/c Ratio	0.34	0.61	0.55	0.72	0.32
Control Delay	20.3	28.4	23.4	19.8	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.3	28.4	23.4	19.8	13.8
Queue Length 50th (m)	24.6	30.3	42.2	62.8	22.3
Queue Length 95th (m)	41.8	54.6	67.5	101.7	37.6
Internal Link Dist (m)	566.7		466.2	274.8	318.6
Turn Bay Length (m)		30.0			
Base Capacity (vph)	671	410	672	872	792
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.34	0.61	0.55	0.72	0.32

Intersection Summary

HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Background 2029  
PM Peak Hour



















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	209	2	234	301	44	11	308	268	34	202	4
Future Volume (vph)	4	209	2	234	301	44	11	308	268	34	202	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.98			0.94			1.00	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		1863		1825	1838			1722			1844	
Flt Permitted		0.99		0.59	1.00			0.99			0.87	
Satd. Flow (perm)		1852		1132	1838			1712			1624	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	4	222	2	249	320	47	12	328	285	36	215	4
RTOR Reduction (vph)	0	1	0	0	6	0	0	38	0	0	1	0
Lane Group Flow (vph)	0	227	0	249	361	0	0	587	0	0	254	0
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.0		29.0	29.0			39.0			39.0	
Effective Green, g (s)		29.0		29.0	29.0			39.0			39.0	
Actuated g/C Ratio		0.36		0.36	0.36			0.49			0.49	
Clearance Time (s)		6.0		6.0	6.0			6.0			6.0	
Lane Grp Cap (vph)		671		410	666			834			791	
v/s Ratio Prot					0.20							
v/s Ratio Perm		0.12		c0.22				c0.34			0.16	
v/c Ratio		0.34		0.61	0.54			0.70			0.32	
Uniform Delay, d1		18.5		20.8	20.2			16.0			12.5	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		1.4		6.5	3.1			4.9			1.1	
Delay (s)		19.9		27.4	23.4			20.9			13.5	
Level of Service		B		C	C			C			B	
Approach Delay (s)		19.9			25.0			20.9			13.5	
Approach LOS		B			C			C			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			21.2									C
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			80.0								12.0	
Intersection Capacity Utilization			79.3%									D
Analysis Period (min)			15									

c Critical Lane Group



Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Background 2029  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	474	31	366	533	25	40	132	374	20	56	6
Future Volume (vph)	9	474	31	366	533	25	40	132	374	20	56	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.993				0.850		0.991	
Flt Protected		0.999		0.950				0.988			0.988	
Satd. Flow (prot)	0	1826	0	1755	1886	0	0	1827	1555	0	1806	0
Flt Permitted		0.988		0.351				0.910			0.886	
Satd. Flow (perm)	0	1805	0	648	1886	0	0	1683	1555	0	1620	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			3				398		4	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	10	504	33	389	567	27	43	140	398	21	60	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	547	0	389	594	0	0	183	398	0	87	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

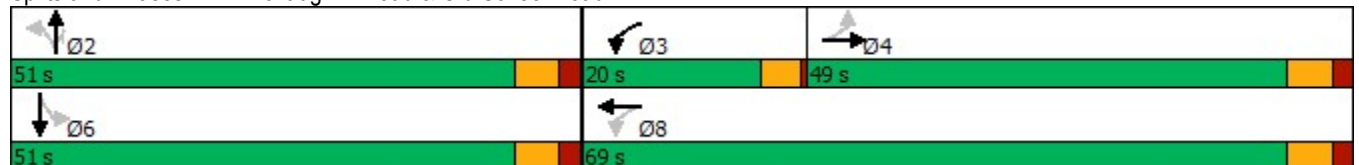
Future Background 2029  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	24.0	24.0		8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	49.0	49.0		20.0	69.0		51.0	51.0	51.0	51.0	51.0	
Total Split (%)	40.8%	40.8%		16.7%	57.5%		42.5%	42.5%	42.5%	42.5%	42.5%	
Maximum Green (s)	43.0	43.0		16.0	63.0		45.0	45.0	45.0	45.0	45.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		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	
Total Lost Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	Max	Max		None	Max		None	None	None	None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		44.1		65.1	63.1			15.6	15.6		15.6	
Actuated g/C Ratio		0.49		0.72	0.69			0.17	0.17		0.17	
v/c Ratio		0.62		0.60	0.45			0.63	0.67		0.31	
Control Delay		22.3		9.5	8.2			44.9	9.5		33.7	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		22.3		9.5	8.2			44.9	9.5		33.7	
LOS		C		A	A			D	A		C	
Approach Delay		22.3			8.7			20.6			33.7	
Approach LOS		C			A			C			C	

Intersection Summary

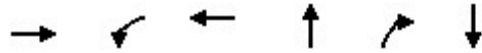
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 90.8  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.67  
 Intersection Signal Delay: 16.2  
 Intersection LOS: B  
 Intersection Capacity Utilization 90.5%  
 ICU Level of Service E  
 Analysis Period (min) 15

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road



















Future Background 2029  
PM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	547	389	594	183	398	87
v/c Ratio	0.62	0.60	0.45	0.63	0.67	0.31
Control Delay	22.3	9.5	8.2	44.9	9.5	33.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	9.5	8.2	44.9	9.5	33.7
Queue Length 50th (m)	68.8	20.9	39.8	29.9	0.0	12.8
Queue Length 95th (m)	117.9	42.5	75.7	50.2	23.3	25.5
Internal Link Dist (m)	869.1		325.1	564.2		239.1
Turn Bay Length (m)		30.0				
Base Capacity (vph)	879	660	1312	836	972	806
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.59	0.45	0.22	0.41	0.11
Intersection Summary						

HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road

Future Background 2029  
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	9	474	31	366	533	25	40	132	374	20	56	6	
Future Volume (vph)	9	474	31	366	533	25	40	132	374	20	56	6	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.0		4.0	6.0			6.0	6.0		6.0		
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00		1.00		
Frt		0.99		1.00	0.99			1.00	0.85		0.99		
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99		
Satd. Flow (prot)		1825		1755	1887			1828	1555		1806		
Flt Permitted		0.99		0.35	1.00			0.91	1.00		0.89		
Satd. Flow (perm)		1805		649	1887			1683	1555		1619		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	10	504	33	389	567	27	43	140	398	21	60	6	
RTOR Reduction (vph)	0	2	0	0	1	0	0	0	330	0	3	0	
Lane Group Flow (vph)	0	545	0	389	593	0	0	183	68	0	84	0	
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		4		3	8			2			6		
Permitted Phases	4			8			2		2	6			
Actuated Green, G (s)		44.2		63.2	63.2			15.6	15.6		15.6		
Effective Green, g (s)		44.2		63.2	63.2			15.6	15.6		15.6		
Actuated g/C Ratio		0.49		0.70	0.70			0.17	0.17		0.17		
Clearance Time (s)		6.0		4.0	6.0			6.0	6.0		6.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0		
Lane Grp Cap (vph)		878		634	1313			289	267		278		
v/s Ratio Prot				c0.10	0.31								
v/s Ratio Perm		0.30		c0.33				c0.11	0.04		0.05		
v/c Ratio		0.62		0.61	0.45			0.63	0.26		0.30		
Uniform Delay, d1		17.1		7.7	6.1			34.9	32.6		32.8		
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00		
Incremental Delay, d2		3.3		1.8	1.1			4.5	0.5		0.6		
Delay (s)		20.4		9.5	7.2			39.4	33.1		33.5		
Level of Service		C		A	A			D	C		C		
Approach Delay (s)		20.4			8.1			35.1			33.5		
Approach LOS		C			A			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			19.3		HCM 2000 Level of Service					B			
HCM 2000 Volume to Capacity ratio			0.64										
Actuated Cycle Length (s)			90.8		Sum of lost time (s)					16.0			
Intersection Capacity Utilization			90.5%		ICU Level of Service					E			
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2029  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	554	202	102	325	261	160	182	2859	368	170	1678	476
Future Volume (vph)	554	202	102	325	261	160	182	2859	368	170	1678	476
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.950			0.943				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	1738	0	1789	1800	0	1807	5043	1633	1825	4812	1541
Flt Permitted	0.160			0.234			0.075			0.082		
Satd. Flow (perm)	307	1738	0	441	1800	0	143	5043	1633	158	4812	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			23				163			340
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			596.4			855.3			603.9	
Travel Time (s)		51.8			30.7			38.5			27.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Adj. Flow (vph)	571	208	105	335	269	165	188	2947	379	175	1730	491
Shared Lane Traffic (%)												
Lane Group Flow (vph)	571	313	0	335	434	0	188	2947	379	175	1730	491
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2029  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0	29.0	10.0	29.0	29.0
Total Split (s)	24.0	31.0		22.0	29.0		14.0	57.0	57.0	10.0	53.0	53.0
Total Split (%)	20.0%	25.8%		18.3%	24.2%		11.7%	47.5%	47.5%	8.3%	44.2%	44.2%
Maximum Green (s)	20.0	25.0		18.0	23.0		8.0	51.0	51.0	4.0	47.0	47.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	-2.0		0.0	-2.0		-2.0	-2.0	0.0	-2.0	-2.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lead/Lag	Lead	Lag		Lead	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
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Walk Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	47.0	27.0		43.0	25.0		63.0	53.0	51.0	55.0	49.0	47.0
Actuated g/C Ratio	0.39	0.22		0.36	0.21		0.52	0.44	0.42	0.46	0.41	0.39
v/c Ratio	1.53	0.77		0.93	1.10		0.88	1.32	0.48	1.13	0.88	0.61
Control Delay	279.5	54.7		61.7	118.6		64.6	178.9	15.9	136.6	39.2	11.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	279.5	54.7		61.7	118.6		64.6	178.9	15.9	136.6	39.2	11.9
LOS	F	D		E	F		E	F	B	F	D	B
Approach Delay		199.9			93.8			155.2			40.7	
Approach LOS		F			F			F			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 140  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.53  
 Intersection Signal Delay: 117.9      Intersection LOS: F  
 Intersection Capacity Utilization 132.2%      ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Background 2029  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	571	313	335	434	188	2947	379	175	1730	491
v/c Ratio	1.53	0.77	0.93	1.10	0.88	1.32	0.48	1.13	0.88	0.61
Control Delay	279.5	54.7	61.7	118.6	64.6	178.9	15.9	136.6	39.2	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	279.5	54.7	61.7	118.6	64.6	178.9	15.9	136.6	39.2	11.9
Queue Length 50th (m)	~172.5	65.4	56.5	~112.1	28.2	~329.0	34.7	~31.4	135.8	25.1
Queue Length 95th (m)	#240.3	#104.9	#109.7	#174.8	#69.9	#355.0	61.4	#76.3	157.1	59.8
Internal Link Dist (m)		983.8		572.4		831.3			579.9	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	373	406	360	393	213	2227	787	155	1964	810
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.53	0.77	0.93	1.10	0.88	1.32	0.48	1.13	0.88	0.61

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.



























Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

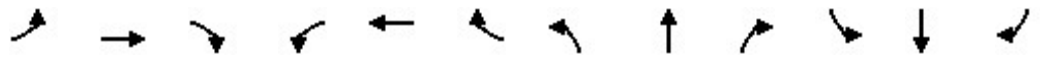
Future Background 2029  
PM Peak Hour

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations								  			  			
Traffic Volume (vph)	554	202	102	325	261	160	182	2859	368	170	1678	476		
Future Volume (vph)	554	202	102	325	261	160	182	2859	368	170	1678	476		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0		
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00		
Frt	1.00	0.95		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00		
Satd. Flow (prot)	1825	1737		1789	1800		1807	5043	1633	1825	4812	1541		
Flt Permitted	0.16	1.00		0.23	1.00		0.08	1.00	1.00	0.08	1.00	1.00		
Satd. Flow (perm)	307	1737		440	1800		144	5043	1633	157	4812	1541		
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97		
Adj. Flow (vph)	571	208	105	335	269	165	188	2947	379	175	1730	491		
RTOR Reduction (vph)	0	16	0	0	18	0	0	0	94	0	0	207		
Lane Group Flow (vph)	571	298	0	335	416	0	188	2947	285	175	1730	284		
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%		
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm		
Protected Phases	7	4		3	8		5	2		1	6			
Permitted Phases	4			8			2		2	6		6		
Actuated Green, G (s)	45.0	25.0		41.0	23.0		59.0	51.0	51.0	51.0	47.0	47.0		
Effective Green, g (s)	45.0	27.0		41.0	25.0		63.0	53.0	51.0	55.0	49.0	47.0		
Actuated g/C Ratio	0.38	0.22		0.34	0.21		0.52	0.44	0.42	0.46	0.41	0.39		
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	368	390		352	375		214	2227	694	155	1964	603		
v/s Ratio Prot	c0.26	0.17		0.14	0.23		c0.07	c0.58		c0.06	0.36			
v/s Ratio Perm	c0.32			0.18			0.39		0.17	0.46		0.18		
v/c Ratio	1.55	0.76		0.95	1.11		0.88	1.32	0.41	1.13	0.88	0.47		
Uniform Delay, d1	34.9	43.5		33.3	47.5		31.1	33.5	24.0	28.6	32.8	27.2		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	261.3	8.6		35.3	79.2		30.8	148.7	1.8	111.1	6.1	2.6		
Delay (s)	296.2	52.1		68.6	126.7		61.9	182.2	25.8	139.7	38.9	29.9		
Level of Service	F	D		E	F		E	F	C	F	D	C		
Approach Delay (s)		209.7			101.4			158.9			44.4			
Approach LOS		F			F			F			D			
<b>Intersection Summary</b>														
HCM 2000 Control Delay			122.7									HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio			1.41											
Actuated Cycle Length (s)			120.0								16.0		Sum of lost time (s)	
Intersection Capacity Utilization			132.2%										ICU Level of Service	H
Analysis Period (min)			15											
c Critical Lane Group														



Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2029  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕			↕↕↕			↕			↕	
Traffic Volume (vph)	40	677	49	178	638	64	33	262	152	32	159	28
Future Volume (vph)	40	677	49	178	638	64	33	262	152	32	159	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.990			0.989			0.954			0.983	
Flt Protected		0.997			0.990			0.996			0.993	
Satd. Flow (prot)	0	5037	0	0	5026	0	0	1785	0	0	1835	0
Flt Permitted		0.834			0.667			0.963			0.893	
Satd. Flow (perm)	0	4213	0	0	3386	0	0	1725	0	0	1651	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			14			29			8	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		777.9			1419.4			345.5			2784.8	
Travel Time (s)		40.0			73.0			15.5			125.3	
Confl. Peds. (#/hr)							1					1
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
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Adj. Flow (vph)	43	736	53	193	693	70	36	285	165	35	173	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	832	0	0	956	0	0	486	0	0	238	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	59.0	59.0		59.0	59.0		61.0	61.0		61.0	61.0	
Total Split (%)	49.2%	49.2%		49.2%	49.2%		50.8%	50.8%		50.8%	50.8%	
Maximum Green (s)	55.0	55.0		55.0	55.0		57.0	57.0		57.0	57.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		55.0			55.0			57.0			57.0	
Actuated g/C Ratio		0.46			0.46			0.48			0.48	
v/c Ratio		0.43			0.61			0.58			0.30	

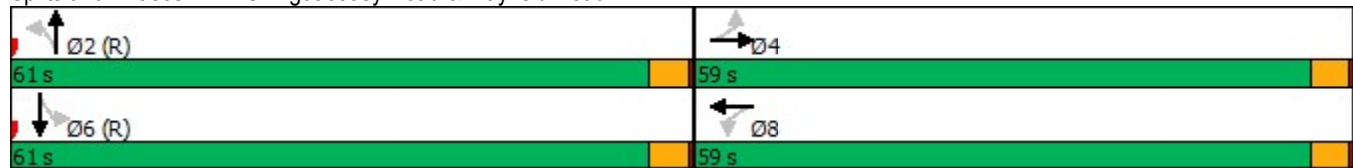
Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2029  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		22.4			38.2			24.8			19.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		22.4			38.2			24.8			19.9	
LOS		C			D			C			B	
Approach Delay		22.4			38.2			24.8			19.9	
Approach LOS		C			D			C			B	

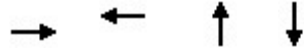
Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	40
Control Type:	Pretimed
Maximum v/c Ratio:	0.61
Intersection Signal Delay:	28.7
Intersection LOS:	C
Intersection Capacity Utilization	71.0%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

























Future Background 2029  
PM Peak Hour



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	832	956	486	238
v/c Ratio	0.43	0.61	0.58	0.30
Control Delay	22.4	38.2	24.8	19.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	22.4	38.2	24.8	19.9
Queue Length 50th (m)	46.5	83.6	76.1	32.2
Queue Length 95th (m)	57.7	98.6	109.7	50.0
Internal Link Dist (m)	753.9	1395.4	321.5	2760.8
Turn Bay Length (m)				
Base Capacity (vph)	1937	1559	834	788
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.43	0.61	0.58	0.30
<b>Intersection Summary</b>				





















HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road

Future Background 2029  
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  			  			  				  	
Traffic Volume (vph)	40	677	49	178	638	64	33	262	152	32	159	28	
Future Volume (vph)	40	677	49	178	638	64	33	262	152	32	159	28	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0			4.0			4.0			4.0		
Lane Util. Factor		0.91			0.91			1.00			1.00		
Frbp, ped/bikes		1.00			1.00			1.00			1.00		
Flpb, ped/bikes		1.00			1.00			1.00			1.00		
Frt		0.99			0.99			0.95			0.98		
Flt Protected		1.00			0.99			1.00			0.99		
Satd. Flow (prot)		5041			5026			1785			1835		
Flt Permitted		0.83			0.67			0.96			0.89		
Satd. Flow (perm)		4213			3387			1726			1650		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	43	736	53	193	693	70	36	285	165	35	173	30	
RTOR Reduction (vph)	0	7	0	0	8	0	0	15	0	0	4	0	
Lane Group Flow (vph)	0	826	0	0	948	0	0	471	0	0	234	0	
Confl. Peds. (#/hr)							1					1	
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		55.0			55.0			57.0			57.0		
Effective Green, g (s)		55.0			55.0			57.0			57.0		
Actuated g/C Ratio		0.46			0.46			0.48			0.48		
Clearance Time (s)		4.0			4.0			4.0			4.0		
Lane Grp Cap (vph)		1930			1552			819			783		
v/s Ratio Prot													
v/s Ratio Perm		0.20			c0.28			c0.27			0.14		
v/c Ratio		0.43			0.61			0.57			0.30		
Uniform Delay, d1		21.9			24.5			22.7			19.3		
Progression Factor		1.00			1.50			1.00			1.00		
Incremental Delay, d2		0.7			1.5			2.9			1.0		
Delay (s)		22.6			38.3			25.7			20.2		
Level of Service		C			D			C			C		
Approach Delay (s)		22.6			38.3			25.7			20.2		
Approach LOS		C			D			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			28.9									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.59										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			71.0%									ICU Level of Service	C
Analysis Period (min)			15										
c	Critical Lane Group												

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2029  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	833	65	109	973	248	111	383	112	189	223	75
Future Volume (vph)	41	833	65	109	973	248	111	383	112	189	223	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.989			0.970			0.966			0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	5036	0	1755	4892	0	1825	3475	0	1738	3393	0
Flt Permitted	0.130			0.232			0.562			0.421		
Satd. Flow (perm)	238	5036	0	429	4892	0	1080	3475	0	770	3393	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			64			44			41	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			341.6			2496.3	
Travel Time (s)		73.0			65.0			15.4			112.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	43	868	68	114	1014	258	116	399	117	197	232	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	936	0	114	1272	0	116	516	0	197	310	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	56.0	56.0		56.0	56.0		64.0	64.0		64.0	64.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	50.0	50.0		50.0	50.0		58.0	58.0		58.0	58.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	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	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)	50.0	50.0		50.0	50.0		58.0	58.0		58.0	58.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.48	0.48		0.48	0.48	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2029  
PM Peak Hour

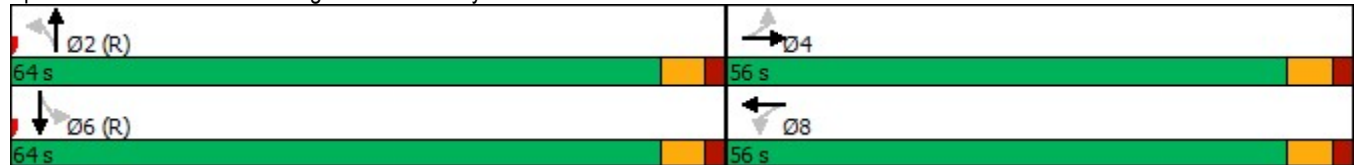
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.43	0.44		0.64	0.61		0.22	0.30		0.53	0.19	
Control Delay	51.8	35.4		47.0	27.4		19.4	17.6		28.0	15.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	51.8	35.4		47.0	27.4		19.4	17.6		28.0	15.5	
LOS	D	D		D	C		B	B		C	B	
Approach Delay		36.2			29.0			17.9			20.4	
Approach LOS		D			C			B			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: 50  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.64  
 Intersection Signal Delay: 27.8  
 Intersection Capacity Utilization 72.3%  
 Analysis Period (min) 15

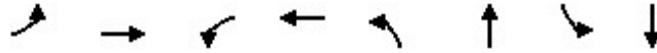
Intersection LOS: C  
 ICU Level of Service C

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Background 2029  
PM Peak Hour





























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	43	936	114	1272	116	516	197	310
v/c Ratio	0.43	0.44	0.64	0.61	0.22	0.30	0.53	0.19
Control Delay	51.8	35.4	47.0	27.4	19.4	17.6	28.0	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.8	35.4	47.0	27.4	19.4	17.6	28.0	15.5
Queue Length 50th (m)	9.0	71.9	21.0	80.4	15.4	34.1	31.4	18.2
Queue Length 95th (m)	m21.3	85.2	#48.8	95.4	27.6	45.8	55.3	26.7
Internal Link Dist (m)		1395.4		1239.7		317.6		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	99	2105	178	2075	522	1702	372	1661
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.44	0.64	0.61	0.22	0.30	0.53	0.19

Intersection Summary

- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Future Background 2029  
PM Peak Hour

























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (vph)	41	833	65	109	973	248	111	383	112	189	223	75
Future Volume (vph)	41	833	65	109	973	248	111	383	112	189	223	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1738	5036		1755	4890		1825	3475		1738	3393	
Flt Permitted	0.13	1.00		0.23	1.00		0.56	1.00		0.42	1.00	
Satd. Flow (perm)	238	5036		428	4890		1079	3475		771	3393	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	43	868	68	114	1014	258	116	399	117	197	232	78
RTOR Reduction (vph)	0	8	0	0	37	0	0	23	0	0	21	0
Lane Group Flow (vph)	43	928	0	114	1235	0	116	493	0	197	289	0
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	50.0	50.0		50.0	50.0		58.0	58.0		58.0	58.0	
Effective Green, g (s)	50.0	50.0		50.0	50.0		58.0	58.0		58.0	58.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.48	0.48		0.48	0.48	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	99	2098		178	2037		521	1679		372	1639	
v/s Ratio Prot		0.18			0.25			0.14			0.09	
v/s Ratio Perm	0.18			c0.27			0.11			c0.26		
v/c Ratio	0.43	0.44		0.64	0.61		0.22	0.29		0.53	0.18	
Uniform Delay, d1	24.9	25.0		27.8	27.3		17.9	18.7		21.5	17.5	
Progression Factor	1.39	1.40		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	12.2	0.6		16.4	1.3		1.0	0.4		5.3	0.2	
Delay (s)	46.8	35.7		44.2	28.7		18.9	19.1		26.8	17.7	
Level of Service	D	D		D	C		B	B		C	B	
Approach Delay (s)		36.2			29.9			19.1			21.3	
Approach LOS		D			C			B			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			28.5				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			72.3%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group



Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2029  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	579	579	99	266	745	149	187	661	253	214	758	819
Future Volume (vph)	579	579	99	266	745	149	187	661	253	214	758	819
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.96	0.98		0.99	1.00		0.96			0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	4995	1601	3404	5092	1585	1789	3614	1555	1825	3510	1585
Fl <sub>t</sub> Permitted	0.160			0.950			0.303			0.275		
Satd. Flow (perm)	296	4995	1538	3335	5092	1562	570	3614	1486	528	3510	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			145			254			680
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			749.9			381.1			609.4	
Travel Time (s)		7.3			38.6			19.6			31.3	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Adj. Flow (vph)	597	597	102	274	768	154	193	681	261	221	781	844
Shared Lane Traffic (%)												
Lane Group Flow (vph)	597	597	102	274	768	154	193	681	261	221	781	844
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
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)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2029  
PM Peak Hour

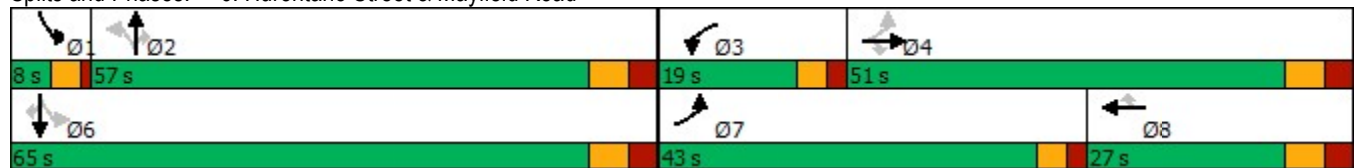


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	43.0	51.0	51.0	19.0	27.0	27.0	57.0	57.0	57.0	8.0	65.0	65.0
Total Split (%)	31.9%	37.8%	37.8%	14.1%	20.0%	20.0%	42.2%	42.2%	42.2%	5.9%	48.1%	48.1%
Maximum Green (s)	38.0	44.0	44.0	14.0	20.0	20.0	50.0	50.0	50.0	4.0	58.0	58.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-2.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
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	None	Max	Max	None	None	None	None	Max	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)		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)	67.0	44.4	44.4	15.6	20.0	20.0	52.0	50.0	50.0	63.0	58.0	58.0
Actuated g/C Ratio	0.50	0.33	0.33	0.12	0.15	0.15	0.39	0.37	0.37	0.47	0.43	0.43
v/c Ratio	1.03	0.36	0.18	0.70	1.02	0.44	0.88	0.51	0.37	0.73	0.52	0.80
Control Delay	82.2	35.4	6.2	67.6	93.7	13.4	76.5	34.6	5.3	40.2	29.8	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.2	35.4	6.2	67.6	93.7	13.4	76.5	34.6	5.3	40.2	29.8	12.8
LOS	F	D	A	E	F	B	E	C	A	D	C	B
Approach Delay		54.6			77.4			35.0			23.3	
Approach LOS		D			E			D			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 135  
 Actuated Cycle Length: 135  
 Natural Cycle: 90  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.03  
 Intersection Signal Delay: 45.0  
 Intersection LOS: D  
 Intersection Capacity Utilization 97.0%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Background 2029  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	597	597	102	274	768	154	193	681	261	221	781	844
v/c Ratio	1.03	0.36	0.18	0.70	1.02	0.44	0.88	0.51	0.37	0.73	0.52	0.80
Control Delay	82.2	35.4	6.2	67.6	93.7	13.4	76.5	34.6	5.3	40.2	29.8	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.2	35.4	6.2	67.6	93.7	13.4	76.5	34.6	5.3	40.2	29.8	12.8
Queue Length 50th (m)	~153.4	44.5	0.0	36.6	~79.2	2.1	47.5	73.6	1.2	35.1	79.2	35.0
Queue Length 95th (m)	#225.3	55.7	12.0	51.6	#106.5	21.7	#94.2	92.1	18.7	#54.9	97.7	99.6
Internal Link Dist (m)		118.1			725.9			357.1			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	579	1644	577	403	754	354	219	1338	710	304	1508	1055
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.36	0.18	0.68	1.02	0.44	0.88	0.51	0.37	0.73	0.52	0.80

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.


































Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.


















HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Background 2029  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 		 	 	
Traffic Volume (vph)	579	579	99	266	745	149	187	661	253	214	758	819
Future Volume (vph)	579	579	99	266	745	149	187	661	253	214	758	819
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	4995	1538	3404	5092	1562	1786	3614	1486	1825	3510	1555
Flt Permitted	0.16	1.00	1.00	0.95	1.00	1.00	0.30	1.00	1.00	0.28	1.00	1.00
Satd. Flow (perm)	296	4995	1538	3404	5092	1562	569	3614	1486	529	3510	1555
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	597	597	102	274	768	154	193	681	261	221	781	844
RTOR Reduction (vph)	0	0	68	0	0	124	0	0	160	0	0	388
Lane Group Flow (vph)	597	597	34	274	768	30	193	681	101	221	781	456
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Actuated Green, G (s)	63.0	44.4	44.4	13.6	20.0	20.0	50.0	50.0	50.0	58.0	58.0	58.0
Effective Green, g (s)	65.0	44.4	44.4	15.6	20.0	20.0	52.0	50.0	50.0	60.0	58.0	58.0
Actuated g/C Ratio	0.48	0.33	0.33	0.12	0.15	0.15	0.39	0.37	0.37	0.44	0.43	0.43
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0
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
Lane Grp Cap (vph)	574	1642	505	393	754	231	219	1338	550	292	1508	668
v/s Ratio Prot	c0.31	0.12		0.08	0.15			0.19		c0.03	0.22	
v/s Ratio Perm	c0.19		0.02			0.02	c0.34		0.07	0.30		0.29
v/c Ratio	1.04	0.36	0.07	0.70	1.02	0.13	0.88	0.51	0.18	0.76	0.52	0.68
Uniform Delay, d1	38.5	34.5	31.1	57.4	57.5	50.0	38.6	33.0	28.7	31.4	28.2	31.1
Progression 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
Incremental Delay, d2	48.4	0.6	0.3	5.3	37.5	1.2	31.1	0.3	0.2	10.7	1.3	5.6
Delay (s)	86.9	35.2	31.3	62.7	95.0	51.1	69.8	33.3	28.9	42.1	29.5	36.7
Level of Service	F	D	C	E	F	D	E	C	C	D	C	D
Approach Delay (s)		58.7			82.0			38.5			34.3	
Approach LOS		E			F			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			51.4	HCM 2000 Level of Service				D				
HCM 2000 Volume to Capacity ratio			1.01									
Actuated Cycle Length (s)			135.0	Sum of lost time (s)				19.0				
Intersection Capacity Utilization			97.0%	ICU Level of Service				F				
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Total 2029  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	237	3	112	176	35	2	187	233	27	181	8
Future Volume (vph)	2	237	3	112	176	35	2	187	233	27	181	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.975			0.925			0.995	
Flt Protected				0.950							0.994	
Satd. Flow (prot)	0	1917	0	1772	1813	0	0	1711	0	0	1788	0
Flt Permitted		0.997		0.588				0.999			0.931	
Satd. Flow (perm)	0	1912	0	1097	1813	0	0	1709	0	0	1675	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			30			185			6	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			342.6	
Travel Time (s)		30.4			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Adj. Flow (vph)	2	252	3	119	187	37	2	199	248	29	193	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	257	0	119	224	0	0	449	0	0	231	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

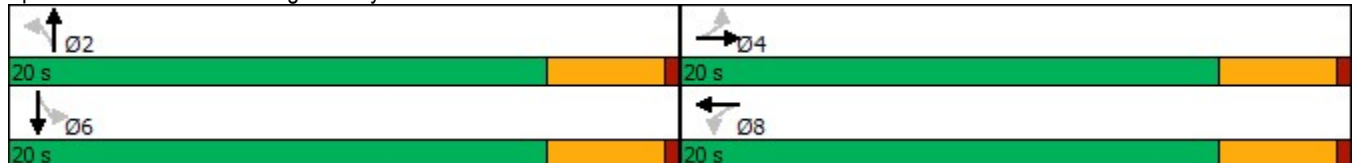
Future Total 2029  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		9.7		9.6	9.6			19.8			19.8	
Actuated g/C Ratio		0.28		0.28	0.28			0.57			0.57	
v/c Ratio		0.48		0.40	0.43			0.43			0.24	
Control Delay		13.0		13.6	11.0			5.5			6.8	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		13.0		13.6	11.0			5.5			6.8	
LOS		B		B	B			A			A	
Approach Delay		13.0			11.9			5.5			6.8	
Approach LOS		B			B			A			A	

Intersection Summary

Area Type: Other  
 Cycle Length: 40  
 Actuated Cycle Length: 34.7  
 Natural Cycle: 40  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.48  
 Intersection Signal Delay: 9.0  
 Intersection Capacity Utilization 64.5%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service C

Splits and Phases: 1: Chinguacousy Road & Old School Road

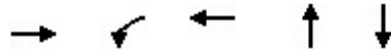


Queues

Future Total 2029

1: Chinguacousy Road & Old School Road

AM Peak Hour




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	257	119	224	449	231
v/c Ratio	0.48	0.40	0.43	0.43	0.24
Control Delay	13.0	13.6	11.0	5.5	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.0	13.6	11.0	5.5	6.8
Queue Length 50th (m)	11.2	5.1	8.3	7.6	6.4
Queue Length 95th (m)	22.7	13.0	18.4	25.0	18.2
Internal Link Dist (m)	566.7		466.2	274.8	318.6
Turn Bay Length (m)		30.0			
Base Capacity (vph)	886	507	855	1055	959
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.29	0.23	0.26	0.43	0.24

Intersection Summary

HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road



















Future Total 2029  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	237	3	112	176	35	2	187	233	27	181	8
Future Volume (vph)	2	237	3	112	176	35	2	187	233	27	181	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.98			0.93			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		1917		1772	1813			1711			1788	
Flt Permitted		1.00		0.59	1.00			1.00			0.93	
Satd. Flow (perm)		1912		1096	1813			1710			1674	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	2	252	3	119	187	37	2	199	248	29	193	9
RTOR Reduction (vph)	0	2	0	0	23	0	0	86	0	0	3	0
Lane Group Flow (vph)	0	255	0	119	201	0	0	363	0	0	228	0
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		8.4		8.4	8.4			19.0			19.0	
Effective Green, g (s)		8.4		8.4	8.4			19.0			19.0	
Actuated g/C Ratio		0.24		0.24	0.24			0.54			0.54	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		453		260	430			917			898	
v/s Ratio Prot					0.11							
v/s Ratio Perm		c0.13		0.11				c0.21			0.14	
v/c Ratio		0.56		0.46	0.47			0.40			0.25	
Uniform Delay, d1		11.9		11.6	11.6			4.8			4.4	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		1.6		1.3	0.8			1.3			0.7	
Delay (s)		13.5		12.8	12.4			6.1			5.1	
Level of Service		B		B	B			A			A	
Approach Delay (s)		13.5			12.5			6.1			5.1	
Approach LOS		B			B			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			9.1									A
HCM 2000 Volume to Capacity ratio			0.45									
Actuated Cycle Length (s)			35.4								8.0	
Intersection Capacity Utilization			64.5%									C
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Total 2029  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	456	37	197	262	23	61	87	347	36	130	11
Future Volume (vph)	6	456	37	197	262	23	61	87	347	36	130	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.988				0.850		0.991	
Flt Protected		0.999		0.950				0.980			0.990	
Satd. Flow (prot)	0	1864	0	1789	1833	0	0	1861	1617	0	1862	0
Flt Permitted		0.996		0.262				0.812			0.917	
Satd. Flow (perm)	0	1858	0	493	1833	0	0	1542	1617	0	1724	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			8				369			5
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Adj. Flow (vph)	6	485	39	210	279	24	65	93	369	38	138	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	530	0	210	303	0	0	158	369	0	188	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

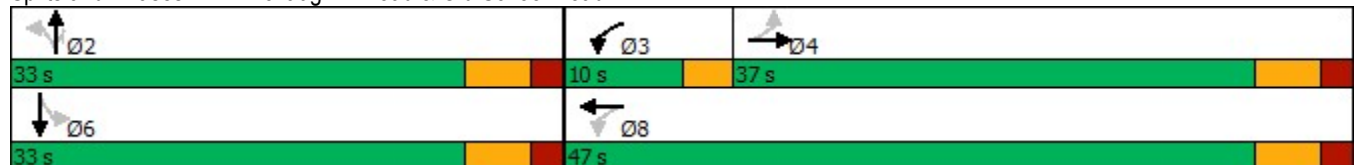
Future Total 2029  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	37.0	37.0		10.0	47.0		33.0	33.0	33.0	33.0	33.0	
Total Split (%)	46.3%	46.3%		12.5%	58.8%		41.3%	41.3%	41.3%	41.3%	41.3%	
Maximum Green (s)	31.0	31.0		7.0	41.0		27.0	27.0	27.0	27.0	27.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		0.0	2.0		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	
Total Lost Time (s)		6.0		3.0	6.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		24.9		38.0	35.0			27.2	27.2		27.2	
Actuated g/C Ratio		0.34		0.51	0.47			0.37	0.37		0.37	
v/c Ratio		0.85		0.56	0.35			0.28	0.45		0.30	
Control Delay		35.8		15.9	13.0			19.9	4.3		19.3	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		35.8		15.9	13.0			19.9	4.3		19.3	
LOS		D		B	B			B	A		B	
Approach Delay		35.8			14.2			9.0			19.3	
Approach LOS		D			B			A			B	

Intersection Summary

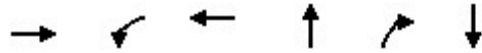
Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	74.2
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.85
Intersection Signal Delay:	19.7
Intersection LOS:	B
Intersection Capacity Utilization:	72.9%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road



















Future Total 2029  
AM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	530	210	303	158	369	188
v/c Ratio	0.85	0.56	0.35	0.28	0.45	0.30
Control Delay	35.8	15.9	13.0	19.9	4.3	19.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.8	15.9	13.0	19.9	4.3	19.3
Queue Length 50th (m)	66.5	15.1	24.5	15.5	0.0	18.1
Queue Length 95th (m)	102.3	26.0	40.3	32.1	16.9	36.1
Internal Link Dist (m)	869.1		325.1	564.2		239.1
Turn Bay Length (m)		30.0				
Base Capacity (vph)	784	375	1022	564	825	634
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.56	0.30	0.28	0.45	0.30
Intersection Summary						
























HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road

Future Total 2029  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	6	456	37	197	262	23	61	87	347	36	130	11	
Future Volume (vph)	6	456	37	197	262	23	61	87	347	36	130	11	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.0		3.0	6.0			6.0	6.0		6.0		
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00		1.00		
Frt		0.99		1.00	0.99			1.00	0.85		0.99		
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99		
Satd. Flow (prot)		1865		1789	1833			1860	1617		1862		
Flt Permitted		1.00		0.26	1.00			0.81	1.00		0.92		
Satd. Flow (perm)		1857		493	1833			1541	1617		1724		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	6	485	39	210	279	24	65	93	369	38	138	12	
RTOR Reduction (vph)	0	4	0	0	4	0	0	0	234	0	3	0	
Lane Group Flow (vph)	0	526	0	210	299	0	0	158	135	0	185	0	
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		4		3	8			2			6		
Permitted Phases	4			8			2		2	6			
Actuated Green, G (s)		25.0		35.0	35.0			27.2	27.2		27.2		
Effective Green, g (s)		25.0		35.0	35.0			27.2	27.2		27.2		
Actuated g/C Ratio		0.34		0.47	0.47			0.37	0.37		0.37		
Clearance Time (s)		6.0		3.0	6.0			6.0	6.0		6.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0		
Lane Grp Cap (vph)		625		354	864			564	592		631		
v/s Ratio Prot				c0.06	0.16								
v/s Ratio Perm		c0.28		0.22				0.10	0.08		c0.11		
v/c Ratio		0.84		0.59	0.35			0.28	0.23		0.29		
Uniform Delay, d1		22.8		14.0	12.4			16.6	16.2		16.7		
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00		
Incremental Delay, d2		10.0		2.7	0.2			1.2	0.9		1.2		
Delay (s)		32.8		16.7	12.6			17.8	17.1		17.9		
Level of Service		C		B	B			B	B		B		
Approach Delay (s)		32.8			14.3			17.3			17.9		
Approach LOS		C			B			B			B		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			21.2									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.56										
Actuated Cycle Length (s)			74.2									Sum of lost time (s)	15.0
Intersection Capacity Utilization			72.9%									ICU Level of Service	C
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2029  
AM Peak Hour

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	455	208	167	310	164	149	54	1686	154	73	2321	245	
Future Volume (vph)	455	208	167	310	164	149	54	1686	154	73	2321	245	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0	
Storage Lanes	1		0	1		0	1		1	1		1	
Taper Length (m)	2.5			2.5			2.5			2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	
Frt		0.933			0.929				0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1755	1746	0	1722	1715	0	1722	4445	1471	1615	5043	1633	
Flt Permitted	0.182			0.222			0.070			0.070			
Satd. Flow (perm)	336	1746	0	402	1715	0	127	4445	1471	119	5043	1633	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		30			26				127			146	
Link Speed (k/h)		70			70			80			80		
Link Distance (m)		1007.8			1022.4			855.3			777.6		
Travel Time (s)		51.8			52.6			38.5			35.0		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%	
Adj. Flow (vph)	489	224	180	333	176	160	58	1813	166	78	2496	263	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	489	404	0	333	336	0	58	1813	166	78	2496	263	
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)		3.7			3.7			3.7			3.7		
Link Offset(m)		0.0			0.0			0.0			0.0		
Crosswalk Width(m)		1.6			1.6			1.6			1.6		
Two way Left Turn Lane								Yes					
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Number of Detectors	1	2		1	2		1	2	1	1	2	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7		
Detector 2 Size(m)		1.8			1.8			1.8			1.8		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0			0.0		
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm	
Protected Phases	7	4		3	8			2			6		

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2029  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	24.0		8.0	24.0		29.0	29.0	29.0	29.0	29.0	29.0
Total Split (s)	29.0	32.0		23.0	26.0		65.0	65.0	65.0	65.0	65.0	65.0
Total Split (%)	24.2%	26.7%		19.2%	21.7%		54.2%	54.2%	54.2%	54.2%	54.2%	54.2%
Maximum Green (s)	25.0	24.0		19.0	18.0		57.0	57.0	57.0	57.0	57.0	57.0
Yellow Time (s)	3.5	6.0		3.5	6.0		6.0	6.0	6.0	6.0	6.0	6.0
All-Red Time (s)	0.5	2.0		0.5	2.0		2.0	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	0.0
Total Lost Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lead/Lag	Lead	Lag		Lead	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	None		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		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
Act Effct Green (s)	51.0	24.0		41.0	18.0		57.0	57.0	57.0	57.0	57.0	57.0
Actuated g/C Ratio	0.42	0.20		0.34	0.15		0.48	0.48	0.48	0.48	0.48	0.48
v/c Ratio	1.12	1.08		0.96	1.20		0.97	0.86	0.22	1.39	1.04	0.31
Control Delay	109.9	112.8		71.6	161.3		143.9	33.1	5.9	285.6	61.9	9.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	109.9	112.8		71.6	161.3		143.9	33.1	5.9	285.6	61.9	9.2
LOS	F	F		E	F		F	C	A	F	E	A
Approach Delay		111.2			116.6			34.1			63.2	
Approach LOS		F			F			C			E	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 130  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.39  
 Intersection Signal Delay: 66.2  
 Intersection LOS: E  
 Intersection Capacity Utilization 114.5%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Total 2029  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	489	404	333	336	58	1813	166	78	2496	263
v/c Ratio	1.12	1.08	0.96	1.20	0.97	0.86	0.22	1.39	1.04	0.31
Control Delay	109.9	112.8	71.6	161.3	143.9	33.1	5.9	285.6	61.9	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	109.9	112.8	71.6	161.3	143.9	33.1	5.9	285.6	61.9	9.2
Queue Length 50th (m)	~114.2	~100.7	59.3	~91.1	12.9	134.9	4.8	~24.4	~233.0	15.2
Queue Length 95th (m)	#179.0	#162.0	#116.4	#148.4	#41.1	156.9	16.7	#43.1	#260.8	32.1
Internal Link Dist (m)		983.8		998.4		831.3			753.6	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	438	373	346	279	60	2111	765	56	2395	852
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	1.08	0.96	1.20	0.97	0.86	0.22	1.39	1.04	0.31

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

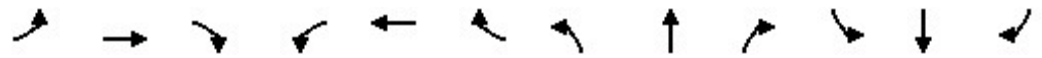
Future Total 2029  
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	455	208	167	310	164	149	54	1686	154	73	2321	245
Future Volume (vph)	455	208	167	310	164	149	54	1686	154	73	2321	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	1746		1722	1714		1722	4445	1471	1615	5043	1633
Flt Permitted	0.18	1.00		0.22	1.00		0.07	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	336	1746		403	1714		127	4445	1471	119	5043	1633
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	489	224	180	333	176	160	58	1813	166	78	2496	263
RTOR Reduction (vph)	0	24	0	0	22	0	0	0	67	0	0	77
Lane Group Flow (vph)	489	380	0	333	314	0	58	1813	99	78	2496	186
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	47.0	24.0		37.0	18.0		57.0	57.0	57.0	57.0	57.0	57.0
Effective Green, g (s)	47.0	24.0		37.0	18.0		57.0	57.0	57.0	57.0	57.0	57.0
Actuated g/C Ratio	0.39	0.20		0.31	0.15		0.48	0.48	0.48	0.48	0.48	0.48
Clearance Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	427	349		333	257		60	2111	698	56	2395	775
v/s Ratio Prot	c0.24	0.22		0.16	0.18			0.41			0.49	
v/s Ratio Perm	c0.21			0.15			0.46		0.07	c0.65		0.11
v/c Ratio	1.15	1.09		1.00	1.22		0.97	0.86	0.14	1.39	1.04	0.24
Uniform Delay, d1	34.9	48.0		37.1	51.0		30.6	27.9	17.7	31.5	31.5	18.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	89.6	74.1		49.3	129.4		107.0	4.8	0.4	255.6	30.5	0.7
Delay (s)	124.5	122.1		86.4	180.4		137.6	32.8	18.2	287.1	62.0	19.4
Level of Service	F	F		F	F		F	C	B	F	E	B
Approach Delay (s)		123.4			133.6			34.5			64.3	
Approach LOS		F			F			C			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			70.3				HCM 2000 Level of Service				E	
HCM 2000 Volume to Capacity ratio			1.31									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			114.5%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2029  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔			↔↔↔				↔			↔	
Traffic Volume (vph)	41	647	48	197	563	24	24	178	164	80	220	36
Future Volume (vph)	41	647	48	197	563	24	24	178	164	80	220	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.990			0.995			0.939			0.986	
Fl <sub>t</sub> Protected		0.997			0.988			0.997			0.988	
Satd. Flow (prot)	0	4861	0	0	4836	0	0	1731	0	0	1782	0
Fl <sub>t</sub> Permitted		0.849			0.668			0.965			0.831	
Satd. Flow (perm)	0	4140	0	0	3269	0	0	1676	0	0	1499	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			5			49			7	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		651.5			1419.4			345.5			2784.8	
Travel Time (s)		33.5			73.0			15.5			125.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Adj. Flow (vph)	41	654	48	199	569	24	24	180	166	81	222	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	743	0	0	792	0	0	370	0	0	339	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	56.0	56.0		56.0	56.0		64.0	64.0		64.0	64.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	52.0	52.0		52.0	52.0		60.0	60.0		60.0	60.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		52.0			52.0			60.0			60.0	
Actuated g/C Ratio		0.43			0.43			0.50			0.50	
v/c Ratio		0.41			0.86dl			0.43			0.45	
Control Delay		23.9			43.1			18.2			21.3	
Queue Delay		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

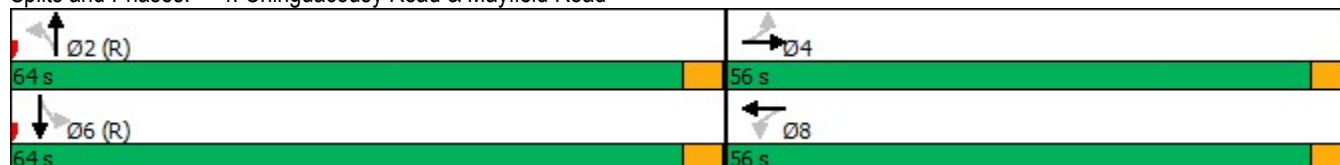
Future Total 2029  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		23.9			43.1			18.2			21.3	
LOS		C			D			B			C	
Approach Delay		23.9			43.1			18.2			21.3	
Approach LOS		C			D			B			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: 40  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.56  
 Intersection Signal Delay: 29.4      Intersection LOS: C  
 Intersection Capacity Utilization 81.0%      ICU Level of Service D  
 Analysis Period (min) 15  
 dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 4: Chinguacousy Road & Mayfield Road

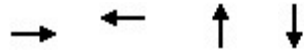


Queues

Future Total 2029

4: Chinguacousy Road & Mayfield Road

AM Peak Hour



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	743	792	370	339
v/c Ratio	0.41	0.86dl	0.43	0.45
Control Delay	23.9	43.1	18.2	21.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	23.9	43.1	18.2	21.3
Queue Length 50th (m)	42.7	68.6	46.2	48.8
Queue Length 95th (m)	53.6	83.0	70.0	73.2
Internal Link Dist (m)	627.5	1395.4	321.5	2760.8
Turn Bay Length (m)				
Base Capacity (vph)	1800	1419	862	753
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.41	0.56	0.43	0.45

























Intersection Summary

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

# HCM Signalized Intersection Capacity Analysis





















## 4: Chinguacousy Road & Mayfield Road

Future Total 2029  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			  				  
Traffic Volume (vph)	41	647	48	197	563	24	24	178	164	80	220	36
Future Volume (vph)	41	647	48	197	563	24	24	178	164	80	220	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frt		0.99			1.00			0.94			0.99	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		4864			4836			1732			1782	
Flt Permitted		0.85			0.67			0.97			0.83	
Satd. Flow (perm)		4141			3271			1677			1499	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	41	654	48	199	569	24	24	180	166	81	222	36
RTOR Reduction (vph)	0	6	0	0	3	0	0	25	0	0	4	0
Lane Group Flow (vph)	0	737	0	0	789	0	0	346	0	0	336	0
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		52.0			52.0			60.0			60.0	
Effective Green, g (s)		52.0			52.0			60.0			60.0	
Actuated g/C Ratio		0.43			0.43			0.50			0.50	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		1794			1417			838			749	
v/s Ratio Prot												
v/s Ratio Perm		0.18			c0.24			0.21			c0.22	
v/c Ratio		0.41			0.86dl			0.41			0.45	
Uniform Delay, d1		23.4			25.4			18.9			19.3	
Progression Factor		1.00			1.63			1.00			1.00	
Incremental Delay, d2		0.7			1.5			1.5			1.9	
Delay (s)		24.1			42.9			20.4			21.3	
Level of Service		C			D			C			C	
Approach Delay (s)		24.1			42.9			20.4			21.3	
Approach LOS		C			D			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			29.7									C
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			120.0								8.0	
Intersection Capacity Utilization			81.0%									D
Analysis Period (min)			15									
dl Defacto Left Lane. Recode with 1 though lane as a left lane.												
c Critical Lane Group												

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Total 2029  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	877	104	123	696	109	46	242	92	264	417	129
Future Volume (vph)	44	877	104	123	696	109	46	242	92	264	417	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.984			0.980			0.959			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4888	0	1706	4770	0	1644	3413	0	1690	3390	0
Flt Permitted	0.294			0.227			0.375			0.528		
Satd. Flow (perm)	565	4888	0	408	4770	0	649	3413	0	939	3390	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			34			57			42	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			341.6			2496.3	
Travel Time (s)		73.0			65.0			15.4			112.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Adj. Flow (vph)	45	895	106	126	710	111	47	247	94	269	426	132
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	1001	0	126	821	0	47	341	0	269	558	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		23.0	23.0	
Total Split (s)	64.0	64.0		64.0	64.0		56.0	56.0		56.0	56.0	
Total Split (%)	53.3%	53.3%		53.3%	53.3%		46.7%	46.7%		46.7%	46.7%	
Maximum Green (s)	58.0	58.0		58.0	58.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	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	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)	58.0	58.0		58.0	58.0		50.0	50.0		50.0	50.0	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.42	0.42		0.42	0.42	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

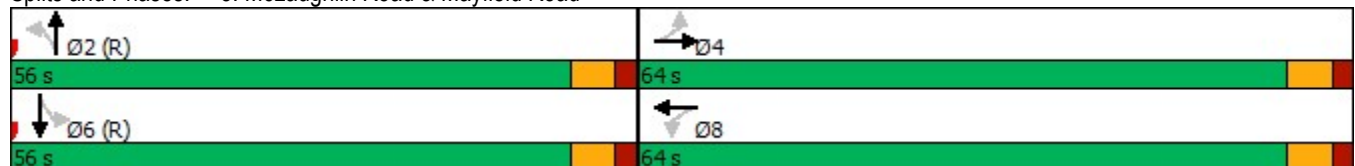
Future Total 2029  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.16	0.42		0.64	0.35		0.17	0.23		0.69	0.39	
Control Delay	24.0	26.0		40.9	19.0		24.3	19.1		39.5	23.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	24.0	26.0		40.9	19.0		24.3	19.1		39.5	23.3	
LOS	C	C		D	B		C	B		D	C	
Approach Delay		25.9			21.9			19.8			28.6	
Approach LOS		C			C			B			C	

Intersection Summary

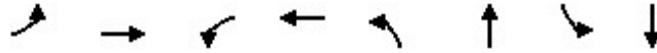
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	50
Control Type:	Pretimed
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	24.7
Intersection LOS:	C
Intersection Capacity Utilization	70.3%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Total 2029  
AM Peak Hour





























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	45	1001	126	821	47	341	269	558
v/c Ratio	0.16	0.42	0.64	0.35	0.17	0.23	0.69	0.39
Control Delay	24.0	26.0	40.9	19.0	24.3	19.1	39.5	23.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.0	26.0	40.9	19.0	24.3	19.1	39.5	23.3
Queue Length 50th (m)	7.6	68.7	21.6	41.0	6.8	22.0	51.0	43.5
Queue Length 95th (m)	17.2	80.2	#51.7	50.7	15.6	32.3	84.4	58.0
Internal Link Dist (m)		1395.4		1239.7		317.6		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	273	2374	197	2323	270	1455	391	1437
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.42	0.64	0.35	0.17	0.23	0.69	0.39

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 5: McLaughlin Road & Mayfield Road

Future Total 2029  
 AM Peak Hour



































												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (vph)	44	877	104	123	696	109	46	242	92	264	417	129
Future Volume (vph)	44	877	104	123	696	109	46	242	92	264	417	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	4889		1706	4768		1644	3412		1690	3389	
Flt Permitted	0.29	1.00		0.23	1.00		0.38	1.00		0.53	1.00	
Satd. Flow (perm)	564	4889		408	4768		649	3412		938	3389	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	45	895	106	126	710	111	47	247	94	269	426	132
RTOR Reduction (vph)	0	12	0	0	18	0	0	33	0	0	25	0
Lane Group Flow (vph)	45	989	0	126	803	0	47	308	0	269	534	0
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	58.0	58.0		58.0	58.0		50.0	50.0		50.0	50.0	
Effective Green, g (s)	58.0	58.0		58.0	58.0		50.0	50.0		50.0	50.0	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.42	0.42		0.42	0.42	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	272	2363		197	2304		270	1421		390	1412	
v/s Ratio Prot		0.20			0.17			0.09			0.16	
v/s Ratio Perm	0.08			c0.31			0.07			c0.29		
v/c Ratio	0.17	0.42		0.64	0.35		0.17	0.22		0.69	0.38	
Uniform Delay, d1	17.4	20.1		23.2	19.3		22.0	22.4		28.7	24.2	
Progression Factor	1.25	1.29		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	0.5		14.9	0.4		1.4	0.3		9.6	0.8	
Delay (s)	23.0	26.5		38.0	19.7		23.4	22.8		38.3	25.0	
Level of Service	C	C		D	B		C	C		D	C	
Approach Delay (s)		26.3			22.1			22.9			29.3	
Approach LOS		C			C			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			25.4				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			70.3%				ICU Level of Service				C	
Analysis Period (min)			15									

c Critical Lane Group



Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road













Future Total 2029  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 		 	 	 
Traffic Volume (vph)	236	865	94	199	556	148	78	384	203	315	959	315
Future Volume (vph)	236	865	94	199	556	148	78	384	203	315	959	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	1.00		0.98			0.97	0.99		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	4902	1541	3340	4948	1420	1807	3476	1512	1706	3544	1585
Flt Permitted	0.198			0.950			0.208			0.497		
Satd. Flow (perm)	362	4902	1508	3326	4948	1395	396	3476	1467	884	3544	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			89			157			216			335
Link Speed (k/h)		70			70			70				70
Link Distance (m)		142.1			749.9			810.3				609.4
Travel Time (s)		7.3			38.6			41.7				31.3
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Adj. Flow (vph)	251	920	100	212	591	157	83	409	216	335	1020	335
Shared Lane Traffic (%)												
Lane Group Flow (vph)	251	920	100	212	591	157	83	409	216	335	1020	335
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)		7.4			7.4			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	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)	9.0	23.0	23.0	9.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	31.0	44.0	44.0	20.0	33.0	33.0	96.0	96.0	96.0	96.0	96.0	96.0
Total Split (%)	19.4%	27.5%	27.5%	12.5%	20.6%	20.6%	60.0%	60.0%	60.0%	60.0%	60.0%	60.0%
Maximum Green (s)	26.0	37.0	37.0	15.0	26.0	26.0	89.0	89.0	89.0	89.0	89.0	89.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	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	0




































Queues  
6: Hurontario Street & Mayfield Road

Future Total 2029  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	251	920	100	212	591	157	83	409	216	335	1020	335
v/c Ratio	0.70	0.81	0.24	0.68	0.74	0.44	0.38	0.21	0.24	0.68	0.52	0.33
Control Delay	48.8	64.9	13.1	81.8	69.9	11.9	26.2	18.2	2.6	34.2	23.3	2.5
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	48.8	64.9	13.1	81.8	69.9	11.9	26.2	18.2	2.6	34.2	23.3	2.5
Queue Length 50th (m)	58.9	102.4	2.8	34.2	66.4	0.0	14.4	33.4	0.0	74.1	103.4	0.0
Queue Length 95th (m)	84.2	119.5	18.4	48.6	81.0	21.2	29.4	43.2	11.9	114.9	121.7	13.9
Internal Link Dist (m)		118.1			725.9			786.3			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	357	1133	417	313	804	358	220	1933	911	491	1971	1014
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.81	0.24	0.68	0.74	0.44	0.38	0.21	0.24	0.68	0.52	0.33
Intersection Summary												










HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Total 2029  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 		 	 	
Traffic Volume (vph)	236	865	94	199	556	148	78	384	203	315	959	315
Future Volume (vph)	236	865	94	199	556	148	78	384	203	315	959	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1738	4902	1508	3340	4948	1395	1807	3476	1467	1690	3544	1557
Flt Permitted	0.20	1.00	1.00	0.95	1.00	1.00	0.21	1.00	1.00	0.50	1.00	1.00
Satd. Flow (perm)	362	4902	1508	3340	4948	1395	395	3476	1467	883	3544	1557
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	251	920	100	212	591	157	83	409	216	335	1020	335
RTOR Reduction (vph)	0	0	68	0	0	131	0	0	96	0	0	149
Lane Group Flow (vph)	251	920	32	212	591	26	83	409	120	335	1020	186
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4			8	2		2	6		6
Actuated Green, G (s)	57.0	37.0	37.0	15.0	26.0	26.0	89.0	89.0	89.0	89.0	89.0	89.0
Effective Green, g (s)	57.0	37.0	37.0	15.0	26.0	26.0	89.0	89.0	89.0	89.0	89.0	89.0
Actuated g/C Ratio	0.36	0.23	0.23	0.09	0.16	0.16	0.56	0.56	0.56	0.56	0.56	0.56
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lane Grp Cap (vph)	352	1133	348	313	804	226	219	1933	816	491	1971	866
v/s Ratio Prot	c0.12	c0.19		0.06	0.12			0.12			0.29	
v/s Ratio Perm	0.14		0.02			0.02	0.21		0.08	c0.38		0.12
v/c Ratio	0.71	0.81	0.09	0.68	0.74	0.11	0.38	0.21	0.15	0.68	0.52	0.22
Uniform Delay, d1	40.0	58.2	48.3	70.2	63.7	57.2	20.0	17.9	17.2	25.4	22.1	17.9
Progression 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
Incremental Delay, d2	11.7	6.4	0.5	11.2	5.9	1.0	4.9	0.2	0.4	7.5	1.0	0.6
Delay (s)	51.6	64.6	48.8	81.4	69.6	58.2	24.9	18.1	17.5	32.9	23.1	18.5
Level of Service	D	E	D	F	E	E	C	B	B	C	C	B
Approach Delay (s)		60.8			70.4			18.7			24.1	
Approach LOS		E			E			B			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			43.0				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			160.0				Sum of lost time (s)			19.0		
Intersection Capacity Utilization			78.9%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												










Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C

Future Total 2029  
AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	423	0	0	297
Future Volume (vph)	0	0	423	0	0	297
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	0	0	1883
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	0	0	1883
Link Speed (k/h)	48		80			80
Link Distance (m)	204.9		2784.8			298.8
Travel Time (s)	15.4		125.3			13.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	460	0	0	323
<b>Shared Lane Traffic (%)</b>						
Lane Group Flow (vph)	0	0	460	0	0	323
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
<b>Two way Left Turn Lane</b>						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	25.6%		ICU Level of Service A			
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
7: Chinguacousy Road & Street C

Future Total 2029  
AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	423	0	0	297
Future Volume (Veh/h)	0	0	423	0	0	297
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)	0	0	460	0	0	323
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						299
pX, platoon unblocked						
vC, conflicting volume	783	460			460	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	783	460			460	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	362	601			1101	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	0	460	323			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1101			
Volume to Capacity	0.00	0.27	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			25.6%	ICU Level of Service		A
Analysis Period (min)			15			










Lanes, Volumes, Timings  
8: Street B & Old School Road

Future Total 2029  
AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	
Traffic Volume (vph)	489	0	0	296	0	0
Future Volume (vph)	489	0	0	296	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Frt</b>						
Flt Protected						
Satd. Flow (prot)	1883	0	0	1883	1883	0
Flt Permitted						
Satd. Flow (perm)	1883	0	0	1883	1883	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	532	0	0	322	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	532	0	0	322	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	29.1%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 8: Street B & Old School Road


















Future Total 2029  
 AM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	489	0	0	296	0	0
Future Volume (Veh/h)	489	0	0	296	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	532	0	0	322	0	0
<b>Pedestrians</b>						
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			532		854	532
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			532		854	532
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1036		329	547
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	532	322	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1036	1700			
Volume to Capacity	0.31	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			29.1%	ICU Level of Service	A	
Analysis Period (min)			15			




















Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2029  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	115	0	57	0	438	55	24	342	0
Future Volume (vph)	0	0	0	115	0	57	0	438	55	24	342	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.850			0.983				
Flt Protected				0.950							0.997	
Satd. Flow (prot)	0	1883	0	1789	1601	0	0	3518	0	0	3568	0
Flt Permitted				0.950							0.997	
Satd. Flow (perm)	0	1883	0	1789	1601	0	0	3518	0	0	3568	0
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			403.1			2496.3			588.2	
Travel Time (s)		15.4			30.2			112.3			26.5	
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
Adj. Flow (vph)	0	0	0	125	0	62	0	476	60	26	372	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	125	62	0	0	536	0	0	398	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	
<b>Intersection Summary</b>												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	40.4%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis  
 9: McLaughlin Road & Street A

Future Total 2029  
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	115	0	57	0	438	55	24	342	0
Future Volume (Veh/h)	0	0	0	115	0	57	0	438	55	24	342	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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	0	0	125	0	62	0	476	60	26	372	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	724	960	186	744	930	268	372			536		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	724	960	186	744	930	268	372			536		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	58	100	92	100			97		
cM capacity (veh/h)	281	249	824	297	259	730	1183			1028		
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total	0	125	62	238	298	212	186					
Volume Left	0	125	0	0	0	26	0					
Volume Right	0	0	62	0	60	0	0					
cSH	1700	297	730	1183	1700	1028	1700					
Volume to Capacity	0.00	0.42	0.08	0.00	0.18	0.03	0.11					
Queue Length 95th (m)	0.0	15.2	2.1	0.0	0.0	0.6	0.0					
Control Delay (s)	0.0	25.6	10.4	0.0	0.0	1.3	0.0					
Lane LOS	A	D	B			A						
Approach Delay (s)	0.0	20.6		0.0		0.7						
Approach LOS	A	C										
Intersection Summary												
Average Delay			3.7									
Intersection Capacity Utilization			40.4%		ICU Level of Service				A			
Analysis Period (min)			15									

Lanes, Volumes, Timings  
 10: Street D & Old School Road

Future Total 2029  
 AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	
Traffic Volume (vph)	840	0	0	483	0	0
Future Volume (vph)	840	0	0	483	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	1883	0	0	1883	1883	0
Flt Permitted						
Satd. Flow (perm)	1883	0	0	1883	1883	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	913	0	0	525	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	913	0	0	525	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	47.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 10: Street D & Old School Road

Future Total 2029  
 AM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	↗
Traffic Volume (veh/h)	840	0	0	483	0	0
Future Volume (Veh/h)	840	0	0	483	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	913	0	0	525	0	0
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	349					
pX, platoon unblocked			0.74		0.74	0.74
vC, conflicting volume			913		1438	913
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			708		1416	708
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			660		112	322
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	913	525	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	660	1700			
Volume to Capacity	0.54	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS				A		
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS				A		
<b>Intersection Summary</b>						
Average Delay				0.0		
Intersection Capacity Utilization				47.5%	ICU Level of Service	A
Analysis Period (min)				15		

Lanes, Volumes, Timings  
11: Street A & Street D

Future Total 2029  
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	0	1883	1883	0	1883	0
Flt Permitted						
Satd. Flow (perm)	0	1883	1883	0	1883	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	97			97	97	97
Sign Control		Free	Free		Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	0.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 11: Street A & Street D

Future Total 2029  
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↘	↙
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1623				1023	1085
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	0	0	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	1700			
Volume to Capacity	0.00	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization		0.0%		ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2029  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	57	344	81	1838	2775	24
Future Volume (vph)	57	344	81	1838	2775	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt		0.850			0.999	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	5142	5137	0
Flt Permitted	0.950		0.053			
Satd. Flow (perm)	1789	1601	100	5142	5137	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		204			2	
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	374	88	1998	3016	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	62	374	88	1998	3042	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Perm	Over	pm+pt	NA	NA	
Protected Phases		5	5	2	6	
Permitted Phases	4		2			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2029  
AM Peak Hour

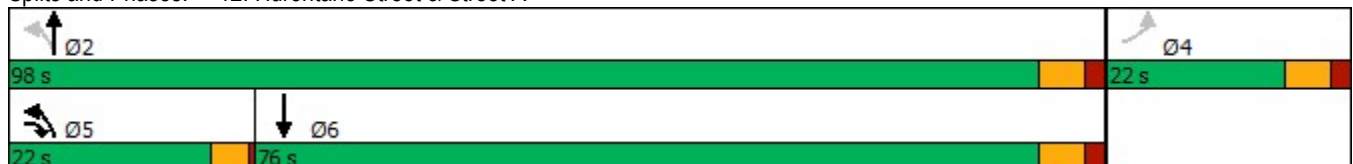


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	8.0	8.0	22.0	22.0	
Total Split (s)	22.0	22.0	22.0	98.0	76.0	
Total Split (%)	18.3%	18.3%	18.3%	81.7%	63.3%	
Maximum Green (s)	16.0	18.0	18.0	92.0	70.0	
Yellow Time (s)	4.0	3.5	3.5	4.0	4.0	
All-Red Time (s)	2.0	0.5	0.5	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	4.0	4.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	9.2	16.4	94.4	93.8	72.0	
Actuated g/C Ratio	0.08	0.15	0.85	0.85	0.65	
v/c Ratio	0.42	0.91	0.26	0.46	0.91	
Control Delay	57.9	49.0	10.7	3.5	24.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	57.9	49.0	10.7	3.5	24.3	
LOS	E	D	B	A	C	
Approach Delay	50.2			3.8	24.3	
Approach LOS	D			A	C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	111
Natural Cycle:	110
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.91
Intersection Signal Delay:	18.6
Intersection LOS:	B
Intersection Capacity Utilization	83.8%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 12: Hurontario Street & Street A





Queues  
12: Hurontario Street & Street A

Future Total 2029  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	62	374	88	1998	3042
v/c Ratio	0.42	0.91	0.26	0.46	0.91
Control Delay	57.9	49.0	10.7	3.5	24.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	57.9	49.0	10.7	3.5	24.3
Queue Length 50th (m)	13.3	38.5	2.6	38.7	215.3
Queue Length 95th (m)	26.9	#94.7	16.2	54.8	#288.9
Internal Link Dist (m)	932.1			904.0	831.3
Turn Bay Length (m)	30.0		50.0		
Base Capacity (vph)	259	431	360	4343	3331
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.24	0.87	0.24	0.46	0.91

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 12: Hurontario Street & Street A

Future Total 2029  
 AM Peak Hour



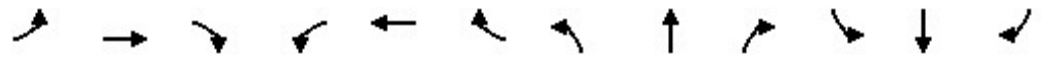
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	57	344	81	1838	2775	24
Future Volume (vph)	57	344	81	1838	2775	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1789	1601	1789	5142	5135	
Flt Permitted	0.95	1.00	0.05	1.00	1.00	
Satd. Flow (perm)	1789	1601	99	5142	5135	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	374	88	1998	3016	26
RTOR Reduction (vph)	0	174	0	0	1	0
Lane Group Flow (vph)	62	200	88	1998	3041	0
Turn Type	Perm	Over	pm+pt	NA	NA	
Protected Phases		5	5	2	6	
Permitted Phases	4		2			
Actuated Green, G (s)	7.9	16.4	92.4	92.4	72.0	
Effective Green, g (s)	7.9	16.4	92.4	92.4	72.0	
Actuated g/C Ratio	0.07	0.15	0.82	0.82	0.64	
Clearance Time (s)	6.0	4.0	4.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	125	233	328	4230	3292	
v/s Ratio Prot		c0.12	0.04	0.39	c0.59	
v/s Ratio Perm	c0.03		0.18			
v/c Ratio	0.50	0.86	0.27	0.47	0.92	
Uniform Delay, d1	50.3	46.8	22.9	2.9	17.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.1	25.3	0.4	0.4	5.7	
Delay (s)	53.4	72.1	23.3	3.3	23.4	
Level of Service	D	E	C	A	C	
Approach Delay (s)	69.5			4.1	23.4	
Approach LOS	E			A	C	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	112.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Total 2029  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖	↗			↕			↕	
Traffic Volume (vph)	4	227	2	234	319	44	11	308	268	34	202	4
Future Volume (vph)	4	227	2	234	319	44	11	308	268	34	202	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.982			0.938			0.998	
Flt Protected		0.999		0.950				0.999			0.993	
Satd. Flow (prot)	0	1863	0	1825	1841	0	0	1721	0	0	1844	0
Flt Permitted		0.994		0.567				0.993			0.875	
Satd. Flow (perm)	0	1853	0	1089	1841	0	0	1711	0	0	1625	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			10			74			1	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			342.6	
Travel Time (s)		30.4			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	4	241	2	249	339	47	12	328	285	36	215	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	247	0	249	386	0	0	625	0	0	255	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	35.0	35.0		35.0	35.0		45.0	45.0		45.0	45.0	
Total Split (%)	43.8%	43.8%		43.8%	43.8%		56.3%	56.3%		56.3%	56.3%	
Maximum Green (s)	29.0	29.0		29.0	29.0		39.0	39.0		39.0	39.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		29.0		29.0	29.0			39.0			39.0	
Actuated g/C Ratio		0.36		0.36	0.36			0.49			0.49	

Lanes, Volumes, Timings  
 1: Chinguacousy Road & Old School Road

Future Total 2029  
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.37		0.63	0.57			0.72			0.32	
Control Delay		20.7		29.7	24.1			19.8			13.8	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		20.7		29.7	24.1			19.8			13.8	
LOS		C		C	C			B			B	
Approach Delay		20.7			26.3			19.8			13.8	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	50
Control Type:	Pretimed
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	21.4
Intersection LOS:	C
Intersection Capacity Utilization	81.1%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road

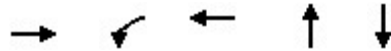


Queues

Future Total 2029

1: Chinguacousy Road & Old School Road

PM Peak Hour




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	247	249	386	625	255
v/c Ratio	0.37	0.63	0.57	0.72	0.32
Control Delay	20.7	29.7	24.1	19.8	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.7	29.7	24.1	19.8	13.8
Queue Length 50th (m)	27.0	30.7	45.0	62.8	22.3
Queue Length 95th (m)	45.0	55.7	71.7	101.7	37.6
Internal Link Dist (m)	566.7		466.2	274.8	318.6
Turn Bay Length (m)		30.0			
Base Capacity (vph)	672	394	673	872	792
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.37	0.63	0.57	0.72	0.32

Intersection Summary

HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road



















Future Total 2029  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	227	2	234	319	44	11	308	268	34	202	4
Future Volume (vph)	4	227	2	234	319	44	11	308	268	34	202	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0			6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.98			0.94			1.00	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		1863		1825	1841			1722			1844	
Flt Permitted		0.99		0.57	1.00			0.99			0.87	
Satd. Flow (perm)		1853		1088	1841			1712			1624	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	4	241	2	249	339	47	12	328	285	36	215	4
RTOR Reduction (vph)	0	1	0	0	6	0	0	38	0	0	1	0
Lane Group Flow (vph)	0	246	0	249	380	0	0	587	0	0	254	0
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.0		29.0	29.0			39.0			39.0	
Effective Green, g (s)		29.0		29.0	29.0			39.0			39.0	
Actuated g/C Ratio		0.36		0.36	0.36			0.49			0.49	
Clearance Time (s)		6.0		6.0	6.0			6.0			6.0	
Lane Grp Cap (vph)		671		394	667			834			791	
v/s Ratio Prot					0.21							
v/s Ratio Perm		0.13		c0.23				c0.34			0.16	
v/c Ratio		0.37		0.63	0.57			0.70			0.32	
Uniform Delay, d1		18.8		21.1	20.5			16.0			12.5	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		1.5		7.5	3.5			4.9			1.1	
Delay (s)		20.3		28.6	24.0			20.9			13.5	
Level of Service		C		C	C			C			B	
Approach Delay (s)		20.3			25.8			20.9			13.5	
Approach LOS		C			C			C			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			21.5			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			81.1%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Total 2029  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	474	49	366	533	25	58	150	374	20	74	6
Future Volume (vph)	9	474	49	366	533	25	58	150	374	20	74	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.993				0.850		0.992	
Flt Protected		0.999		0.950				0.986			0.990	
Satd. Flow (prot)	0	1815	0	1755	1886	0	0	1817	1555	0	1806	0
Flt Permitted		0.988		0.328				0.879			0.888	
Satd. Flow (perm)	0	1795	0	606	1886	0	0	1620	1555	0	1620	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			3				398		3	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	10	504	52	389	567	27	62	160	398	21	79	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	566	0	389	594	0	0	222	398	0	106	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

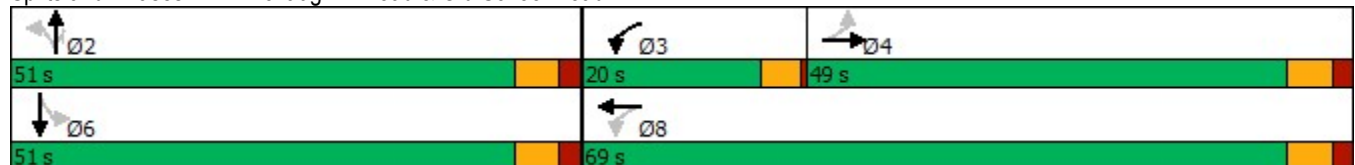
Future Total 2029  
PM Peak Hour

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	24.0	24.0		8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	49.0	49.0		20.0	69.0		51.0	51.0	51.0	51.0	51.0	
Total Split (%)	40.8%	40.8%		16.7%	57.5%		42.5%	42.5%	42.5%	42.5%	42.5%	
Maximum Green (s)	43.0	43.0		16.0	63.0		45.0	45.0	45.0	45.0	45.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		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	
Total Lost Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	Max	Max		None	Max		None	None	None	None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		43.6		65.2	63.2			18.5	18.5		18.5	
Actuated g/C Ratio		0.47		0.70	0.67			0.20	0.20		0.20	
v/c Ratio		0.68		0.64	0.47			0.70	0.64		0.33	
Control Delay		25.7		11.5	9.6			46.8	8.3		33.6	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		25.7		11.5	9.6			46.8	8.3		33.6	
LOS		C		B	A			D	A		C	
Approach Delay		25.7			10.3			22.1			33.6	
Approach LOS		C			B			C			C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	93.7
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	18.4
Intersection LOS:	B
Intersection Capacity Utilization:	94.5%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 2: McLaughlin Road & Old School Road





Queues  
2: McLaughlin Road & Old School Road



















Future Total 2029  
PM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	566	389	594	222	398	106
v/c Ratio	0.68	0.64	0.47	0.70	0.64	0.33
Control Delay	25.7	11.5	9.6	46.8	8.3	33.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.7	11.5	9.6	46.8	8.3	33.6
Queue Length 50th (m)	77.3	23.9	45.0	37.5	0.0	16.1
Queue Length 95th (m)	132.9	48.9	86.0	60.6	22.5	30.1
Internal Link Dist (m)	869.1		325.1	564.2		239.1
Turn Bay Length (m)		30.0				
Base Capacity (vph)	838	618	1273	780	955	782
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.63	0.47	0.28	0.42	0.14
<b>Intersection Summary</b>						
























HCM Signalized Intersection Capacity Analysis  
 2: McLaughlin Road & Old School Road

Future Total 2029  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	474	49	366	533	25	58	150	374	20	74	6
Future Volume (vph)	9	474	49	366	533	25	58	150	374	20	74	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Frt		0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	
Satd. Flow (prot)		1814		1755	1887			1818	1555		1807	
Flt Permitted		0.99		0.33	1.00			0.88	1.00		0.89	
Satd. Flow (perm)		1795		606	1887			1620	1555		1620	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	10	504	52	389	567	27	62	160	398	21	79	6
RTOR Reduction (vph)	0	3	0	0	1	0	0	0	319	0	2	0
Lane Group Flow (vph)	0	563	0	389	593	0	0	222	79	0	104	0
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		43.6		63.2	63.2			18.5	18.5		18.5	
Effective Green, g (s)		43.6		63.2	63.2			18.5	18.5		18.5	
Actuated g/C Ratio		0.47		0.67	0.67			0.20	0.20		0.20	
Clearance Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		835		600	1272			319	307		319	
v/s Ratio Prot				c0.11	0.31							
v/s Ratio Perm		0.31		c0.33				c0.14	0.05		0.06	
v/c Ratio		0.67		0.65	0.47			0.70	0.26		0.32	
Uniform Delay, d1		19.5		9.2	7.2			35.0	31.8		32.2	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		4.3		2.4	1.2			6.5	0.4		0.6	
Delay (s)		23.9		11.6	8.5			41.4	32.2		32.8	
Level of Service		C		B	A			D	C		C	
Approach Delay (s)		23.9			9.7			35.5			32.8	
Approach LOS		C			A			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			21.3			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			93.7			Sum of lost time (s)		16.0				
Intersection Capacity Utilization			94.5%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2029  
PM Peak Hour

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	554	202	102	325	261	160	182	2895	368	170	1732	476	
Future Volume (vph)	554	202	102	325	261	160	182	2895	368	170	1732	476	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0	
Storage Lanes	1		0	1		0	1		1	1		1	
Taper Length (m)	2.5			2.5			2.5			2.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	
Frt		0.950			0.943				0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	1825	1738	0	1789	1800	0	1807	5043	1633	1825	4812	1541	
Flt Permitted	0.160			0.234			0.075			0.082			
Satd. Flow (perm)	307	1738	0	441	1800	0	143	5043	1633	158	4812	1541	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		20			23				161			329	
Link Speed (k/h)		70			70			80			80		
Link Distance (m)		1007.8			1022.4			855.3			777.6		
Travel Time (s)		51.8			52.6			38.5			35.0		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%	
Adj. Flow (vph)	571	208	105	335	269	165	188	2985	379	175	1786	491	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	571	313	0	335	434	0	188	2985	379	175	1786	491	
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)		3.7			3.7			3.7			3.7		
Link Offset(m)		0.0			0.0			0.0			0.0		
Crosswalk Width(m)		1.6			1.6			1.6			1.6		
Two way Left Turn Lane								Yes					
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Turning Speed (k/h)	24		14	24		14	24		14	24		14	
Number of Detectors	1	2		1	2		1	2	1	1	2	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7		
Detector 2 Size(m)		1.8			1.8			1.8			1.8		
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex		
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0			0.0			0.0		
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8		5	2		1	6		

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2029  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0	29.0	10.0	29.0	29.0
Total Split (s)	24.0	31.0		22.0	29.0		14.0	57.0	57.0	10.0	53.0	53.0
Total Split (%)	20.0%	25.8%		18.3%	24.2%		11.7%	47.5%	47.5%	8.3%	44.2%	44.2%
Maximum Green (s)	20.0	25.0		18.0	23.0		8.0	51.0	51.0	4.0	47.0	47.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	-2.0		0.0	-2.0		-2.0	-2.0	0.0	-2.0	-2.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lead/Lag	Lead	Lag		Lead	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
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Walk Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	47.0	27.0		43.0	25.0		63.0	53.0	51.0	55.0	49.0	47.0
Actuated g/C Ratio	0.39	0.22		0.36	0.21		0.52	0.44	0.42	0.46	0.41	0.39
v/c Ratio	1.53	0.77		0.93	1.10		0.88	1.34	0.48	1.13	0.91	0.61
Control Delay	279.5	54.7		61.7	118.6		64.6	186.3	16.0	136.6	41.5	12.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	279.5	54.7		61.7	118.6		64.6	186.3	16.0	136.6	41.5	12.6
LOS	F	D		E	F		E	F	B	F	D	B
Approach Delay		199.9			93.8			161.7			42.5	
Approach LOS		F			F			F			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 140  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.53  
 Intersection Signal Delay: 121.1      Intersection LOS: F  
 Intersection Capacity Utilization 132.9%      ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Total 2029  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	571	313	335	434	188	2985	379	175	1786	491
v/c Ratio	1.53	0.77	0.93	1.10	0.88	1.34	0.48	1.13	0.91	0.61
Control Delay	279.5	54.7	61.7	118.6	64.6	186.3	16.0	136.6	41.5	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	279.5	54.7	61.7	118.6	64.6	186.3	16.0	136.6	41.5	12.6
Queue Length 50th (m)	~172.5	65.4	56.5	~112.1	28.2	~335.8	35.1	~31.4	142.8	27.6
Queue Length 95th (m)	#240.3	#104.9	#109.7	#174.8	#69.9	#361.7	61.8	#76.3	164.9	62.6
Internal Link Dist (m)		983.8		998.4		831.3			753.6	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	373	406	360	393	213	2227	786	155	1964	803
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.53	0.77	0.93	1.10	0.88	1.34	0.48	1.13	0.91	0.61

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Total 2029  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	554	202	102	325	261	160	182	2895	368	170	1732	476
Future Volume (vph)	554	202	102	325	261	160	182	2895	368	170	1732	476
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.95		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1825	1737		1789	1800		1807	5043	1633	1825	4812	1541
Flt Permitted	0.16	1.00		0.23	1.00		0.08	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	307	1737		440	1800		144	5043	1633	157	4812	1541
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	571	208	105	335	269	165	188	2985	379	175	1786	491
RTOR Reduction (vph)	0	16	0	0	18	0	0	0	93	0	0	200
Lane Group Flow (vph)	571	298	0	335	416	0	188	2985	286	175	1786	291
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	45.0	25.0		41.0	23.0		59.0	51.0	51.0	51.0	47.0	47.0
Effective Green, g (s)	45.0	27.0		41.0	25.0		63.0	53.0	51.0	55.0	49.0	47.0
Actuated g/C Ratio	0.38	0.22		0.34	0.21		0.52	0.44	0.42	0.46	0.41	0.39
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	368	390		352	375		214	2227	694	155	1964	603
v/s Ratio Prot	c0.26	0.17		0.14	0.23		c0.07	c0.59		c0.06	0.37	
v/s Ratio Perm	c0.32			0.18			0.39		0.18	0.46		0.19
v/c Ratio	1.55	0.76		0.95	1.11		0.88	1.34	0.41	1.13	0.91	0.48
Uniform Delay, d1	34.9	43.5		33.3	47.5		31.4	33.5	24.1	28.6	33.4	27.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	261.3	8.6		35.3	79.2		30.8	156.3	1.8	111.1	7.7	2.7
Delay (s)	296.2	52.1		68.6	126.7		62.2	189.8	25.9	139.7	41.1	30.1
Level of Service	F	D		E	F		E	F	C	F	D	C
Approach Delay (s)		209.7			101.4			165.5			46.0	
Approach LOS		F			F			F			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			125.9			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.42									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			132.9%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2029  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕			↕↕↕			↕			↕	
Traffic Volume (vph)	40	677	49	232	638	64	33	262	236	32	159	28
Future Volume (vph)	40	677	49	232	638	64	33	262	236	32	159	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.990			0.990			0.940			0.983	
Flt Protected		0.997			0.988			0.997			0.993	
Satd. Flow (prot)	0	5037	0	0	5027	0	0	1753	0	0	1835	0
Flt Permitted		0.827			0.658			0.969			0.884	
Satd. Flow (perm)	0	4178	0	0	3348	0	0	1703	0	0	1634	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			13			46			8	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		651.5			1419.4			345.5			2784.8	
Travel Time (s)		33.5			73.0			15.5			125.3	
Confl. Peds. (#/hr)							1					1
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
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Adj. Flow (vph)	43	736	53	252	693	70	36	285	257	35	173	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	832	0	0	1015	0	0	578	0	0	238	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	59.0	59.0		59.0	59.0		61.0	61.0		61.0	61.0	
Total Split (%)	49.2%	49.2%		49.2%	49.2%		50.8%	50.8%		50.8%	50.8%	
Maximum Green (s)	55.0	55.0		55.0	55.0		57.0	57.0		57.0	57.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		55.0			55.0			57.0			57.0	
Actuated g/C Ratio		0.46			0.46			0.48			0.48	
v/c Ratio		0.43			1.02dl			0.69			0.31	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

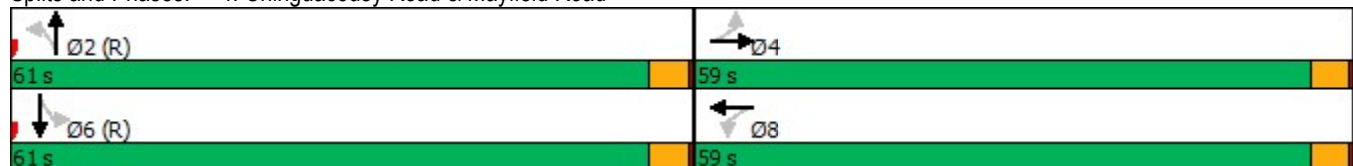
Future Total 2029  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		22.5			27.4			27.9			20.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		22.5			27.4			27.9			20.0	
LOS		C			C			C			B	
Approach Delay		22.5			27.4			27.9			20.0	
Approach LOS		C			C			C			B	

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: 40  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.69  
 Intersection Signal Delay: 25.3      Intersection LOS: C  
 Intersection Capacity Utilization 77.3%      ICU Level of Service D  
 Analysis Period (min) 15  
 dl Defacto Left Lane. Recode with 1 though lane as a left lane.

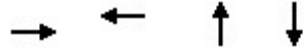
Splits and Phases: 4: Chinguacousy Road & Mayfield Road





Queues  
4: Chinguacousy Road & Mayfield Road

Future Total 2029  
PM Peak Hour



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	832	1015	578	238
v/c Ratio	0.43	1.02dl	0.69	0.31
Control Delay	22.5	27.4	27.9	20.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	22.5	27.4	27.9	20.0
Queue Length 50th (m)	46.6	65.5	96.1	32.3
Queue Length 95th (m)	57.9	81.3	138.2	50.2
Internal Link Dist (m)	627.5	1395.4	321.5	2760.8
Turn Bay Length (m)				
Base Capacity (vph)	1921	1541	833	780
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.43	0.66	0.69	0.31

Intersection Summary

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

# HCM Signalized Intersection Capacity Analysis

## 4: Chinguacousy Road & Mayfield Road

Future Total 2029  
PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔↔			↔↔↔			↕				↕
Traffic Volume (vph)	40	677	49	232	638	64	33	262	236	32	159	28
Future Volume (vph)	40	677	49	232	638	64	33	262	236	32	159	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.91			0.91			1.00			1.00	
Frbp, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.99			0.94			0.98	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		5041			5024			1752			1835	
Flt Permitted		0.83			0.66			0.97			0.88	
Satd. Flow (perm)		4182			3347			1703			1633	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	736	53	252	693	70	36	285	257	35	173	30
RTOR Reduction (vph)	0	7	0	0	7	0	0	24	0	0	4	0
Lane Group Flow (vph)	0	826	0	0	1008	0	0	554	0	0	234	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		55.0			55.0			57.0			57.0	
Effective Green, g (s)		55.0			55.0			57.0			57.0	
Actuated g/C Ratio		0.46			0.46			0.48			0.48	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Lane Grp Cap (vph)		1916			1534			808			775	
v/s Ratio Prot												
v/s Ratio Perm		0.20			c0.30			c0.33			0.14	
v/c Ratio		0.43			1.02dl			0.69			0.30	
Uniform Delay, d1		21.9			25.2			24.5			19.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.7			2.2			4.7			1.0	
Delay (s)		22.6			27.4			29.2			20.3	
Level of Service		C			C			C			C	
Approach Delay (s)		22.6			27.4			29.2			20.3	
Approach LOS		C			C			C			C	

### Intersection Summary





















HCM 2000 Control Delay	25.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Total 2029  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	833	65	109	973	248	111	467	112	189	277	129
Future Volume (vph)	125	833	65	109	973	248	111	467	112	189	277	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.989			0.970			0.971			0.952	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	5036	0	1755	4892	0	1825	3496	0	1738	3353	0
Flt Permitted	0.109			0.293			0.505			0.224		
Satd. Flow (perm)	199	5036	0	541	4892	0	970	3496	0	410	3353	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			60			23			76	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			341.6			2496.3	
Travel Time (s)		73.0			65.0			15.4			112.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	130	868	68	114	1014	258	116	486	117	197	289	134
Shared Lane Traffic (%)												
Lane Group Flow (vph)	130	936	0	114	1272	0	116	603	0	197	423	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

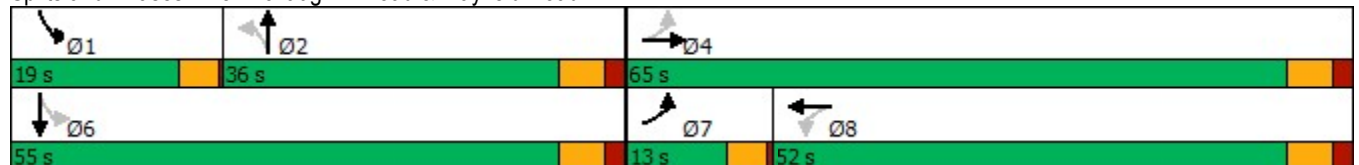
Future Total 2029  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	22.0		22.0	22.0		22.0	22.0		8.0	22.0	
Total Split (s)	13.0	65.0		52.0	52.0		36.0	36.0		19.0	55.0	
Total Split (%)	10.8%	54.2%		43.3%	43.3%		30.0%	30.0%		15.8%	45.8%	
Maximum Green (s)	9.0	59.0		46.0	46.0		30.0	30.0		15.0	49.0	
Yellow Time (s)	3.5	4.0		4.0	4.0		4.0	4.0		3.5	4.0	
All-Red Time (s)	0.5	2.0		2.0	2.0		2.0	2.0		0.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		6.0	6.0		6.0	6.0		4.0	6.0	
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	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	
Recall Mode	None	Max		Max	Max		Max	Max		None	Max	
Walk Time (s)		5.0		5.0	5.0		5.0	5.0			5.0	
Flash Dont Walk (s)		11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)		0		0	0		0	0			0	
Act Effct Green (s)	61.0	59.0		46.4	46.4		31.8	31.8		51.0	49.0	
Actuated g/C Ratio	0.51	0.49		0.39	0.39		0.26	0.26		0.42	0.41	
v/c Ratio	0.62	0.38		0.55	0.66		0.45	0.64		0.62	0.30	
Control Delay	29.3	19.2		40.8	30.8		44.5	41.6		31.3	20.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	29.3	19.2		40.8	30.8		44.5	41.6		31.3	20.0	
LOS	C	B		D	C		D	D		C	C	
Approach Delay		20.5			31.7			42.0			23.6	
Approach LOS		C			C			D			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.66  
 Intersection Signal Delay: 29.2  
 Intersection LOS: C  
 Intersection Capacity Utilization 74.9%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Total 2029  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	130	936	114	1272	116	603	197	423
v/c Ratio	0.62	0.38	0.55	0.66	0.45	0.64	0.62	0.30
Control Delay	29.3	19.2	40.8	30.8	44.5	41.6	31.3	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.3	19.2	40.8	30.8	44.5	41.6	31.3	20.0
Queue Length 50th (m)	15.7	48.0	20.7	85.7	23.2	64.7	29.6	28.1
Queue Length 95th (m)	28.1	58.3	41.7	101.8	42.5	84.9	46.5	40.0
Internal Link Dist (m)		1395.4		1239.7		317.6		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	216	2483	209	1927	256	942	340	1414
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.38	0.55	0.66	0.45	0.64	0.58	0.30
Intersection Summary								

































HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Future Total 2029  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	833	65	109	973	248	111	467	112	189	277	129
Future Volume (vph)	125	833	65	109	973	248	111	467	112	189	277	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0		6.0	6.0		6.0	6.0		4.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1738	5036		1755	4890		1825	3495		1738	3355	
Flt Permitted	0.11	1.00		0.29	1.00		0.51	1.00		0.22	1.00	
Satd. Flow (perm)	200	5036		542	4890		970	3495		410	3355	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	130	868	68	114	1014	258	116	486	117	197	289	134
RTOR Reduction (vph)	0	8	0	0	37	0	0	17	0	0	45	0
Lane Group Flow (vph)	130	928	0	114	1235	0	116	586	0	197	378	0
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	59.0	59.0		46.4	46.4		31.8	31.8		49.0	49.0	
Effective Green, g (s)	59.0	59.0		46.4	46.4		31.8	31.8		49.0	49.0	
Actuated g/C Ratio	0.49	0.49		0.39	0.39		0.27	0.27		0.41	0.41	
Clearance Time (s)	4.0	6.0		6.0	6.0		6.0	6.0		4.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	208	2476		209	1890		257	926		313	1369	
v/s Ratio Prot	c0.04	0.18			0.25			0.17		c0.07	0.11	
v/s Ratio Perm	c0.26			0.21			0.12			c0.19		
v/c Ratio	0.62	0.37		0.55	0.65		0.45	0.63		0.63	0.28	
Uniform Delay, d1	20.3	19.0		28.6	30.2		36.8	38.9		25.3	23.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.7	0.4		9.9	1.8		5.6	3.3		3.9	0.5	
Delay (s)	26.1	19.4		38.5	32.0		42.5	42.2		29.2	24.2	
Level of Service	C	B		D	C		D	D		C	C	
Approach Delay (s)		20.3			32.5			42.3			25.8	
Approach LOS		C			C			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			29.8				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			74.9%				ICU Level of Service				D	
Analysis Period (min)			15									
c	Critical Lane Group											

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2029  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	579	579	99	266	745	149	187	805	253	214	829	819
Future Volume (vph)	579	579	99	266	745	149	187	805	253	214	829	819
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.96	0.98		0.99	1.00		0.96			0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	4995	1601	3404	5092	1585	1789	3614	1555	1825	3510	1585
Fl <sub>t</sub> Permitted	0.160			0.950			0.263			0.199		
Satd. Flow (perm)	296	4995	1538	3335	5092	1562	495	3614	1486	382	3510	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			145			208			680
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			749.9			810.3			609.4	
Travel Time (s)		7.3			38.6			41.7			31.3	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Adj. Flow (vph)	597	597	102	274	768	154	193	830	261	221	855	844
Shared Lane Traffic (%)												
Lane Group Flow (vph)	597	597	102	274	768	154	193	830	261	221	855	844
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
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)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

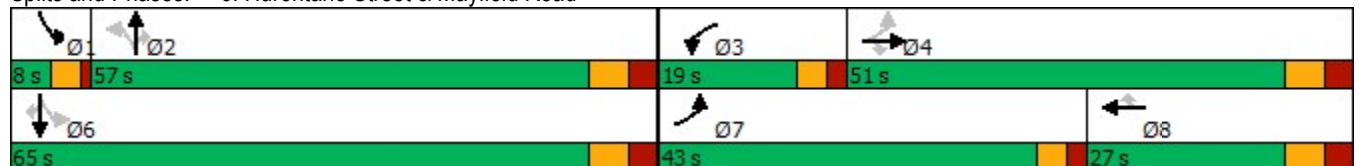
Future Total 2029  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	43.0	51.0	51.0	19.0	27.0	27.0	57.0	57.0	57.0	8.0	65.0	65.0
Total Split (%)	31.9%	37.8%	37.8%	14.1%	20.0%	20.0%	42.2%	42.2%	42.2%	5.9%	48.1%	48.1%
Maximum Green (s)	38.0	44.0	44.0	14.0	20.0	20.0	50.0	50.0	50.0	4.0	58.0	58.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-2.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
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	None	Max	Max	None	None	None	None	Max	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)		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)	67.0	44.4	44.4	15.6	20.0	20.0	52.0	50.0	50.0	63.0	58.0	58.0
Actuated g/C Ratio	0.50	0.33	0.33	0.12	0.15	0.15	0.39	0.37	0.37	0.47	0.43	0.43
v/c Ratio	1.03	0.36	0.18	0.70	1.02	0.44	1.02	0.62	0.38	0.91	0.57	0.80
Control Delay	82.2	35.4	6.2	67.6	93.7	13.4	111.2	37.2	8.8	67.8	30.9	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.2	35.4	6.2	67.6	93.7	13.4	111.2	37.2	8.8	67.8	30.9	12.8
LOS	F	D	A	E	F	B	F	D	A	E	C	B
Approach Delay		54.6			77.4			42.6			27.2	
Approach LOS		D			E			D			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 135  
 Actuated Cycle Length: 135  
 Natural Cycle: 100  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.03  
 Intersection Signal Delay: 47.4  
 Intersection LOS: D  
 Intersection Capacity Utilization 98.9%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 6: Hurontario Street & Mayfield Road





Queues  
6: Hurontario Street & Mayfield Road

Future Total 2029  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	597	597	102	274	768	154	193	830	261	221	855	844
v/c Ratio	1.03	0.36	0.18	0.70	1.02	0.44	1.02	0.62	0.38	0.91	0.57	0.80
Control Delay	82.2	35.4	6.2	67.6	93.7	13.4	111.2	37.2	8.8	67.8	30.9	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.2	35.4	6.2	67.6	93.7	13.4	111.2	37.2	8.8	67.8	30.9	12.8
Queue Length 50th (m)	~153.4	44.5	0.0	36.6	~79.2	2.1	~52.5	94.5	9.2	35.1	89.1	35.0
Queue Length 95th (m)	#225.3	55.7	12.0	51.6	#106.5	21.7	#102.2	116.0	29.5	#74.4	109.2	99.6
Internal Link Dist (m)		118.1			725.9			786.3			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	579	1644	577	403	754	354	190	1338	681	242	1508	1055
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.36	0.18	0.68	1.02	0.44	1.02	0.62	0.38	0.91	0.57	0.80

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.


































Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.










HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Total 2029  
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		  	  			 		 	 		
Traffic Volume (vph)	579	579	99	266	745	149	187	805	253	214	829	819	
Future Volume (vph)	579	579	99	266	745	149	187	805	253	214	829	819	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1755	4995	1538	3404	5092	1562	1787	3614	1486	1825	3510	1555	
Flt Permitted	0.16	1.00	1.00	0.95	1.00	1.00	0.26	1.00	1.00	0.20	1.00	1.00	
Satd. Flow (perm)	296	4995	1538	3404	5092	1562	495	3614	1486	383	3510	1555	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	597	597	102	274	768	154	193	830	261	221	855	844	
RTOR Reduction (vph)	0	0	68	0	0	124	0	0	131	0	0	388	
Lane Group Flow (vph)	597	597	34	274	768	30	193	830	130	221	855	456	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3	
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8			2		1	6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	63.0	44.4	44.4	13.6	20.0	20.0	50.0	50.0	50.0	58.0	58.0	58.0	
Effective Green, g (s)	65.0	44.4	44.4	15.6	20.0	20.0	52.0	50.0	50.0	60.0	58.0	58.0	
Actuated g/C Ratio	0.48	0.33	0.33	0.12	0.15	0.15	0.39	0.37	0.37	0.44	0.43	0.43	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
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	
Lane Grp Cap (vph)	574	1642	505	393	754	231	190	1338	550	234	1508	668	
v/s Ratio Prot	c0.31	0.12		0.08	0.15			0.23		c0.04	0.24		
v/s Ratio Perm	c0.19		0.02			0.02	c0.39		0.09	0.38		0.29	
v/c Ratio	1.04	0.36	0.07	0.70	1.02	0.13	1.02	0.62	0.24	0.94	0.57	0.68	
Uniform Delay, d1	38.5	34.5	31.1	57.4	57.5	50.0	41.5	34.7	29.3	35.7	29.0	31.1	
Progression 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	
Incremental Delay, d2	48.4	0.6	0.3	5.3	37.5	1.2	69.5	0.9	0.2	43.3	1.6	5.6	
Delay (s)	86.9	35.2	31.3	62.7	95.0	51.1	111.0	35.6	29.6	79.0	30.6	36.7	
Level of Service	F	D	C	E	F	D	F	D	C	E	C	D	
Approach Delay (s)		58.7			82.0			45.7			38.8		
Approach LOS		E			F			D			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			54.0		HCM 2000 Level of Service						D		
HCM 2000 Volume to Capacity ratio			1.08										
Actuated Cycle Length (s)			135.0		Sum of lost time (s)						19.0		
Intersection Capacity Utilization			98.9%		ICU Level of Service						F		
Analysis Period (min)			15										
c Critical Lane Group													










Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C

Future Total 2029  
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	587	0	0	439
Future Volume (vph)	0	0	587	0	0	439
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	0	0	1883
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	0	0	1883
Link Speed (k/h)	48		80			80
Link Distance (m)	204.9		2784.8			298.8
Travel Time (s)	15.4		125.3			13.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	638	0	0	477
<b>Shared Lane Traffic (%)</b>						
Lane Group Flow (vph)	0	0	638	0	0	477
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
<b>Two way Left Turn Lane</b>						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	34.2%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
7: Chinguacousy Road & Street C

Future Total 2029  
PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	587	0	0	439
Future Volume (Veh/h)	0	0	587	0	0	439
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)	0	0	638	0	0	477
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (m)						299
pX, platoon unblocked	0.87					
vC, conflicting volume	1115	638			638	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1059	638			638	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	217	477			946	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	0	638	477			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1700	946			
Volume to Capacity	0.00	0.38	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			34.2%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
8: Street B & Old School Road

Future Total 2029  
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	
Traffic Volume (vph)	511	0	0	579	0	0
Future Volume (vph)	511	0	0	579	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	1883	0	0	1883	1883	0
Flt Permitted						
Satd. Flow (perm)	1883	0	0	1883	1883	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	555	0	0	629	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	555	0	0	629	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	33.8%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
8: Street B & Old School Road


















Future Total 2029  
PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↔	↔
Traffic Volume (veh/h)	511	0	0	579	0	0
Future Volume (Veh/h)	511	0	0	579	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	555	0	0	629	0	0
<b>Pedestrians</b>						
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			555	1184	555	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			555	1184	555	
tC, single (s)			4.1	6.4	6.2	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			100	100	100	
cM capacity (veh/h)			1015	209	531	
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	555	629	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	1015	1700			
Volume to Capacity	0.33	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			33.8%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2029  
PM Peak Hour




















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	107	0	36	0	547	169	36	453	0
Future Volume (vph)	0	0	0	107	0	36	0	547	169	36	453	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.850			0.965				
Flt Protected				0.950							0.996	
Satd. Flow (prot)	0	1883	0	1789	1601	0	0	3453	0	0	3564	0
Flt Permitted				0.950							0.996	
Satd. Flow (perm)	0	1883	0	1789	1601	0	0	3453	0	0	3564	0
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			403.1			2496.3			588.2	
Travel Time (s)		15.4			30.2			112.3			26.5	
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
Adj. Flow (vph)	0	0	0	116	0	39	0	595	184	39	492	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	116	39	0	0	779	0	0	531	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	50.0%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 9: McLaughlin Road & Street A










Future Total 2029  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	107	0	36	0	547	169	36	453	0
Future Volume (Veh/h)	0	0	0	107	0	36	0	547	169	36	453	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			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	0	0	116	0	39	0	595	184	39	492	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
Median storage veh												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	906	1349	246	1011	1257	390	492			779		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	906	1349	246	1011	1257	390	492			779		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	38	100	94	100			95		
cM capacity (veh/h)	208	142	754	187	162	609	1068			834		
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2					
Volume Total	0	116	39	298	482	285	246					
Volume Left	0	116	0	0	0	39	0					
Volume Right	0	0	39	0	184	0	0					
cSH	1700	187	609	1068	1700	834	1700					
Volume to Capacity	0.00	0.62	0.06	0.00	0.28	0.05	0.14					
Queue Length 95th (m)	0.0	26.7	1.6	0.0	0.0	1.1	0.0					
Control Delay (s)	0.0	51.5	11.3	0.0	0.0	1.8	0.0					
Lane LOS	A	F	B			A						
Approach Delay (s)	0.0	41.4		0.0		0.9						
Approach LOS	A	E										
Intersection Summary												
Average Delay			4.7									
Intersection Capacity Utilization			50.0%		ICU Level of Service				A			
Analysis Period (min)			15									



Lanes, Volumes, Timings  
10: Street D & Old School Road

Future Total 2029  
PM Peak Hour

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	869	0	0	925	0	0
Future Volume (vph)	869	0	0	925	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	1883	0	0	1883	1883	0
Flt Permitted						
Satd. Flow (perm)	1883	0	0	1883	1883	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	945	0	0	1005	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	945	0	0	1005	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	52.0%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 10: Street D & Old School Road

Future Total 2029  
 PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	←	→
Traffic Volume (veh/h)	869	0	0	925	0	0
Future Volume (Veh/h)	869	0	0	925	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	945	0	0	1005	0	0
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	349					
pX, platoon unblocked			0.77		0.77	0.77
vC, conflicting volume			945		1950	945
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			778		2085	778
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			645		45	305
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>			
Volume Total	945	1005	0			
Volume Left	0	0	0			
Volume Right	0	0	0			
cSH	1700	645	1700			
Volume to Capacity	0.56	0.00	0.00			
Queue Length 95th (m)	0.0	0.0	0.0			
Control Delay (s)	0.0	0.0	0.0			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS			A			
<b>Intersection Summary</b>						
Average Delay			0.0			
Intersection Capacity Utilization			52.0%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings  
11: Street A & Street D

Future Total 2029  
PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↶		↶	
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
<b>Fr</b>						
Flt Protected						
Satd. Flow (prot)	0	1883	1883	0	1883	0
Flt Permitted						
Satd. Flow (perm)	0	1883	1883	0	1883	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Stop	Stop		Stop	

**Intersection Summary**

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	0.0%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 11: Street A & Street D

Future Total 2029  
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Sign Control		Stop	Stop		Stop	
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total (vph)	0	0	0			
Volume Left (vph)	0	0	0			
Volume Right (vph)	0	0	0			
Hadj (s)	0.00	0.00	0.00			
Departure Headway (s)	3.9	3.9	3.9			
Degree Utilization, x	0.00	0.00	0.00			
Capacity (veh/h)	917	917	917			
Control Delay (s)	6.9	6.9	6.9			
Approach Delay (s)	0.0	0.0	0.0			
Approach LOS	A	A	A			
Intersection Summary						
Delay			0.0			
Level of Service			A			
Intersection Capacity Utilization			0.0%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2029  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	36	179	343	3410	2106	54
Future Volume (vph)	36	179	343	3410	2106	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt		0.850			0.996	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	5142	5121	0
Flt Permitted	0.950		0.056			
Satd. Flow (perm)	1789	1601	105	5142	5121	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		2			4	
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	195	373	3707	2289	59
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	195	373	3707	2348	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2029  
PM Peak Hour

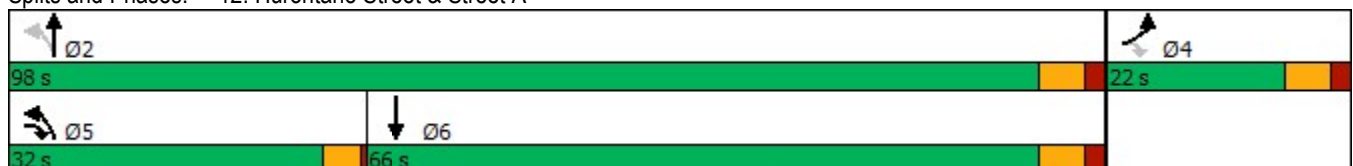


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	8.0	8.0	22.0	22.0	
Total Split (s)	22.0	32.0	32.0	98.0	66.0	
Total Split (%)	18.3%	26.7%	26.7%	81.7%	55.0%	
Maximum Green (s)	16.0	28.0	28.0	92.0	60.0	
Yellow Time (s)	4.0	3.5	3.5	4.0	4.0	
All-Red Time (s)	2.0	0.5	0.5	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	4.0	4.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	7.8	30.0	94.5	95.1	67.0	
Actuated g/C Ratio	0.07	0.28	0.88	0.89	0.63	
v/c Ratio	0.30	0.43	0.87	0.81	0.73	
Control Delay	54.7	32.0	50.9	7.2	18.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	54.7	32.0	50.9	7.2	18.6	
LOS	D	C	D	A	B	
Approach Delay	35.8			11.2	18.6	
Approach LOS	D			B	B	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	107.1
Natural Cycle:	90
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.87
Intersection Signal Delay:	14.6
Intersection LOS:	B
Intersection Capacity Utilization	79.2%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 12: Hurontario Street & Street A



Queues  
12: Hurontario Street & Street A

Future Total 2029  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	39	195	373	3707	2348
v/c Ratio	0.30	0.43	0.87	0.81	0.73
Control Delay	54.7	32.0	50.9	7.2	18.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	32.0	50.9	7.2	18.6
Queue Length 50th (m)	8.3	31.7	62.1	142.3	138.6
Queue Length 95th (m)	18.9	48.0	96.5	195.6	185.7
Internal Link Dist (m)	932.1			904.0	831.3
Turn Bay Length (m)	30.0		50.0		
Base Capacity (vph)	268	550	535	4566	3205
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.35	0.70	0.81	0.73
<b>Intersection Summary</b>					

HCM Signalized Intersection Capacity Analysis  
 12: Hurontario Street & Street A

Future Total 2029  
 PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	36	179	343	3410	2106	54
Future Volume (vph)	36	179	343	3410	2106	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1789	1601	1789	5142	5122	
Flt Permitted	0.95	1.00	0.06	1.00	1.00	
Satd. Flow (perm)	1789	1601	106	5142	5122	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	195	373	3707	2289	59
RTOR Reduction (vph)	0	2	0	0	2	0
Lane Group Flow (vph)	39	193	373	3707	2346	0
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	5.2	26.6	92.5	92.5	67.1	
Effective Green, g (s)	5.2	26.6	92.5	92.5	67.1	
Actuated g/C Ratio	0.05	0.24	0.84	0.84	0.61	
Clearance Time (s)	6.0	4.0	4.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	84	388	417	4335	3132	
v/s Ratio Prot	0.02	c0.10	0.17	c0.72	0.46	
v/s Ratio Perm		0.02	c0.58			
v/c Ratio	0.46	0.50	0.89	0.86	0.75	
Uniform Delay, d1	50.9	35.8	34.8	4.8	15.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.0	1.0	20.9	2.4	1.7	
Delay (s)	54.9	36.8	55.7	7.2	17.0	
Level of Service	D	D	E	A	B	
Approach Delay (s)	39.8			11.6	17.0	
Approach LOS	D			B	B	


















Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	109.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2031  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	237	3	133	152	43	2	225	278	32	209	9
Future Volume (vph)	2	237	3	133	152	43	2	225	278	32	209	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.998			0.967			0.926			0.995	
Fl <sub>t</sub> Protected				0.950							0.994	
Satd. Flow (prot)	0	1917	0	1772	1790	0	0	1713	0	0	1789	0
Fl <sub>t</sub> Permitted		0.997		0.288				0.999			0.900	
Satd. Flow (perm)	0	1912	0	537	1790	0	0	1711	0	0	1620	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			16			92			3	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			342.6	
Travel Time (s)		30.4			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Adj. Flow (vph)	2	252	3	141	162	46	2	239	296	34	222	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	257	0	141	208	0	0	537	0	0	266	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

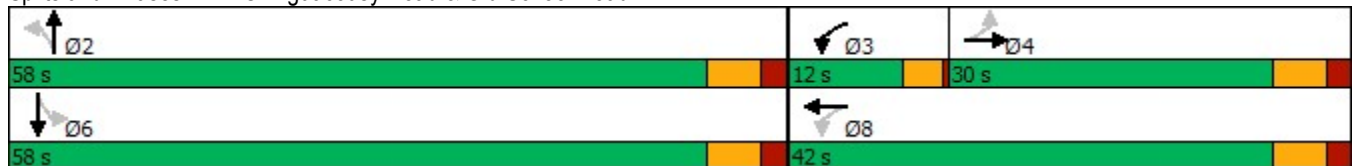
Future Background 2031  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	30.0	30.0		12.0	42.0		58.0	58.0		58.0	58.0	
Total Split (%)	30.0%	30.0%		12.0%	42.0%		58.0%	58.0%		58.0%	58.0%	
Maximum Green (s)	24.0	24.0		8.5	36.0		52.0	52.0		52.0	52.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		3.5	6.0			6.0			6.0	
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	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		17.4		31.7	29.2			52.2			52.2	
Actuated g/C Ratio		0.19		0.34	0.31			0.56			0.56	
v/c Ratio		0.72		0.48	0.36			0.54			0.29	
Control Delay		47.3		27.6	24.5			13.8			12.7	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		47.3		27.6	24.5			13.8			12.7	
LOS		D		C	C			B			B	
Approach Delay		47.3			25.7			13.8			12.7	
Approach LOS		D			C			B			B	

Intersection Summary

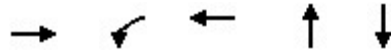
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	93.4
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	22.6
Intersection LOS:	C
Intersection Capacity Utilization	74.5%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road



Queues

1: Chinguacousy Road & Old School Road




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	257	141	208	537	266
v/c Ratio	0.72	0.48	0.36	0.54	0.29
Control Delay	47.3	27.6	24.5	13.8	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	27.6	24.5	13.8	12.7
Queue Length 50th (m)	43.7	18.0	26.4	47.1	23.6
Queue Length 95th (m)	68.6	31.3	44.2	86.8	44.3
Internal Link Dist (m)	566.7		466.2	274.8	318.6
Turn Bay Length (m)					
Base Capacity (vph)	493	295	701	996	906
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.52	0.48	0.30	0.54	0.29

Intersection Summary



















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Background 2031  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	2	237	3	133	152	43	2	225	278	32	209	9	
Future Volume (vph)	2	237	3	133	152	43	2	225	278	32	209	9	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.0		3.5	6.0			6.0			6.0		
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00		
Frt		1.00		1.00	0.97			0.93			0.99		
Flt Protected		1.00		0.95	1.00			1.00			0.99		
Satd. Flow (prot)		1917		1772	1790			1711			1788		
Flt Permitted		1.00		0.29	1.00			1.00			0.90		
Satd. Flow (perm)		1913		538	1790			1711			1620		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	2	252	3	141	162	46	2	239	296	34	222	10	
RTOR Reduction (vph)	0	1	0	0	11	0	0	41	0	0	1	0	
Lane Group Flow (vph)	0	256	0	141	197	0	0	496	0	0	265	0	
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA		
Protected Phases		4		3	8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		17.5		29.2	29.2			52.1			52.1		
Effective Green, g (s)		17.5		29.2	29.2			52.1			52.1		
Actuated g/C Ratio		0.19		0.31	0.31			0.56			0.56		
Clearance Time (s)		6.0		3.5	6.0			6.0			6.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0		
Lane Grp Cap (vph)		358		276	560			955			904		
v/s Ratio Prot				c0.04	0.11								
v/s Ratio Perm		c0.13		0.11				0.29			0.16		
v/c Ratio		0.72		0.51	0.35			0.52			0.29		
Uniform Delay, d1		35.6		25.1	24.7			12.8			10.9		
Progression Factor		1.00		1.00	1.00			1.00			1.00		
Incremental Delay, d2		6.7		1.6	0.4			2.0			0.8		
Delay (s)		42.2		26.7	25.1			14.8			11.7		
Level of Service		D		C	C			B			B		
Approach Delay (s)		42.2			25.8			14.8			11.7		
Approach LOS		D			C			B			B		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			21.9									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.56										
Actuated Cycle Length (s)			93.3									Sum of lost time (s)	15.5
Intersection Capacity Utilization			74.5%									ICU Level of Service	D
Analysis Period (min)			15										
c	Critical Lane Group												

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Background 2031  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	509	34	233	288	24	40	60	413	37	120	11
Future Volume (vph)	6	509	34	233	288	24	40	60	413	37	120	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.988				0.850		0.991	
Flt Protected		0.999		0.950				0.980			0.989	
Satd. Flow (prot)	0	3550	0	1789	3483	0	0	1860	1617	0	1858	0
Flt Permitted		0.952		0.432				0.793			0.903	
Satd. Flow (perm)	0	3383	0	814	3483	0	0	1505	1617	0	1697	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			13				274			4
Link Speed (k/h)		70			70			80				80
Link Distance (m)		893.1			349.1			588.2				263.1
Travel Time (s)		45.9			18.0			26.5				11.8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Adj. Flow (vph)	6	541	36	248	306	26	43	64	439	39	128	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	583	0	248	332	0	0	107	439	0	179	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)		3.7			3.7			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
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
Protected Phases		4			8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

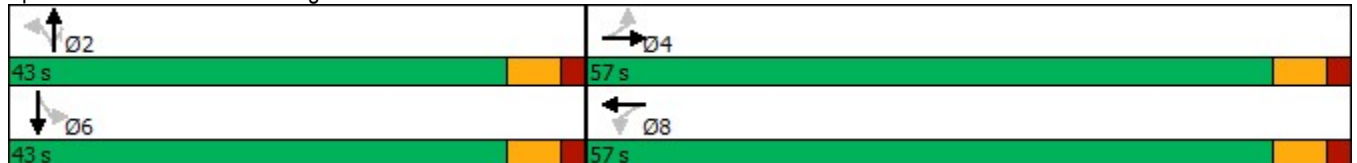
Future Background 2031  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	57.0	57.0		57.0	57.0		43.0	43.0	43.0	43.0	43.0	
Total Split (%)	57.0%	57.0%		57.0%	57.0%		43.0%	43.0%	43.0%	43.0%	43.0%	
Maximum Green (s)	51.0	51.0		51.0	51.0		37.0	37.0	37.0	37.0	37.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		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	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
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	Max	Max		Max	Max		None	None	None	None	None	
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)	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)		51.4		51.4	51.4			16.0	16.0		16.0	
Actuated g/C Ratio		0.65		0.65	0.65			0.20	0.20		0.20	
v/c Ratio		0.27		0.47	0.15			0.35	0.81		0.52	
Control Delay		7.3		12.9	6.5			29.6	23.2		32.4	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		7.3		12.9	6.5			29.6	23.2		32.4	
LOS		A		B	A			C	C		C	
Approach Delay		7.3			9.2			24.5			32.4	
Approach LOS		A			A			C			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 79.5  
 Natural Cycle: 55  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.81  
 Intersection Signal Delay: 15.2  
 Intersection Capacity Utilization 64.9%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service C

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road

Future Background 2031  
AM Peak Hour





















Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	583	248	332	107	439	179
v/c Ratio	0.27	0.47	0.15	0.35	0.81	0.52
Control Delay	7.3	12.9	6.5	29.6	23.2	32.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.3	12.9	6.5	29.6	23.2	32.4
Queue Length 50th (m)	15.8	15.5	8.0	13.9	22.6	23.5
Queue Length 95th (m)	36.2	49.3	20.0	26.6	54.4	40.6
Internal Link Dist (m)	869.1		325.1	564.2		239.1
Turn Bay Length (m)		50.0				
Base Capacity (vph)	2191	526	2257	706	904	798
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.47	0.15	0.15	0.49	0.22
<b>Intersection Summary</b>						

# HCM Signalized Intersection Capacity Analysis

## 2: McLaughlin Road & Old School Road























Future Background 2031  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	509	34	233	288	24	40	60	413	37	120	11
Future Volume (vph)	6	509	34	233	288	24	40	60	413	37	120	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00	
Frt		0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	
Satd. Flow (prot)		3551		1789	3484			1861	1617		1859	
Flt Permitted		0.95		0.43	1.00			0.79	1.00		0.90	
Satd. Flow (perm)		3382		814	3484			1505	1617		1697	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	6	541	36	248	306	26	43	64	439	39	128	12
RTOR Reduction (vph)	0	4	0	0	5	0	0	0	219	0	3	0
Lane Group Flow (vph)	0	579	0	248	327	0	0	107	220	0	176	0
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		6		
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		51.4		51.4	51.4			16.0	16.0		16.0	
Effective Green, g (s)		51.4		51.4	51.4			16.0	16.0		16.0	
Actuated g/C Ratio		0.65		0.65	0.65			0.20	0.20		0.20	
Clearance Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		2189		526	2255			303	325		341	
v/s Ratio Prot					0.09							
v/s Ratio Perm		0.17		c0.30				0.07	c0.14		0.10	
v/c Ratio		0.26		0.47	0.15			0.35	0.68		0.52	
Uniform Delay, d1		6.0		7.1	5.4			27.3	29.3		28.2	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.3		3.0	0.1			0.7	5.5		1.3	
Delay (s)		6.3		10.1	5.6			28.0	34.8		29.6	
Level of Service		A		B	A			C	C		C	
Approach Delay (s)		6.3			7.5			33.5			29.6	
Approach LOS		A			A			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			16.7									B
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			79.4								12.0	
Intersection Capacity Utilization			64.9%									C
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2031  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	557	219	174	331	171	150	55	1812	162	74	2486	297
Future Volume (vph)	557	219	174	331	171	150	55	1812	162	74	2486	297
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.934			0.930				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	3321	0	1722	3262	0	1722	4445	1471	1615	5043	1633
Flt Permitted	0.347			0.395			0.067			0.067		
Satd. Flow (perm)	641	3321	0	716	3262	0	121	4445	1471	114	5043	1633
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			18				130			174
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			736.2			855.3			564.0	
Travel Time (s)		51.8			37.9			38.5			25.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Adj. Flow (vph)	599	235	187	356	184	161	59	1948	174	80	2673	319
Shared Lane Traffic (%)												
Lane Group Flow (vph)	599	422	0	356	345	0	59	1948	174	80	2673	319
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2031  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	24.0		8.0	24.0		29.0	29.0	29.0	29.0	29.0	29.0
Total Split (s)	28.0	26.0		26.0	24.0		68.0	68.0	68.0	68.0	68.0	68.0
Total Split (%)	23.3%	21.7%		21.7%	20.0%		56.7%	56.7%	56.7%	56.7%	56.7%	56.7%
Maximum Green (s)	24.0	18.0		22.0	16.0		60.0	60.0	60.0	60.0	60.0	60.0
Yellow Time (s)	3.5	6.0		3.5	6.0		6.0	6.0	6.0	6.0	6.0	6.0
All-Red Time (s)	0.5	2.0		0.5	2.0		2.0	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	0.0
Total Lost Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lead/Lag	Lead	Lag		Lead	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	None		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		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
Act Effct Green (s)	45.6	18.1		40.3	15.2		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.38	0.15		0.34	0.13		0.50	0.50	0.50	0.50	0.50	0.50
v/c Ratio	1.28	0.78		0.85	0.80		0.98	0.87	0.22	1.40	1.05	0.35
Control Delay	169.4	54.2		48.0	62.6		145.3	31.7	5.6	285.9	63.5	8.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	169.4	54.2		48.0	62.6		145.3	31.7	5.6	285.9	63.5	8.9
LOS	F	D		D	E		F	C	A	F	E	A
Approach Delay		121.8			55.2			32.7			63.6	
Approach LOS		F			E			C			E	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 119.2  
 Natural Cycle: 110  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.40  
 Intersection Signal Delay: 61.6  
 Intersection Capacity Utilization 115.1%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service H

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Background 2031  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	599	422	356	345	59	1948	174	80	2673	319
v/c Ratio	1.28	0.78	0.85	0.80	0.98	0.87	0.22	1.40	1.05	0.35
Control Delay	169.4	54.2	48.0	62.6	145.3	31.7	5.6	285.9	63.5	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	169.4	54.2	48.0	62.6	145.3	31.7	5.6	285.9	63.5	8.9
Queue Length 50th (m)	~148.7	45.5	62.6	39.6	13.1	144.9	5.2	~25.2	~253.4	18.2
Queue Length 95th (m)	#219.3	#64.8	#95.1	#58.7	#41.5	167.9	16.8	#44.3	#280.7	37.0
Internal Link Dist (m)		983.8		712.2		831.3			540.0	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	469	546	433	453	60	2237	805	57	2538	908
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.28	0.77	0.82	0.76	0.98	0.87	0.22	1.40	1.05	0.35

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Background 2031  
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	557	219	174	331	171	150	55	1812	162	74	2486	297
Future Volume (vph)	557	219	174	331	171	150	55	1812	162	74	2486	297
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	3319		1722	3262		1722	4445	1471	1615	5043	1633
Flt Permitted	0.35	1.00		0.39	1.00		0.07	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	641	3319		715	3262		121	4445	1471	113	5043	1633
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	599	235	187	356	184	161	59	1948	174	80	2673	319
RTOR Reduction (vph)	0	39	0	0	16	0	0	0	65	0	0	86
Lane Group Flow (vph)	599	383	0	356	329	0	59	1948	109	80	2673	233
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	42.1	18.1		36.3	15.2		60.0	60.0	60.0	60.0	60.0	60.0
Effective Green, g (s)	42.1	18.1		36.3	15.2		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.35	0.15		0.30	0.13		0.50	0.50	0.50	0.50	0.50	0.50
Clearance Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	450	503		395	415		60	2237	740	56	2538	821
v/s Ratio Prot	c0.27	0.12		0.16	0.10			0.44			0.53	
v/s Ratio Perm	c0.20			0.11			0.49		0.07	c0.71		0.14
v/c Ratio	1.33	0.76		0.90	0.79		0.98	0.87	0.15	1.43	1.05	0.28
Uniform Delay, d1	34.7	48.5		36.5	50.5		29.1	26.2	15.9	29.6	29.6	17.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	163.6	6.7		23.0	10.0		111.5	5.0	0.4	269.5	33.9	0.9
Delay (s)	198.4	55.2		59.5	60.5		140.6	31.2	16.3	299.1	63.5	18.0
Level of Service	F	E		E	E		F	C	B	F	E	B
Approach Delay (s)		139.2			60.0			32.9			64.9	
Approach LOS		F			E			C			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			65.3				HCM 2000 Level of Service				E	
HCM 2000 Volume to Capacity ratio			1.41									
Actuated Cycle Length (s)			119.2				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			115.1%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2031  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↕↔		↔	↕↕↕			↕			↕	
Traffic Volume (vph)	45	674	50	151	585	28	25	200	143	99	251	39
Future Volume (vph)	45	674	50	151	585	28	25	200	143	99	251	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.993			0.948			0.987	
Flt Protected		0.997		0.950				0.997			0.987	
Satd. Flow (prot)	0	4862	0	1659	4934	0	0	1747	0	0	1780	0
Flt Permitted		0.859		0.215				0.960			0.795	
Satd. Flow (perm)	0	4189	0	375	4934	0	0	1682	0	0	1434	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			8			37			7	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		836.2			1419.4			345.5			2784.8	
Travel Time (s)		43.0			73.0			15.5			125.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Adj. Flow (vph)	45	681	51	153	591	28	25	202	144	100	254	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	777	0	153	619	0	0	371	0	0	393	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

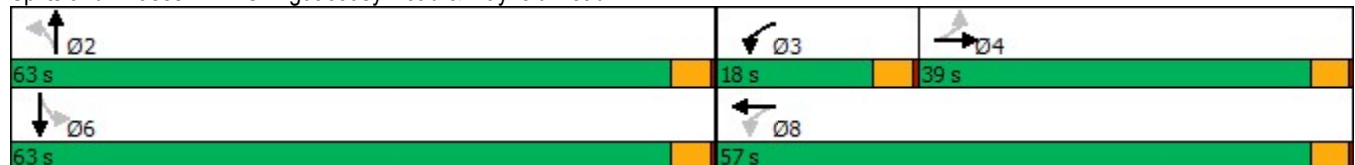
Future Background 2031  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	39.0	39.0		18.0	57.0		63.0	63.0		63.0	63.0	
Total Split (%)	32.5%	32.5%		15.0%	47.5%		52.5%	52.5%		52.5%	52.5%	
Maximum Green (s)	35.0	35.0		14.0	53.0		59.0	59.0		59.0	59.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
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	Max	Max		None	Max		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		37.2		53.0	53.0			59.0			59.0	
Actuated g/C Ratio		0.31		0.44	0.44			0.49			0.49	
v/c Ratio		0.60		0.53	0.28			0.44			0.56	
Control Delay		37.3		27.6	21.5			19.6			24.6	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		37.3		27.6	21.5			19.6			24.6	
LOS		D		C	C			B			C	
Approach Delay		37.3			22.7			19.6			24.6	
Approach LOS		D			C			B			C	

Intersection Summary

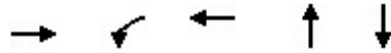
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 50  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.60  
 Intersection Signal Delay: 27.4      Intersection LOS: C  
 Intersection Capacity Utilization 82.0%      ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

























Future Background 2031  
AM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	777	153	619	371	393
v/c Ratio	0.60	0.53	0.28	0.44	0.56
Control Delay	37.3	27.6	21.5	19.6	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	37.3	27.6	21.5	19.6	24.6
Queue Length 50th (m)	56.3	21.7	32.9	49.2	61.7
Queue Length 95th (m)	71.7	35.8	41.8	73.9	92.0
Internal Link Dist (m)	812.2		1395.4	321.5	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	1305	315	2183	845	708
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.60	0.49	0.28	0.44	0.56
Intersection Summary					

HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road






















Future Background 2031  
AM Peak Hour

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		  		  				  			  			
Traffic Volume (vph)	45	674	50	151	585	28	25	200	143	99	251	39		
Future Volume (vph)	45	674	50	151	585	28	25	200	143	99	251	39		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0			
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00			
Frt		0.99		1.00	0.99			0.95			0.99			
Flt Protected		1.00		0.95	1.00			1.00			0.99			
Satd. Flow (prot)		4864		1659	4935			1745			1780			
Flt Permitted		0.86		0.22	1.00			0.96			0.79			
Satd. Flow (perm)		4191		376	4935			1680			1433			
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99		
Adj. Flow (vph)	45	681	51	153	591	28	25	202	144	100	254	39		
RTOR Reduction (vph)	0	6	0	0	4	0	0	19	0	0	4	0		
Lane Group Flow (vph)	0	771	0	153	615	0	0	352	0	0	389	0		
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%		
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA			
Protected Phases		4		3	8			2			6			
Permitted Phases	4			8			2			6				
Actuated Green, G (s)		37.2		53.0	53.0			59.0			59.0			
Effective Green, g (s)		37.2		53.0	53.0			59.0			59.0			
Actuated g/C Ratio		0.31		0.44	0.44			0.49			0.49			
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0			
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0			
Lane Grp Cap (vph)		1299		292	2179			826			704			
v/s Ratio Prot				c0.05	0.12									
v/s Ratio Perm		c0.18		0.18				0.21			c0.27			
v/c Ratio		0.59		0.52	0.28			0.43			0.55			
Uniform Delay, d1		35.0		22.0	21.4			19.6			21.3			
Progression Factor		1.00		1.00	1.00			1.00			1.00			
Incremental Delay, d2		2.0		1.7	0.3			1.6			3.1			
Delay (s)		37.0		23.7	21.7			21.2			24.4			
Level of Service		D		C	C			C			C			
Approach Delay (s)		37.0			22.1			21.2			24.4			
Approach LOS		D			C			C			C			
<b>Intersection Summary</b>														
HCM 2000 Control Delay			27.4									HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio			0.57											
Actuated Cycle Length (s)			120.0								12.0			
Intersection Capacity Utilization			82.0%										ICU Level of Service	D
Analysis Period (min)			15											
c	Critical Lane Group													



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2031  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	938	116	129	732	123	51	243	97	303	403	86
Future Volume (vph)	17	938	116	129	732	123	51	243	97	303	403	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.984			0.978			0.957			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4889	0	1706	4755	0	1644	3406	0	1690	3438	0
Flt Permitted	0.269			0.200			0.418			0.526		
Satd. Flow (perm)	517	4889	0	359	4755	0	723	3406	0	936	3438	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			37			62			27	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			341.6			2496.3	
Travel Time (s)		73.0			65.0			15.4			112.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Adj. Flow (vph)	17	957	118	132	747	126	52	248	99	309	411	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	1075	0	132	873	0	52	347	0	309	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		23.0	23.0	
Total Split (s)	62.0	62.0		62.0	62.0		58.0	58.0		58.0	58.0	
Total Split (%)	51.7%	51.7%		51.7%	51.7%		48.3%	48.3%		48.3%	48.3%	
Maximum Green (s)	56.0	56.0		56.0	56.0		52.0	52.0		52.0	52.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	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	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)	56.0	56.0		56.0	56.0		52.0	52.0		52.0	52.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47		0.43	0.43		0.43	0.43	



Queues  
5: McLaughlin Road & Mayfield Road

Future Background 2031  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	17	1075	132	873	52	347	309	499
v/c Ratio	0.07	0.47	0.79	0.39	0.17	0.23	0.76	0.33
Control Delay	18.8	22.1	61.3	20.5	22.7	17.8	43.1	21.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.8	22.1	61.3	20.5	22.7	17.8	43.1	21.9
Queue Length 50th (m)	2.2	60.2	25.6	45.7	7.3	21.4	60.4	37.8
Queue Length 95th (m)	6.6	72.3	#62.8	56.3	16.1	31.5	#106.4	50.7
Internal Link Dist (m)		1395.4		1239.7		317.6		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	241	2294	167	2238	313	1511	405	1505
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.47	0.79	0.39	0.17	0.23	0.76	0.33






















Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 5: McLaughlin Road & Mayfield Road

































Future Background 2031  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	938	116	129	732	123	51	243	97	303	403	86
Future Volume (vph)	17	938	116	129	732	123	51	243	97	303	403	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	4887		1706	4756		1644	3406		1690	3436	
Flt Permitted	0.27	1.00		0.20	1.00		0.42	1.00		0.53	1.00	
Satd. Flow (perm)	517	4887		359	4756		724	3406		936	3436	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	17	957	118	132	747	126	52	248	99	309	411	88
RTOR Reduction (vph)	0	13	0	0	20	0	0	35	0	0	15	0
Lane Group Flow (vph)	17	1062	0	132	853	0	52	312	0	309	484	0
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	56.0	56.0		56.0	56.0		52.0	52.0		52.0	52.0	
Effective Green, g (s)	56.0	56.0		56.0	56.0		52.0	52.0		52.0	52.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47		0.43	0.43		0.43	0.43	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	241	2280		167	2219		313	1475		405	1488	
v/s Ratio Prot		0.22			0.18			0.09			0.14	
v/s Ratio Perm	0.03			c0.37			0.07			c0.33		
v/c Ratio	0.07	0.47		0.79	0.38		0.17	0.21		0.76	0.33	
Uniform Delay, d1	17.6	21.8		27.0	20.8		20.8	21.2		28.8	22.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.7		30.7	0.5		1.1	0.3		12.8	0.6	
Delay (s)	18.2	22.5		57.7	21.3		21.9	21.5		41.6	23.0	
Level of Service	B	C		E	C		C	C		D	C	
Approach Delay (s)		22.4			26.1			21.6			30.1	
Approach LOS		C			C			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			25.3				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			74.5%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2031  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	247	954	98	207	595	173	81	364	211	375	848	330
Future Volume (vph)	247	954	98	207	595	173	81	364	211	375	848	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	1.00		0.98			0.97	0.99		0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	4902	1541	3340	4948	1420	1807	3476	1512	1706	3544	1585
Fl <sub>t</sub> Permitted	0.179			0.950			0.252			0.512		
Satd. Flow (perm)	328	4902	1508	3328	4948	1395	479	3476	1467	910	3544	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			104			177			224			351
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			749.9			381.1			609.4	
Travel Time (s)		7.3			38.6			19.6			31.3	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Adj. Flow (vph)	263	1015	104	220	633	184	86	387	224	399	902	351
Shared Lane Traffic (%)												
Lane Group Flow (vph)	263	1015	104	220	633	184	86	387	224	399	902	351
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	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)	9.0	23.0	23.0	9.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	29.0	45.0	45.0	18.0	34.0	34.0	97.0	97.0	97.0	97.0	97.0	97.0
Total Split (%)	18.1%	28.1%	28.1%	11.3%	21.3%	21.3%	60.6%	60.6%	60.6%	60.6%	60.6%	60.6%
Maximum Green (s)	24.0	38.0	38.0	13.0	27.0	27.0	90.0	90.0	90.0	90.0	90.0	90.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	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	0

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

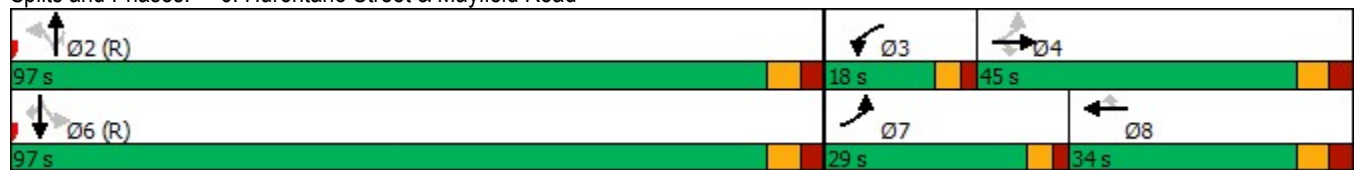
Future Background 2031  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Act Effect Green (s)	58.0	38.0	38.0	13.0	27.0	27.0	90.0	90.0	90.0	90.0	90.0	90.0	
Actuated g/C Ratio	0.36	0.24	0.24	0.08	0.17	0.17	0.56	0.56	0.56	0.56	0.56	0.56	
v/c Ratio	0.80	0.87	0.24	0.81	0.76	0.48	0.32	0.20	0.24	0.78	0.45	0.34	
Control Delay	57.0	67.9	9.4	94.6	70.1	13.0	22.8	17.6	2.5	40.1	21.5	2.4	
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	57.0	67.9	9.4	94.6	70.1	13.0	22.8	17.6	2.5	40.1	21.5	2.4	
LOS	E	E	A	F	E	B	C	B	A	D	C	A	
Approach Delay		61.4				65.2				13.4			21.9
Approach LOS		E				E				B			C

Intersection Summary

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	122 (76%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Pretimed
Maximum v/c Ratio:	0.87
Intersection Signal Delay:	41.5
Intersection LOS:	D
Intersection Capacity Utilization	82.8%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Background 2031  
AM Peak Hour



































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	263	1015	104	220	633	184	86	387	224	399	902	351
v/c Ratio	0.80	0.87	0.24	0.81	0.76	0.48	0.32	0.20	0.24	0.78	0.45	0.34
Control Delay	57.0	67.9	9.4	94.6	70.1	13.0	22.8	17.6	2.5	40.1	21.5	2.4
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	57.0	67.9	9.4	94.6	70.1	13.0	22.8	17.6	2.5	40.1	21.5	2.4
Queue Length 50th (m)	62.8	114.8	0.0	36.1	71.2	1.9	14.2	31.0	0.0	96.1	86.0	0.0
Queue Length 95th (m)	#99.1	132.9	15.8	#56.4	86.2	25.0	27.3	40.3	11.9	150.0	102.1	13.8
Internal Link Dist (m)		118.1			725.9			357.1			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	330	1164	437	271	834	382	269	1955	923	511	1993	1029
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.87	0.24	0.81	0.76	0.48	0.32	0.20	0.24	0.78	0.45	0.34

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road


















Future Background 2031  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		  	  				 		 		
Traffic Volume (vph)	247	954	98	207	595	173	81	364	211	375	848	330	
Future Volume (vph)	247	954	98	207	595	173	81	364	211	375	848	330	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1738	4902	1508	3340	4948	1395	1807	3476	1467	1689	3544	1557	
Flt Permitted	0.18	1.00	1.00	0.95	1.00	1.00	0.25	1.00	1.00	0.51	1.00	1.00	
Satd. Flow (perm)	328	4902	1508	3340	4948	1395	480	3476	1467	910	3544	1557	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	263	1015	104	220	633	184	86	387	224	399	902	351	
RTOR Reduction (vph)	0	0	79	0	0	147	0	0	98	0	0	154	
Lane Group Flow (vph)	263	1015	25	220	633	37	86	387	126	399	902	197	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2	
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	
Protected Phases	7	4		3	8			2			6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	56.0	38.0	38.0	13.0	27.0	27.0	90.0	90.0	90.0	90.0	90.0	90.0	
Effective Green, g (s)	56.0	38.0	38.0	13.0	27.0	27.0	90.0	90.0	90.0	90.0	90.0	90.0	
Actuated g/C Ratio	0.35	0.24	0.24	0.08	0.17	0.17	0.56	0.56	0.56	0.56	0.56	0.56	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Lane Grp Cap (vph)	326	1164	358	271	834	235	270	1955	825	511	1993	875	
v/s Ratio Prot	c0.12	c0.21		0.07	0.13			0.11			0.25		
v/s Ratio Perm	0.16		0.02			0.03	0.18		0.09	c0.44		0.13	
v/c Ratio	0.81	0.87	0.07	0.81	0.76	0.16	0.32	0.20	0.15	0.78	0.45	0.23	
Uniform Delay, d1	41.3	58.7	47.3	72.3	63.4	56.8	18.7	17.2	16.8	27.3	20.5	17.5	
Progression 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	
Incremental Delay, d2	18.9	9.1	0.4	22.6	6.4	1.4	3.1	0.2	0.4	11.3	0.7	0.6	
Delay (s)	60.3	67.8	47.7	94.9	69.8	58.2	21.7	17.5	17.1	38.6	21.3	18.1	
Level of Service	E	E	D	F	E	E	C	B	B	D	C	B	
Approach Delay (s)		64.8			73.1			17.9			24.8		
Approach LOS		E			E			B			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			45.9									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.82										
Actuated Cycle Length (s)			160.0									Sum of lost time (s)	19.0
Intersection Capacity Utilization			82.8%									ICU Level of Service	E
Analysis Period (min)			15										
c	Critical Lane Group												



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2031

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	216	2	282	312	53	11	371	322	41	240	4
Future Volume (vph)	4	216	2	282	312	53	11	371	322	41	240	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.999			0.978			0.938			0.998	
Fl <sub>t</sub> Protected		0.999		0.950				0.999			0.993	
Satd. Flow (prot)	0	1863	0	1825	1829	0	0	1721	0	0	1844	0
Fl <sub>t</sub> Permitted		0.990		0.266				0.994			0.846	
Satd. Flow (perm)	0	1846	0	511	1829	0	0	1712	0	0	1571	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					9			65				1
Link Speed (k/h)		70			70			80				80
Link Distance (m)		590.7			490.2			298.8				342.6
Travel Time (s)		30.4			25.2			13.4				15.4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	4	230	2	300	332	56	12	395	343	44	255	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	236	0	300	388	0	0	750	0	0	303	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

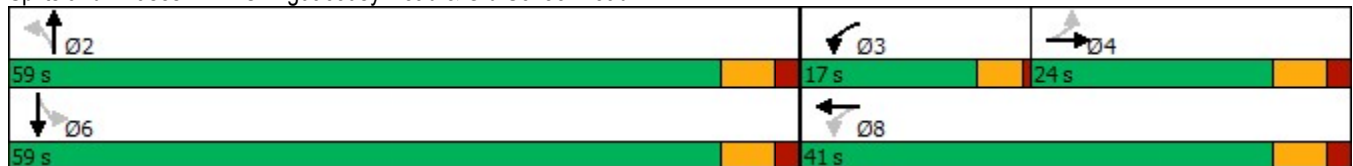
Future Background 2031

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	24.0	24.0		17.0	41.0		59.0	59.0		59.0	59.0	
Total Split (%)	24.0%	24.0%		17.0%	41.0%		59.0%	59.0%		59.0%	59.0%	
Maximum Green (s)	18.0	18.0		13.0	35.0		53.0	53.0		53.0	53.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		4.0	6.0			6.0			6.0	
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	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		16.1		35.1	33.1			53.0			53.0	
Actuated g/C Ratio		0.16		0.36	0.34			0.54			0.54	
v/c Ratio		0.78		0.85	0.62			0.79			0.36	
Control Delay		57.7		47.5	31.7			24.1			14.7	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		57.7		47.5	31.7			24.1			14.7	
LOS		E		D	C			C			B	
Approach Delay		57.7			38.6			24.1			14.7	
Approach LOS		E			D			C			B	

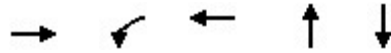
Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	98.1
Natural Cycle:	65
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.85
Intersection Signal Delay:	31.7
Intersection LOS:	C
Intersection Capacity Utilization:	87.3%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 1: Chinguacousy Road & Old School Road



## 1: Chinguacousy Road &amp; Old School Road




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	236	300	388	750	303
v/c Ratio	0.78	0.85	0.62	0.79	0.36
Control Delay	57.7	47.5	31.7	24.1	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	57.7	47.5	31.7	24.1	14.7
Queue Length 50th (m)	43.4	43.2	59.8	104.2	32.4
Queue Length 95th (m)	#74.2	#73.2	89.8	157.4	50.8
Internal Link Dist (m)	566.7		466.2	274.8	318.6
Turn Bay Length (m)					
Base Capacity (vph)	339	356	659	955	849
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.70	0.84	0.59	0.79	0.36

## Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.



















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Background 2031

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	4	216	2	282	312	53	11	371	322	41	240	4	
Future Volume (vph)	4	216	2	282	312	53	11	371	322	41	240	4	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.0		4.0	6.0			6.0			6.0		
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00		
Frt		1.00		1.00	0.98			0.94			1.00		
Flt Protected		1.00		0.95	1.00			1.00			0.99		
Satd. Flow (prot)		1863		1825	1830			1722			1844		
Flt Permitted		0.99		0.27	1.00			0.99			0.85		
Satd. Flow (perm)		1846		512	1830			1712			1572		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	4	230	2	300	332	56	12	395	343	44	255	4	
RTOR Reduction (vph)	0	0	0	0	6	0	0	30	0	0	0	0	
Lane Group Flow (vph)	0	236	0	300	382	0	0	720	0	0	303	0	
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA		
Protected Phases		4		3	8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		16.2		33.1	33.1			53.0			53.0		
Effective Green, g (s)		16.2		33.1	33.1			53.0			53.0		
Actuated g/C Ratio		0.17		0.34	0.34			0.54			0.54		
Clearance Time (s)		6.0		4.0	6.0			6.0			6.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0		
Lane Grp Cap (vph)		304		345	617			924			849		
v/s Ratio Prot				c0.11	0.21								
v/s Ratio Perm		0.13		c0.18				c0.42			0.19		
v/c Ratio		0.78		0.87	0.62			0.78			0.36		
Uniform Delay, d1		39.2		27.1	27.2			17.9			12.8		
Progression Factor		1.00		1.00	1.00			1.00			1.00		
Incremental Delay, d2		11.7		20.1	1.9			6.5			1.2		
Delay (s)		51.0		47.2	29.1			24.4			14.0		
Level of Service		D		D	C			C			B		
Approach Delay (s)		51.0			37.0			24.4			14.0		
Approach LOS		D			D			C			B		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			30.3									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.84										
Actuated Cycle Length (s)			98.1									Sum of lost time (s)	16.0
Intersection Capacity Utilization			87.3%									ICU Level of Service	E
Analysis Period (min)			15										
c	Critical Lane Group												

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Background 2031

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	535	37	439	592	26	49	137	449	21	58	6
Future Volume (vph)	10	535	37	439	592	26	49	137	449	21	58	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.994				0.850		0.991	
Flt Protected		0.999		0.950				0.987			0.988	
Satd. Flow (prot)	0	3464	0	1755	3588	0	0	1821	1555	0	1806	0
Flt Permitted		0.938		0.286				0.886			0.882	
Satd. Flow (perm)	0	3253	0	528	3588	0	0	1635	1555	0	1613	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			6				478			4
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	11	569	39	467	630	28	52	146	478	22	62	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	619	0	467	658	0	0	198	478	0	90	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

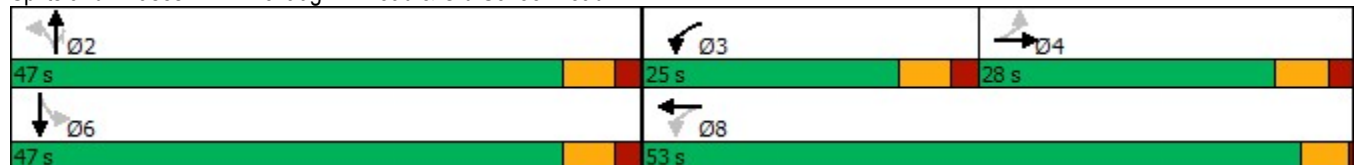
Future Background 2031

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		10.0	20.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	28.0	28.0		25.0	53.0		47.0	47.0	47.0	47.0	47.0	
Total Split (%)	28.0%	28.0%		25.0%	53.0%		47.0%	47.0%	47.0%	47.0%	47.0%	
Maximum Green (s)	22.0	22.0		19.0	49.0		41.0	41.0	41.0	41.0	41.0	
Yellow Time (s)	4.0	4.0		4.0	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	0.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		-2.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		4.0	4.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	Max	Max		None	Max		None	None	None	None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		22.1		49.2	49.2			14.9	14.9		14.9	
Actuated g/C Ratio		0.30		0.66	0.66			0.20	0.20		0.20	
v/c Ratio		0.64		0.67	0.28			0.60	0.69		0.28	
Control Delay		26.7		13.3	6.1			34.7	8.4		25.5	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		26.7		13.3	6.1			34.7	8.4		25.5	
LOS		C		B	A			C	A		C	
Approach Delay		26.7			9.1			16.1			25.5	
Approach LOS		C			A			B			C	

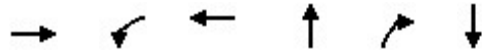
Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	74.1
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.69
Intersection Signal Delay:	15.9
Intersection LOS:	B
Intersection Capacity Utilization	73.4%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 2: McLaughlin Road & Old School Road





















## 2: McLaughlin Road &amp; Old School Road



Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	619	467	658	198	478	90
v/c Ratio	0.64	0.67	0.28	0.60	0.69	0.28
Control Delay	26.7	13.3	6.1	34.7	8.4	25.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.7	13.3	6.1	34.7	8.4	25.5
Queue Length 50th (m)	38.4	25.1	16.5	25.2	0.0	10.2
Queue Length 95th (m)	62.5	65.0	32.0	44.0	21.7	21.4
Internal Link Dist (m)	869.1		325.1	564.2		239.1
Turn Bay Length (m)		50.0				
Base Capacity (vph)	974	699	2383	907	1076	897
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.67	0.28	0.22	0.44	0.10
<b>Intersection Summary</b>						

HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road























Future Background 2031

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	535	37	439	592	26	49	137	449	21	58	6
Future Volume (vph)	10	535	37	439	592	26	49	137	449	21	58	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		4.0	4.0			6.0	6.0		6.0	
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00	
Frt		0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	
Satd. Flow (prot)		3463		1755	3586			1822	1555		1806	
Flt Permitted		0.94		0.29	1.00			0.89	1.00		0.88	
Satd. Flow (perm)		3251		528	3586			1636	1555		1613	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	569	39	467	630	28	52	146	478	22	62	6
RTOR Reduction (vph)	0	4	0	0	2	0	0	0	382	0	3	0
Lane Group Flow (vph)	0	615	0	467	656	0	0	198	96	0	87	0
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		22.1		49.2	49.2			14.9	14.9		14.9	
Effective Green, g (s)		22.1		51.2	49.2			14.9	14.9		14.9	
Actuated g/C Ratio		0.30		0.69	0.66			0.20	0.20		0.20	
Clearance Time (s)		6.0		6.0	4.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		969		714	2380			328	312		324	
v/s Ratio Prot				c0.19	0.18							
v/s Ratio Perm		0.19		c0.27				c0.12	0.06		0.05	
v/c Ratio		0.63		0.65	0.28			0.60	0.31		0.27	
Uniform Delay, d1		22.5		6.4	5.1			26.9	25.2		25.0	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		3.2		2.2	0.3			3.1	0.6		0.4	
Delay (s)		25.7		8.5	5.4			30.0	25.8		25.4	
Level of Service		C		A	A			C	C		C	
Approach Delay (s)		25.7			6.7			27.0			25.4	
Approach LOS		C			A			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			17.5			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			74.1			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			73.4%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2031

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	677	212	106	347	275	162	186	3192	381	171	1867	587
Future Volume (vph)	677	212	106	347	275	162	186	3192	381	171	1867	587
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.950			0.944				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3303	0	1789	3424	0	1807	5043	1633	1825	4812	1541
Flt Permitted	0.214			0.355			0.069			0.074		
Satd. Flow (perm)	411	3303	0	669	3424	0	131	5043	1633	142	4812	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		61			62				166			404
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			736.2			855.3			564.0	
Travel Time (s)		51.8			37.9			38.5			25.4	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Adj. Flow (vph)	698	219	109	358	284	167	192	3291	393	176	1925	605
Shared Lane Traffic (%)												
Lane Group Flow (vph)	698	328	0	358	451	0	192	3291	393	176	1925	605
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2031

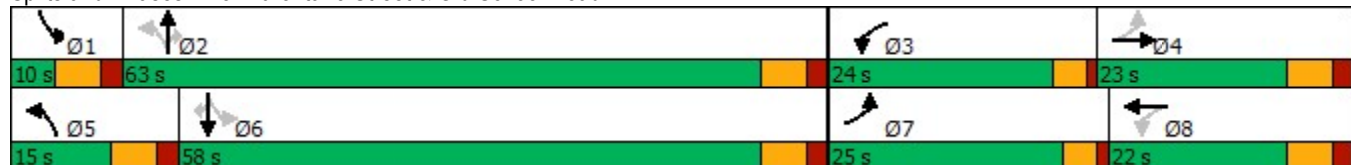
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	22.0		8.0	22.0		10.0	29.0	29.0	10.0	29.0	29.0
Total Split (s)	25.0	23.0		24.0	22.0		15.0	63.0	63.0	10.0	58.0	58.0
Total Split (%)	20.8%	19.2%		20.0%	18.3%		12.5%	52.5%	52.5%	8.3%	48.3%	48.3%
Maximum Green (s)	21.0	17.0		20.0	16.0		9.0	57.0	57.0	4.0	52.0	52.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		0.0	-2.0		-2.0	-2.0	0.0	-2.0	-2.0	0.0
Total Lost Time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lead/Lag	Lead	Lag		Lead	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
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Walk Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	43.7	18.7		37.5	17.6		69.0	59.0	57.0	60.0	54.0	52.0
Actuated g/C Ratio	0.37	0.16		0.31	0.15		0.58	0.49	0.48	0.50	0.45	0.43
v/c Ratio	1.65	0.58		0.91	0.81		0.84	1.32	0.45	1.14	0.89	0.67
Control Delay	331.4	42.3		60.1	54.9		56.8	176.6	13.4	138.6	36.2	12.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	331.4	42.3		60.1	54.9		56.8	176.6	13.4	138.6	36.2	12.5
LOS	F	D		E	D		E	F	B	F	D	B
Approach Delay		239.0			57.2			154.2			37.6	
Approach LOS		F			E			F			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 119.6  
 Natural Cycle: 150  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.65  
 Intersection Signal Delay: 117.7  
 Intersection Capacity Utilization 134.8%  
 Analysis Period (min) 15

Intersection LOS: F  
 ICU Level of Service H

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Background 2031



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	698	328	358	451	192	3291	393	176	1925	605
v/c Ratio	1.65	0.58	0.91	0.81	0.84	1.32	0.45	1.14	0.89	0.67
Control Delay	331.4	42.3	60.1	54.9	56.8	176.6	13.4	138.6	36.2	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	331.4	42.3	60.1	54.9	56.8	176.6	13.4	138.6	36.2	12.5
Queue Length 50th (m)	~222.8	30.8	67.1	47.3	28.8	~368.1	33.2	~32.2	149.0	35.1
Queue Length 95th (m)	#294.5	46.0	#109.6	#69.0	#68.0	#392.6	58.3	#77.1	171.0	76.4
Internal Link Dist (m)		983.8		712.2		831.3			540.0	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	422	576	397	568	229	2487	864	155	2172	898
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.65	0.57	0.90	0.79	0.84	1.32	0.45	1.14	0.89	0.67

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.





























Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Background 2031

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			  			  	
Traffic Volume (vph)	677	212	106	347	275	162	186	3192	381	171	1867	587
Future Volume (vph)	677	212	106	347	275	162	186	3192	381	171	1867	587
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.95		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1825	3303		1789	3426		1807	5043	1633	1825	4812	1541
Flt Permitted	0.21	1.00		0.35	1.00		0.07	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	411	3303		668	3426		131	5043	1633	142	4812	1541
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	698	219	109	358	284	167	192	3291	393	176	1925	605
RTOR Reduction (vph)	0	51	0	0	53	0	0	0	87	0	0	228
Lane Group Flow (vph)	698	277	0	358	398	0	192	3291	306	176	1925	377
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	37.7	16.7		35.5	15.6		66.0	57.0	57.0	56.0	52.0	52.0
Effective Green, g (s)	41.7	18.7		35.5	17.6		69.0	59.0	57.0	60.0	54.0	52.0
Actuated g/C Ratio	0.35	0.16		0.30	0.15		0.58	0.49	0.48	0.50	0.45	0.43
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	415	516		384	504		229	2487	778	155	2172	670
v/s Ratio Prot	c0.32	0.08		0.15	0.12		0.08	c0.65		c0.06	0.40	
v/s Ratio Perm	0.26			c0.12			0.40		0.19	0.51		0.24
v/c Ratio	1.68	0.54		0.93	0.79		0.84	1.32	0.39	1.14	0.89	0.56
Uniform Delay, d1	34.0	46.5		37.5	49.2		32.3	30.3	20.2	30.0	30.0	25.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	317.2	1.1		29.2	8.1		22.6	148.4	1.5	113.3	5.8	3.4
Delay (s)	351.2	47.5		66.8	57.3		54.9	178.7	21.7	143.3	35.8	28.7
Level of Service	F	D		E	E		D	F	C	F	D	C
Approach Delay (s)		254.1			61.5			156.6			41.2	
Approach LOS		F			E			F			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			122.3				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.32									
Actuated Cycle Length (s)			119.6				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			134.8%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2031



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕		↖	↕↕↕			↕				↕
Traffic Volume (vph)	43	706	51	186	664	78	34	305	166	37	174	30
Future Volume (vph)	43	706	51	186	664	78	34	305	166	37	174	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00				1.00
Frt		0.991			0.984			0.956				0.983
Flt Protected		0.997		0.950				0.997				0.992
Satd. Flow (prot)	0	5042	0	1825	5026	0	0	1791	0	0	1834	0
Flt Permitted		0.844		0.276				0.963				0.837
Satd. Flow (perm)	0	4268	0	530	5026	0	0	1730	0	0	1547	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			26			24				7
Link Speed (k/h)		70			70			80				80
Link Distance (m)		836.2			1419.4			345.5				2784.8
Travel Time (s)		43.0			73.0			15.5				125.3
Confl. Peds. (#/hr)							1					1
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
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Adj. Flow (vph)	47	767	55	202	722	85	37	332	180	40	189	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	869	0	202	807	0	0	549	0	0	262	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)		3.7			3.7			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2				6
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	69.0	69.0		69.0	69.0		51.0	51.0		51.0	51.0	
Total Split (%)	57.5%	57.5%		57.5%	57.5%		42.5%	42.5%		42.5%	42.5%	
Maximum Green (s)	65.0	65.0		65.0	65.0		47.0	47.0		47.0	47.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2031

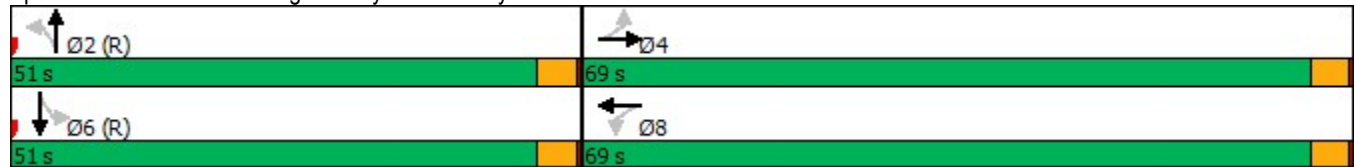


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)		65.0		65.0	65.0			47.0			47.0	
Actuated g/C Ratio		0.54		0.54	0.54			0.39			0.39	
v/c Ratio		0.37		0.70	0.30			0.79			0.43	
Control Delay		16.1		47.3	22.5			40.7			28.7	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		16.1		47.3	22.5			40.7			28.7	
LOS		B		D	C			D			C	
Approach Delay		16.1			27.5			40.7			28.7	
Approach LOS		B			C			D			C	

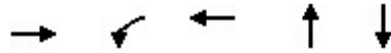
Intersection Summary

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:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.79
Intersection Signal Delay:	26.6
Intersection LOS:	C
Intersection Capacity Utilization	71.9%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



## 4: Chinguacousy Road &amp; Mayfield Road



























Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	869	202	807	549	262
v/c Ratio	0.37	0.70	0.30	0.79	0.43
Control Delay	16.1	47.3	22.5	40.7	28.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.1	47.3	22.5	40.7	28.7
Queue Length 50th (m)	40.6	48.7	57.3	108.3	43.3
Queue Length 95th (m)	50.1	#76.8	70.4	153.9	66.7
Internal Link Dist (m)	812.2		1395.4	321.5	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	2318	287	2734	692	610
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.37	0.70	0.30	0.79	0.43

## Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road





















Future Background 2031

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		  				  			  		
Traffic Volume (vph)	43	706	51	186	664	78	34	305	166	37	174	30	
Future Volume (vph)	43	706	51	186	664	78	34	305	166	37	174	30	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0		
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00		
Frbp, ped/bikes		1.00		1.00	1.00			1.00			1.00		
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00		
Frt		0.99		1.00	0.98			0.96			0.98		
Flt Protected		1.00		0.95	1.00			1.00			0.99		
Satd. Flow (prot)		5041		1825	5027			1790			1834		
Flt Permitted		0.84		0.28	1.00			0.96			0.84		
Satd. Flow (perm)		4264		531	5027			1730			1546		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	47	767	55	202	722	85	37	332	180	40	189	33	
RTOR Reduction (vph)	0	6	0	0	12	0	0	15	0	0	4	0	
Lane Group Flow (vph)	0	863	0	202	795	0	0	534	0	0	258	0	
Confl. Peds. (#/hr)							1					1	
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		65.0		65.0	65.0			47.0			47.0		
Effective Green, g (s)		65.0		65.0	65.0			47.0			47.0		
Actuated g/C Ratio		0.54		0.54	0.54			0.39			0.39		
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0		
Lane Grp Cap (vph)		2309		287	2722			677			605		
v/s Ratio Prot					0.16								
v/s Ratio Perm		0.20		c0.38				c0.31			0.17		
v/c Ratio		0.37		0.70	0.29			0.79			0.43		
Uniform Delay, d1		15.8		20.4	15.0			32.1			26.7		
Progression Factor		1.00		1.59	1.53			1.00			1.00		
Incremental Delay, d2		0.5		11.5	0.2			9.1			2.2		
Delay (s)		16.3		43.9	23.1			41.2			28.8		
Level of Service		B		D	C			D			C		
Approach Delay (s)		16.3			27.3			41.2			28.8		
Approach LOS		B			C			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			26.7									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.74										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			71.9%									ICU Level of Service	C
Analysis Period (min)			15										
c	Critical Lane Group												



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2031

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	886	73	114	1043	295	125	436	118	213	247	89
Future Volume (vph)	46	886	73	114	1043	295	125	436	118	213	247	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.989			0.967			0.968			0.960	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	5036	0	1755	4881	0	1825	3484	0	1738	3385	0
Flt Permitted	0.114			0.219			0.527			0.375		
Satd. Flow (perm)	209	5036	0	405	4881	0	1012	3484	0	686	3385	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			77			37			42	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			341.6			2496.3	
Travel Time (s)		73.0			65.0			15.4			112.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	48	923	76	119	1086	307	130	454	123	222	257	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	999	0	119	1393	0	130	577	0	222	350	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	60.0	60.0		60.0	60.0		60.0	60.0		60.0	60.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	54.0	54.0		54.0	54.0		54.0	54.0		54.0	54.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	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	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)	54.0	54.0		54.0	54.0		54.0	54.0		54.0	54.0	
Actuated g/C Ratio	0.45	0.45		0.45	0.45		0.45	0.45		0.45	0.45	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

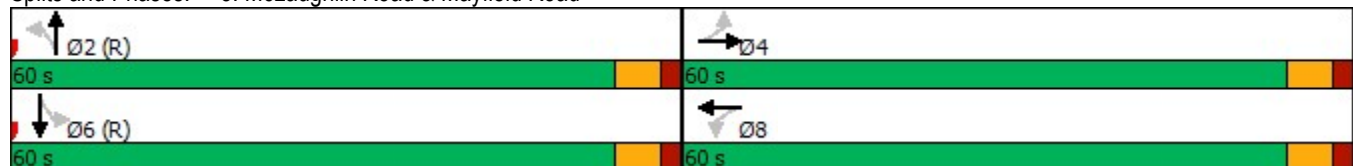
Future Background 2031

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.51	0.44		0.65	0.62		0.29	0.36		0.72	0.23	
Control Delay	59.0	35.3		45.6	25.1		23.0	21.0		42.5	18.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	59.0	35.3		45.6	25.1		23.0	21.0		42.5	18.1	
LOS	E	D		D	C		C	C		D	B	
Approach Delay		36.4			26.8			21.3			27.5	
Approach LOS		D			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:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	28.5
Intersection LOS:	C
Intersection Capacity Utilization	77.7%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



## 5: McLaughlin Road &amp; Mayfield Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	48	999	119	1393	130	577	222	350
v/c Ratio	0.51	0.44	0.65	0.62	0.29	0.36	0.72	0.23
Control Delay	59.0	35.3	45.6	25.1	23.0	21.0	42.5	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.0	35.3	45.6	25.1	23.0	21.0	42.5	18.1
Queue Length 50th (m)	9.8	71.7	21.4	84.9	18.9	42.8	41.6	22.5
Queue Length 95th (m)	m22.7	86.3	#50.9	100.2	33.6	56.5	#81.2	32.5
Internal Link Dist (m)		1395.4		1239.7		317.6		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	94	2273	182	2238	455	1588	308	1546
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.44	0.65	0.62	0.29	0.36	0.72	0.23

## Intersection Summary





















# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

































Future Background 2031

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	886	73	114	1043	295	125	436	118	213	247	89
Future Volume (vph)	46	886	73	114	1043	295	125	436	118	213	247	89
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1738	5034		1755	4881		1825	3484		1738	3385	
Flt Permitted	0.11	1.00		0.22	1.00		0.53	1.00		0.38	1.00	
Satd. Flow (perm)	209	5034		405	4881		1012	3484		687	3385	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	48	923	76	119	1086	307	130	454	123	222	257	93
RTOR Reduction (vph)	0	8	0	0	42	0	0	20	0	0	23	0
Lane Group Flow (vph)	48	991	0	119	1351	0	130	557	0	222	327	0
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	54.0	54.0		54.0	54.0		54.0	54.0		54.0	54.0	
Effective Green, g (s)	54.0	54.0		54.0	54.0		54.0	54.0		54.0	54.0	
Actuated g/C Ratio	0.45	0.45		0.45	0.45		0.45	0.45		0.45	0.45	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	94	2265		182	2196		455	1567		309	1523	
v/s Ratio Prot		0.20			0.28			0.16			0.10	
v/s Ratio Perm	0.23			c0.29			0.13			c0.32		
v/c Ratio	0.51	0.44		0.65	0.62		0.29	0.36		0.72	0.21	
Uniform Delay, d1	23.6	22.6		25.7	25.1		20.8	21.6		26.8	20.1	
Progression Factor	1.49	1.55		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	17.1	0.6		16.9	1.3		1.6	0.6		13.4	0.3	
Delay (s)	52.3	35.6		42.6	26.4		22.4	22.2		40.3	20.4	
Level of Service	D	D		D	C		C	C		D	C	
Approach Delay (s)		36.4			27.7			22.3			28.1	
Approach LOS		D			C			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			29.1				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			77.7%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2031

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	661	612	110	276	800	172	213	702	264	238	801	934
Future Volume (vph)	661	612	110	276	800	172	213	702	264	238	801	934
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.96	0.98		0.99	1.00		0.96			0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	4995	1601	3404	5092	1585	1789	3614	1555	1825	3510	1585
Fl <sub>t</sub> Permitted	0.167			0.950			0.281			0.256		
Satd. Flow (perm)	308	4995	1538	3339	5092	1562	528	3614	1486	492	3510	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			145			252			692
Link Speed (k/h)		70			70			70				70
Link Distance (m)		142.1			749.9			381.1				609.4
Travel Time (s)		7.3			38.6			19.6				31.3
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Adj. Flow (vph)	681	631	113	285	825	177	220	724	272	245	826	963
Shared Lane Traffic (%)												
Lane Group Flow (vph)	681	631	113	285	825	177	220	724	272	245	826	963
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)		7.4			7.4			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
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)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2031

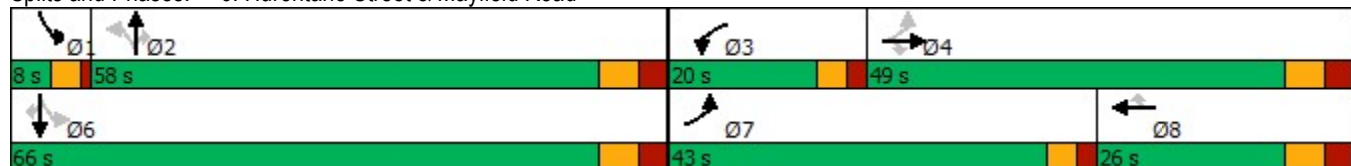


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	43.0	49.0	49.0	20.0	26.0	26.0	58.0	58.0	58.0	8.0	66.0	66.0
Total Split (%)	31.9%	36.3%	36.3%	14.8%	19.3%	19.3%	43.0%	43.0%	43.0%	5.9%	48.9%	48.9%
Maximum Green (s)	38.0	42.0	42.0	15.0	19.0	19.0	51.0	51.0	51.0	4.0	59.0	59.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-2.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
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	None	Max	Max	None	None	None	None	Max	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)		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)	66.0	42.6	42.6	16.4	19.0	19.0	53.0	51.0	51.0	64.0	59.0	59.0
Actuated g/C Ratio	0.49	0.32	0.32	0.12	0.14	0.14	0.39	0.38	0.38	0.47	0.44	0.44
v/c Ratio	1.18	0.40	0.20	0.69	1.15	0.51	1.06	0.53	0.38	0.84	0.54	0.90
Control Delay	130.7	37.3	8.1	66.2	134.5	18.7	120.2	34.4	6.0	51.7	29.6	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	130.7	37.3	8.1	66.2	134.5	18.7	120.2	34.4	6.0	51.7	29.6	22.1
LOS	F	D	A	E	F	B	F	C	A	D	C	C
Approach Delay		79.6			103.4			43.6			28.7	
Approach LOS		E			F			D			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 135  
 Actuated Cycle Length: 135  
 Natural Cycle: 100  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.18  
 Intersection Signal Delay: 60.0  
 Intersection LOS: E  
 Intersection Capacity Utilization 105.2%  
 ICU Level of Service G  
 Analysis Period (min) 15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Background 2031



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	681	631	113	285	825	177	220	724	272	245	826	963
v/c Ratio	1.18	0.40	0.20	0.69	1.15	0.51	1.06	0.53	0.38	0.84	0.54	0.90
Control Delay	130.7	37.3	8.1	66.2	134.5	18.7	120.2	34.4	6.0	51.7	29.6	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	130.7	37.3	8.1	66.2	134.5	18.7	120.2	34.4	6.0	51.7	29.6	22.1
Queue Length 50th (m)	~200.5	48.5	1.5	37.9	~94.5	7.6	~64.4	78.4	3.3	38.9	84.0	82.4
Queue Length 95th (m)	#274.6	60.2	15.1	52.8	#122.3	30.2	#114.8	97.5	21.9	#72.6	103.3	#204.3
Internal Link Dist (m)		118.1			725.9			357.1			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	579	1577	557	428	716	344	207	1365	718	292	1534	1069
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.18	0.40	0.20	0.67	1.15	0.51	1.06	0.53	0.38	0.84	0.54	0.90

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.


































Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Background 2031


















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 		 	 	
Traffic Volume (vph)	661	612	110	276	800	172	213	702	264	238	801	934
Future Volume (vph)	661	612	110	276	800	172	213	702	264	238	801	934
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	4995	1538	3404	5092	1562	1786	3614	1486	1825	3510	1555
Flt Permitted	0.17	1.00	1.00	0.95	1.00	1.00	0.28	1.00	1.00	0.26	1.00	1.00
Satd. Flow (perm)	308	4995	1538	3404	5092	1562	529	3614	1486	492	3510	1555
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	681	631	113	285	825	177	220	724	272	245	826	963
RTOR Reduction (vph)	0	0	72	0	0	125	0	0	157	0	0	390
Lane Group Flow (vph)	681	631	41	285	825	52	220	724	115	245	826	573
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Actuated Green, G (s)	62.0	42.6	42.6	14.4	19.0	19.0	51.0	51.0	51.0	59.0	59.0	59.0
Effective Green, g (s)	64.0	42.6	42.6	16.4	19.0	19.0	53.0	51.0	51.0	61.0	59.0	59.0
Actuated g/C Ratio	0.47	0.32	0.32	0.12	0.14	0.14	0.39	0.38	0.38	0.45	0.44	0.44
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0
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
Lane Grp Cap (vph)	574	1576	485	413	716	219	207	1365	561	281	1534	679
v/s Ratio Prot	c0.35	0.13		0.08	0.16			0.20		c0.04	0.24	
v/s Ratio Perm	c0.21		0.03			0.03	c0.42		0.08	0.35		0.37
v/c Ratio	1.19	0.40	0.08	0.69	1.15	0.24	1.06	0.53	0.21	0.87	0.54	0.84
Uniform Delay, d1	38.6	36.2	32.5	56.9	58.0	51.6	41.0	32.7	28.3	33.7	28.0	33.9
Progression 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
Incremental Delay, d2	100.5	0.8	0.3	4.9	84.0	2.6	80.1	0.4	0.2	24.3	1.4	12.3
Delay (s)	139.1	37.0	32.8	61.8	142.0	54.1	121.1	33.1	28.5	58.0	29.3	46.2
Level of Service	F	D	C	E	F	D	F	C	C	E	C	D
Approach Delay (s)		85.5			112.2			48.0			40.8	
Approach LOS		F			F			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			68.3									E
HCM 2000 Volume to Capacity ratio			1.17									
Actuated Cycle Length (s)			135.0							19.0		
Intersection Capacity Utilization			105.2%									G
ICU Level of Service												
Analysis Period (min)			15									

c Critical Lane Group



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Total 2031  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	257	4	175	199	47	6	225	368	38	209	9
Future Volume (vph)	2	257	4	175	199	47	6	225	368	38	209	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.998			0.971			0.917			0.995	
Fl <sub>t</sub> Protected				0.950							0.993	
Satd. Flow (prot)	0	1917	0	1772	1802	0	0	1698	0	0	1789	0
Fl <sub>t</sub> Permitted		0.997		0.268				0.997			0.864	
Satd. Flow (perm)	0	1912	0	500	1802	0	0	1693	0	0	1557	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			13			120			3	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			342.6	
Travel Time (s)		30.4			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Adj. Flow (vph)	2	273	4	186	212	50	6	239	391	40	222	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	279	0	186	262	0	0	636	0	0	272	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

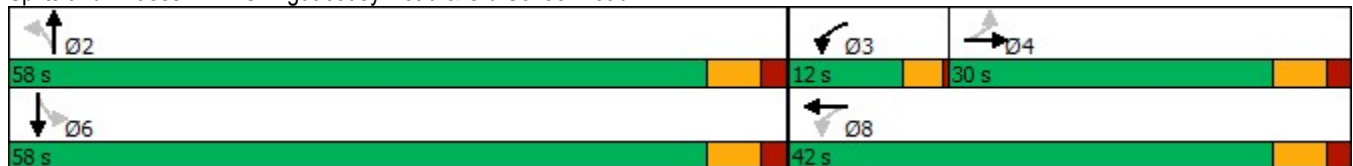
Future Total 2031  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	30.0	30.0		12.0	42.0		58.0	58.0		58.0	58.0	
Total Split (%)	30.0%	30.0%		12.0%	42.0%		58.0%	58.0%		58.0%	58.0%	
Maximum Green (s)	24.0	24.0		8.5	36.0		52.0	52.0		52.0	52.0	
Yellow Time (s)	4.0	4.0		3.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		3.5	6.0			6.0			6.0	
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	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		18.4		32.9	30.4			52.1			52.1	
Actuated g/C Ratio		0.19		0.35	0.32			0.55			0.55	
v/c Ratio		0.75		0.65	0.45			0.64			0.32	
Control Delay		48.8		33.7	26.5			16.1			13.4	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		48.8		33.7	26.5			16.1			13.4	
LOS		D		C	C			B			B	
Approach Delay		48.8			29.5			16.1			13.4	
Approach LOS		D			C			B			B	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	94.5
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	24.9
Intersection LOS:	C
Intersection Capacity Utilization	79.5%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road

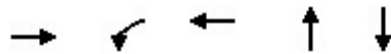


Queues

Future Total 2031

1: Chinguacousy Road & Old School Road

AM Peak Hour




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	279	186	262	636	272
v/c Ratio	0.75	0.65	0.45	0.64	0.32
Control Delay	48.8	33.7	26.5	16.1	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	33.7	26.5	16.1	13.4
Queue Length 50th (m)	48.1	24.4	35.5	61.7	25.3
Queue Length 95th (m)	74.5	40.5	56.8	110.6	46.1
Internal Link Dist (m)	566.7		466.2	274.8	318.6
Turn Bay Length (m)					
Base Capacity (vph)	487	288	695	987	859
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.57	0.65	0.38	0.64	0.32

Intersection Summary



















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Total 2031  
AM Peak Hour

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (vph)	2	257	4	175	199	47	6	225	368	38	209	9		
Future Volume (vph)	2	257	4	175	199	47	6	225	368	38	209	9		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)		6.0		3.5	6.0			6.0			6.0			
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00			
Frt		1.00		1.00	0.97			0.92			1.00			
Flt Protected		1.00		0.95	1.00			1.00			0.99			
Satd. Flow (prot)		1917		1772	1803			1698			1789			
Flt Permitted		1.00		0.27	1.00			1.00			0.86			
Satd. Flow (perm)		1912		500	1803			1694			1557			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Adj. Flow (vph)	2	273	4	186	212	50	6	239	391	40	222	10		
RTOR Reduction (vph)	0	1	0	0	9	0	0	54	0	0	1	0		
Lane Group Flow (vph)	0	278	0	186	253	0	0	582	0	0	271	0		
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%		
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA			
Protected Phases		4		3	8			2			6			
Permitted Phases	4			8			2			6				
Actuated Green, G (s)		18.4		30.4	30.4			52.1			52.1			
Effective Green, g (s)		18.4		30.4	30.4			52.1			52.1			
Actuated g/C Ratio		0.19		0.32	0.32			0.55			0.55			
Clearance Time (s)		6.0		3.5	6.0			6.0			6.0			
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0			
Lane Grp Cap (vph)		372		275	580			933			858			
v/s Ratio Prot				c0.06	0.14									
v/s Ratio Perm		0.15		c0.16				c0.34			0.17			
v/c Ratio		0.75		0.68	0.44			0.62			0.32			
Uniform Delay, d1		35.9		25.7	25.3			14.5			11.5			
Progression Factor		1.00		1.00	1.00			1.00			1.00			
Incremental Delay, d2		8.0		6.4	0.5			3.1			1.0			
Delay (s)		43.9		32.1	25.8			17.6			12.5			
Level of Service		D		C	C			B			B			
Approach Delay (s)		43.9			28.4			17.6			12.5			
Approach LOS		D			C			B			B			
<b>Intersection Summary</b>														
HCM 2000 Control Delay			24.2									HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio			0.66											
Actuated Cycle Length (s)			94.5								15.5			
Intersection Capacity Utilization			79.5%										ICU Level of Service	D
Analysis Period (min)			15											
c	Critical Lane Group													

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Total 2031  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	698	48	249	349	48	64	80	438	53	130	15
Future Volume (vph)	14	698	48	249	349	48	64	80	438	53	130	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.982				0.850		0.990	
Flt Protected		0.999		0.950				0.978			0.987	
Satd. Flow (prot)	0	3550	0	1789	3452	0	0	1858	1617	0	1848	0
Flt Permitted		0.944		0.313				0.757			0.873	
Satd. Flow (perm)	0	3354	0	590	3452	0	0	1438	1617	0	1635	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			22				161			5
Link Speed (k/h)		70			70			80				80
Link Distance (m)		893.1			349.1			588.2				577.9
Travel Time (s)		45.9			18.0			26.5				26.0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Adj. Flow (vph)	15	743	51	265	371	51	68	85	466	56	138	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	809	0	265	422	0	0	153	466	0	210	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)		3.7			3.7			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
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
Protected Phases		4			8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

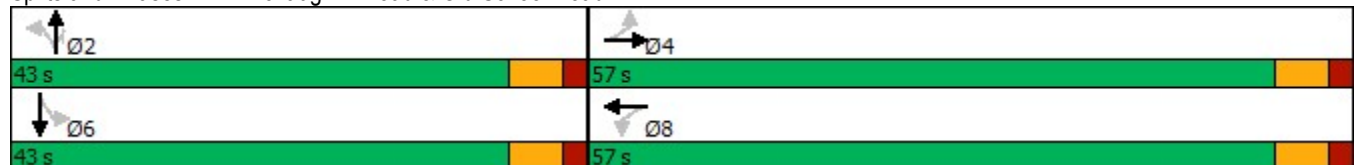
Future Total 2031  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	57.0	57.0		57.0	57.0		43.0	43.0	43.0	43.0	43.0	
Total Split (%)	57.0%	57.0%		57.0%	57.0%		43.0%	43.0%	43.0%	43.0%	43.0%	
Maximum Green (s)	51.0	51.0		51.0	51.0		37.0	37.0	37.0	37.0	37.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		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	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
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	Max	Max		Max	Max		None	None	None	None	None	
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)	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)		51.5		51.5	51.5			23.5	23.5		23.5	
Actuated g/C Ratio		0.59		0.59	0.59			0.27	0.27		0.27	
v/c Ratio		0.41		0.76	0.21			0.40	0.84		0.47	
Control Delay		11.6		33.7	9.5			28.1	33.4		28.7	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		11.6		33.7	9.5			28.1	33.4		28.7	
LOS		B		C	A			C	C		C	
Approach Delay		11.6			18.8			32.1			28.7	
Approach LOS		B			B			C			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 87.1  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.84  
 Intersection Signal Delay: 20.7  
 Intersection Capacity Utilization 74.0%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service D

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road

Future Total 2031  
AM Peak Hour





















Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	809	265	422	153	466	210
v/c Ratio	0.41	0.76	0.21	0.40	0.84	0.47
Control Delay	11.6	33.7	9.5	28.1	33.4	28.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.6	33.7	9.5	28.1	33.4	28.7
Queue Length 50th (m)	34.7	30.3	15.0	20.6	48.7	28.2
Queue Length 95th (m)	65.5	#94.3	30.6	36.1	83.8	46.7
Internal Link Dist (m)	869.1		325.1	564.2		553.9
Turn Bay Length (m)		50.0				
Base Capacity (vph)	1987	348	2050	616	785	704
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.76	0.21	0.25	0.59	0.30

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road























Future Total 2031  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	698	48	249	349	48	64	80	438	53	130	15
Future Volume (vph)	14	698	48	249	349	48	64	80	438	53	130	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00	
Frt		0.99		1.00	0.98			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	
Satd. Flow (prot)		3548		1789	3451			1859	1617		1847	
Flt Permitted		0.94		0.31	1.00			0.76	1.00		0.87	
Satd. Flow (perm)		3354		589	3451			1439	1617		1633	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	15	743	51	265	371	51	68	85	466	56	138	16
RTOR Reduction (vph)	0	4	0	0	9	0	0	0	118	0	4	0
Lane Group Flow (vph)	0	805	0	265	413	0	0	153	348	0	206	0
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		6		
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		51.5		51.5	51.5			23.5	23.5		23.5	
Effective Green, g (s)		51.5		51.5	51.5			23.5	23.5		23.5	
Actuated g/C Ratio		0.59		0.59	0.59			0.27	0.27		0.27	
Clearance Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1985		348	2042			388	436		441	
v/s Ratio Prot					0.12							
v/s Ratio Perm		0.24		0.45				0.11	0.22		0.13	
v/c Ratio		0.41		0.76	0.20			0.39	0.80		0.47	
Uniform Delay, d1		9.5		13.2	8.2			25.9	29.6		26.5	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.6		14.5	0.2			0.7	9.9		0.8	
Delay (s)		10.1		27.7	8.5			26.6	39.4		27.3	
Level of Service		B		C	A			C	D		C	
Approach Delay (s)		10.1			15.9			36.3			27.3	
Approach LOS		B			B			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			20.3									C
HCM 2000 Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			87.0								12.0	
Intersection Capacity Utilization			74.0%									D
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2031  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	565	223	246	331	177	150	72	1916	162	74	2514	314
Future Volume (vph)	565	223	246	331	177	150	72	1916	162	74	2514	314
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.921			0.931				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	3282	0	1722	3265	0	1722	4445	1471	1615	5043	1633
Flt Permitted	0.349			0.258			0.067			0.067		
Satd. Flow (perm)	645	3282	0	468	3265	0	121	4445	1471	114	5043	1633
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		38			16				123			182
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			1624.9			855.3			652.6	
Travel Time (s)		51.8			83.6			38.5			29.4	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Adj. Flow (vph)	608	240	265	356	190	161	77	2060	174	80	2703	338
Shared Lane Traffic (%)												
Lane Group Flow (vph)	608	505	0	356	351	0	77	2060	174	80	2703	338
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2031  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	24.0		8.0	24.0		29.0	29.0	29.0	29.0	29.0	29.0
Total Split (s)	28.0	26.0		26.0	24.0		68.0	68.0	68.0	68.0	68.0	68.0
Total Split (%)	23.3%	21.7%		21.7%	20.0%		56.7%	56.7%	56.7%	56.7%	56.7%	56.7%
Maximum Green (s)	24.0	18.0		22.0	16.0		60.0	60.0	60.0	60.0	60.0	60.0
Yellow Time (s)	3.5	6.0		3.5	6.0		6.0	6.0	6.0	6.0	6.0	6.0
All-Red Time (s)	0.5	2.0		0.5	2.0		2.0	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	0.0
Total Lost Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lead/Lag	Lead	Lag		Lead	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	None		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		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
Act Effct Green (s)	45.9	18.0		41.0	15.5		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.38	0.15		0.34	0.13		0.50	0.50	0.50	0.50	0.50	0.50
v/c Ratio	1.29	0.96		0.92	0.80		1.28	0.92	0.22	1.40	1.07	0.37
Control Delay	175.6	77.4		60.7	62.9		239.2	36.0	6.2	285.9	68.9	9.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	175.6	77.4		60.7	62.9		239.2	36.0	6.2	285.9	68.9	9.2
LOS	F	E		E	E		F	D	A	F	E	A
Approach Delay		131.1			61.8			40.5			68.0	
Approach LOS		F			E			D			E	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	119.5
Natural Cycle:	110
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.40
Intersection Signal Delay:	68.3
Intersection LOS:	E
Intersection Capacity Utilization:	116.9%
ICU Level of Service:	H
Analysis Period (min):	15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Total 2031  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	608	505	356	351	77	2060	174	80	2703	338
v/c Ratio	1.29	0.96	0.92	0.80	1.28	0.92	0.22	1.40	1.07	0.37
Control Delay	175.6	77.4	60.7	62.9	239.2	36.0	6.2	285.9	68.9	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	175.6	77.4	60.7	62.9	239.2	36.0	6.2	285.9	68.9	9.2
Queue Length 50th (m)	~152.7	58.5	62.6	40.7	~22.9	160.5	6.0	~25.2	~258.8	19.7
Queue Length 95th (m)	#223.4	#92.5	#116.2	#61.0	#40.1	185.6	17.8	#44.3	#285.9	39.8
Internal Link Dist (m)		983.8		1600.9		831.3			628.6	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	470	526	393	451	60	2231	800	57	2532	910
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.29	0.96	0.91	0.78	1.28	0.92	0.22	1.40	1.07	0.37

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Total 2031  
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	565	223	246	331	177	150	72	1916	162	74	2514	314
Future Volume (vph)	565	223	246	331	177	150	72	1916	162	74	2514	314
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.92		1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	3283		1722	3266		1722	4445	1471	1615	5043	1633
Flt Permitted	0.35	1.00		0.26	1.00		0.07	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	645	3283		468	3266		121	4445	1471	113	5043	1633
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	608	240	265	356	190	161	77	2060	174	80	2703	338
RTOR Reduction (vph)	0	32	0	0	14	0	0	0	61	0	0	91
Lane Group Flow (vph)	608	473	0	356	337	0	77	2060	113	80	2703	247
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	42.0	18.0		37.0	15.5		60.0	60.0	60.0	60.0	60.0	60.0
Effective Green, g (s)	42.0	18.0		37.0	15.5		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.35	0.15		0.31	0.13		0.50	0.50	0.50	0.50	0.50	0.50
Clearance Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	449	494		370	423		60	2231	738	56	2532	819
v/s Ratio Prot	c0.27	0.14		0.17	0.10			0.46			0.54	
v/s Ratio Perm	c0.20			0.12			0.64		0.08	c0.71		0.15
v/c Ratio	1.35	0.96		0.96	0.80		1.28	0.92	0.15	1.43	1.07	0.30
Uniform Delay, d1	34.9	50.4		36.3	50.5		29.8	27.6	16.0	29.8	29.8	17.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	173.4	29.5		36.7	10.0		210.0	7.9	0.4	269.5	39.1	0.9
Delay (s)	208.4	79.9		73.0	60.5		239.8	35.5	16.5	299.3	68.9	18.4
Level of Service	F	E		E	E		F	D	B	F	E	B
Approach Delay (s)		150.1			66.8			40.9			69.3	
Approach LOS		F			E			D			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			72.4				HCM 2000 Level of Service				E	
HCM 2000 Volume to Capacity ratio			1.42									
Actuated Cycle Length (s)			119.5				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			116.9%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2031  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕		↖	↕↕↕			↕			↕	
Traffic Volume (vph)	45	680	50	251	589	36	25	214	181	126	271	39
Future Volume (vph)	45	680	50	251	589	36	25	214	181	126	271	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.991			0.942			0.988	
Flt Protected		0.997		0.950				0.997			0.986	
Satd. Flow (prot)	0	4862	0	1659	4918	0	0	1737	0	0	1776	0
Flt Permitted		0.857		0.190				0.961			0.708	
Satd. Flow (perm)	0	4179	0	332	4918	0	0	1674	0	0	1275	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			10			44			6	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1468.5			1419.4			909.4			2784.8	
Travel Time (s)		75.5			73.0			40.9			125.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Adj. Flow (vph)	45	687	51	254	595	36	25	216	183	127	274	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	783	0	254	631	0	0	424	0	0	440	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

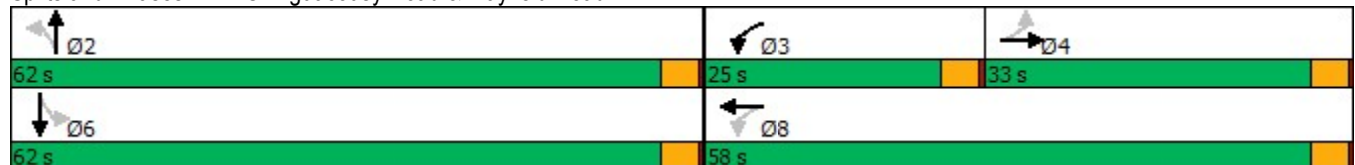
Future Total 2031  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	33.0	33.0		25.0	58.0		62.0	62.0		62.0	62.0	
Total Split (%)	27.5%	27.5%		20.8%	48.3%		51.7%	51.7%		51.7%	51.7%	
Maximum Green (s)	29.0	29.0		21.0	54.0		58.0	58.0		58.0	58.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
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	Max	Max		None	Max		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		32.9		54.0	54.0			58.0			58.0	
Actuated g/C Ratio		0.27		0.45	0.45			0.48			0.48	
v/c Ratio		0.68		0.75	0.28			0.51			0.71	
Control Delay		42.6		37.0	20.9			21.5			31.8	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		42.6		37.0	20.9			21.5			31.8	
LOS		D		D	C			C			C	
Approach Delay		42.6			25.5			21.5			31.8	
Approach LOS		D			C			C			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 55  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.75  
 Intersection Signal Delay: 31.2  
 Intersection LOS: C  
 Intersection Capacity Utilization 89.7%  
 ICU Level of Service E  
 Analysis Period (min) 15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road

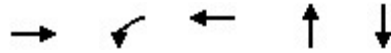


Queues

Future Total 2031

4: Chinguacousy Road & Mayfield Road

AM Peak Hour



























Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	783	254	631	424	440
v/c Ratio	0.68	0.75	0.28	0.51	0.71
Control Delay	42.6	37.0	20.9	21.5	31.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	42.6	37.0	20.9	21.5	31.8
Queue Length 50th (m)	59.9	38.0	33.0	59.5	78.3
Queue Length 95th (m)	78.0	60.2	41.8	88.1	119.0
Internal Link Dist (m)	1444.5		1395.4	885.4	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	1153	381	2218	831	619
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.68	0.67	0.28	0.51	0.71

Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 4: Chinguacousy Road & Mayfield Road





















Future Total 2031  
AM Peak Hour

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		  		  				  			  			
Traffic Volume (vph)	45	680	50	251	589	36	25	214	181	126	271	39		
Future Volume (vph)	45	680	50	251	589	36	25	214	181	126	271	39		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0			
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00			
Frt		0.99		1.00	0.99			0.94			0.99			
Flt Protected		1.00		0.95	1.00			1.00			0.99			
Satd. Flow (prot)		4864		1659	4920			1737			1776			
Flt Permitted		0.86		0.19	1.00			0.96			0.71			
Satd. Flow (perm)		4182		331	4920			1674			1275			
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99		
Adj. Flow (vph)	45	687	51	254	595	36	25	216	183	127	274	39		
RTOR Reduction (vph)	0	7	0	0	6	0	0	23	0	0	3	0		
Lane Group Flow (vph)	0	776	0	254	626	0	0	401	0	0	437	0		
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%		
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA			
Protected Phases		4		3	8			2			6			
Permitted Phases	4			8			2			6				
Actuated Green, G (s)		32.9		54.0	54.0			58.0			58.0			
Effective Green, g (s)		32.9		54.0	54.0			58.0			58.0			
Actuated g/C Ratio		0.27		0.45	0.45			0.48			0.48			
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0			
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0			
Lane Grp Cap (vph)		1146		338	2214			809			616			
v/s Ratio Prot				c0.11	0.13									
v/s Ratio Perm		0.19		c0.23				0.24			c0.34			
v/c Ratio		0.68		0.75	0.28			0.50			0.71			
Uniform Delay, d1		38.8		23.4	20.8			21.1			24.4			
Progression Factor		1.00		1.00	1.00			1.00			1.00			
Incremental Delay, d2		3.2		9.1	0.3			2.2			6.8			
Delay (s)		42.1		32.5	21.1			23.2			31.1			
Level of Service		D		C	C			C			C			
Approach Delay (s)		42.1			24.4			23.2			31.1			
Approach LOS		D			C			C			C			
<b>Intersection Summary</b>														
HCM 2000 Control Delay			30.8									HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio			0.75											
Actuated Cycle Length (s)			120.0								12.0			
Intersection Capacity Utilization			89.7%										ICU Level of Service	E
Analysis Period (min)			15											
c Critical Lane Group														



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Total 2031  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	958	124	129	737	123	55	309	97	303	519	190
Future Volume (vph)	61	958	124	129	737	123	55	309	97	303	519	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.983			0.978			0.964			0.960	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4885	0	1706	4755	0	1644	3434	0	1690	3365	0
Flt Permitted	0.267			0.191			0.288			0.476		
Satd. Flow (perm)	513	4885	0	343	4755	0	498	3434	0	847	3365	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			36			44			55	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			341.6			2496.3	
Travel Time (s)		73.0			65.0			15.4			112.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Adj. Flow (vph)	62	978	127	132	752	126	56	315	99	309	530	194
Shared Lane Traffic (%)												
Lane Group Flow (vph)	62	1105	0	132	878	0	56	414	0	309	724	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		23.0	23.0	
Total Split (s)	62.0	62.0		62.0	62.0		58.0	58.0		58.0	58.0	
Total Split (%)	51.7%	51.7%		51.7%	51.7%		48.3%	48.3%		48.3%	48.3%	
Maximum Green (s)	56.0	56.0		56.0	56.0		52.0	52.0		52.0	52.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	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	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)	56.0	56.0		56.0	56.0		52.0	52.0		52.0	52.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47		0.43	0.43		0.43	0.43	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

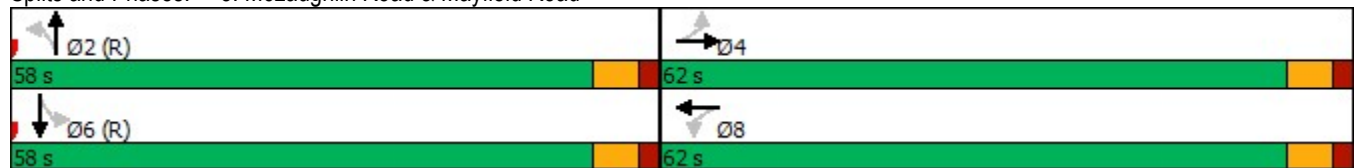
Future Total 2031  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.26	0.48		0.82	0.39		0.26	0.27		0.84	0.49	
Control Delay	23.2	22.3		67.8	20.6		25.9	20.0		52.4	23.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	23.2	22.3		67.8	20.6		25.9	20.0		52.4	23.7	
LOS	C	C		E	C		C	B		D	C	
Approach Delay		22.4			26.7			20.7			32.3	
Approach LOS		C			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:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	26.1
Intersection LOS:	C
Intersection Capacity Utilization	76.8%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Total 2031  
AM Peak Hour





























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	62	1105	132	878	56	414	309	724
v/c Ratio	0.26	0.48	0.82	0.39	0.26	0.27	0.84	0.49
Control Delay	23.2	22.3	67.8	20.6	25.9	20.0	52.4	23.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.2	22.3	67.8	20.6	25.9	20.0	52.4	23.7
Queue Length 50th (m)	8.6	62.4	26.3	46.1	8.3	28.6	63.7	58.3
Queue Length 95th (m)	19.2	74.8	#64.7	56.7	18.7	39.8	#115.9	75.0
Internal Link Dist (m)		1395.4		1239.7		317.6		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	239	2293	160	2238	215	1513	367	1489
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.48	0.82	0.39	0.26	0.27	0.84	0.49

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road


































Future Total 2031  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (vph)	61	958	124	129	737	123	55	309	97	303	519	190
Future Volume (vph)	61	958	124	129	737	123	55	309	97	303	519	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	4884		1706	4758		1644	3434		1690	3364	
Flt Permitted	0.27	1.00		0.19	1.00		0.29	1.00		0.48	1.00	
Satd. Flow (perm)	513	4884		342	4758		498	3434		848	3364	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	62	978	127	132	752	126	56	315	99	309	530	194
RTOR Reduction (vph)	0	14	0	0	19	0	0	25	0	0	31	0
Lane Group Flow (vph)	62	1091	0	132	859	0	56	389	0	309	693	0
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	56.0	56.0		56.0	56.0		52.0	52.0		52.0	52.0	
Effective Green, g (s)	56.0	56.0		56.0	56.0		52.0	52.0		52.0	52.0	
Actuated g/C Ratio	0.47	0.47		0.47	0.47		0.43	0.43		0.43	0.43	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	239	2279		159	2220		215	1488		367	1457	
v/s Ratio Prot		0.22			0.18			0.11			0.21	
v/s Ratio Perm	0.12			c0.39			0.11			c0.36		
v/c Ratio	0.26	0.48		0.83	0.39		0.26	0.26		0.84	0.48	
Uniform Delay, d1	19.4	22.0		27.9	20.8		21.7	21.7		30.3	24.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.6	0.7		37.2	0.5		2.9	0.4		20.3	1.1	
Delay (s)	22.0	22.7		65.1	21.3		24.6	22.2		50.7	25.4	
Level of Service	C	C		E	C		C	C		D	C	
Approach Delay (s)		22.7			27.1			22.5			32.9	
Approach LOS		C			C			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			26.7				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			76.8%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2031  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 		 	 	
Traffic Volume (vph)	247	954	118	207	595	173	86	440	211	375	1083	330
Future Volume (vph)	247	954	118	207	595	173	86	440	211	375	1083	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	1.00		0.98			0.97	0.99		0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	4902	1541	3340	4948	1420	1807	3476	1512	1706	3544	1585
Fl <sub>t</sub> Permitted	0.179			0.950			0.168			0.461		
Satd. Flow (perm)	328	4902	1508	3328	4948	1395	320	3476	1467	821	3544	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			65			177			224			343
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			1639.0			1025.0			609.4	
Travel Time (s)		7.3			84.3			52.7			31.3	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Adj. Flow (vph)	263	1015	126	220	633	184	91	468	224	399	1152	351
Shared Lane Traffic (%)												
Lane Group Flow (vph)	263	1015	126	220	633	184	91	468	224	399	1152	351
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	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)	9.0	23.0	23.0	9.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	29.0	45.0	45.0	18.0	34.0	34.0	97.0	97.0	97.0	97.0	97.0	97.0
Total Split (%)	18.1%	28.1%	28.1%	11.3%	21.3%	21.3%	60.6%	60.6%	60.6%	60.6%	60.6%	60.6%
Maximum Green (s)	24.0	38.0	38.0	13.0	27.0	27.0	90.0	90.0	90.0	90.0	90.0	90.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Walk Time (s)		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		11.0	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	0



Queues  
6: Hurontario Street & Mayfield Road

Future Total 2031  
AM Peak Hour




































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	263	1015	126	220	633	184	91	468	224	399	1152	351
v/c Ratio	0.80	0.87	0.31	0.81	0.76	0.48	0.51	0.24	0.24	0.87	0.58	0.34
Control Delay	57.0	67.9	26.6	94.6	70.1	13.0	33.6	18.1	2.5	50.4	24.1	2.7
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	57.0	67.9	26.6	94.6	70.1	13.0	33.6	18.1	2.5	50.4	24.1	2.7
Queue Length 50th (m)	62.8	114.8	15.6	36.1	71.2	1.9	17.2	38.4	0.0	104.9	121.5	1.1
Queue Length 95th (m)	#99.1	132.9	35.0	#56.4	86.2	25.0	37.7	48.7	11.9	#177.3	141.7	15.1
Internal Link Dist (m)		118.1			1615.0			1001.0			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	330	1164	407	271	834	382	180	1955	923	461	1993	1025
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.87	0.31	0.81	0.76	0.48	0.51	0.24	0.24	0.87	0.58	0.34

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road










Future Total 2031  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 		 	 	
Traffic Volume (vph)	247	954	118	207	595	173	86	440	211	375	1083	330
Future Volume (vph)	247	954	118	207	595	173	86	440	211	375	1083	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1738	4902	1508	3340	4948	1395	1807	3476	1467	1692	3544	1557
Flt Permitted	0.18	1.00	1.00	0.95	1.00	1.00	0.17	1.00	1.00	0.46	1.00	1.00
Satd. Flow (perm)	328	4902	1508	3340	4948	1395	320	3476	1467	822	3544	1557
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	263	1015	126	220	633	184	91	468	224	399	1152	351
RTOR Reduction (vph)	0	0	50	0	0	147	0	0	98	0	0	150
Lane Group Flow (vph)	263	1015	76	220	633	37	91	468	126	399	1152	201
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4		4			8	2		2	6		6
Actuated Green, G (s)	56.0	38.0	38.0	13.0	27.0	27.0	90.0	90.0	90.0	90.0	90.0	90.0
Effective Green, g (s)	56.0	38.0	38.0	13.0	27.0	27.0	90.0	90.0	90.0	90.0	90.0	90.0
Actuated g/C Ratio	0.35	0.24	0.24	0.08	0.17	0.17	0.56	0.56	0.56	0.56	0.56	0.56
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Lane Grp Cap (vph)	326	1164	358	271	834	235	180	1955	825	462	1993	875
v/s Ratio Prot	c0.12	c0.21		0.07	0.13			0.13			0.33	
v/s Ratio Perm	0.16		0.05			0.03	0.28		0.09	c0.49		0.13
v/c Ratio	0.81	0.87	0.21	0.81	0.76	0.16	0.51	0.24	0.15	0.86	0.58	0.23
Uniform Delay, d1	41.3	58.7	49.0	72.3	63.4	56.8	21.4	17.7	16.8	29.8	22.7	17.6
Progression 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
Incremental Delay, d2	18.9	9.1	1.4	22.6	6.4	1.4	9.8	0.3	0.4	18.9	1.2	0.6
Delay (s)	60.3	67.8	50.4	94.9	69.8	58.2	31.2	18.0	17.1	48.7	23.9	18.2
Level of Service	E	E	D	F	E	E	C	B	B	D	C	B
Approach Delay (s)		64.8			73.1			19.3			28.1	
Approach LOS		E			E			B			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			45.9								HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			160.0								Sum of lost time (s)	19.0
Intersection Capacity Utilization			83.4%								ICU Level of Service	E
Analysis Period (min)			15									
c Critical Lane Group												












Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C

Future Total 2031  
AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	36	84	515	12	31	358
Future Volume (vph)	36	84	515	12	31	358
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.905		0.997			
Flt Protected	0.985					0.996
Satd. Flow (prot)	1679	0	1878	0	0	1876
Flt Permitted	0.985					0.996
Satd. Flow (perm)	1679	0	1878	0	0	1876
Link Speed (k/h)	48		80			80
Link Distance (m)	204.9		2784.8			298.8
Travel Time (s)	15.4		125.3			13.4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	36	84	515	12	31	358
Shared Lane Traffic (%)						
Lane Group Flow (vph)	120	0	527	0	0	389
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	58.3%			ICU Level of Service B		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
7: Chinguacousy Road & Street C

Future Total 2031  
AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	36	84	515	12	31	358
Future Volume (Veh/h)	36	84	515	12	31	358
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)	36	84	515	12	31	358
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	299					
pX, platoon unblocked	0.92					
vC, conflicting volume	941	521	527			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	889	521	527			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	85	97			
cM capacity (veh/h)	279	555	1040			
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	120	527	389			
Volume Left	36	0	31			
Volume Right	84	12	0			
cSH	428	1700	1040			
Volume to Capacity	0.28	0.31	0.03			
Queue Length 95th (m)	8.6	0.0	0.7			
Control Delay (s)	16.7	0.0	1.0			
Lane LOS	C		A			
Approach Delay (s)	16.7	0.0	1.0			
Approach LOS	C					
<b>Intersection Summary</b>						
Average Delay			2.3			
Intersection Capacity Utilization			58.3%	ICU Level of Service	B	
Analysis Period (min)			15			










Lanes, Volumes, Timings  
8: Street B & Old School Road

Future Total 2031  
AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↖↖	↗↗	
Traffic Volume (vph)	660	5	40	412	12	108
Future Volume (vph)	660	5	40	412	12	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Fr <sub>t</sub>	0.999				0.878	
Fl <sub>t</sub> Protected				0.996	0.995	
Satd. Flow (prot)	3575	0	0	3564	1645	0
Fl <sub>t</sub> Permitted				0.996	0.995	
Satd. Flow (perm)	3575	0	0	3564	1645	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	660	5	40	412	12	108
Shared Lane Traffic (%)						
Lane Group Flow (vph)	665	0	0	452	120	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	48.3%			ICU Level of Service A		
Analysis Period (min)	15					


















HCM Unsignalized Intersection Capacity Analysis  
8: Street B & Old School Road

Future Total 2031  
AM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	660	5	40	412	12	108
Future Volume (Veh/h)	660	5	40	412	12	108
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	660	5	40	412	12	108
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			665		948	332
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			665		948	332
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		95	84
cM capacity (veh/h)			920		248	663
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	440	225	177	275	120	
Volume Left	0	0	40	0	12	
Volume Right	0	5	0	0	108	
cSH	1700	1700	920	1700	568	
Volume to Capacity	0.26	0.13	0.04	0.16	0.21	
Queue Length 95th (m)	0.0	0.0	1.0	0.0	6.0	
Control Delay (s)	0.0	0.0	2.4	0.0	13.0	
Lane LOS	A			B		
Approach Delay (s)	0.0		0.9		13.0	
Approach LOS	B					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			48.3%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2031  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	199	0	46	0	536	88	20	407	0
Future Volume (vph)	0	0	0	199	0	46	0	536	88	20	407	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.850			0.979				
Flt Protected				0.950							0.998	
Satd. Flow (prot)	0	1883	0	1789	1601	0	0	3503	0	0	3571	0
Flt Permitted				0.757							0.917	
Satd. Flow (perm)	0	1883	0	1426	1601	0	0	3503	0	0	3282	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					209			29				
Link Speed (k/h)		48			48			80				80
Link Distance (m)		204.8			403.1			2496.3				588.2
Travel Time (s)		15.4			30.2			112.3				26.5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	199	0	46	0	536	88	20	407	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	199	46	0	0	624	0	0	427	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)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2031  
AM Peak Hour

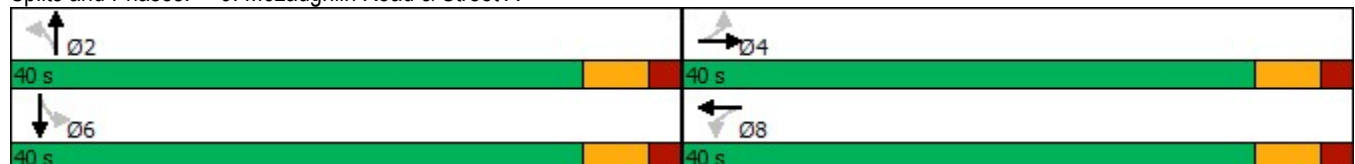


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	40.0	40.0		40.0	40.0		40.0	40.0		40.0	40.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	34.0	34.0		34.0	34.0		34.0	34.0		34.0	34.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)				13.9	13.9			37.4			37.4	
Actuated g/C Ratio				0.22	0.22			0.59			0.59	
v/c Ratio				0.64	0.09			0.30			0.22	
Control Delay				31.1	0.3			7.2			7.2	
Queue Delay				0.0	0.0			0.0			0.0	
Total Delay				31.1	0.3			7.2			7.2	
LOS				C	A			A			A	
Approach Delay					25.4			7.2			7.2	
Approach LOS					C			A			A	

Intersection Summary

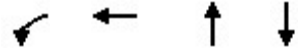
Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	63.3
Natural Cycle:	45
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	10.6
Intersection Capacity Utilization	47.1%
Analysis Period (min)	15
Intersection LOS:	B
ICU Level of Service	A

Splits and Phases: 9: McLaughlin Road & Street A



Queues  
9: McLaughlin Road & Street A

Future Total 2031  
AM Peak Hour






















Lane Group	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	199	46	624	427
v/c Ratio	0.64	0.09	0.30	0.22
Control Delay	31.1	0.3	7.2	7.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	31.1	0.3	7.2	7.2
Queue Length 50th (m)	19.5	0.0	15.3	10.5
Queue Length 95th (m)	36.9	0.0	29.7	21.2
Internal Link Dist (m)		379.1	2472.3	564.2
Turn Bay Length (m)	30.0			
Base Capacity (vph)	768	959	2080	1938
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.26	0.05	0.30	0.22
<b>Intersection Summary</b>				

# HCM Signalized Intersection Capacity Analysis

## 9: McLaughlin Road & Street A

Future Total 2031  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	199	0	46	0	536	88	20	407	0
Future Volume (vph)	0	0	0	199	0	46	0	536	88	20	407	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.0	6.0			6.0			6.0	
Lane Util. Factor				1.00	1.00			0.95			0.95	
Frt				1.00	0.85			0.98			1.00	
Flt Protected				0.95	1.00			1.00			1.00	
Satd. Flow (prot)				1789	1601			3503			3570	
Flt Permitted				0.76	1.00			1.00			0.92	
Satd. Flow (perm)				1426	1601			3503			3282	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	199	0	46	0	536	88	20	407	0
RTOR Reduction (vph)	0	0	0	0	36	0	0	12	0	0	0	0
Lane Group Flow (vph)	0	0	0	199	10	0	0	612	0	0	427	0
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)				13.9	13.9			37.4			37.4	
Effective Green, g (s)				13.9	13.9			37.4			37.4	
Actuated g/C Ratio				0.22	0.22			0.59			0.59	
Clearance Time (s)				6.0	6.0			6.0			6.0	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				313	351			2069			1939	
v/s Ratio Prot					0.01			c0.17				
v/s Ratio Perm				c0.14							0.13	
v/c Ratio				0.64	0.03			0.30			0.22	
Uniform Delay, d1				22.4	19.4			6.4			6.1	
Progression Factor				1.00	1.00			1.00			1.00	
Incremental Delay, d2				4.2	0.0			0.4			0.3	
Delay (s)				26.6	19.4			6.8			6.4	
Level of Service				C	B			A			A	
Approach Delay (s)		0.0			25.2			6.8			6.4	
Approach LOS		A			C			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			10.1									B
HCM 2000 Volume to Capacity ratio			0.39									
Actuated Cycle Length (s)			63.3								12.0	
Intersection Capacity Utilization			47.1%									A
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
10: Street D & Old School Road

Future Total 2031  
AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↙	
Traffic Volume (vph)	1044	100	11	572	89	0
Future Volume (vph)	1044	100	11	572	89	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.987					
Flt Protected				0.999	0.950	
Satd. Flow (prot)	3532	0	0	3575	1789	0
Flt Permitted				0.999	0.950	
Satd. Flow (perm)	3532	0	0	3575	1789	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1044	100	11	572	89	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1144	0	0	583	89	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	43.6%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 10: Street D & Old School Road

Future Total 2031  
 AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Volume (veh/h)	1044	100	11	572	89	0
Future Volume (Veh/h)	1044	100	11	572	89	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1044	100	11	572	89	0
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	349					
pX, platoon unblocked			0.93		0.93	0.93
vC, conflicting volume			1144		1402	572
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			995		1274	377
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		38	100
cM capacity (veh/h)			640		145	574
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>WB 1</b>	<b>WB 2</b>	<b>NB 1</b>	
Volume Total	696	448	202	381	89	
Volume Left	0	0	11	0	89	
Volume Right	0	100	0	0	0	
cSH	1700	1700	640	1700	145	
Volume to Capacity	0.41	0.26	0.02	0.22	0.62	
Queue Length 95th (m)	0.0	0.0	0.4	0.0	24.8	
Control Delay (s)	0.0	0.0	0.8	0.0	63.3	
Lane LOS	A			F		
Approach Delay (s)	0.0		0.3		63.3	
Approach LOS				F		
<b>Intersection Summary</b>						
Average Delay			3.2			
Intersection Capacity Utilization			43.6%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
11: Street A & Street D

Future Total 2031  
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	87	151	85	122	62	125
Future Volume (vph)	87	151	85	122	62	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.920		0.910	
Flt Protected		0.982			0.984	
Satd. Flow (prot)	0	1850	1733	0	1687	0
Flt Permitted		0.982			0.984	
Satd. Flow (perm)	0	1850	1733	0	1687	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	87	151	85	122	62	125
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	238	207	0	187	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	97			97	97	97
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	45.8%
Analysis Period (min)	15
	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis  
 11: Street A & Street D

Future Total 2031  
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↩	↩		↩	
Traffic Volume (veh/h)	87	151	85	122	62	125
Future Volume (Veh/h)	87	151	85	122	62	125
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	87	151	85	122	62	125
<b>Pedestrians</b>						
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	207			471	146	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	207			471	146	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	94			88	86	
cM capacity (veh/h)	1364			516	901	
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	238	207	187			
Volume Left	87	0	62			
Volume Right	0	122	125			
cSH	1364	1700	722			
Volume to Capacity	0.06	0.12	0.26			
Queue Length 95th (m)	1.6	0.0	7.8			
Control Delay (s)	3.2	0.0	11.7			
Lane LOS	A		B			
Approach Delay (s)	3.2	0.0	11.7			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			4.7			
Intersection Capacity Utilization			45.8%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2031  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	104	523	147	2046	3064	28
Future Volume (vph)	104	523	147	2046	3064	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt		0.850			0.999	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	5142	5137	0
Flt Permitted	0.950		0.054			
Satd. Flow (perm)	1789	1601	102	5142	5137	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1			2	
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	104	523	147	2046	3064	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	104	523	147	2046	3092	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	7	5	5	2	6	
Permitted Phases		7	2			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2031  
AM Peak Hour

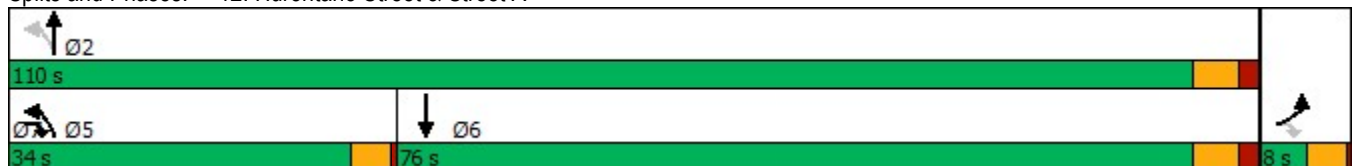


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	7	5	5	2	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	8.0	8.0	8.0	22.0	22.0	
Total Split (s)	8.0	34.0	34.0	110.0	76.0	
Total Split (%)	6.8%	28.8%	28.8%	93.2%	64.4%	
Maximum Green (s)	4.0	30.0	30.0	104.0	70.0	
Yellow Time (s)	3.5	3.5	3.5	4.0	4.0	
All-Red Time (s)	0.5	0.5	0.5	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)				5.0	5.0	
Flash Dont Walk (s)				11.0	11.0	
Pedestrian Calls (#/hr)				0	0	
Act Effct Green (s)	4.0	38.0	106.0	104.0	70.0	
Actuated g/C Ratio	0.03	0.32	0.90	0.88	0.59	
v/c Ratio	1.73	1.01	0.28	0.45	1.01	
Control Delay	423.7	83.3	14.6	1.7	44.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	423.7	83.3	14.6	1.7	44.4	
LOS	F	F	B	A	D	
Approach Delay	139.7			2.6	44.4	
Approach LOS	F			A	D	

Intersection Summary

Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	118
Natural Cycle:	120
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.73
Intersection Signal Delay:	39.0
Intersection LOS:	D
Intersection Capacity Utilization	100.5%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 12: Hurontario Street & Street A



Queues  
12: Hurontario Street & Street A

Future Total 2031  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	104	523	147	2046	3092
v/c Ratio	1.73	1.01	0.28	0.45	1.01
Control Delay	423.7	83.3	14.6	1.7	44.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	423.7	83.3	14.6	1.7	44.4
Queue Length 50th (m)	~35.5	~123.7	9.9	21.1	~262.5
Queue Length 95th (m)	#70.7	#193.6	27.1	24.0	#302.6
Internal Link Dist (m)	932.1			904.0	831.3
Turn Bay Length (m)	30.0		50.0		
Base Capacity (vph)	60	516	520	4531	3048
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.73	1.01	0.28	0.45	1.01

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 12: Hurontario Street & Street A

Future Total 2031  
 AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	104	523	147	2046	3064	28
Future Volume (vph)	104	523	147	2046	3064	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1789	1601	1789	5142	5135	
Flt Permitted	0.95	1.00	0.05	1.00	1.00	
Satd. Flow (perm)	1789	1601	102	5142	5135	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	104	523	147	2046	3064	28
RTOR Reduction (vph)	0	1	0	0	1	0
Lane Group Flow (vph)	104	522	147	2046	3091	0
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	7	5	5	2	6	
Permitted Phases		7	2			
Actuated Green, G (s)	4.0	34.0	104.0	104.0	70.0	
Effective Green, g (s)	4.0	34.0	104.0	104.0	70.0	
Actuated g/C Ratio	0.03	0.29	0.88	0.88	0.59	
Clearance Time (s)	4.0	4.0	4.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	60	515	518	4531	3046	
v/s Ratio Prot	c0.06	c0.26	0.07	0.40	c0.60	
v/s Ratio Perm		0.07	0.18			
v/c Ratio	1.73	1.01	0.28	0.45	1.01	
Uniform Delay, d1	57.0	42.0	26.4	1.4	24.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	390.0	43.2	0.3	0.3	20.1	
Delay (s)	447.0	85.2	26.7	1.7	44.1	
Level of Service	F	F	C	A	D	
Approach Delay (s)	145.3			3.4	44.1	
Approach LOS	F			A	D	

Intersection Summary

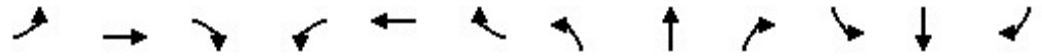
HCM 2000 Control Delay	39.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	118.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	100.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Total 2031  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	253	4	350	349	64	13	371	376	51	240	4
Future Volume (vph)	4	253	4	350	349	64	13	371	376	51	240	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.998			0.977			0.933			0.998	
Fl <sub>t</sub> Protected		0.999		0.950				0.999			0.991	
Satd. Flow (prot)	0	1861	0	1825	1825	0	0	1715	0	0	1836	0
Fl <sub>t</sub> Permitted		0.991		0.216				0.992			0.794	
Satd. Flow (perm)	0	1846	0	415	1825	0	0	1703	0	0	1471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			10			75			1	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			342.6	
Travel Time (s)		30.4			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	4	269	4	372	371	68	14	395	400	54	255	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	277	0	372	439	0	0	809	0	0	313	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

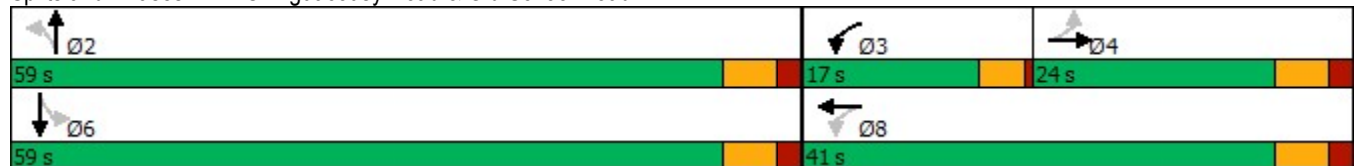
Future Total 2031  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	24.0	24.0		17.0	41.0		59.0	59.0		59.0	59.0	
Total Split (%)	24.0%	24.0%		17.0%	41.0%		59.0%	59.0%		59.0%	59.0%	
Maximum Green (s)	18.0	18.0		13.0	35.0		53.0	53.0		53.0	53.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		4.0	6.0			6.0			6.0	
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	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		17.2		36.2	34.2			53.0			53.0	
Actuated g/C Ratio		0.17		0.36	0.34			0.53			0.53	
v/c Ratio		0.86		1.11	0.69			0.86			0.40	
Control Delay		65.8		109.4	33.9			29.2			15.7	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		65.8		109.4	33.9			29.2			15.7	
LOS		E		F	C			C			B	
Approach Delay		65.8			68.5			29.2			15.7	
Approach LOS		E			E			C			B	

Intersection Summary

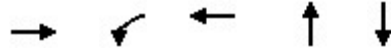
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	99.2
Natural Cycle:	80
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.11
Intersection Signal Delay:	46.3
Intersection LOS:	D
Intersection Capacity Utilization:	95.4%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 1: Chinguacousy Road & Old School Road



Queues  
1: Chinguacousy Road & Old School Road

Future Total 2031  
PM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	277	372	439	809	313
v/c Ratio	0.86	1.11	0.69	0.86	0.40
Control Delay	65.8	109.4	33.9	29.2	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	65.8	109.4	33.9	29.2	15.7
Queue Length 50th (m)	52.1	~61.6	70.2	119.2	34.3
Queue Length 95th (m)	#93.8	#117.3	104.2	#200.6	54.1
Internal Link Dist (m)	566.7		466.2	274.8	318.6
Turn Bay Length (m)					
Base Capacity (vph)	336	335	650	944	786
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.82	1.11	0.68	0.86	0.40

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.


















Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.



















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Total 2031  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	253	4	350	349	64	13	371	376	51	240	4
Future Volume (vph)	4	253	4	350	349	64	13	371	376	51	240	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		4.0	6.0			6.0			6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.98			0.93			1.00	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		1862		1825	1824			1716			1837	
Flt Permitted		0.99		0.22	1.00			0.99			0.79	
Satd. Flow (perm)		1846		415	1824			1704			1472	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	4	269	4	372	371	68	14	395	400	54	255	4
RTOR Reduction (vph)	0	1	0	0	7	0	0	35	0	0	0	0
Lane Group Flow (vph)	0	276	0	372	432	0	0	774	0	0	313	0
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		17.2		34.2	34.2			53.0			53.0	
Effective Green, g (s)		17.2		34.2	34.2			53.0			53.0	
Actuated g/C Ratio		0.17		0.34	0.34			0.53			0.53	
Clearance Time (s)		6.0		4.0	6.0			6.0			6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		320		327	628			910			786	
v/s Ratio Prot				c0.15	0.24							
v/s Ratio Perm		0.15		c0.24				c0.45			0.21	
v/c Ratio		0.86		1.14	0.69			0.85			0.40	
Uniform Delay, d1		39.9		28.8	27.9			19.7			13.7	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		20.6		92.4	3.1			9.8			1.5	
Delay (s)		60.5		121.2	31.1			29.5			15.2	
Level of Service		E		F	C			C			B	
Approach Delay (s)		60.5		72.4				29.5			15.2	
Approach LOS		E		E				C			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			47.1									D
HCM 2000 Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			99.2						16.0			
Intersection Capacity Utilization			95.4%									F
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Total 2031  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	644	56	483	735	49	72	149	488	43	72	11
Future Volume (vph)	15	644	56	483	735	49	72	149	488	43	72	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.991				0.850		0.988	
Flt Protected		0.999		0.950				0.984			0.983	
Satd. Flow (prot)	0	3451	0	1755	3575	0	0	1807	1555	0	1804	0
Flt Permitted		0.927		0.236				0.838			0.676	
Satd. Flow (perm)	0	3202	0	436	3575	0	0	1539	1555	0	1241	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			13				497			5
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			577.9	
Travel Time (s)		45.9			18.0			26.5			26.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	16	685	60	514	782	52	77	159	519	46	77	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	761	0	514	834	0	0	236	519	0	135	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

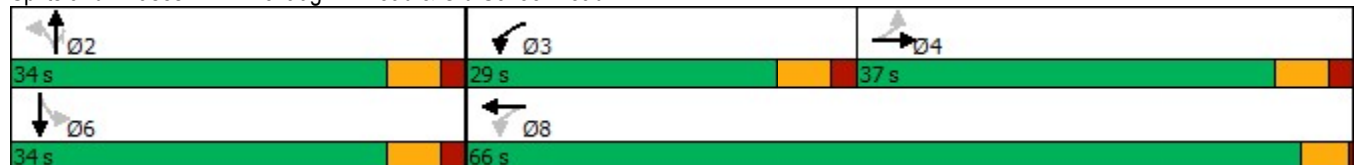
Future Total 2031  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		10.0	20.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	37.0	37.0		29.0	66.0		34.0	34.0	34.0	34.0	34.0	
Total Split (%)	37.0%	37.0%		29.0%	66.0%		34.0%	34.0%	34.0%	34.0%	34.0%	
Maximum Green (s)	31.0	31.0		23.0	62.0		28.0	28.0	28.0	28.0	28.0	
Yellow Time (s)	4.0	4.0		4.0	3.5		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	0.5		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		-2.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		4.0	4.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	Max	Max		None	Max		None	None	None	None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		33.8		62.2	62.2			19.6	19.6		19.6	
Actuated g/C Ratio		0.37		0.68	0.68			0.21	0.21		0.21	
v/c Ratio		0.64		0.83	0.34			0.72	0.72		0.50	
Control Delay		28.8		26.2	7.3			46.1	9.8		36.9	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		28.8		26.2	7.3			46.1	9.8		36.9	
LOS		C		C	A			D	A		D	
Approach Delay		28.8			14.5			21.2			36.9	
Approach LOS		C			B			C			D	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	91.9
Natural Cycle:	65
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	20.8
Intersection LOS:	C
Intersection Capacity Utilization:	83.8%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road

Future Total 2031  
PM Peak Hour





















Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	761	514	834	236	519	135
v/c Ratio	0.64	0.83	0.34	0.72	0.72	0.50
Control Delay	28.8	26.2	7.3	46.1	9.8	36.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.8	26.2	7.3	46.1	9.8	36.9
Queue Length 50th (m)	59.8	44.9	28.0	38.8	3.1	20.3
Queue Length 95th (m)	90.8	#114.1	49.2	62.9	31.3	37.4
Internal Link Dist (m)	869.1		325.1	564.2		553.9
Turn Bay Length (m)		50.0				
Base Capacity (vph)	1182	655	2424	470	820	382
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.78	0.34	0.50	0.63	0.35

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road























Future Total 2031  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	644	56	483	735	49	72	149	488	43	72	11
Future Volume (vph)	15	644	56	483	735	49	72	149	488	43	72	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		4.0	4.0			6.0	6.0		6.0	
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00	
Frt		0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.98	
Satd. Flow (prot)		3452		1755	3574			1807	1555		1805	
Flt Permitted		0.93		0.24	1.00			0.84	1.00		0.68	
Satd. Flow (perm)		3202		436	3574			1539	1555		1240	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	16	685	60	514	782	52	77	159	519	46	77	12
RTOR Reduction (vph)	0	6	0	0	4	0	0	0	391	0	4	0
Lane Group Flow (vph)	0	755	0	514	830	0	0	236	128	0	131	0
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		33.8		62.2	62.2			19.6	19.6		19.6	
Effective Green, g (s)		33.8		64.2	62.2			19.6	19.6		19.6	
Actuated g/C Ratio		0.37		0.70	0.68			0.21	0.21		0.21	
Clearance Time (s)		6.0		6.0	4.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1178		626	2421			328	332		264	
v/s Ratio Prot				c0.20	0.23							
v/s Ratio Perm		0.24		c0.37				c0.15	0.08		0.11	
v/c Ratio		0.64		0.82	0.34			0.72	0.39		0.50	
Uniform Delay, d1		24.0		12.9	6.2			33.5	30.9		31.8	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		2.7		8.5	0.4			7.4	0.7		1.5	
Delay (s)		26.7		21.4	6.6			40.9	31.7		33.2	
Level of Service		C		C	A			D	C		C	
Approach Delay (s)		26.7			12.2			34.6			33.2	
Approach LOS		C			B			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			22.5			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			91.8			Sum of lost time (s)		16.0				
Intersection Capacity Utilization			83.8%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2031  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	682	223	143	347	285	162	256	3227	381	171	1930	626
Future Volume (vph)	682	223	143	347	285	162	256	3227	381	171	1930	626
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.942			0.946				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3264	0	1789	3431	0	1807	5043	1633	1825	4812	1541
Flt Permitted	0.211			0.287			0.073			0.078		
Satd. Flow (perm)	405	3264	0	541	3431	0	139	5043	1633	150	4812	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		103			64				161			399
Link Speed (k/h)		70			70			80				80
Link Distance (m)		1007.8			1624.9			855.3				652.6
Travel Time (s)		51.8			83.6			38.5				29.4
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Adj. Flow (vph)	703	230	147	358	294	167	264	3327	393	176	1990	645
Shared Lane Traffic (%)												
Lane Group Flow (vph)	703	377	0	358	461	0	264	3327	393	176	1990	645
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)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1		6

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

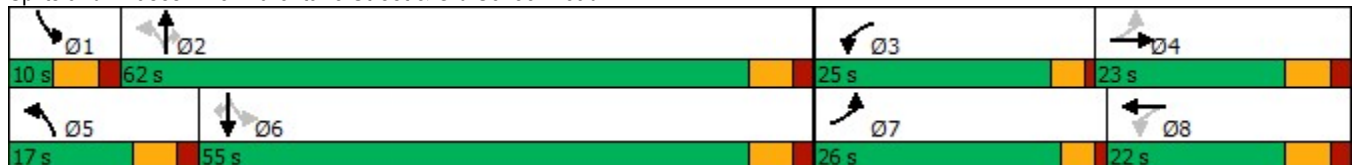
Future Total 2031  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	22.0		8.0	22.0		10.0	29.0	29.0	10.0	29.0	29.0
Total Split (s)	26.0	23.0		25.0	22.0		17.0	62.0	62.0	10.0	55.0	55.0
Total Split (%)	21.7%	19.2%		20.8%	18.3%		14.2%	51.7%	51.7%	8.3%	45.8%	45.8%
Maximum Green (s)	22.0	17.0		21.0	16.0		11.0	56.0	56.0	4.0	49.0	49.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		0.0	-2.0		-2.0	-2.0	0.0	-2.0	-2.0	0.0
Total Lost Time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lead/Lag	Lead	Lag		Lead	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
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Walk Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	44.9	18.9		38.4	17.7		68.0	58.0	56.0	57.0	51.0	49.0
Actuated g/C Ratio	0.38	0.16		0.32	0.15		0.57	0.48	0.47	0.48	0.43	0.41
v/c Ratio	1.61	0.63		0.92	0.82		1.02	1.36	0.46	1.14	0.97	0.74
Control Delay	312.9	39.0		61.6	55.6		92.6	193.6	14.2	138.8	47.9	16.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	312.9	39.0		61.6	55.6		92.6	193.6	14.2	138.8	47.9	16.9
LOS	F	D		E	E		F	F	B	F	D	B
Approach Delay		217.3			58.2			169.2			46.5	
Approach LOS		F			E			F			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 119.7  
 Natural Cycle: 150  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.61  
 Intersection Signal Delay: 125.1  
 Intersection Capacity Utilization 136.0%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service H

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Total 2031  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	703	377	358	461	264	3327	393	176	1990	645
v/c Ratio	1.61	0.63	0.92	0.82	1.02	1.36	0.46	1.14	0.97	0.74
Control Delay	312.9	39.0	61.6	55.6	92.6	193.6	14.2	138.8	47.9	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	312.9	39.0	61.6	55.6	92.6	193.6	14.2	138.8	47.9	16.9
Queue Length 50th (m)	~222.0	31.8	66.2	48.4	~48.4	~378.3	34.7	~32.3	165.3	49.3
Queue Length 95th (m)	#294.2	48.2	#115.4	#71.3	#102.0	#402.6	60.4	#77.1	#202.8	98.6
Internal Link Dist (m)		983.8		1600.9		831.3			628.6	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	436	604	394	570	260	2444	849	155	2051	866
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.61	0.62	0.91	0.81	1.02	1.36	0.46	1.14	0.97	0.74





























Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Total 2031  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			  			  	
Traffic Volume (vph)	682	223	143	347	285	162	256	3227	381	171	1930	626
Future Volume (vph)	682	223	143	347	285	162	256	3227	381	171	1930	626
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.94		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1825	3262		1789	3430		1807	5043	1633	1825	4812	1541
Flt Permitted	0.21	1.00		0.29	1.00		0.07	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	404	3262		540	3430		138	5043	1633	151	4812	1541
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	703	230	147	358	294	167	264	3327	393	176	1990	645
RTOR Reduction (vph)	0	87	0	0	55	0	0	0	86	0	0	236
Lane Group Flow (vph)	703	290	0	358	406	0	264	3327	307	176	1990	409
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	39.0	17.0		36.4	15.7		66.0	56.0	56.0	53.0	49.0	49.0
Effective Green, g (s)	43.0	19.0		36.4	17.7		68.0	58.0	56.0	57.0	51.0	49.0
Actuated g/C Ratio	0.36	0.16		0.30	0.15		0.57	0.48	0.47	0.48	0.43	0.41
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	430	517		380	507		259	2443	763	155	2050	630
v/s Ratio Prot	c0.33	0.09		0.16	0.12		c0.11	c0.66		0.06	0.41	
v/s Ratio Perm	0.26			c0.12			0.47		0.19	0.48		0.27
v/c Ratio	1.63	0.56		0.94	0.80		1.02	1.36	0.40	1.14	0.97	0.65
Uniform Delay, d1	34.2	46.5		36.6	49.3		38.0	30.9	20.9	28.8	33.6	28.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	296.1	1.4		31.5	8.9		61.0	165.6	1.6	113.3	14.1	5.1
Delay (s)	330.3	47.9		68.1	58.2		99.0	196.4	22.5	142.1	47.7	33.6
Level of Service	F	D		E	E		F	F	C	F	D	C
Approach Delay (s)		231.7			62.5			172.8			50.4	
Approach LOS		F			E			F			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			130.1				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.35									
Actuated Cycle Length (s)			119.7				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			136.0%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2031  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕		↖	↕↕↕			↕			↕	
Traffic Volume (vph)	43	716	51	258	675	108	34	338	284	53	199	30
Future Volume (vph)	43	716	51	258	675	108	34	338	284	53	199	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.991			0.979			0.941			0.985	
Flt Protected		0.997		0.950				0.997			0.991	
Satd. Flow (prot)	0	5042	0	1825	5005	0	0	1755	0	0	1840	0
Flt Permitted		0.833		0.140				0.969			0.777	
Satd. Flow (perm)	0	4212	0	269	5005	0	0	1706	0	0	1442	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			31			47			7	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1468.5			1419.4			909.4			2784.8	
Travel Time (s)		75.5			73.0			40.9			125.3	
Confl. Peds. (#/hr)							1					1
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
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Adj. Flow (vph)	47	778	55	280	734	117	37	367	309	58	216	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	880	0	280	851	0	0	713	0	0	307	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2031  
PM Peak Hour

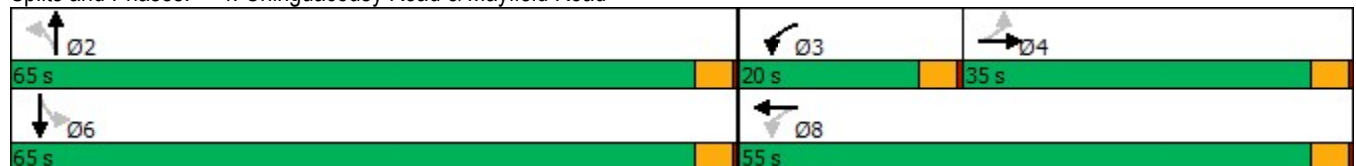


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	35.0	35.0		20.0	55.0		65.0	65.0		65.0	65.0	
Total Split (%)	29.2%	29.2%		16.7%	45.8%		54.2%	54.2%		54.2%	54.2%	
Maximum Green (s)	31.0	31.0		16.0	51.0		61.0	61.0		61.0	61.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
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	Max	Max		None	Max		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		31.3		51.0	51.0			61.0			61.0	
Actuated g/C Ratio		0.26		0.42	0.42			0.51			0.51	
v/c Ratio		0.80		0.88	0.40			0.80			0.42	
Control Delay		47.3		56.2	23.6			31.1			20.1	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		47.3		56.2	23.6			31.1			20.1	
LOS		D		E	C			C			C	
Approach Delay		47.3			31.7			31.1			20.1	
Approach LOS		D			C			C			C	

Intersection Summary

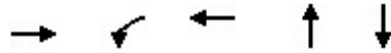
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Natural Cycle:	65
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.88
Intersection Signal Delay:	34.9
Intersection LOS:	C
Intersection Capacity Utilization:	81.0%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Total 2031  
PM Peak Hour



























Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	880	280	851	713	307
v/c Ratio	0.80	0.88	0.40	0.80	0.42
Control Delay	47.3	56.2	23.6	31.1	20.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	56.2	23.6	31.1	20.1
Queue Length 50th (m)	70.6	44.9	47.9	127.1	42.5
Queue Length 95th (m)	87.0	#92.0	59.0	181.9	64.9
Internal Link Dist (m)	1444.5		1395.4	885.4	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	1106	321	2144	890	736
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.80	0.87	0.40	0.80	0.42

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road

Future Total 2031  
PM Peak Hour





















													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		  				  			  		
Traffic Volume (vph)	43	716	51	258	675	108	34	338	284	53	199	30	
Future Volume (vph)	43	716	51	258	675	108	34	338	284	53	199	30	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0		
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00		
Frbp, ped/bikes		1.00		1.00	1.00			1.00			1.00		
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00		
Frt		0.99		1.00	0.98			0.94			0.99		
Flt Protected		1.00		0.95	1.00			1.00			0.99		
Satd. Flow (prot)		5042		1825	5007			1757			1840		
Flt Permitted		0.83		0.14	1.00			0.97			0.78		
Satd. Flow (perm)		4211		270	5007			1707			1442		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	47	778	55	280	734	117	37	367	309	58	216	33	
RTOR Reduction (vph)	0	6	0	0	18	0	0	23	0	0	3	0	
Lane Group Flow (vph)	0	874	0	280	833	0	0	690	0	0	304	0	
Confl. Peds. (#/hr)							1					1	
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA		
Protected Phases		4		3	8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		31.3		51.0	51.0			61.0			61.0		
Effective Green, g (s)		31.3		51.0	51.0			61.0			61.0		
Actuated g/C Ratio		0.26		0.42	0.42			0.51			0.51		
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0		
Lane Grp Cap (vph)		1098		318	2127			867			733		
v/s Ratio Prot				c0.12	0.17								
v/s Ratio Perm		0.21		c0.26				c0.40			0.21		
v/c Ratio		0.80		0.88	0.39			0.80			0.41		
Uniform Delay, d1		41.4		27.2	23.8			24.4			18.4		
Progression Factor		1.00		1.00	1.00			1.00			1.00		
Incremental Delay, d2		6.0		23.5	0.5			7.5			1.7		
Delay (s)		47.4		50.7	24.3			31.8			20.1		
Level of Service		D		D	C			C			C		
Approach Delay (s)		47.4			30.9			31.8			20.1		
Approach LOS		D			C			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			34.8									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.85										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	12.0
Intersection Capacity Utilization			81.0%									ICU Level of Service	D
Analysis Period (min)			15										

c Critical Lane Group



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Total 2031  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	174	896	80	114	1062	295	136	584	118	213	351	172
Future Volume (vph)	174	896	80	114	1062	295	136	584	118	213	351	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.988			0.967			0.975			0.951	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	5031	0	1755	4881	0	1825	3512	0	1738	3349	0
Flt Permitted	0.091			0.270			0.401			0.302		
Satd. Flow (perm)	166	5031	0	499	4881	0	770	3512	0	553	3349	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			57			26			90	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			341.6			2496.3	
Travel Time (s)		73.0			65.0			15.4			112.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	181	933	83	119	1106	307	142	608	123	222	366	179
Shared Lane Traffic (%)												
Lane Group Flow (vph)	181	1016	0	119	1413	0	142	731	0	222	545	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

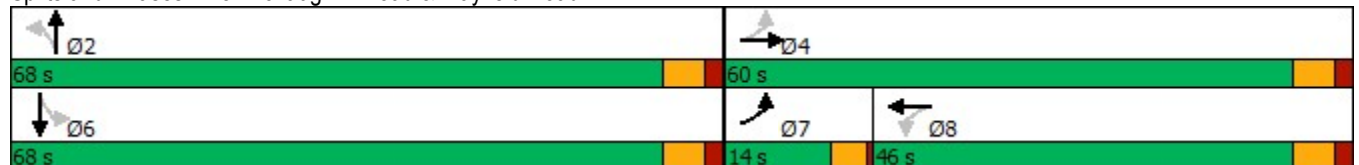
Future Total 2031  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	14.0	60.0		46.0	46.0		68.0	68.0		68.0	68.0	
Total Split (%)	10.9%	46.9%		35.9%	35.9%		53.1%	53.1%		53.1%	53.1%	
Maximum Green (s)	10.0	54.0		40.0	40.0		62.0	62.0		62.0	62.0	
Yellow Time (s)	3.5	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	0.5	2.0		2.0	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	
Total Lost Time (s)	4.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
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	None	Max		Max	Max		Max	Max		Max	Max	
Walk Time (s)		5.0		5.0	5.0		5.0	5.0		5.0	5.0	
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)	56.0	54.0		40.0	40.0		62.0	62.0		62.0	62.0	
Actuated g/C Ratio	0.44	0.42		0.31	0.31		0.48	0.48		0.48	0.48	
v/c Ratio	0.93	0.48		0.77	0.90		0.38	0.43		0.83	0.33	
Control Delay	77.6	27.3		71.9	49.6		24.7	21.5		55.8	17.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	77.6	27.3		71.9	49.6		24.7	21.5		55.8	17.2	
LOS	E	C		E	D		C	C		E	B	
Approach Delay		34.9			51.3			22.1			28.4	
Approach LOS		C			D			C			C	

Intersection Summary

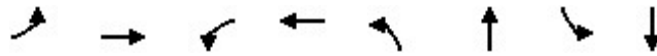
Area Type: Other  
 Cycle Length: 128  
 Actuated Cycle Length: 128  
 Natural Cycle: 55  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 36.9  
 Intersection LOS: D  
 Intersection Capacity Utilization 86.8%  
 ICU Level of Service E  
 Analysis Period (min) 15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Total 2031  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	181	1016	119	1413	142	731	222	545
v/c Ratio	0.93	0.48	0.77	0.90	0.38	0.43	0.83	0.33
Control Delay	77.6	27.3	71.9	49.6	24.7	21.5	55.8	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.6	27.3	71.9	49.6	24.7	21.5	55.8	17.2
Queue Length 50th (m)	29.8	65.9	27.1	120.7	22.1	59.2	47.0	35.5
Queue Length 95th (m)	#73.7	78.7	#60.3	#141.1	39.3	74.6	#95.9	48.0
Internal Link Dist (m)		1395.4		1239.7		317.6		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	195	2130	155	1564	372	1714	267	1668
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.48	0.77	0.90	0.38	0.43	0.83	0.33

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

































HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Future Total 2031  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	174	896	80	114	1062	295	136	584	118	213	351	172	
Future Volume (vph)	174	896	80	114	1062	295	136	584	118	213	351	172	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0		
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95		
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.95		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00		
Satd. Flow (prot)	1738	5029		1755	4883		1825	3511		1738	3348		
Flt Permitted	0.09	1.00		0.27	1.00		0.40	1.00		0.30	1.00		
Satd. Flow (perm)	166	5029		498	4883		771	3511		552	3348		
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	181	933	83	119	1106	307	142	608	123	222	366	179	
RTOR Reduction (vph)	0	8	0	0	39	0	0	13	0	0	46	0	
Lane Group Flow (vph)	181	1008	0	119	1374	0	142	718	0	222	499	0	
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases	7	4			8			2				6	
Permitted Phases	4			8			2			6			
Actuated Green, G (s)	54.0	54.0		40.0	40.0		62.0	62.0		62.0	62.0		
Effective Green, g (s)	54.0	54.0		40.0	40.0		62.0	62.0		62.0	62.0		
Actuated g/C Ratio	0.42	0.42		0.31	0.31		0.48	0.48		0.48	0.48		
Clearance Time (s)	4.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	192	2121		155	1525		373	1700		267	1621		
v/s Ratio Prot	c0.07	0.20			0.28			0.20				0.15	
v/s Ratio Perm	c0.32			0.24			0.18			c0.40			
v/c Ratio	0.94	0.48		0.77	0.90		0.38	0.42		0.83	0.31		
Uniform Delay, d1	32.1	26.8		39.8	42.1		20.9	21.4		28.5	20.0		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00		
Incremental Delay, d2	48.4	0.8		29.9	8.9		2.9	0.8		25.0	0.5		
Delay (s)	80.5	27.5		69.7	51.0		23.8	22.2		53.5	20.5		
Level of Service	F	C		E	D		C	C		D	C		
Approach Delay (s)		35.5			52.5			22.4			30.0		
Approach LOS		D			D			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			37.9									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.90										
Actuated Cycle Length (s)			128.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			86.8%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2031  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	661	612	120	276	800	172	232	936	264	238	932	934
Future Volume (vph)	661	612	120	276	800	172	232	936	264	238	932	934
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.96	0.98		0.99	1.00		0.96			0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	4995	1601	3404	5092	1585	1789	3614	1555	1825	3510	1585
Fl <sub>t</sub> Permitted	0.167			0.950			0.215			0.146		
Satd. Flow (perm)	308	4995	1538	3339	5092	1562	405	3614	1486	280	3510	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			145			189			692
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			1639.0			1025.0			609.4	
Travel Time (s)		7.3			84.3			52.7			31.3	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Adj. Flow (vph)	681	631	124	285	825	177	239	965	272	245	961	963
Shared Lane Traffic (%)												
Lane Group Flow (vph)	681	631	124	285	825	177	239	965	272	245	961	963
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
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)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2031  
PM Peak Hour

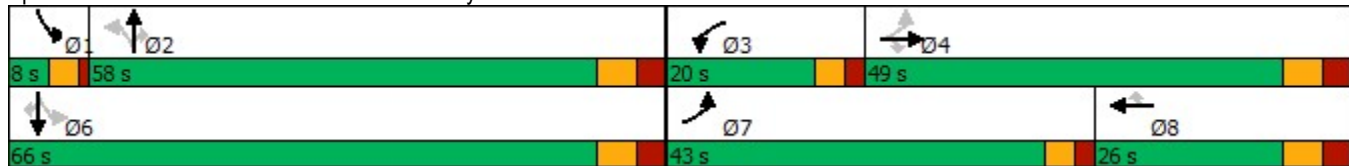


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	43.0	49.0	49.0	20.0	26.0	26.0	58.0	58.0	58.0	8.0	66.0	66.0
Total Split (%)	31.9%	36.3%	36.3%	14.8%	19.3%	19.3%	43.0%	43.0%	43.0%	5.9%	48.9%	48.9%
Maximum Green (s)	38.0	42.0	42.0	15.0	19.0	19.0	51.0	51.0	51.0	4.0	59.0	59.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-2.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	7.0	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
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	None	Max	Max	None	None	None	None	Max	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)		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)	66.0	42.6	42.6	16.4	19.0	19.0	53.0	51.0	51.0	64.0	59.0	59.0
Actuated g/C Ratio	0.49	0.32	0.32	0.12	0.14	0.14	0.39	0.38	0.38	0.47	0.44	0.44
v/c Ratio	1.18	0.40	0.22	0.69	1.15	0.51	1.50	0.71	0.40	1.22	0.63	0.90
Control Delay	130.7	37.3	9.7	66.2	134.5	18.7	287.8	39.1	11.3	161.8	31.7	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	130.7	37.3	9.7	66.2	134.5	18.7	287.8	39.1	11.3	161.8	31.7	22.1
LOS	F	D	A	E	F	B	F	D	B	F	C	C
Approach Delay		79.2			103.4			74.3			42.1	
Approach LOS		E			F			E			D	

Intersection Summary













Area Type: Other  
 Cycle Length: 135  
 Actuated Cycle Length: 135  
 Natural Cycle: 100  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.50  
 Intersection Signal Delay: 70.3  
 Intersection Capacity Utilization 109.9%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service H

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Total 2031  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	681	631	124	285	825	177	239	965	272	245	961	963
v/c Ratio	1.18	0.40	0.22	0.69	1.15	0.51	1.50	0.71	0.40	1.22	0.63	0.90
Control Delay	130.7	37.3	9.7	66.2	134.5	18.7	287.8	39.1	11.3	161.8	31.7	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	130.7	37.3	9.7	66.2	134.5	18.7	287.8	39.1	11.3	161.8	31.7	22.1
Queue Length 50th (m)	~200.5	48.5	3.5	37.9	~94.5	7.6	~88.3	114.1	14.5	~52.0	103.0	82.4
Queue Length 95th (m)	#274.6	60.2	18.0	52.8	#122.3	30.2	#140.3	138.2	36.8	#101.8	124.9	#204.3
Internal Link Dist (m)		118.1			1615.0			1001.0				585.4
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	579	1577	557	428	716	344	159	1365	678	201	1534	1069
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.18	0.40	0.22	0.67	1.15	0.51	1.50	0.71	0.40	1.22	0.63	0.90

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

































Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Total 2031  
PM Peak Hour










												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	661	612	120	276	800	172	232	936	264	238	932	934
Future Volume (vph)	661	612	120	276	800	172	232	936	264	238	932	934
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	4995	1538	3404	5092	1562	1787	3614	1486	1825	3510	1555
Flt Permitted	0.17	1.00	1.00	0.95	1.00	1.00	0.22	1.00	1.00	0.15	1.00	1.00
Satd. Flow (perm)	308	4995	1538	3404	5092	1562	405	3614	1486	280	3510	1555
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	681	631	124	285	825	177	239	965	272	245	961	963
RTOR Reduction (vph)	0	0	72	0	0	125	0	0	118	0	0	390
Lane Group Flow (vph)	681	631	52	285	825	52	239	965	154	245	961	573
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Actuated Green, G (s)	62.0	42.6	42.6	14.4	19.0	19.0	51.0	51.0	51.0	59.0	59.0	59.0
Effective Green, g (s)	64.0	42.6	42.6	16.4	19.0	19.0	53.0	51.0	51.0	61.0	59.0	59.0
Actuated g/C Ratio	0.47	0.32	0.32	0.12	0.14	0.14	0.39	0.38	0.38	0.45	0.44	0.44
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0
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
Lane Grp Cap (vph)	574	1576	485	413	716	219	159	1365	561	195	1534	679
v/s Ratio Prot	c0.35	0.13		0.08	0.16			0.27		c0.06	0.27	
v/s Ratio Perm	c0.21		0.03			0.03	c0.59		0.10	0.51		0.37
v/c Ratio	1.19	0.40	0.11	0.69	1.15	0.24	1.50	0.71	0.28	1.26	0.63	0.84
Uniform Delay, d1	38.6	36.2	32.7	56.9	58.0	51.6	41.0	35.7	29.2	35.5	29.5	33.9
Progression 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
Incremental Delay, d2	100.5	0.8	0.4	4.9	84.0	2.6	256.3	1.7	0.3	150.1	1.9	12.3
Delay (s)	139.1	37.0	33.2	61.8	142.0	54.1	297.3	37.4	29.4	185.6	31.4	46.2
Level of Service	F	D	C	E	F	D	F	D	C	F	C	D
Approach Delay (s)		85.1			112.2			78.0			55.4	
Approach LOS		F			F			E			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			78.8									E
HCM 2000 Volume to Capacity ratio			1.40									
Actuated Cycle Length (s)			135.0							19.0		
Intersection Capacity Utilization			109.9%									H
Analysis Period (min)			15									

c Critical Lane Group












Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C

Future Total 2031  
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	24	36	727	40	52	543
Future Volume (vph)	24	36	727	40	52	543
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.919		0.993			
Flt Protected	0.980					0.996
Satd. Flow (prot)	1696	0	1870	0	0	1876
Flt Permitted	0.980					0.996
Satd. Flow (perm)	1696	0	1870	0	0	1876
Link Speed (k/h)	48		80			80
Link Distance (m)	204.9		2784.8			298.8
Travel Time (s)	15.4		125.3			13.4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	0.92
Adj. Flow (vph)	24	36	727	40	52	590
Shared Lane Traffic (%)						
Lane Group Flow (vph)	60	0	767	0	0	642
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	82.0%			ICU Level of Service D		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
7: Chinguacousy Road & Street C

Future Total 2031  
PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	24	36	727	40	52	543
Future Volume (Veh/h)	24	36	727	40	52	543
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	0.92
Hourly flow rate (vph)	24	36	727	40	52	590
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	299					
pX, platoon unblocked	0.77					
vC, conflicting volume	1441	747	767			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1423	747	767			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	78	91	94			
cM capacity (veh/h)	108	413	847			
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	60	767	642			
Volume Left	24	0	52			
Volume Right	36	40	0			
cSH	194	1700	847			
Volume to Capacity	0.31	0.45	0.06			
Queue Length 95th (m)	9.5	0.0	1.5			
Control Delay (s)	31.7	0.0	1.6			
Lane LOS	D		A			
Approach Delay (s)	31.7	0.0	1.6			
Approach LOS	D					
<b>Intersection Summary</b>						
Average Delay	2.0					
Intersection Capacity Utilization	82.0%		ICU Level of Service		D	
Analysis Period (min)	15					










Lanes, Volumes, Timings  
8: Street B & Old School Road

Future Total 2031  
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↘	
Traffic Volume (vph)	667	14	86	755	10	48
Future Volume (vph)	667	14	86	755	10	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Fr <sub>t</sub>	0.997				0.888	
Fl <sub>t</sub> Protected				0.995	0.991	
Satd. Flow (prot)	3568	0	0	3561	1657	0
Fl <sub>t</sub> Permitted				0.995	0.991	
Satd. Flow (perm)	3568	0	0	3561	1657	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	667	14	86	755	10	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	681	0	0	841	58	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	55.8%			ICU Level of Service B		
Analysis Period (min)	15					


















HCM Unsignalized Intersection Capacity Analysis  
 8: Street B & Old School Road

Future Total 2031  
 PM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	667	14	86	755	10	48
Future Volume (Veh/h)	667	14	86	755	10	48
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	667	14	86	755	10	48
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			681	1224	340	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			681	1224	340	
tC, single (s)			4.1	6.8	6.9	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			91	94	93	
cM capacity (veh/h)			907	155	655	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	445	236	338	503	58	
Volume Left	0	0	86	0	10	
Volume Right	0	14	0	0	48	
cSH	1700	1700	907	1700	421	
Volume to Capacity	0.26	0.14	0.09	0.30	0.14	
Queue Length 95th (m)	0.0	0.0	2.4	0.0	3.6	
Control Delay (s)	0.0	0.0	3.2	0.0	14.9	
Lane LOS	A			B		
Approach Delay (s)	0.0		1.3	14.9		
Approach LOS				B		
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			55.8%	ICU Level of Service		B
Analysis Period (min)			15			

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2031  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	147	0	34	0	676	234	37	576	0
Future Volume (vph)	0	0	0	147	0	34	0	676	234	37	576	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.850			0.961				
Flt Protected				0.950							0.997	
Satd. Flow (prot)	0	1883	0	1789	1601	0	0	3439	0	0	3568	0
Flt Permitted				0.757							0.863	
Satd. Flow (perm)	0	1883	0	1426	1601	0	0	3439	0	0	3088	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					227			98				
Link Speed (k/h)		48			48			80				80
Link Distance (m)		204.8			403.1			2496.3				588.2
Travel Time (s)		15.4			30.2			112.3				26.5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	147	0	34	0	676	234	37	576	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	147	34	0	0	910	0	0	613	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)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

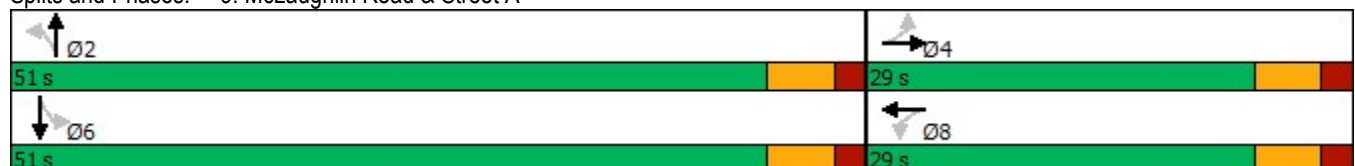
Future Total 2031  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	29.0	29.0		29.0	29.0		51.0	51.0		51.0	51.0	
Total Split (%)	36.3%	36.3%		36.3%	36.3%		63.8%	63.8%		63.8%	63.8%	
Maximum Green (s)	23.0	23.0		23.0	23.0		45.0	45.0		45.0	45.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effect Green (s)				12.9	12.9			50.2			50.2	
Actuated g/C Ratio				0.17	0.17			0.67			0.67	
v/c Ratio				0.60	0.07			0.39			0.30	
Control Delay				37.9	0.3			6.0			6.2	
Queue Delay				0.0	0.0			0.0			0.0	
Total Delay				37.9	0.3			6.0			6.2	
LOS				D	A			A			A	
Approach Delay					30.8			6.0			6.2	
Approach LOS					C			A			A	

Intersection Summary

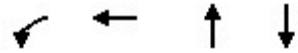
Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	75.1
Natural Cycle:	45
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.60
Intersection Signal Delay:	8.7
Intersection Capacity Utilization	61.9%
Analysis Period (min)	15
Intersection LOS:	A
ICU Level of Service	B

Splits and Phases: 9: McLaughlin Road & Street A



Queues  
9: McLaughlin Road & Street A


















Future Total 2031  
PM Peak Hour



Lane Group	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	147	34	910	613
v/c Ratio	0.60	0.07	0.39	0.30
Control Delay	37.9	0.3	6.0	6.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	37.9	0.3	6.0	6.2
Queue Length 50th (m)	18.3	0.0	21.8	15.6
Queue Length 95th (m)	33.8	0.0	40.2	29.3
Internal Link Dist (m)		379.1	2472.3	564.2
Turn Bay Length (m)	30.0			
Base Capacity (vph)	438	649	2329	2062
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.34	0.05	0.39	0.30
Intersection Summary				

HCM Signalized Intersection Capacity Analysis  
 9: McLaughlin Road & Street A

Future Total 2031  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	147	0	34	0	676	234	37	576	0
Future Volume (vph)	0	0	0	147	0	34	0	676	234	37	576	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.0	6.0			6.0			6.0	
Lane Util. Factor				1.00	1.00			0.95			0.95	
Frt				1.00	0.85			0.96			1.00	
Flt Protected				0.95	1.00			1.00			1.00	
Satd. Flow (prot)				1789	1601			3441			3568	
Flt Permitted				0.76	1.00			1.00			0.86	
Satd. Flow (perm)				1426	1601			3441			3087	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	147	0	34	0	676	234	37	576	0
RTOR Reduction (vph)	0	0	0	0	28	0	0	33	0	0	0	0
Lane Group Flow (vph)	0	0	0	147	6	0	0	877	0	0	613	0
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)				12.9	12.9			50.1			50.1	
Effective Green, g (s)				12.9	12.9			50.1			50.1	
Actuated g/C Ratio				0.17	0.17			0.67			0.67	
Clearance Time (s)				6.0	6.0			6.0			6.0	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				245	275			2298			2062	
v/s Ratio Prot					0.00			c0.26				
v/s Ratio Perm				c0.10							0.20	
v/c Ratio				0.60	0.02			0.38			0.30	
Uniform Delay, d1				28.7	25.8			5.5			5.2	
Progression Factor				1.00	1.00			1.00			1.00	
Incremental Delay, d2				3.9	0.0			0.5			0.4	
Delay (s)				32.6	25.8			6.0			5.5	
Level of Service				C	C			A			A	
Approach Delay (s)		0.0			31.3			6.0			5.5	
Approach LOS		A			C			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			8.5									A
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			75.0						12.0			
Intersection Capacity Utilization			61.9%									B
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
10: Street D & Old School Road

Future Total 2031  
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↖↖	↗↗	
Traffic Volume (vph)	1058	64	24	1144	53	0
Future Volume (vph)	1058	64	24	1144	53	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.991					
Flt Protected				0.999	0.950	
Satd. Flow (prot)	3546	0	0	3575	1789	0
Flt Permitted				0.999	0.950	
Satd. Flow (perm)	3546	0	0	3575	1789	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1058	64	24	1144	53	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1122	0	0	1168	53	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	58.7%			ICU Level of Service B		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 10: Street D & Old School Road

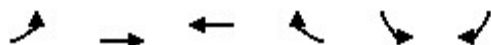
Future Total 2031  
 PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Volume (veh/h)	1058	64	24	1144	53	0
Future Volume (Veh/h)	1058	64	24	1144	53	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1058	64	24	1144	53	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)	349					
pX, platoon unblocked			0.87	0.87	0.87	
vC, conflicting volume			1122	1710	561	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			841	1517	196	
tC, single (s)			4.1	6.8	6.9	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			97	43	100	
cM capacity (veh/h)			687	92	706	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	705	417	405	763	53	
Volume Left	0	0	24	0	53	
Volume Right	0	64	0	0	0	
cSH	1700	1700	687	1700	92	
Volume to Capacity	0.41	0.25	0.03	0.45	0.57	
Queue Length 95th (m)	0.0	0.0	0.8	0.0	20.0	
Control Delay (s)	0.0	0.0	1.1	0.0	87.1	
Lane LOS	A			F		
Approach Delay (s)	0.0		0.4		87.1	
Approach LOS						F
Intersection Summary						
Average Delay			2.2			
Intersection Capacity Utilization			58.7%	ICU Level of Service	B	
Analysis Period (min)	15					

Lanes, Volumes, Timings  
11: Street A & Street D

Future Total 2031  
PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	120	182	232	29	22	77
Future Volume (vph)	120	182	232	29	22	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.985		0.895	
Flt Protected		0.981			0.989	
Satd. Flow (prot)	0	1848	1855	0	1667	0
Flt Permitted		0.981			0.989	
Satd. Flow (perm)	0	1848	1855	0	1667	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	120	182	232	29	22	77
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	302	261	0	99	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	46.2%
Analysis Period (min)	15
	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis  
 11: Street A & Street D

Future Total 2031  
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	120	182	232	29	22	77
Future Volume (Veh/h)	120	182	232	29	22	77
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	120	182	232	29	22	77
<b>Pedestrians</b>						
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	261			668	246	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	261			668	246	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	91			94	90	
cM capacity (veh/h)	1303			384	792	
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	302	261	99			
Volume Left	120	0	22			
Volume Right	0	29	77			
cSH	1303	1700	641			
Volume to Capacity	0.09	0.15	0.15			
Queue Length 95th (m)	2.3	0.0	4.1			
Control Delay (s)	3.7	0.0	11.6			
Lane LOS	A		B			
Approach Delay (s)	3.7	0.0	11.6			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			3.4			
Intersection Capacity Utilization			46.2%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2031  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	35	267	487	3830	2358	63
Future Volume (vph)	35	267	487	3830	2358	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt		0.850			0.996	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	5142	5121	0
Flt Permitted	0.950		0.062			
Satd. Flow (perm)	1789	1601	117	5142	5121	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1			4	
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	35	267	487	3830	2358	63
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	267	487	3830	2421	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2031  
PM Peak Hour

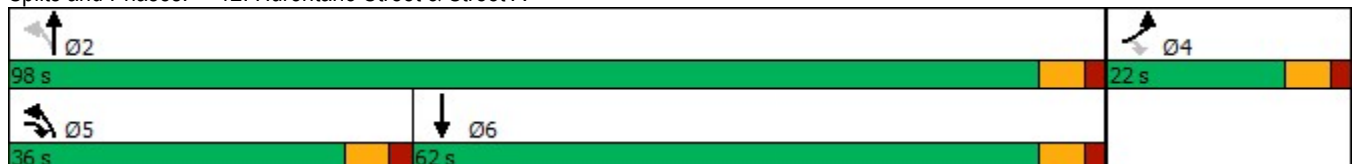


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	10.0	10.0	22.0	22.0	
Total Split (s)	22.0	36.0	36.0	98.0	62.0	
Total Split (%)	18.3%	30.0%	30.0%	81.7%	51.7%	
Maximum Green (s)	16.0	30.0	30.0	92.0	56.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	7.6	36.3	92.5	95.1	58.5	
Actuated g/C Ratio	0.07	0.34	0.87	0.89	0.55	
v/c Ratio	0.28	0.49	0.91	0.84	0.86	
Control Delay	54.3	30.0	52.4	8.0	26.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	54.3	30.0	52.4	8.0	26.8	
LOS	D	C	D	A	C	
Approach Delay	32.9			13.0	26.8	
Approach LOS	C			B	C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	106.9
Natural Cycle:	110
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.91
Intersection Signal Delay:	18.6
Intersection LOS:	B
Intersection Capacity Utilization:	92.3%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 12: Hurontario Street & Street A



Queues  
12: Hurontario Street & Street A

Future Total 2031  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	35	267	487	3830	2421
v/c Ratio	0.28	0.49	0.91	0.84	0.86
Control Delay	54.3	30.0	52.4	8.0	26.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	30.0	52.4	8.0	26.8
Queue Length 50th (m)	7.4	41.8	85.8	158.6	175.8
Queue Length 95th (m)	17.6	64.2	#150.8	216.7	#227.0
Internal Link Dist (m)	932.1			904.0	831.3
Turn Bay Length (m)	30.0		50.0		
Base Capacity (vph)	269	578	572	4573	2805
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.13	0.46	0.85	0.84	0.86

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 12: Hurontario Street & Street A

Future Total 2031  
 PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	35	267	487	3830	2358	63
Future Volume (vph)	35	267	487	3830	2358	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1789	1601	1789	5142	5122	
Flt Permitted	0.95	1.00	0.06	1.00	1.00	
Satd. Flow (perm)	1789	1601	117	5142	5122	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	35	267	487	3830	2358	63
RTOR Reduction (vph)	0	1	0	0	2	0
Lane Group Flow (vph)	35	266	487	3830	2419	0
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	5.0	32.9	92.4	92.4	58.5	
Effective Green, g (s)	5.0	32.9	92.4	92.4	58.5	
Actuated g/C Ratio	0.05	0.30	0.84	0.84	0.53	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	81	569	525	4342	2738	
v/s Ratio Prot	0.02	c0.12	0.24	c0.74	0.47	
v/s Ratio Perm		0.05	c0.55			
v/c Ratio	0.43	0.47	0.93	0.88	0.88	
Uniform Delay, d1	50.8	31.1	34.3	5.2	22.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.7	0.6	22.6	2.9	4.6	
Delay (s)	54.5	31.7	57.0	8.1	27.0	
Level of Service	D	C	E	A	C	
Approach Delay (s)	34.4			13.6	27.0	
Approach LOS	C			B	C	


















Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	109.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	261	3	137	165	44	2	230	285	33	218	10
Future Volume (vph)	2	261	3	137	165	44	2	230	285	33	218	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.999			0.968			0.926			0.995	
Fl <sub>t</sub> Protected				0.950							0.994	
Satd. Flow (prot)	0	1919	0	1772	1794	0	0	1713	0	0	1788	0
Fl <sub>t</sub> Permitted		0.998		0.271				0.999			0.899	
Satd. Flow (perm)	0	1915	0	505	1794	0	0	1711	0	0	1618	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			15			90			3	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			342.6	
Travel Time (s)		30.4			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Adj. Flow (vph)	2	278	3	146	176	47	2	245	303	35	232	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	283	0	146	223	0	0	550	0	0	278	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	32.0	32.0		11.0	43.0		57.0	57.0		57.0	57.0	
Total Split (%)	32.0%	32.0%		11.0%	43.0%		57.0%	57.0%		57.0%	57.0%	
Maximum Green (s)	26.0	26.0		7.0	37.0		51.0	51.0		51.0	51.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		4.0	6.0			6.0			6.0	
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	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		18.7		31.7	29.7			51.2			51.2	
Actuated g/C Ratio		0.20		0.34	0.32			0.55			0.55	
v/c Ratio		0.74		0.54	0.38			0.56			0.31	
Control Delay		46.3		29.8	24.5			14.6			13.3	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		46.3		29.8	24.5			14.6			13.3	
LOS		D		C	C			B			B	
Approach Delay		46.3			26.6			14.6			13.3	
Approach LOS		D			C			B			B	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	92.9
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	23.4
Intersection LOS:	C
Intersection Capacity Utilization	77.8%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road

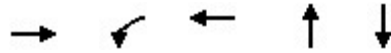


Queues

Future Background 2036

1: Chinguacousy Road & Old School Road


















AM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	283	146	223	550	278
v/c Ratio	0.74	0.54	0.38	0.56	0.31
Control Delay	46.3	29.8	24.5	14.6	13.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	29.8	24.5	14.6	13.3
Queue Length 50th (m)	47.5	18.5	28.4	49.5	25.0
Queue Length 95th (m)	73.3	32.1	46.8	92.6	47.7
Internal Link Dist (m)	566.7		466.2	274.8	318.6
Turn Bay Length (m)					
Base Capacity (vph)	538	268	725	982	892
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.53	0.54	0.31	0.56	0.31
<b>Intersection Summary</b>					



















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Background 2036  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	261	3	137	165	44	2	230	285	33	218	10
Future Volume (vph)	2	261	3	137	165	44	2	230	285	33	218	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		4.0	6.0			6.0			6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.97			0.93			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		1918		1772	1794			1712			1787	
Flt Permitted		1.00		0.27	1.00			1.00			0.90	
Satd. Flow (perm)		1914		506	1794			1711			1616	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	2	278	3	146	176	47	2	245	303	35	232	11
RTOR Reduction (vph)	0	1	0	0	10	0	0	40	0	0	1	0
Lane Group Flow (vph)	0	282	0	146	213	0	0	510	0	0	277	0
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.7		29.7	29.7			51.1			51.1	
Effective Green, g (s)		18.7		29.7	29.7			51.1			51.1	
Actuated g/C Ratio		0.20		0.32	0.32			0.55			0.55	
Clearance Time (s)		6.0		4.0	6.0			6.0			6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		385		257	574			942			889	
v/s Ratio Prot				c0.04	0.12							
v/s Ratio Perm		c0.15		0.14				c0.30			0.17	
v/c Ratio		0.73		0.57	0.37			0.54			0.31	
Uniform Delay, d1		34.7		24.8	24.3			13.3			11.3	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		7.1		2.9	0.4			2.2			0.9	
Delay (s)		41.8		27.7	24.7			15.6			12.2	
Level of Service		D		C	C			B			B	
Approach Delay (s)		41.8			25.9			15.6			12.2	
Approach LOS		D			C			B			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			22.5									C
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			92.8						16.0			
Intersection Capacity Utilization			77.8%									D
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Background 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	540	34	240	305	26	40	67	423	41	133	12
Future Volume (vph)	7	540	34	240	305	26	40	67	423	41	133	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.988				0.850		0.991	
Flt Protected		0.999		0.950				0.981			0.989	
Satd. Flow (prot)	0	3552	0	1789	3482	0	0	1861	1617	0	1858	0
Flt Permitted		0.949		0.216				0.844			0.917	
Satd. Flow (perm)	0	3374	0	407	3482	0	0	1601	1617	0	1723	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			14				450			4
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			435.9	
Travel Time (s)		45.9			18.0			26.5			19.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Adj. Flow (vph)	7	574	36	255	324	28	43	71	450	44	141	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	617	0	255	352	0	0	114	450	0	198	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

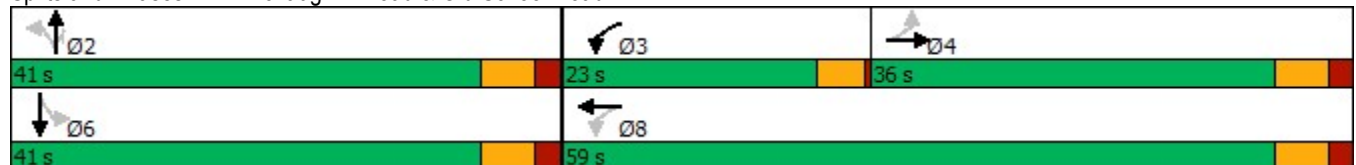
Future Background 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	36.0	36.0		23.0	59.0		41.0	41.0	41.0	41.0	41.0	
Total Split (%)	36.0%	36.0%		23.0%	59.0%		41.0%	41.0%	41.0%	41.0%	41.0%	
Maximum Green (s)	30.0	30.0		19.0	53.0		35.0	35.0	35.0	35.0	35.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		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	
Total Lost Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		21.0		40.0	38.0			35.3	35.3		35.3	
Actuated g/C Ratio		0.25		0.47	0.44			0.41	0.41		0.41	
v/c Ratio		0.74		0.64	0.23			0.17	0.48		0.28	
Control Delay		35.3		21.3	13.9			19.1	4.1		19.6	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		35.3		21.3	13.9			19.1	4.1		19.6	
LOS		D		C	B			B	A		B	
Approach Delay		35.3			17.0			7.1			19.6	
Approach LOS		D			B			A			B	

Intersection Summary

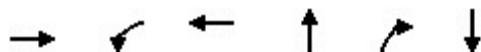
Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 85.4  
 Natural Cycle: 55  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.74  
 Intersection Signal Delay: 20.1  
 Intersection Capacity Utilization 67.4%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service C

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road



















Future Background 2036  
AM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	617	255	352	114	450	198
v/c Ratio	0.74	0.64	0.23	0.17	0.48	0.28
Control Delay	35.3	21.3	13.9	19.1	4.1	19.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	21.3	13.9	19.1	4.1	19.6
Queue Length 50th (m)	48.0	24.5	17.0	11.4	0.0	20.3
Queue Length 95th (m)	69.7	38.8	24.7	27.3	19.2	43.9
Internal Link Dist (m)	869.1		325.1	564.2		411.9
Turn Bay Length (m)		50.0				
Base Capacity (vph)	1199	500	2185	662	932	714
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.51	0.16	0.17	0.48	0.28
Intersection Summary						

HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road























Future Background 2036  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	540	34	240	305	26	40	67	423	41	133	12
Future Volume (vph)	7	540	34	240	305	26	40	67	423	41	133	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00	
Frt		0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	
Satd. Flow (prot)		3554		1789	3483			1862	1617		1859	
Flt Permitted		0.95		0.22	1.00			0.84	1.00		0.92	
Satd. Flow (perm)		3375		407	3483			1602	1617		1724	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	7	574	36	255	324	28	43	71	450	44	141	13
RTOR Reduction (vph)	0	5	0	0	8	0	0	0	264	0	2	0
Lane Group Flow (vph)	0	612	0	255	344	0	0	114	186	0	196	0
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		21.1		38.0	38.0			35.3	35.3		35.3	
Effective Green, g (s)		21.1		38.0	38.0			35.3	35.3		35.3	
Actuated g/C Ratio		0.25		0.45	0.45			0.41	0.41		0.41	
Clearance Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		834		390	1551			662	669		713	
v/s Ratio Prot				c0.10	0.10							
v/s Ratio Perm		c0.18		0.19				0.07	c0.12		0.11	
v/c Ratio		0.73		0.65	0.22			0.17	0.28		0.27	
Uniform Delay, d1		29.5		16.6	14.6			15.8	16.6		16.5	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		3.4		3.9	0.1			0.6	1.0		1.0	
Delay (s)		32.9		20.5	14.6			16.3	17.6		17.5	
Level of Service		C		C	B			B	B		B	
Approach Delay (s)		32.9			17.1			17.3			17.5	
Approach LOS		C			B			B			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			22.1		HCM 2000 Level of Service				C			
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			85.3		Sum of lost time (s)				16.0			
Intersection Capacity Utilization			67.4%		ICU Level of Service				C			
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	563	239	192	335	186	154	58	1862	165	76	2573	299
Future Volume (vph)	563	239	192	335	186	154	58	1862	165	76	2573	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.933			0.932				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	3317	0	1722	3268	0	1722	4445	1471	1615	5043	1633
Flt Permitted	0.338			0.295			0.067			0.067		
Satd. Flow (perm)	624	3317	0	535	3268	0	121	4445	1471	114	5043	1633
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			17				129			169
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			947.1			855.3			622.5	
Travel Time (s)		51.8			48.7			38.5			28.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Adj. Flow (vph)	605	257	206	360	200	166	62	2002	177	82	2767	322
Shared Lane Traffic (%)												
Lane Group Flow (vph)	605	463	0	360	366	0	62	2002	177	82	2767	322
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	24.0		8.0	24.0		29.0	29.0	29.0	29.0	29.0	29.0
Total Split (s)	28.0	25.0		27.0	24.0		68.0	68.0	68.0	68.0	68.0	68.0
Total Split (%)	23.3%	20.8%		22.5%	20.0%		56.7%	56.7%	56.7%	56.7%	56.7%	56.7%
Maximum Green (s)	24.0	17.0		23.0	16.0		60.0	60.0	60.0	60.0	60.0	60.0
Yellow Time (s)	3.5	6.0		3.5	6.0		6.0	6.0	6.0	6.0	6.0	6.0
All-Red Time (s)	0.5	2.0		0.5	2.0		2.0	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	0.0
Total Lost Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lead/Lag	Lead	Lag		Lead	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	None		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		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
Act Effct Green (s)	45.1	17.4		41.6	15.5		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.38	0.15		0.35	0.13		0.50	0.50	0.50	0.50	0.50	0.50
v/c Ratio	1.31	0.89		0.89	0.84		1.03	0.90	0.22	1.44	1.09	0.36
Control Delay	182.3	66.5		53.0	65.6		160.3	33.7	5.9	299.1	78.6	9.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	182.3	66.5		53.0	65.6		160.3	33.7	5.9	299.1	78.6	9.4
LOS	F	E		D	E		F	C	A	F	E	A
Approach Delay		132.1			59.4			35.0			77.2	
Approach LOS		F			E			C			E	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 119.5  
 Natural Cycle: 120  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.44  
 Intersection Signal Delay: 70.4  
 Intersection Capacity Utilization 117.7%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service H

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Background 2036  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	605	463	360	366	62	2002	177	82	2767	322
v/c Ratio	1.31	0.89	0.89	0.84	1.03	0.90	0.22	1.44	1.09	0.36
Control Delay	182.3	66.5	53.0	65.6	160.3	33.7	5.9	299.1	78.6	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	182.3	66.5	53.0	65.6	160.3	33.7	5.9	299.1	78.6	9.4
Queue Length 50th (m)	~155.6	52.2	63.4	42.7	~15.6	152.1	5.7	~26.2	~270.3	19.3
Queue Length 95th (m)	#226.5	#82.5	#108.7	#64.8	#44.0	176.2	17.4	#45.8	#297.2	38.6
Internal Link Dist (m)		983.8		923.1		831.3			598.5	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	462	518	418	452	60	2231	803	57	2532	904
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.31	0.89	0.86	0.81	1.03	0.90	0.22	1.44	1.09	0.36

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 3: Hurontario Street & Old School Road

Future Background 2036  
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	563	239	192	335	186	154	58	1862	165	76	2573	299
Future Volume (vph)	563	239	192	335	186	154	58	1862	165	76	2573	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.93		1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	3318		1722	3268		1722	4445	1471	1615	5043	1633
Flt Permitted	0.34	1.00		0.30	1.00		0.07	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	625	3318		535	3268		121	4445	1471	113	5043	1633
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	605	257	206	360	200	166	62	2002	177	82	2767	322
RTOR Reduction (vph)	0	37	0	0	15	0	0	0	64	0	0	84
Lane Group Flow (vph)	605	426	0	360	351	0	62	2002	113	82	2767	238
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	41.4	17.4		37.6	15.5		60.0	60.0	60.0	60.0	60.0	60.0
Effective Green, g (s)	41.4	17.4		37.6	15.5		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.35	0.15		0.31	0.13		0.50	0.50	0.50	0.50	0.50	0.50
Clearance Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	443	483		387	423		60	2231	738	56	2532	819
v/s Ratio Prot	c0.27	0.13		0.17	0.11			0.45			0.55	
v/s Ratio Perm	c0.20			0.12			0.51		0.08	c0.72		0.15
v/c Ratio	1.37	0.88		0.93	0.83		1.03	0.90	0.15	1.46	1.09	0.29
Uniform Delay, d1	35.2	50.0		35.7	50.7		29.8	27.0	16.0	29.8	29.8	17.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	178.5	17.1		28.7	13.0		125.8	6.2	0.4	283.6	48.9	0.9
Delay (s)	213.8	67.1		64.5	63.7		155.6	33.2	16.5	313.4	78.7	18.2
Level of Service	F	E		E	E		F	C	B	F	E	B
Approach Delay (s)		150.2			64.1			35.2			78.6	
Approach LOS		F			E			D			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			74.3				HCM 2000 Level of Service			E		
HCM 2000 Volume to Capacity ratio			1.44									
Actuated Cycle Length (s)			119.5			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			117.7%			ICU Level of Service		H				
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2036  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕		↕	↕↕↕			↕			↕	
Traffic Volume (vph)	48	744	55	163	646	29	27	212	157	100	263	42
Future Volume (vph)	48	744	55	163	646	29	27	212	157	100	263	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.994			0.946			0.986	
Flt Protected		0.997		0.950				0.997			0.988	
Satd. Flow (prot)	0	4862	0	1659	4941	0	0	1743	0	0	1781	0
Flt Permitted		0.853		0.253				0.957			0.791	
Satd. Flow (perm)	0	4160	0	442	4941	0	0	1673	0	0	1426	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			7			40			7	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		666.4			1419.4			439.5			2784.8	
Travel Time (s)		34.3			73.0			19.8			125.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Adj. Flow (vph)	48	752	56	165	653	29	27	214	159	101	266	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	856	0	165	682	0	0	400	0	0	409	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	55.0	55.0		55.0	55.0		65.0	65.0		65.0	65.0	
Total Split (%)	45.8%	45.8%		45.8%	45.8%		54.2%	54.2%		54.2%	54.2%	
Maximum Green (s)	51.0	51.0		51.0	51.0		61.0	61.0		61.0	61.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		51.0		51.0	51.0			61.0			61.0	
Actuated g/C Ratio		0.42		0.42	0.42			0.51			0.51	

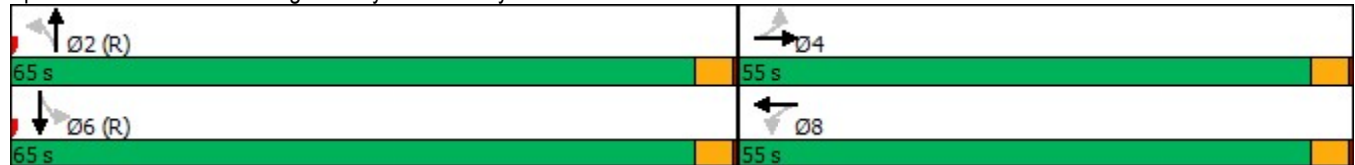
Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.48		0.88	0.32			0.46			0.56	
Control Delay		25.7		80.6	21.5			18.9			23.7	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		25.7		80.6	21.5			18.9			23.7	
LOS		C		F	C			B			C	
Approach Delay		25.7			33.0			18.9			23.7	
Approach LOS		C			C			B			C	

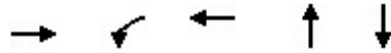
Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.88
Intersection Signal Delay:	26.8
Intersection LOS:	C
Intersection Capacity Utilization	87.2%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Background 2036  
AM Peak Hour



























Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	856	165	682	400	409
v/c Ratio	0.48	0.88	0.32	0.46	0.56
Control Delay	25.7	80.6	21.5	18.9	23.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	25.7	80.6	21.5	18.9	23.7
Queue Length 50th (m)	51.7	28.4	25.7	52.2	63.0
Queue Length 95th (m)	64.0	#73.3	38.7	77.7	93.7
Internal Link Dist (m)	642.4		1395.4	415.5	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	1774	187	2103	870	728
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.48	0.88	0.32	0.46	0.56

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road

Future Background 2036  
AM Peak Hour





















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  				  			  	
Traffic Volume (vph)	48	744	55	163	646	29	27	212	157	100	263	42
Future Volume (vph)	48	744	55	163	646	29	27	212	157	100	263	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frt		0.99		1.00	0.99			0.95			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		4864		1659	4939			1743			1781	
Flt Permitted		0.85		0.25	1.00			0.96			0.79	
Satd. Flow (perm)		4162		441	4939			1674			1427	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	48	752	56	165	653	29	27	214	159	101	266	42
RTOR Reduction (vph)	0	6	0	0	4	0	0	20	0	0	3	0
Lane Group Flow (vph)	0	850	0	165	678	0	0	380	0	0	406	0
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		51.0		51.0	51.0			61.0			61.0	
Effective Green, g (s)		51.0		51.0	51.0			61.0			61.0	
Actuated g/C Ratio		0.42		0.42	0.42			0.51			0.51	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Grp Cap (vph)		1768		187	2099			850			725	
v/s Ratio Prot					0.14							
v/s Ratio Perm		0.20		c0.37				0.23			c0.28	
v/c Ratio		0.48		0.88	0.32			0.45			0.56	
Uniform Delay, d1		24.9		31.7	23.0			18.8			20.3	
Progression Factor		1.00		1.26	0.92			1.00			1.00	
Incremental Delay, d2		0.9		38.6	0.4			1.7			3.1	
Delay (s)		25.9		78.8	21.6			20.5			23.4	
Level of Service		C		E	C			C			C	
Approach Delay (s)		25.9			32.7			20.5			23.4	
Approach LOS		C			C			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			26.9									C
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			120.0								8.0	
Intersection Capacity Utilization			87.2%									E
Analysis Period (min)			15									

c Critical Lane Group



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	1020	123	142	804	130	54	256	106	317	427	88
Future Volume (vph)	18	1020	123	142	804	130	54	256	106	317	427	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.984			0.979			0.956			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4889	0	1706	4762	0	1644	3402	0	1690	3439	0
Flt Permitted	0.288			0.110			0.457			0.384		
Satd. Flow (perm)	553	4889	0	197	4762	0	791	3402	0	683	3439	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			34			47			26	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			487.9			2496.3	
Travel Time (s)		73.0			65.0			22.0			112.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Adj. Flow (vph)	18	1041	126	145	820	133	55	261	108	323	436	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	1167	0	145	953	0	55	369	0	323	526	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	



Queues  
5: McLaughlin Road & Mayfield Road

Future Background 2036  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	18	1167	145	953	55	369	323	526
v/c Ratio	0.10	0.71	0.62	0.43	0.29	0.44	0.67	0.34
Control Delay	26.0	32.3	31.7	21.8	45.2	36.7	29.3	21.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.0	32.3	31.7	21.8	45.2	36.7	29.3	21.6
Queue Length 50th (m)	3.3	92.0	19.1	52.1	10.7	34.1	49.8	39.8
Queue Length 95th (m)	m7.7	112.8	34.9	63.6	24.5	51.6	73.4	52.9
Internal Link Dist (m)		1395.4		1239.7		463.9		2472.3
Turn Bay Length (m)	30.0		30.0					
Base Capacity (vph)	183	1635	269	2201	187	842	531	1533
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.71	0.54	0.43	0.29	0.44	0.61	0.34

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

































HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Future Background 2036  
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	1020	123	142	804	130	54	256	106	317	427	88
Future Volume (vph)	18	1020	123	142	804	130	54	256	106	317	427	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	4888		1706	4763		1644	3402		1690	3441	
Flt Permitted	0.29	1.00		0.11	1.00		0.46	1.00		0.38	1.00	
Satd. Flow (perm)	553	4888		197	4763		791	3402		682	3441	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	18	1041	126	145	820	133	55	261	108	323	436	90
RTOR Reduction (vph)	0	12	0	0	18	0	0	36	0	0	15	0
Lane Group Flow (vph)	18	1155	0	145	935	0	55	333	0	323	511	0
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	39.8	39.8		55.0	55.0		28.5	28.5		53.0	53.0	
Effective Green, g (s)	39.8	39.8		55.0	55.0		28.5	28.5		53.0	53.0	
Actuated g/C Ratio	0.33	0.33		0.46	0.46		0.24	0.24		0.44	0.44	
Clearance Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	183	1621		231	2183		187	807		473	1519	
v/s Ratio Prot		c0.24		c0.06	0.20			0.10		c0.12	0.15	
v/s Ratio Perm	0.03			0.23			0.07			c0.18		
v/c Ratio	0.10	0.71		0.63	0.43		0.29	0.41		0.68	0.34	
Uniform Delay, d1	27.7	35.1		22.6	21.9		37.5	38.7		23.6	22.0	
Progression Factor	0.84	0.85		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	2.5		5.2	0.6		4.0	1.6		4.0	0.6	
Delay (s)	24.1	32.3		27.9	22.5		41.5	40.2		27.7	22.6	
Level of Service	C	C		C	C		D	D		C	C	
Approach Delay (s)		32.1			23.2			40.4			24.5	
Approach LOS		C			C			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			28.6				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			75.0%				ICU Level of Service			D		
Analysis Period (min)			15									
c	Critical Lane Group											

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	272	1020	109	229	646	179	90	402	233	384	937	363
Future Volume (vph)	272	1020	109	229	646	179	90	402	233	384	937	363
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	1.00		0.98	1.00		0.97	0.99		0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	4902	1541	3340	4948	1420	1807	3476	1512	1706	3544	1585
Fl <sub>t</sub> Permitted	0.164			0.950			0.287			0.391		
Satd. Flow (perm)	300	4902	1508	3329	4948	1395	545	3476	1467	698	3544	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			89			171			248			386
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			749.9			574.4			609.4	
Travel Time (s)		7.3			38.6			29.5			31.3	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Adj. Flow (vph)	289	1085	116	244	687	190	96	428	248	409	997	386
Shared Lane Traffic (%)												
Lane Group Flow (vph)	289	1085	116	244	687	190	96	428	248	409	997	386
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Minimum Split (s)	9.0	23.0	23.0	9.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	34.0	49.0	49.0	21.0	36.0	36.0	59.0	59.0	59.0	31.0	90.0	90.0
Total Split (%)	21.3%	30.6%	30.6%	13.1%	22.5%	22.5%	36.9%	36.9%	36.9%	19.4%	56.3%	56.3%
Maximum Green (s)	29.0	42.0	42.0	16.0	29.0	29.0	52.0	52.0	52.0	27.0	83.0	83.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	0.5	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
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)		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

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	65.0	42.0	42.0	16.0	29.0	29.0	52.0	52.0	52.0	86.0	83.0	83.0
Actuated g/C Ratio	0.41	0.26	0.26	0.10	0.18	0.18	0.32	0.32	0.32	0.54	0.52	0.52
v/c Ratio	0.76	0.84	0.25	0.73	0.77	0.48	0.54	0.38	0.39	0.75	0.54	0.39
Control Delay	49.9	63.1	15.0	83.4	68.8	14.8	57.8	42.8	6.0	32.5	27.2	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	63.1	15.0	83.4	68.8	14.8	57.8	42.8	6.0	32.5	27.2	2.9
LOS	D	E	B	F	E	B	E	D	A	C	C	A
Approach Delay		56.8			62.8			32.8			23.2	
Approach LOS		E			E			C			C	

Intersection Summary













Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Pretimed
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	42.9
Intersection LOS:	D
Intersection Capacity Utilization	82.2%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road




































Queues  
6: Hurontario Street & Mayfield Road

Future Background 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	289	1085	116	244	687	190	96	428	248	409	997	386
v/c Ratio	0.76	0.84	0.25	0.73	0.77	0.48	0.54	0.38	0.39	0.75	0.54	0.39
Control Delay	49.9	63.1	15.0	83.4	68.8	14.8	57.8	42.8	6.0	32.5	27.2	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	63.1	15.0	83.4	68.8	14.8	57.8	42.8	6.0	32.5	27.2	2.9
Queue Length 50th (m)	65.1	120.6	6.5	39.5	77.1	5.1	25.1	55.3	0.0	77.2	109.5	0.0
Queue Length 95th (m)	99.2	138.7	23.2	54.8	92.6	29.0	46.7	70.8	19.9	104.5	129.1	15.9
Internal Link Dist (m)		118.1			725.9			550.4			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	382	1286	461	334	896	392	177	1129	644	545	1838	993
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.84	0.25	0.73	0.77	0.48	0.54	0.38	0.39	0.75	0.54	0.39
Intersection Summary												

HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road


















Future Background 2036  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		  	  			 		 	 		
Traffic Volume (vph)	272	1020	109	229	646	179	90	402	233	384	937	363	
Future Volume (vph)	272	1020	109	229	646	179	90	402	233	384	937	363	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1738	4902	1508	3340	4948	1395	1804	3476	1467	1702	3544	1557	
Flt Permitted	0.16	1.00	1.00	0.95	1.00	1.00	0.29	1.00	1.00	0.39	1.00	1.00	
Satd. Flow (perm)	300	4902	1508	3340	4948	1395	546	3476	1467	700	3544	1557	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	289	1085	116	244	687	190	96	428	248	409	997	386	
RTOR Reduction (vph)	0	0	66	0	0	140	0	0	167	0	0	186	
Lane Group Flow (vph)	289	1085	50	244	687	50	96	428	81	409	997	200	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2	
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8			2		1	6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	63.0	42.0	42.0	16.0	29.0	29.0	52.0	52.0	52.0	83.0	83.0	83.0	
Effective Green, g (s)	63.0	42.0	42.0	16.0	29.0	29.0	52.0	52.0	52.0	83.0	83.0	83.0	
Actuated g/C Ratio	0.39	0.26	0.26	0.10	0.18	0.18	0.32	0.32	0.32	0.52	0.52	0.52	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Grp Cap (vph)	378	1286	395	334	896	252	177	1129	476	532	1838	807	
v/s Ratio Prot	c0.14	c0.22		0.07	0.14			0.12		c0.13	0.28		
v/s Ratio Perm	0.16		0.03			0.04	0.18		0.05	c0.27		0.13	
v/c Ratio	0.76	0.84	0.13	0.73	0.77	0.20	0.54	0.38	0.17	0.77	0.54	0.25	
Uniform Delay, d1	37.3	55.9	45.0	69.9	62.3	55.6	44.2	41.6	38.6	25.3	25.8	21.3	
Progression 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	
Incremental Delay, d2	13.7	6.9	0.7	13.2	6.2	1.8	11.4	1.0	0.8	10.2	1.2	0.7	
Delay (s)	51.0	62.8	45.7	83.1	68.5	57.4	55.7	42.5	39.3	35.5	26.9	22.0	
Level of Service	D	E	D	F	E	E	E	D	D	D	C	C	
Approach Delay (s)		59.2			69.8			43.1			27.8		
Approach LOS		E			E			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			48.2									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.82										
Actuated Cycle Length (s)			160.0									Sum of lost time (s)	23.0
Intersection Capacity Utilization			82.2%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	235	2	288	342	54	12	379	329	42	246	5
Future Volume (vph)	5	235	2	288	342	54	12	379	329	42	246	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.999			0.980			0.938			0.998	
Fl <sub>t</sub> Protected		0.999		0.950				0.999			0.993	
Satd. Flow (prot)	0	1863	0	1825	1835	0	0	1721	0	0	1843	0
Fl <sub>t</sub> Permitted		0.988		0.262				0.993			0.845	
Satd. Flow (perm)	0	1842	0	503	1835	0	0	1711	0	0	1569	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					9			63				1
Link Speed (k/h)		70			70			80				80
Link Distance (m)		590.7			490.2			298.8				342.6
Travel Time (s)		30.4			25.2			13.4				15.4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	5	250	2	306	364	57	13	403	350	45	262	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	257	0	306	421	0	0	766	0	0	312	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

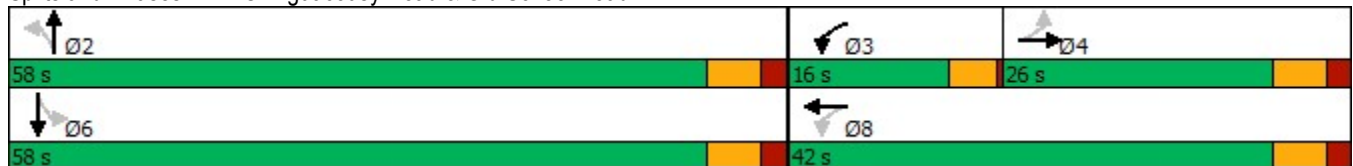
Future Background 2036  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	26.0	26.0		16.0	42.0		58.0	58.0		58.0	58.0	
Total Split (%)	26.0%	26.0%		16.0%	42.0%		58.0%	58.0%		58.0%	58.0%	
Maximum Green (s)	20.0	20.0		12.0	36.0		52.0	52.0		52.0	52.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		4.0	6.0			6.0			6.0	
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	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		17.4		35.4	33.4			52.0			52.0	
Actuated g/C Ratio		0.18		0.36	0.34			0.53			0.53	
v/c Ratio		0.78		0.89	0.66			0.81			0.37	
Control Delay		55.6		53.4	32.4			26.2			15.3	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		55.6		53.4	32.4			26.2			15.3	
LOS		E		D	C			C			B	
Approach Delay		55.6			41.2			26.2			15.3	
Approach LOS		E			D			C			B	

Intersection Summary

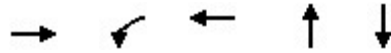
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	97.4
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.89
Intersection Signal Delay:	33.5
Intersection LOS:	C
Intersection Capacity Utilization:	91.0%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 1: Chinguacousy Road & Old School Road



Queues

1: Chinguacousy Road & Old School Road




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	257	306	421	766	312
v/c Ratio	0.78	0.89	0.66	0.81	0.37
Control Delay	55.6	53.4	32.4	26.2	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	55.6	53.4	32.4	26.2	15.3
Queue Length 50th (m)	46.6	43.5	65.3	108.8	33.6
Queue Length 95th (m)	#74.7	#76.2	97.6	#175.9	53.6
Internal Link Dist (m)	566.7		466.2	274.8	318.6
Turn Bay Length (m)					
Base Capacity (vph)	378	345	684	943	838
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.68	0.89	0.62	0.81	0.37

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.



















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Background 2036  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	235	2	288	342	54	12	379	329	42	246	5
Future Volume (vph)	5	235	2	288	342	54	12	379	329	42	246	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		4.0	6.0			6.0			6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.98			0.94			1.00	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		1863		1825	1834			1722			1843	
Flt Permitted		0.99		0.26	1.00			0.99			0.85	
Satd. Flow (perm)		1842		504	1834			1711			1568	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	250	2	306	364	57	13	403	350	45	262	5
RTOR Reduction (vph)	0	0	0	0	6	0	0	29	0	0	0	0
Lane Group Flow (vph)	0	257	0	306	415	0	0	737	0	0	312	0
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		17.4		33.4	33.4			52.1			52.1	
Effective Green, g (s)		17.4		33.4	33.4			52.1			52.1	
Actuated g/C Ratio		0.18		0.34	0.34			0.53			0.53	
Clearance Time (s)		6.0		4.0	6.0			6.0			6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		328		335	628			914			837	
v/s Ratio Prot				c0.11	0.23							
v/s Ratio Perm		0.14		c0.20				c0.43			0.20	
v/c Ratio		0.78		0.91	0.66			0.81			0.37	
Uniform Delay, d1		38.3		27.7	27.2			18.6			13.2	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		11.6		28.2	2.6			7.5			1.3	
Delay (s)		49.8		55.8	29.9			26.1			14.5	
Level of Service		D		E	C			C			B	
Approach Delay (s)		49.8			40.8			26.1			14.5	
Approach LOS		D			D			C			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			32.5									C
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			97.5						16.0			
Intersection Capacity Utilization			91.0%									F
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Background 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	560	38	449	627	29	50	152	458	24	64	7
Future Volume (vph)	11	560	38	449	627	29	50	152	458	24	64	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.993				0.850		0.991	
Flt Protected		0.999		0.950				0.988			0.987	
Satd. Flow (prot)	0	3465	0	1755	3584	0	0	1826	1555	0	1806	0
Flt Permitted		0.938		0.341				0.895			0.794	
Satd. Flow (perm)	0	3253	0	630	3584	0	0	1654	1555	0	1453	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			7				487			3
Link Speed (k/h)		70			70			80				80
Link Distance (m)		893.1			349.1			588.2				435.9
Travel Time (s)		45.9			18.0			26.5				19.6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	12	596	40	478	667	31	53	162	487	26	68	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	648	0	478	698	0	0	215	487	0	101	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)		3.7			3.7			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

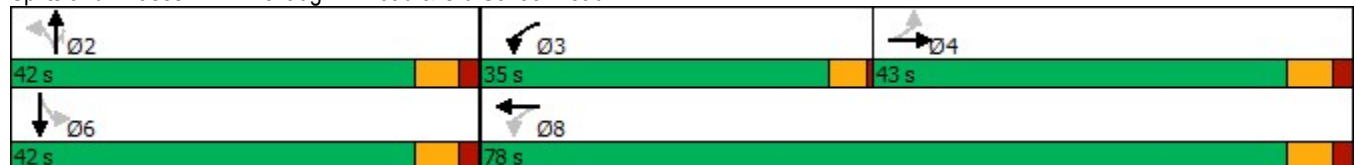
Future Background 2036  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	43.0	43.0		35.0	78.0		42.0	42.0	42.0	42.0	42.0	
Total Split (%)	35.8%	35.8%		29.2%	65.0%		35.0%	35.0%	35.0%	35.0%	35.0%	
Maximum Green (s)	37.0	37.0		31.0	72.0		36.0	36.0	36.0	36.0	36.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		-2.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		2.0	6.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	Max	Max		None	Max		None	None	None	None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		50.0		76.2	72.2			19.7	19.7		19.7	
Actuated g/C Ratio		0.48		0.73	0.69			0.19	0.19		0.19	
v/c Ratio		0.41		0.70	0.28			0.69	0.71		0.36	
Control Delay		21.3		12.1	6.9			50.7	9.4		38.7	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		21.3		12.1	6.9			50.7	9.4		38.7	
LOS		C		B	A			D	A		D	
Approach Delay		21.3			9.0			22.1			38.7	
Approach LOS		C			A			C			D	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	103.9
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	16.7
Intersection LOS:	B
Intersection Capacity Utilization:	77.8%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road



















Future Background 2036  
PM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	648	478	698	215	487	101
v/c Ratio	0.41	0.70	0.28	0.69	0.71	0.36
Control Delay	21.3	12.1	6.9	50.7	9.4	38.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.3	12.1	6.9	50.7	9.4	38.7
Queue Length 50th (m)	40.4	29.6	24.0	40.7	0.0	17.3
Queue Length 95th (m)	81.2	61.6	42.7	64.3	27.2	32.2
Internal Link Dist (m)	869.1		325.1	564.2		411.9
Turn Bay Length (m)		50.0				
Base Capacity (vph)	1567	820	2492	574	858	506
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.58	0.28	0.37	0.57	0.20
<b>Intersection Summary</b>						

HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road























Future Background 2036  
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	11	560	38	449	627	29	50	152	458	24	64	7	
Future Volume (vph)	11	560	38	449	627	29	50	152	458	24	64	7	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.0		2.0	6.0			6.0	6.0		6.0		
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00		
Frt		0.99		1.00	0.99			1.00	0.85		0.99		
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99		
Satd. Flow (prot)		3464		1755	3585			1825	1555		1806		
Flt Permitted		0.94		0.34	1.00			0.89	1.00		0.79		
Satd. Flow (perm)		3253		630	3585			1653	1555		1453		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	12	596	40	478	667	31	53	162	487	26	68	7	
RTOR Reduction (vph)	0	3	0	0	2	0	0	0	395	0	2	0	
Lane Group Flow (vph)	0	645	0	478	696	0	0	215	92	0	99	0	
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		4		3	8			2			6		
Permitted Phases	4			8			2		2	6			
Actuated Green, G (s)		50.0		72.2	72.2			19.7	19.7		19.7		
Effective Green, g (s)		50.0		74.2	72.2			19.7	19.7		19.7		
Actuated g/C Ratio		0.48		0.71	0.69			0.19	0.19		0.19		
Clearance Time (s)		6.0		4.0	6.0			6.0	6.0		6.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0		
Lane Grp Cap (vph)		1565		668	2491			313	294		275		
v/s Ratio Prot				c0.14	0.19								
v/s Ratio Perm		c0.20		0.37				c0.13	0.06		0.07		
v/c Ratio		0.41		0.72	0.28			0.69	0.31		0.36		
Uniform Delay, d1		17.4		6.8	6.0			39.2	36.3		36.6		
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00		
Incremental Delay, d2		0.8		3.7	0.3			6.1	0.6		0.8		
Delay (s)		18.2		10.5	6.3			45.4	36.9		37.4		
Level of Service		B		B	A			D	D		D		
Approach Delay (s)		18.2			8.0			39.5			37.4		
Approach LOS		B			A			D			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			20.1									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.54										
Actuated Cycle Length (s)			103.9									Sum of lost time (s)	14.0
Intersection Capacity Utilization			77.8%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	685	229	117	352	299	166	196	3279	386	172	1919	589
Future Volume (vph)	685	229	117	352	299	166	196	3279	386	172	1919	589
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.949			0.946				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3298	0	1789	3431	0	1807	5043	1633	1825	4812	1541
Flt Permitted	0.199			0.402			0.073			0.077		
Satd. Flow (perm)	382	3298	0	757	3431	0	139	5043	1633	148	4812	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		70			65				154			383
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			947.1			855.3			622.5	
Travel Time (s)		51.8			48.7			38.5			28.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Adj. Flow (vph)	706	236	121	363	308	171	202	3380	398	177	1978	607
Shared Lane Traffic (%)												
Lane Group Flow (vph)	706	357	0	363	479	0	202	3380	398	177	1978	607
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

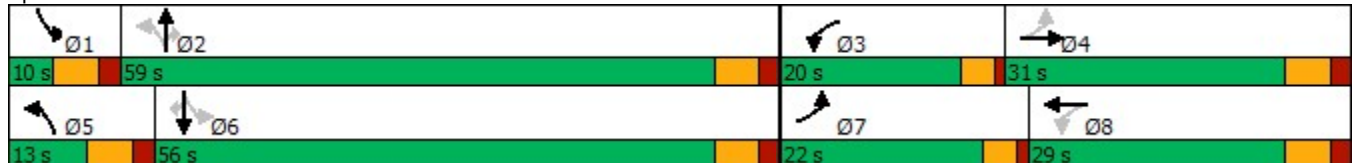
Future Background 2036  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0	29.0	10.0	29.0	29.0
Total Split (s)	22.0	31.0		20.0	29.0		13.0	59.0	59.0	10.0	56.0	56.0
Total Split (%)	18.3%	25.8%		16.7%	24.2%		10.8%	49.2%	49.2%	8.3%	46.7%	46.7%
Maximum Green (s)	18.0	25.0		16.0	23.0		7.0	53.0	53.0	4.0	50.0	50.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		0.0	-2.0		-2.0	-2.0	0.0	-2.0	-2.0	0.0
Total Lost Time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lead/Lag	Lead	Lag		Lead	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
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Walk Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	45.1	23.1		37.1	21.1		64.1	55.1	53.1	58.1	52.1	50.1
Actuated g/C Ratio	0.39	0.20		0.32	0.18		0.55	0.47	0.46	0.50	0.45	0.43
v/c Ratio	1.78	0.50		0.95	0.71		0.99	1.41	0.48	1.11	0.92	0.69
Control Delay	385.3	35.4		66.5	44.5		87.5	216.8	15.5	127.5	38.5	14.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	385.3	35.4		66.5	44.5		87.5	216.8	15.5	127.5	38.5	14.1
LOS	F	D		E	D		F	F	B	F	D	B
Approach Delay		267.8			54.0			190.1			38.9	
Approach LOS		F			D			F			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 116.2  
 Natural Cycle: 150  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.78  
 Intersection Signal Delay: 138.1  
 Intersection Capacity Utilization 137.7%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service H

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Background 2036  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	706	357	363	479	202	3380	398	177	1978	607
v/c Ratio	1.78	0.50	0.95	0.71	0.99	1.41	0.48	1.11	0.92	0.69
Control Delay	385.3	35.4	66.5	44.5	87.5	216.8	15.5	127.5	38.5	14.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	385.3	35.4	66.5	44.5	87.5	216.8	15.5	127.5	38.5	14.1
Queue Length 50th (m)	~223.1	30.5	64.4	47.1	30.5	~380.6	36.6	~29.9	151.6	39.2
Queue Length 95th (m)	#300.3	45.1	#99.3	64.7	#81.4	#423.2	66.3	#77.5	#197.1	85.7
Internal Link Dist (m)		983.8		923.1		831.3			598.5	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	396	820	384	790	205	2389	829	160	2155	881
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.78	0.44	0.95	0.61	0.99	1.41	0.48	1.11	0.92	0.69

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Background 2036  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	685	229	117	352	299	166	196	3279	386	172	1919	589	
Future Volume (vph)	685	229	117	352	299	166	196	3279	386	172	1919	589	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00	
Frt	1.00	0.95		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1825	3299		1789	3433		1807	5043	1633	1825	4812	1541	
Flt Permitted	0.20	1.00		0.40	1.00		0.07	1.00	1.00	0.08	1.00	1.00	
Satd. Flow (perm)	383	3299		757	3433		138	5043	1633	148	4812	1541	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	706	236	121	363	308	171	202	3380	398	177	1978	607	
RTOR Reduction (vph)	0	56	0	0	53	0	0	0	84	0	0	218	
Lane Group Flow (vph)	706	301	0	363	426	0	202	3380	314	177	1978	389	
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8		5	2		1	6		
Permitted Phases	4			8			2		2	6		6	
Actuated Green, G (s)	39.1	21.1		35.1	19.1		60.0	53.0	53.0	54.0	50.0	50.0	
Effective Green, g (s)	43.1	23.1		35.1	21.1		64.0	55.0	53.0	58.0	52.0	50.0	
Actuated g/C Ratio	0.37	0.20		0.30	0.18		0.55	0.47	0.46	0.50	0.45	0.43	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	390	656		371	623		205	2389	745	160	2155	663	
v/s Ratio Prot	c0.31	0.09		0.13	0.12		c0.08	c0.67		0.06	0.41		
v/s Ratio Perm	0.36			c0.16			0.46		0.19	0.49		0.25	
v/c Ratio	1.81	0.46		0.98	0.68		0.99	1.41	0.42	1.11	0.92	0.59	
Uniform Delay, d1	30.9	41.0		37.2	44.4		33.0	30.5	21.2	28.9	30.0	25.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	374.7	0.5		40.5	3.1		58.2	189.2	1.8	102.5	7.7	3.8	
Delay (s)	405.5	41.5		77.7	47.5		91.2	219.8	23.0	131.4	37.8	29.0	
Level of Service	F	D		E	D		F	F	C	F	D	C	
Approach Delay (s)		283.3			60.5			193.6			41.8		
Approach LOS		F			E			F			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			143.2									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.40										
Actuated Cycle Length (s)			116.1									Sum of lost time (s)	16.0
Intersection Capacity Utilization			137.7%									ICU Level of Service	H
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2036  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕		↖	↕↕↕			↕			↕	
Traffic Volume (vph)	47	779	57	205	733	79	38	317	178	39	186	32
Future Volume (vph)	47	779	57	205	733	79	38	317	178	39	186	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.990			0.985			0.955			0.983	
Flt Protected		0.997		0.950				0.996			0.993	
Satd. Flow (prot)	0	5037	0	1825	5030	0	0	1787	0	0	1836	0
Flt Permitted		0.832		0.250				0.961			0.792	
Satd. Flow (perm)	0	4203	0	480	5030	0	0	1724	0	0	1464	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			25			24			7	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		666.4			1419.4			439.5			2784.8	
Travel Time (s)		34.3			73.0			19.8			125.3	
Confl. Peds. (#/hr)							1					1
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
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Adj. Flow (vph)	51	847	62	223	797	86	41	345	193	42	202	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	960	0	223	883	0	0	579	0	0	279	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	72.0	72.0		72.0	72.0		48.0	48.0		48.0	48.0	
Total Split (%)	60.0%	60.0%		60.0%	60.0%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	68.0	68.0		68.0	68.0		44.0	44.0		44.0	44.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

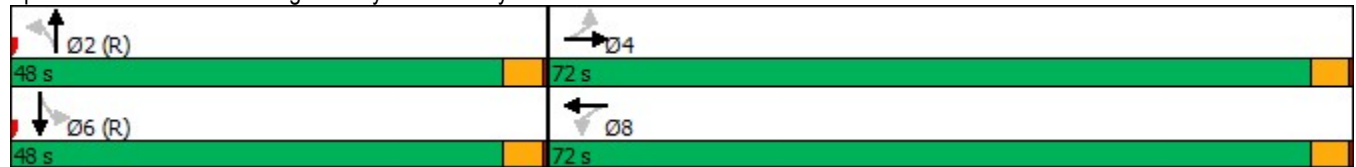
Future Background 2036  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)		68.0		68.0	68.0			44.0			44.0	
Actuated g/C Ratio		0.57		0.57	0.57			0.37			0.37	
v/c Ratio		0.40		0.82	0.31			0.89			0.52	
Control Delay		15.0		47.5	13.6			52.4			33.0	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		15.0		47.5	13.6			52.4			33.0	
LOS		B		D	B			D			C	
Approach Delay		15.0			20.4			52.4			33.0	
Approach LOS		B			C			D			C	

Intersection Summary

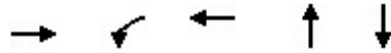
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.89
Intersection Signal Delay:	26.2
Intersection LOS:	C
Intersection Capacity Utilization	77.0%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Background 2036  
PM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	960	223	883	579	279
v/c Ratio	0.40	0.82	0.31	0.89	0.52
Control Delay	15.0	47.5	13.6	52.4	33.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.0	47.5	13.6	52.4	33.0
Queue Length 50th (m)	43.4	40.5	36.8	123.1	49.6
Queue Length 95th (m)	53.2	#91.2	45.2	#189.0	76.0
Internal Link Dist (m)	642.4		1395.4	415.5	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	2388	272	2861	647	541
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.40	0.82	0.31	0.89	0.52

























Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 4: Chinguacousy Road & Mayfield Road





















Future Background 2036  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  				  			  	
Traffic Volume (vph)	47	779	57	205	733	79	38	317	178	39	186	32
Future Volume (vph)	47	779	57	205	733	79	38	317	178	39	186	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frbp, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		0.99		1.00	0.99			0.95			0.98	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		5040		1825	5032			1788			1835	
Flt Permitted		0.83		0.25	1.00			0.96			0.79	
Satd. Flow (perm)		4205		480	5032			1723			1464	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	847	62	223	797	86	41	345	193	42	202	35
RTOR Reduction (vph)	0	7	0	0	11	0	0	15	0	0	4	0
Lane Group Flow (vph)	0	954	0	223	872	0	0	564	0	0	275	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		68.0		68.0	68.0			44.0			44.0	
Effective Green, g (s)		68.0		68.0	68.0			44.0			44.0	
Actuated g/C Ratio		0.57		0.57	0.57			0.37			0.37	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Grp Cap (vph)		2382		272	2851			631			536	
v/s Ratio Prot					0.17							
v/s Ratio Perm		0.23		c0.46				c0.33			0.19	
v/c Ratio		0.40		0.82	0.31			0.89			0.51	
Uniform Delay, d1		14.6		21.0	13.6			35.8			29.6	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		0.5		23.4	0.3			17.5			3.5	
Delay (s)		15.1		44.4	13.9			53.3			33.1	
Level of Service		B		D	B			D			C	
Approach Delay (s)		15.1			20.1			53.3			33.1	
Approach LOS		B			C			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			26.3									HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			120.0									Sum of lost time (s) 8.0
Intersection Capacity Utilization			77.0%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												















Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	966	78	125	1132	303	132	458	129	225	264	91
Future Volume (vph)	49	966	78	125	1132	303	132	458	129	225	264	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	0.0		30.0	0.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.989			0.968			0.967			0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	5036	0	1755	4884	0	1825	3480	0	1738	3389	0
Flt Permitted	0.132			0.165			0.532			0.184		
Satd. Flow (perm)	242	5036	0	305	4884	0	1022	3480	0	337	3389	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			81			28			46	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			487.9			2496.3	
Travel Time (s)		73.0			65.0			22.0			112.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	51	1006	81	130	1179	316	138	477	134	234	275	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	51	1087	0	130	1495	0	138	611	0	234	370	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

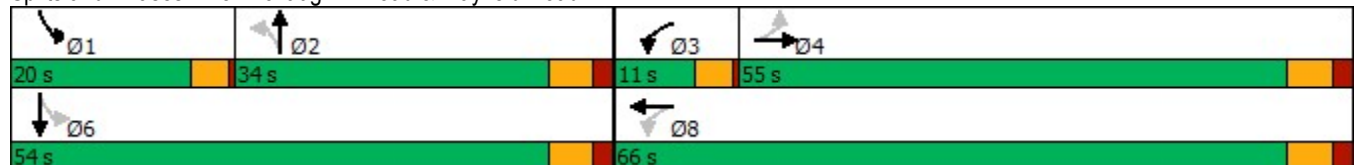
Future Background 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		8.0	22.0	
Total Split (s)	55.0	55.0		11.0	66.0		34.0	34.0		20.0	54.0	
Total Split (%)	45.8%	45.8%		9.2%	55.0%		28.3%	28.3%		16.7%	45.0%	
Maximum Green (s)	49.0	49.0		7.0	60.0		28.0	28.0		16.0	48.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		3.5	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		0.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	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	
Recall Mode	Max	Max		Max	Max		Max	Max		Max	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0			5.0	
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0			0	
Act Effct Green (s)	49.0	49.0		62.0	60.0		28.0	28.0		50.0	48.0	
Actuated g/C Ratio	0.41	0.41		0.52	0.50		0.23	0.23		0.42	0.40	
v/c Ratio	0.52	0.53		0.54	0.60		0.58	0.73		0.72	0.27	
Control Delay	49.3	27.5		23.8	21.4		51.9	46.6		37.0	21.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	49.3	27.5		23.8	21.4		51.9	46.6		37.0	21.6	
LOS	D	C		C	C		D	D		D	C	
Approach Delay		28.5			21.6			47.5			27.6	
Approach LOS		C			C			D			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.73  
 Intersection Signal Delay: 29.1  
 Intersection Capacity Utilization 79.5%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service D

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Background 2036  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	51	1087	130	1495	138	611	234	370
v/c Ratio	0.52	0.53	0.54	0.60	0.58	0.73	0.72	0.27
Control Delay	49.3	27.5	23.8	21.4	51.9	46.6	37.0	21.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.3	27.5	23.8	21.4	51.9	46.6	37.0	21.6
Queue Length 50th (m)	8.9	68.8	15.4	84.6	29.0	67.3	36.5	26.3
Queue Length 95th (m)	#26.8	82.3	26.2	99.1	50.9	87.8	#59.8	37.5
Internal Link Dist (m)		1395.4		1239.7		463.9		2472.3
Turn Bay Length (m)	30.0		30.0					
Base Capacity (vph)	98	2064	242	2482	238	833	327	1383
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.53	0.54	0.60	0.58	0.73	0.72	0.27

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.


































HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Future Background 2036  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	966	78	125	1132	303	132	458	129	225	264	91
Future Volume (vph)	49	966	78	125	1132	303	132	458	129	225	264	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1738	5035		1755	4886		1825	3480		1738	3390	
Flt Permitted	0.13	1.00		0.16	1.00		0.53	1.00		0.18	1.00	
Satd. Flow (perm)	242	5035		304	4886		1021	3480		336	3390	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	51	1006	81	130	1179	316	138	477	134	234	275	95
RTOR Reduction (vph)	0	8	0	0	41	0	0	21	0	0	28	0
Lane Group Flow (vph)	51	1079	0	130	1455	0	138	590	0	234	342	0
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	49.0	49.0		60.0	60.0		28.0	28.0		48.0	48.0	
Effective Green, g (s)	49.0	49.0		60.0	60.0		28.0	28.0		48.0	48.0	
Actuated g/C Ratio	0.41	0.41		0.50	0.50		0.23	0.23		0.40	0.40	
Clearance Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	98	2055		236	2443		238	812		321	1356	
v/s Ratio Prot		0.21		0.03	c0.30			0.17		c0.10	0.10	
v/s Ratio Perm	0.21			0.24			0.14			c0.19		
v/c Ratio	0.52	0.53		0.55	0.60		0.58	0.73		0.73	0.25	
Uniform Delay, d1	26.7	26.7		18.1	21.4		40.8	42.5		26.9	24.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	18.4	1.0		9.0	1.1		9.9	5.6		8.0	0.1	
Delay (s)	45.0	27.7		27.1	22.4		50.7	48.1		34.9	24.1	
Level of Service	D	C		C	C		D	D		C	C	
Approach Delay (s)		28.5			22.8			48.6			28.3	
Approach LOS		C			C			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			29.9			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			79.5%			ICU Level of Service				D		
Analysis Period (min)			15									
c	Critical Lane Group											

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 		 	 	
Traffic Volume (vph)	693	670	117	305	868	179	224	766	291	253	877	980
Future Volume (vph)	693	670	117	305	868	179	224	766	291	253	877	980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.96	0.98		0.99	1.00		0.96			0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	4995	1601	3404	5092	1585	1789	3614	1555	1825	3510	1585
Fl <sub>t</sub> Permitted	0.167			0.950			0.194			0.138		
Satd. Flow (perm)	308	4995	1540	3346	5092	1563	365	3614	1488	265	3510	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			143			185			230			628
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			749.9			574.4			609.4	
Travel Time (s)		7.3			38.6			29.5			31.3	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Adj. Flow (vph)	714	691	121	314	895	185	231	790	300	261	904	1010
Shared Lane Traffic (%)												
Lane Group Flow (vph)	714	691	121	314	895	185	231	790	300	261	904	1010
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	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	2		2	6		6
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	8.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	42.0	45.0	45.0	23.0	26.0	26.0	9.0	44.0	44.0	18.0	53.0	53.0
Total Split (%)	32.3%	34.6%	34.6%	17.7%	20.0%	20.0%	6.9%	33.8%	33.8%	13.8%	40.8%	40.8%
Maximum Green (s)	37.0	38.0	38.0	18.0	19.0	19.0	5.0	37.0	37.0	14.0	46.0	46.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.5	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	0.5	3.0	3.0	1.0	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
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
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		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

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

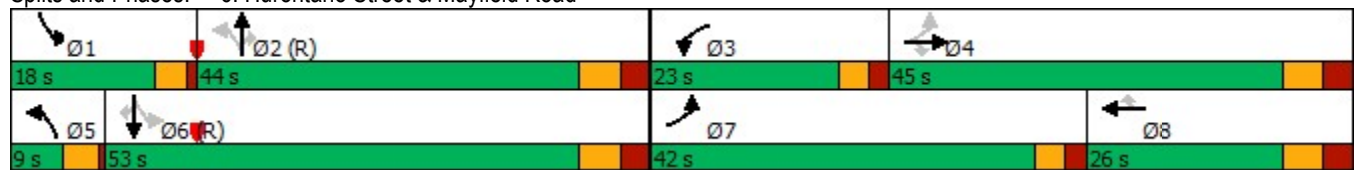
Future Background 2036  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	63.0	38.0	38.0	18.0	19.0	19.0	45.0	37.0	37.0	58.0	46.0	46.0
Actuated g/C Ratio	0.48	0.29	0.29	0.14	0.15	0.15	0.35	0.28	0.28	0.45	0.35	0.35
v/c Ratio	1.27	0.47	0.22	0.67	1.20	0.48	1.28	0.77	0.51	0.91	0.73	1.06
Control Delay	168.3	39.1	4.3	60.8	150.6	11.3	189.9	48.5	13.0	62.1	40.7	61.4
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	168.3	39.1	4.3	60.8	150.6	11.3	189.9	48.5	13.0	62.1	40.7	61.4
LOS	F	D	A	E	F	B	F	D	B	E	D	E
Approach Delay	96.8			111.9			65.2			52.9		
Approach LOS	F			F			E			D		

Intersection Summary

Area Type: Other  
 Cycle Length: 130  
 Actuated Cycle Length: 130  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green  
 Natural Cycle: 120  
 Control Type: Pretimed  
 Maximum v/c Ratio: 1.28  
 Intersection Signal Delay: 78.7  
 Intersection LOS: E  
 Intersection Capacity Utilization 111.0%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Background 2036  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	714	691	121	314	895	185	231	790	300	261	904	1010
v/c Ratio	1.27	0.47	0.22	0.67	1.20	0.48	1.28	0.77	0.51	0.91	0.73	1.06
Control Delay	168.3	39.1	4.3	60.8	150.6	11.3	189.9	48.5	13.0	62.1	40.7	61.4
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	168.3	39.1	4.3	60.8	150.6	11.3	189.9	48.5	13.0	62.1	40.7	61.4
Queue Length 50th (m)	~215.1	53.2	0.0	39.8	~101.9	0.0	~51.4	97.7	13.5	42.5	105.6	~172.2
Queue Length 95th (m)	#289.1	65.8	9.6	55.3	#130.0	20.8	#100.7	121.1	40.2	#92.0	129.5	#251.7
Internal Link Dist (m)		118.1			725.9			550.4			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	561	1460	551	471	744	386	181	1028	588	286	1242	956
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.27	0.47	0.22	0.67	1.20	0.48	1.28	0.77	0.51	0.91	0.73	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.


































Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road


















Future Background 2036  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 		 	 	
Traffic Volume (vph)	693	670	117	305	868	179	224	766	291	253	877	980
Future Volume (vph)	693	670	117	305	868	179	224	766	291	253	877	980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	4995	1540	3404	5092	1563	1789	3614	1488	1825	3510	1555
Flt Permitted	0.17	1.00	1.00	0.95	1.00	1.00	0.19	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)	308	4995	1540	3404	5092	1563	366	3614	1488	266	3510	1555
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	714	691	121	314	895	185	231	790	300	261	904	1010
RTOR Reduction (vph)	0	0	86	0	0	158	0	0	165	0	0	406
Lane Group Flow (vph)	714	691	35	314	895	27	231	790	135	261	904	604
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Turn Type	pm+pt	NA	Perm	Prot	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	2		2	6		6
Actuated Green, G (s)	61.0	38.0	38.0	18.0	19.0	19.0	42.0	37.0	37.0	55.0	46.0	46.0
Effective Green, g (s)	61.0	38.0	38.0	18.0	19.0	19.0	42.0	37.0	37.0	55.0	46.0	46.0
Actuated g/C Ratio	0.47	0.29	0.29	0.14	0.15	0.15	0.32	0.28	0.28	0.42	0.35	0.35
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
Lane Grp Cap (vph)	556	1460	450	471	744	228	172	1028	423	280	1242	550
v/s Ratio Prot	c0.37	0.14		0.09	0.18		c0.05	0.22		c0.10	0.26	
v/s Ratio Perm	c0.24		0.02			0.02	c0.38		0.09	0.29		0.39
v/c Ratio	1.28	0.47	0.08	0.67	1.20	0.12	1.34	0.77	0.32	0.93	0.73	1.10
Uniform Delay, d1	37.3	37.8	33.3	53.2	55.5	48.2	42.3	42.6	36.6	29.1	36.6	42.0
Progression 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
Incremental Delay, d2	141.1	1.1	0.3	7.3	103.9	1.1	188.0	5.5	2.0	38.9	3.8	68.1
Delay (s)	178.5	38.9	33.7	60.4	159.4	49.3	230.3	48.1	38.6	68.0	40.3	110.1
Level of Service	F	D	C	E	F	D	F	D	D	E	D	F
Approach Delay (s)		103.8			122.5			77.8			76.0	
Approach LOS		F			F			E			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			93.1									F
HCM 2000 Volume to Capacity ratio			1.30									
Actuated Cycle Length (s)			130.0							23.0		
Intersection Capacity Utilization			111.0%									H
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Total 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	281	4	179	212	48	6	230	375	39	218	10
Future Volume (vph)	2	281	4	179	212	48	6	230	375	39	218	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.998			0.972			0.917			0.995	
Fl <sub>t</sub> Protected				0.950							0.993	
Satd. Flow (prot)	0	1917	0	1772	1805	0	0	1698	0	0	1789	0
Fl <sub>t</sub> Permitted		0.998		0.255				0.997			0.863	
Satd. Flow (perm)	0	1913	0	476	1805	0	0	1693	0	0	1555	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			13			117			3	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			342.6	
Travel Time (s)		30.4			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Adj. Flow (vph)	2	299	4	190	226	51	6	245	399	41	232	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	305	0	190	277	0	0	650	0	0	284	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Total 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	32.0	32.0		11.0	43.0		57.0	57.0		57.0	57.0	
Total Split (%)	32.0%	32.0%		11.0%	43.0%		57.0%	57.0%		57.0%	57.0%	
Maximum Green (s)	26.0	26.0		7.0	37.0		51.0	51.0		51.0	51.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		4.0	6.0			6.0			6.0	
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	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		19.6		32.6	30.6			51.1			51.1	
Actuated g/C Ratio		0.21		0.35	0.33			0.54			0.54	
v/c Ratio		0.76		0.73	0.46			0.67			0.33	
Control Delay		47.7		40.1	26.3			17.1			14.0	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		47.7		40.1	26.3			17.1			14.0	
LOS		D		D	C			B			B	
Approach Delay		47.7			31.9			17.1			14.0	
Approach LOS		D			C			B			B	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	93.8
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.76
Intersection Signal Delay:	26.1
Intersection LOS:	C
Intersection Capacity Utilization	82.8%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road

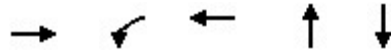


Queues

Future Total 2036

1: Chinguacousy Road & Old School Road

AM Peak Hour




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	305	190	277	650	284
v/c Ratio	0.76	0.73	0.46	0.67	0.33
Control Delay	47.7	40.1	26.3	17.1	14.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	40.1	26.3	17.1	14.0
Queue Length 50th (m)	51.9	24.7	37.3	65.1	26.8
Queue Length 95th (m)	79.2	#44.6	59.0	118.5	49.3
Internal Link Dist (m)	566.7		466.2	274.8	318.6
Turn Bay Length (m)					
Base Capacity (vph)	532	262	721	976	849
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.57	0.73	0.38	0.67	0.33

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.



















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Total 2036  
AM Peak Hour

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (vph)	2	281	4	179	212	48	6	230	375	39	218	10		
Future Volume (vph)	2	281	4	179	212	48	6	230	375	39	218	10		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)		6.0		4.0	6.0			6.0			6.0			
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00			
Frt		1.00		1.00	0.97			0.92			0.99			
Flt Protected		1.00		0.95	1.00			1.00			0.99			
Satd. Flow (prot)		1917		1772	1805			1698			1788			
Flt Permitted		1.00		0.26	1.00			1.00			0.86			
Satd. Flow (perm)		1913		476	1805			1694			1554			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Adj. Flow (vph)	2	299	4	190	226	51	6	245	399	41	232	11		
RTOR Reduction (vph)	0	1	0	0	9	0	0	53	0	0	1	0		
Lane Group Flow (vph)	0	304	0	190	268	0	0	597	0	0	283	0		
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%		
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA			
Protected Phases		4		3	8			2			6			
Permitted Phases	4			8			2			6				
Actuated Green, G (s)		19.6		30.6	30.6			51.1			51.1			
Effective Green, g (s)		19.6		30.6	30.6			51.1			51.1			
Actuated g/C Ratio		0.21		0.33	0.33			0.55			0.55			
Clearance Time (s)		6.0		4.0	6.0			6.0			6.0			
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0			
Lane Grp Cap (vph)		400		252	589			923			847			
v/s Ratio Prot				c0.06	0.15									
v/s Ratio Perm		0.16		c0.19				c0.35			0.18			
v/c Ratio		0.76		0.75	0.46			0.65			0.33			
Uniform Delay, d1		34.8		26.5	25.0			15.0			11.8			
Progression Factor		1.00		1.00	1.00			1.00			1.00			
Incremental Delay, d2		8.3		12.0	0.6			3.5			1.1			
Delay (s)		43.1		38.5	25.5			18.5			12.9			
Level of Service		D		D	C			B			B			
Approach Delay (s)		43.1			30.8			18.5			12.9			
Approach LOS		D			C			B			B			
<b>Intersection Summary</b>														
HCM 2000 Control Delay			25.3									HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio			0.71											
Actuated Cycle Length (s)			93.7								16.0			
Intersection Capacity Utilization			82.8%										ICU Level of Service	E
Analysis Period (min)			15											
c	Critical Lane Group													

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Total 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	729	48	256	366	50	64	87	448	57	143	16
Future Volume (vph)	15	729	48	256	366	50	64	87	448	57	143	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.982				0.850		0.990	
Flt Protected		0.999		0.950				0.979			0.987	
Satd. Flow (prot)	0	3551	0	1789	3452	0	0	1859	1617	0	1849	0
Flt Permitted		0.941		0.129				0.803			0.878	
Satd. Flow (perm)	0	3345	0	243	3452	0	0	1525	1617	0	1645	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			23				443			4
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Adj. Flow (vph)	16	776	51	272	389	53	68	93	477	61	152	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	843	0	272	442	0	0	161	477	0	230	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

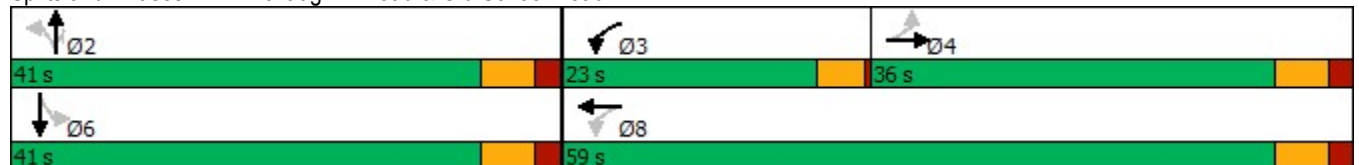
Future Total 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	36.0	36.0		23.0	59.0		41.0	41.0	41.0	41.0	41.0	
Total Split (%)	36.0%	36.0%		23.0%	59.0%		41.0%	41.0%	41.0%	41.0%	41.0%	
Maximum Green (s)	30.0	30.0		19.0	53.0		35.0	35.0	35.0	35.0	35.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		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	
Total Lost Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	None	None		None	None		Max	Max	Max	Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		27.5		47.7	45.7			35.2	35.2		35.2	
Actuated g/C Ratio		0.30		0.51	0.49			0.38	0.38		0.38	
v/c Ratio		0.85		0.75	0.26			0.28	0.54		0.37	
Control Delay		40.3		31.9	13.1			23.4	5.8		24.1	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		40.3		31.9	13.1			23.4	5.8		24.1	
LOS		D		C	B			C	A		C	
Approach Delay		40.3			20.3			10.2			24.1	
Approach LOS		D			C			B			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 93  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.85  
 Intersection Signal Delay: 24.9  
 Intersection LOS: C  
 Intersection Capacity Utilization 76.5%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road

Future Total 2036  
AM Peak Hour





















Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	843	272	442	161	477	230
v/c Ratio	0.85	0.75	0.26	0.28	0.54	0.37
Control Delay	40.3	31.9	13.1	23.4	5.8	24.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.3	31.9	13.1	23.4	5.8	24.1
Queue Length 50th (m)	73.6	29.0	21.7	20.6	4.0	30.1
Queue Length 95th (m)	#104.6	55.9	30.6	38.5	27.7	53.1
Internal Link Dist (m)	869.1		325.1	564.2		239.1
Turn Bay Length (m)		50.0				
Base Capacity (vph)	1089	442	1988	577	887	625
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.62	0.22	0.28	0.54	0.37

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road























Future Total 2036  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	729	48	256	366	50	64	87	448	57	143	16
Future Volume (vph)	15	729	48	256	366	50	64	87	448	57	143	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00	
Frt		0.99		1.00	0.98			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	
Satd. Flow (prot)		3551		1789	3452			1860	1617		1849	
Flt Permitted		0.94		0.13	1.00			0.80	1.00		0.88	
Satd. Flow (perm)		3343		242	3452			1525	1617		1644	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	16	776	51	272	389	53	68	93	477	61	152	17
RTOR Reduction (vph)	0	5	0	0	12	0	0	0	275	0	2	0
Lane Group Flow (vph)	0	838	0	272	430	0	0	161	202	0	228	0
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		27.5		45.7	45.7			35.2	35.2		35.2	
Effective Green, g (s)		27.5		45.7	45.7			35.2	35.2		35.2	
Actuated g/C Ratio		0.30		0.49	0.49			0.38	0.38		0.38	
Clearance Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		989		355	1698			577	612		622	
v/s Ratio Prot				c0.12	0.12							
v/s Ratio Perm		c0.25		0.26				0.11	0.12		c0.14	
v/c Ratio		0.85		0.77	0.25			0.28	0.33		0.37	
Uniform Delay, d1		30.7		19.7	13.7			20.0	20.5		20.8	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		6.8		9.5	0.1			1.2	1.4		1.7	
Delay (s)		37.6		29.2	13.8			21.2	21.9		22.5	
Level of Service		D		C	B			C	C		C	
Approach Delay (s)		37.6			19.7			21.7			22.5	
Approach LOS		D			B			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			26.7		HCM 2000 Level of Service				C			
HCM 2000 Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			92.9		Sum of lost time (s)				16.0			
Intersection Capacity Utilization			76.5%		ICU Level of Service				D			
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	571	243	264	335	192	154	75	1966	165	76	2601	316
Future Volume (vph)	571	243	264	335	192	154	75	1966	165	76	2601	316
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.922			0.933				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	3285	0	1722	3271	0	1722	4445	1471	1615	5043	1633
Flt Permitted	0.333			0.256			0.067			0.067		
Satd. Flow (perm)	615	3285	0	464	3271	0	121	4445	1471	114	5043	1633
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		41			15				122			177
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			1155.5			855.3			844.1	
Travel Time (s)		51.8			59.4			38.5			38.0	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Adj. Flow (vph)	614	261	284	360	206	166	81	2114	177	82	2797	340
Shared Lane Traffic (%)												
Lane Group Flow (vph)	614	545	0	360	372	0	81	2114	177	82	2797	340
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	24.0		8.0	24.0		29.0	29.0	29.0	29.0	29.0	29.0
Total Split (s)	28.0	25.0		27.0	24.0		68.0	68.0	68.0	68.0	68.0	68.0
Total Split (%)	23.3%	20.8%		22.5%	20.0%		56.7%	56.7%	56.7%	56.7%	56.7%	56.7%
Maximum Green (s)	24.0	17.0		23.0	16.0		60.0	60.0	60.0	60.0	60.0	60.0
Yellow Time (s)	3.5	6.0		3.5	6.0		6.0	6.0	6.0	6.0	6.0	6.0
All-Red Time (s)	0.5	2.0		0.5	2.0		2.0	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	0.0
Total Lost Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lead/Lag	Lead	Lag		Lead	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	None		None	None		Max	Max	Max	Max	Max	Max
Walk Time (s)		5.0			5.0		5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)		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
Act Effct Green (s)	45.2	17.4		41.8	15.6		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.38	0.15		0.35	0.13		0.50	0.50	0.50	0.50	0.50	0.50
v/c Ratio	1.33	1.06		0.91	0.85		1.35	0.95	0.22	1.44	1.11	0.37
Control Delay	192.4	103.4		58.0	67.2		263.1	39.0	6.4	299.1	83.5	9.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	192.4	103.4		58.0	67.2		263.1	39.0	6.4	299.1	83.5	9.6
LOS	F	F		E	E		F	D	A	F	F	A
Approach Delay		150.6			62.7			44.2			81.2	
Approach LOS		F			E			D			F	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 119.6  
 Natural Cycle: 120  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.44  
 Intersection Signal Delay: 78.4  
 Intersection Capacity Utilization 119.6%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service H

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Total 2036  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	614	545	360	372	81	2114	177	82	2797	340
v/c Ratio	1.33	1.06	0.91	0.85	1.35	0.95	0.22	1.44	1.11	0.37
Control Delay	192.4	103.4	58.0	67.2	263.1	39.0	6.4	299.1	83.5	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	192.4	103.4	58.0	67.2	263.1	39.0	6.4	299.1	83.5	9.6
Queue Length 50th (m)	~160.8	~71.5	63.4	43.7	~24.9	168.4	6.5	~26.2	~275.7	20.6
Queue Length 95th (m)	#231.8	#106.9	#115.4	#67.1	#43.1	#208.8	18.4	#45.8	#302.6	40.8
Internal Link Dist (m)		983.8		1131.5		831.3			820.1	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	461	512	407	451	60	2230	799	57	2530	908
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.33	1.06	0.88	0.82	1.35	0.95	0.22	1.44	1.11	0.37

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.





























Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

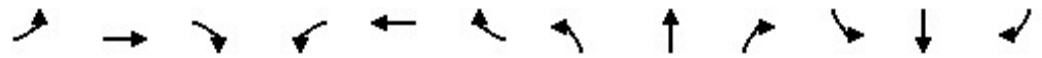
HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Total 2036  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			  			  	
Traffic Volume (vph)	571	243	264	335	192	154	75	1966	165	76	2601	316
Future Volume (vph)	571	243	264	335	192	154	75	1966	165	76	2601	316
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.92		1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	3285		1722	3271		1722	4445	1471	1615	5043	1633
Flt Permitted	0.33	1.00		0.26	1.00		0.07	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	614	3285		465	3271		121	4445	1471	113	5043	1633
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	614	261	284	360	206	166	81	2114	177	82	2797	340
RTOR Reduction (vph)	0	35	0	0	13	0	0	0	61	0	0	88
Lane Group Flow (vph)	614	510	0	360	359	0	81	2114	116	82	2797	252
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	41.4	17.4		37.8	15.6		60.0	60.0	60.0	60.0	60.0	60.0
Effective Green, g (s)	41.4	17.4		37.8	15.6		60.0	60.0	60.0	60.0	60.0	60.0
Actuated g/C Ratio	0.35	0.15		0.32	0.13		0.50	0.50	0.50	0.50	0.50	0.50
Clearance Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	441	477		380	426		60	2229	737	56	2529	819
v/s Ratio Prot	c0.28	0.16		0.18	0.11			0.48			0.55	
v/s Ratio Perm	c0.20			0.12			0.67		0.08	c0.72		0.15
v/c Ratio	1.39	1.07		0.95	0.84		1.35	0.95	0.16	1.46	1.11	0.31
Uniform Delay, d1	35.2	51.1		35.9	50.8		29.8	28.3	16.1	29.8	29.8	17.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	190.0	60.9		32.5	14.0		235.0	10.3	0.5	283.6	54.2	1.0
Delay (s)	225.2	112.0		68.4	64.8		264.8	38.6	16.6	313.4	84.0	18.5
Level of Service	F	F		E	E		F	D	B	F	F	B
Approach Delay (s)		172.0			66.6			44.7			82.9	
Approach LOS		F			E			D			F	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			83.0				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.45									
Actuated Cycle Length (s)			119.6				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			119.6%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2036  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕		↕	↕↕↕			↕			↕	
Traffic Volume (vph)	48	750	55	263	650	37	27	226	195	127	283	42
Future Volume (vph)	48	750	55	263	650	37	27	226	195	127	283	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.992			0.941			0.988	
Flt Protected		0.997		0.950				0.997			0.986	
Satd. Flow (prot)	0	4862	0	1659	4925	0	0	1735	0	0	1777	0
Flt Permitted		0.855		0.199				0.960			0.641	
Satd. Flow (perm)	0	4169	0	348	4925	0	0	1671	0	0	1155	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			9			44			6	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1665.9			1419.4			904.3			2784.8	
Travel Time (s)		85.7			73.0			40.7			125.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Adj. Flow (vph)	48	758	56	266	657	37	27	228	197	128	286	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	862	0	266	694	0	0	452	0	0	456	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

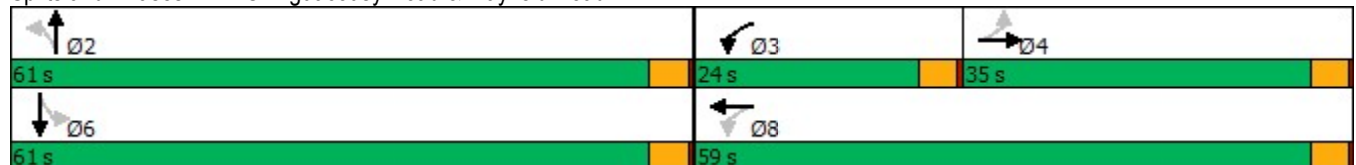
Future Total 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	35.0	35.0		24.0	59.0		61.0	61.0		61.0	61.0	
Total Split (%)	29.2%	29.2%		20.0%	49.2%		50.8%	50.8%		50.8%	50.8%	
Maximum Green (s)	31.0	31.0		20.0	55.0		57.0	57.0		57.0	57.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
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	Max	Max		None	Max		None	None		None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		36.1		55.6	55.6			42.3			42.3	
Actuated g/C Ratio		0.34		0.52	0.52			0.40			0.40	
v/c Ratio		0.60		0.71	0.27			0.65			0.98	
Control Delay		33.9		28.5	15.6			27.3			68.7	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		33.9		28.5	15.6			27.3			68.7	
LOS		C		C	B			C			E	
Approach Delay		33.9			19.2			27.3			68.7	
Approach LOS		C			B			C			E	

Intersection Summary

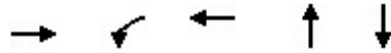
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 106  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 33.4  
 Intersection LOS: C  
 Intersection Capacity Utilization 94.4%  
 ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Total 2036  
AM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	862	266	694	452	456
v/c Ratio	0.60	0.71	0.27	0.65	0.98
Control Delay	33.9	28.5	15.6	27.3	68.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	33.9	28.5	15.6	27.3	68.7
Queue Length 50th (m)	54.5	30.3	27.9	66.5	89.5
Queue Length 95th (m)	85.2	62.1	45.5	98.1	#150.0
Internal Link Dist (m)	1641.9		1395.4	880.3	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	1425	432	2588	928	630
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.60	0.62	0.27	0.49	0.72
























Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 4: Chinguacousy Road & Mayfield Road





















Future Total 2036  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (vph)	48	750	55	263	650	37	27	226	195	127	283	42
Future Volume (vph)	48	750	55	263	650	37	27	226	195	127	283	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frt		0.99		1.00	0.99			0.94			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		4864		1659	4925			1736			1777	
Flt Permitted		0.85		0.20	1.00			0.96			0.64	
Satd. Flow (perm)		4170		348	4925			1672			1155	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	48	758	56	266	657	37	27	228	197	128	286	42
RTOR Reduction (vph)	0	6	0	0	4	0	0	26	0	0	4	0
Lane Group Flow (vph)	0	856	0	266	690	0	0	426	0	0	452	0
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		36.1		55.6	55.6			42.3			42.3	
Effective Green, g (s)		36.1		55.6	55.6			42.3			42.3	
Actuated g/C Ratio		0.34		0.53	0.53			0.40			0.40	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1421		374	2585			667			461	
v/s Ratio Prot				c0.10	0.14							
v/s Ratio Perm		0.21		c0.27				0.25			c0.39	
v/c Ratio		0.60		0.71	0.27			0.64			0.98	
Uniform Delay, d1		28.9		16.2	13.9			25.6			31.4	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		1.9		6.3	0.3			2.0			36.9	
Delay (s)		30.8		22.5	14.1			27.6			68.3	
Level of Service		C		C	B			C			E	
Approach Delay (s)		30.8			16.5			27.6			68.3	
Approach LOS		C			B			C			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			31.5									C
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			105.9						12.0			
Intersection Capacity Utilization			94.4%									F
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Total 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	1040	131	142	809	130	58	322	106	317	543	192
Future Volume (vph)	62	1040	131	142	809	130	58	322	106	317	543	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.983			0.979			0.963			0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4884	0	1706	4763	0	1644	3430	0	1690	3370	0
Flt Permitted	0.286			0.096			0.367			0.342		
Satd. Flow (perm)	549	4884	0	172	4763	0	635	3430	0	608	3370	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			33			34			55	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			341.6			2496.3	
Travel Time (s)		73.0			65.0			15.4			112.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Adj. Flow (vph)	63	1061	134	145	826	133	59	329	108	323	554	196
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	1195	0	145	959	0	59	437	0	323	750	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

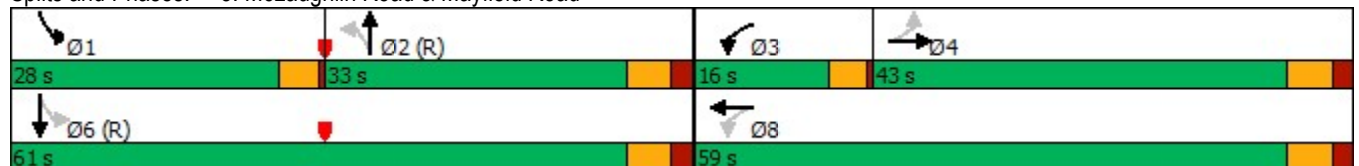
Future Total 2036  
AM Peak Hour

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		8.0	23.0	
Total Split (s)	43.0	43.0		16.0	59.0		33.0	33.0		28.0	61.0	
Total Split (%)	35.8%	35.8%		13.3%	49.2%		27.5%	27.5%		23.3%	50.8%	
Maximum Green (s)	37.0	37.0		12.0	53.0		27.0	27.0		24.0	55.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		3.5	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		0.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	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	
Recall Mode	Max	Max		None	Max		C-Max	C-Max		None	C-Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0			5.0	
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0			0	
Act Effct Green (s)	38.4	38.4		55.0	53.0		31.2	31.2		57.0	55.0	
Actuated g/C Ratio	0.32	0.32		0.46	0.44		0.26	0.26		0.48	0.46	
v/c Ratio	0.36	0.76		0.68	0.45		0.36	0.48		0.69	0.48	
Control Delay	39.5	40.1		38.5	23.3		45.9	37.3		29.0	21.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	39.5	40.1		38.5	23.3		45.9	37.3		29.0	21.9	
LOS	D	D		D	C		D	D		C	C	
Approach Delay		40.0			25.3			38.4			24.1	
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: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.76  
 Intersection Signal Delay: 31.3  
 Intersection LOS: C  
 Intersection Capacity Utilization 77.4%  
 ICU Level of Service D  
 Analysis Period (min) 15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road



























Future Total 2036  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	63	1195	145	959	59	437	323	750
v/c Ratio	0.36	0.76	0.68	0.45	0.36	0.48	0.69	0.48
Control Delay	39.5	40.1	38.5	23.3	45.9	37.3	29.0	21.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.5	40.1	38.5	23.3	45.9	37.3	29.0	21.9
Queue Length 50th (m)	11.5	91.9	19.8	54.5	11.5	42.4	48.0	58.1
Queue Length 95th (m)	25.5	110.0	38.7	66.3	25.8	60.8	70.9	74.7
Internal Link Dist (m)		1395.4		1239.7		317.6		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	175	1574	232	2122	165	917	505	1574
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.76	0.63	0.45	0.36	0.48	0.64	0.48
Intersection Summary								
































HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Future Total 2036  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (vph)	62	1040	131	142	809	130	58	322	106	317	543	192
Future Volume (vph)	62	1040	131	142	809	130	58	322	106	317	543	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	4885		1706	4764		1644	3429		1690	3369	
Flt Permitted	0.29	1.00		0.10	1.00		0.37	1.00		0.34	1.00	
Satd. Flow (perm)	550	4885		172	4764		635	3429		609	3369	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	63	1061	134	145	826	133	59	329	108	323	554	196
RTOR Reduction (vph)	0	13	0	0	18	0	0	25	0	0	30	0
Lane Group Flow (vph)	63	1182	0	145	941	0	59	412	0	323	720	0
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	38.4	38.4		53.0	53.0		31.2	31.2		55.0	55.0	
Effective Green, g (s)	38.4	38.4		53.0	53.0		31.2	31.2		55.0	55.0	
Actuated g/C Ratio	0.32	0.32		0.44	0.44		0.26	0.26		0.46	0.46	
Clearance Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	176	1563		211	2104		165	891		457	1544	
v/s Ratio Prot		c0.24		c0.06	0.20			0.12		c0.12	0.21	
v/s Ratio Perm	0.11			0.24			0.09			c0.21		
v/c Ratio	0.36	0.76		0.69	0.45		0.36	0.46		0.71	0.47	
Uniform Delay, d1	31.3	36.6		24.3	23.3		36.2	37.3		22.6	22.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.6	3.5		9.0	0.7		5.9	1.7		4.9	1.0	
Delay (s)	36.9	40.1		33.2	24.0		42.2	39.1		27.5	23.4	
Level of Service	D	D		C	C		D	D		C	C	
Approach Delay (s)		39.9			25.2			39.4			24.6	
Approach LOS		D			C			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			31.6				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			77.4%				ICU Level of Service			D		
Analysis Period (min)			15									
c	Critical Lane Group											

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	  			 			 	
Traffic Volume (vph)	272	1020	129	229	646	179	95	478	233	384	1172	363
Future Volume (vph)	272	1020	129	229	646	179	95	478	233	384	1172	363
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	1.00		0.98	1.00		0.97	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)	1738	4902	1541	3340	4948	1420	1807	3476	1512	1706	3544	1585
Flt Permitted	0.164			0.950			0.197			0.333		
Satd. Flow (perm)	300	4902	1508	3329	4948	1395	374	3476	1467	595	3544	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			89			171			248			317
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			889.1			610.7			609.4	
Travel Time (s)		7.3			45.7			31.4			31.3	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Adj. Flow (vph)	289	1085	137	244	687	190	101	509	248	409	1247	386
Shared Lane Traffic (%)												
Lane Group Flow (vph)	289	1085	137	244	687	190	101	509	248	409	1247	386
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Minimum Split (s)	9.0	23.0	23.0	9.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	34.0	49.0	49.0	21.0	36.0	36.0	59.0	59.0	59.0	31.0	90.0	90.0
Total Split (%)	21.3%	30.6%	30.6%	13.1%	22.5%	22.5%	36.9%	36.9%	36.9%	19.4%	56.3%	56.3%
Maximum Green (s)	29.0	42.0	42.0	16.0	29.0	29.0	52.0	52.0	52.0	27.0	83.0	83.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	0.5	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
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)		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

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

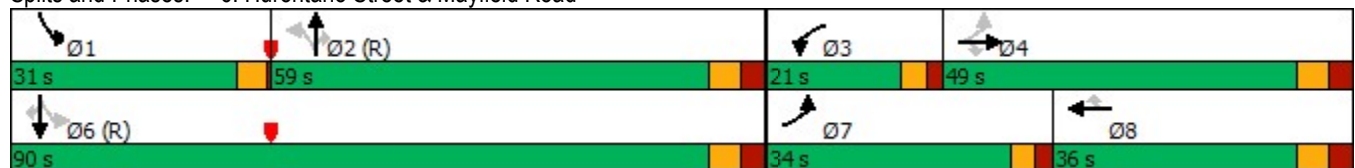
Future Total 2036  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	65.0	42.0	42.0	16.0	29.0	29.0	52.0	52.0	52.0	86.0	83.0	83.0
Actuated g/C Ratio	0.41	0.26	0.26	0.10	0.18	0.18	0.32	0.32	0.32	0.54	0.52	0.52
v/c Ratio	0.76	0.84	0.30	0.73	0.77	0.48	0.83	0.45	0.39	0.81	0.68	0.40
Control Delay	49.9	63.1	19.4	83.4	68.8	14.8	97.7	44.3	6.0	36.5	31.0	5.5
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	49.9	63.1	19.4	83.4	68.8	14.8	97.7	44.3	6.0	36.5	31.0	5.5
LOS	D	E	B	F	E	B	F	D	A	D	C	A
Approach Delay		56.6			62.8			39.5			27.3	
Approach LOS		E			E			D			C	

Intersection Summary

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Pretimed
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	44.4
Intersection LOS:	D
Intersection Capacity Utilization	87.7%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Total 2036  
AM Peak Hour



































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	289	1085	137	244	687	190	101	509	248	409	1247	386
v/c Ratio	0.76	0.84	0.30	0.73	0.77	0.48	0.83	0.45	0.39	0.81	0.68	0.40
Control Delay	49.9	63.1	19.4	83.4	68.8	14.8	97.7	44.3	6.0	36.5	31.0	5.5
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	49.9	63.1	19.4	83.4	68.8	14.8	97.7	44.3	6.0	36.5	31.0	5.5
Queue Length 50th (m)	65.1	120.6	11.7	39.5	77.1	5.1	29.8	67.6	0.0	77.2	151.9	10.9
Queue Length 95th (m)	99.2	138.7	30.5	54.8	92.6	29.0	#66.0	85.0	19.9	#105.8	176.4	30.8
Internal Link Dist (m)		118.1			865.1			586.7			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	382	1286	461	334	896	392	121	1129	644	507	1838	960
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.84	0.30	0.73	0.77	0.48	0.83	0.45	0.39	0.81	0.68	0.40

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road










Future Total 2036  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		  	  			 			 		
Traffic Volume (vph)	272	1020	129	229	646	179	95	478	233	384	1172	363	
Future Volume (vph)	272	1020	129	229	646	179	95	478	233	384	1172	363	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1738	4902	1508	3340	4948	1395	1805	3476	1467	1703	3544	1557	
Flt Permitted	0.16	1.00	1.00	0.95	1.00	1.00	0.20	1.00	1.00	0.33	1.00	1.00	
Satd. Flow (perm)	300	4902	1508	3340	4948	1395	375	3476	1467	597	3544	1557	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	289	1085	137	244	687	190	101	509	248	409	1247	386	
RTOR Reduction (vph)	0	0	66	0	0	140	0	0	167	0	0	153	
Lane Group Flow (vph)	289	1085	71	244	687	50	101	509	81	409	1247	233	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2	
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8			2		1	6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	63.0	42.0	42.0	16.0	29.0	29.0	52.0	52.0	52.0	83.0	83.0	83.0	
Effective Green, g (s)	63.0	42.0	42.0	16.0	29.0	29.0	52.0	52.0	52.0	83.0	83.0	83.0	
Actuated g/C Ratio	0.39	0.26	0.26	0.10	0.18	0.18	0.32	0.32	0.32	0.52	0.52	0.52	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Grp Cap (vph)	378	1286	395	334	896	252	121	1129	476	496	1838	807	
v/s Ratio Prot	c0.14	c0.22		0.07	0.14			0.15		c0.14	0.35		
v/s Ratio Perm	0.16		0.05			0.04	0.27		0.05	c0.29		0.15	
v/c Ratio	0.76	0.84	0.18	0.73	0.77	0.20	0.83	0.45	0.17	0.82	0.68	0.29	
Uniform Delay, d1	37.3	55.9	45.7	69.9	62.3	55.6	50.0	42.7	38.6	25.9	28.6	21.8	
Progression 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	
Incremental Delay, d2	13.7	6.9	1.0	13.2	6.2	1.8	46.3	1.3	0.8	14.4	2.0	0.9	
Delay (s)	51.0	62.8	46.7	83.1	68.5	57.4	96.3	44.0	39.3	40.4	30.6	22.7	
Level of Service	D	E	D	F	E	E	F	D	D	D	C	C	
Approach Delay (s)		59.1			69.8			48.8			31.1		
Approach LOS		E			E			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			49.3									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.85										
Actuated Cycle Length (s)			160.0									Sum of lost time (s)	23.0
Intersection Capacity Utilization			87.7%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													












Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C

Future Total 2036  
AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	36	84	528	12	31	371
Future Volume (vph)	36	84	528	12	31	371
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.905		0.997			
Flt Protected	0.985					0.996
Satd. Flow (prot)	1679	0	1878	0	0	1876
Flt Permitted	0.985					0.996
Satd. Flow (perm)	1679	0	1878	0	0	1876
Link Speed (k/h)	48		80			80
Link Distance (m)	204.9		2784.8			298.8
Travel Time (s)	15.4		125.3			13.4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	36	84	528	12	31	371
Shared Lane Traffic (%)						
Lane Group Flow (vph)	120	0	540	0	0	402
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	59.0%			ICU Level of Service B		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
7: Chinguacousy Road & Street C

Future Total 2036  
AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	36	84	528	12	31	371
Future Volume (Veh/h)	36	84	528	12	31	371
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)	36	84	528	12	31	371
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						299
pX, platoon unblocked	0.91					
vC, conflicting volume	967	534	540			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	913	534	540			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	85	97			
cM capacity (veh/h)	267	546	1028			
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	120	540	402			
Volume Left	36	0	31			
Volume Right	84	12	0			
cSH	416	1700	1028			
Volume to Capacity	0.29	0.32	0.03			
Queue Length 95th (m)	9.0	0.0	0.7			
Control Delay (s)	17.1	0.0	1.0			
Lane LOS	C		A			
Approach Delay (s)	17.1	0.0	1.0			
Approach LOS	C					
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			59.0%	ICU Level of Service	B	
Analysis Period (min)	15					










Lanes, Volumes, Timings  
8: Street B & Old School Road

Future Total 2036  
AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	
Traffic Volume (vph)	692	5	40	429	12	108
Future Volume (vph)	692	5	40	429	12	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.999			0.878		
Flt Protected				0.996	0.995	
Satd. Flow (prot)	3575	0	0	3564	1645	0
Flt Permitted				0.996	0.995	
Satd. Flow (perm)	3575	0	0	3564	1645	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	0.92
Adj. Flow (vph)	692	5	40	429	12	117
Shared Lane Traffic (%)						
Lane Group Flow (vph)	697	0	0	469	129	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	14		24	24		14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	49.6%			ICU Level of Service A		
Analysis Period (min)	15					


















HCM Unsignalized Intersection Capacity Analysis  
8: Street B & Old School Road

Future Total 2036  
AM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	692	5	40	429	12	108
Future Volume (Veh/h)	692	5	40	429	12	108
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	0.92
Hourly flow rate (vph)	692	5	40	429	12	117
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			697			348
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			697			348
tC, single (s)			4.1			6.9
tC, 2 stage (s)						
tF (s)			2.2			3.3
p0 queue free %			96			82
cM capacity (veh/h)			895			648
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	461	236	183	286	129	
Volume Left	0	0	40	0	12	
Volume Right	0	5	0	0	117	
cSH	1700	1700	895	1700	556	
Volume to Capacity	0.27	0.14	0.04	0.17	0.23	
Queue Length 95th (m)	0.0	0.0	1.1	0.0	6.8	
Control Delay (s)	0.0	0.0	2.4	0.0	13.4	
Lane LOS	A			B		
Approach Delay (s)	0.0		0.9	13.4		
Approach LOS				B		
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			49.6%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2036  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	199	0	46	0	553	88	20	428	0
Future Volume (vph)	0	0	0	199	0	46	0	553	88	20	428	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.850			0.979				
Flt Protected				0.950							0.998	
Satd. Flow (prot)	0	1883	0	1789	1601	0	0	3503	0	0	3571	0
Flt Permitted				0.757							0.918	
Satd. Flow (perm)	0	1883	0	1426	1601	0	0	3503	0	0	3285	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					198			28				
Link Speed (k/h)		48			48			80				80
Link Distance (m)		204.8			403.1			2496.3				588.2
Travel Time (s)		15.4			30.2			112.3				26.5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	199	0	46	0	553	88	20	428	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	199	46	0	0	641	0	0	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)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2036  
AM Peak Hour

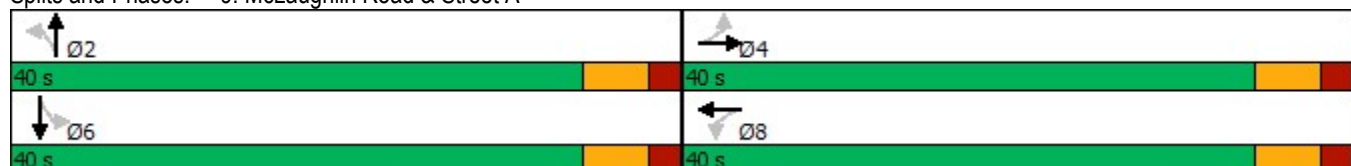


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	40.0	40.0		40.0	40.0		40.0	40.0		40.0	40.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	34.0	34.0		34.0	34.0		34.0	34.0		34.0	34.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)				13.9	13.9			37.4			37.4	
Actuated g/C Ratio				0.22	0.22			0.59			0.59	
v/c Ratio				0.64	0.09			0.31			0.23	
Control Delay				31.1	0.3			7.3			7.2	
Queue Delay				0.0	0.0			0.0			0.0	
Total Delay				31.1	0.3			7.3			7.2	
LOS				C	A			A			A	
Approach Delay					25.4			7.3			7.2	
Approach LOS					C			A			A	

Intersection Summary

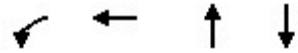
Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	63.3
Natural Cycle:	45
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	10.6
Intersection LOS:	B
Intersection Capacity Utilization:	47.6%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 9: McLaughlin Road & Street A



Queues  
9: McLaughlin Road & Street A

Future Total 2036  
AM Peak Hour




















Lane Group	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	199	46	641	448
v/c Ratio	0.64	0.09	0.31	0.23
Control Delay	31.1	0.3	7.3	7.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	31.1	0.3	7.3	7.2
Queue Length 50th (m)	19.5	0.0	16.0	11.1
Queue Length 95th (m)	36.9	0.0	30.7	22.3
Internal Link Dist (m)		379.1	2472.3	564.2
Turn Bay Length (m)	30.0			
Base Capacity (vph)	768	954	2080	1940
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.26	0.05	0.31	0.23
<b>Intersection Summary</b>				

# HCM Signalized Intersection Capacity Analysis

## 9: McLaughlin Road & Street A

Future Total 2036  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	199	0	46	0	553	88	20	428	0
Future Volume (vph)	0	0	0	199	0	46	0	553	88	20	428	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.0	6.0			6.0			6.0	
Lane Util. Factor				1.00	1.00			0.95			0.95	
Frt				1.00	0.85			0.98			1.00	
Flt Protected				0.95	1.00			1.00			1.00	
Satd. Flow (prot)				1789	1601			3505			3571	
Flt Permitted				0.76	1.00			1.00			0.92	
Satd. Flow (perm)				1426	1601			3505			3284	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	199	0	46	0	553	88	20	428	0
RTOR Reduction (vph)	0	0	0	0	36	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	0	0	199	10	0	0	630	0	0	448	0
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)				13.9	13.9			37.4			37.4	
Effective Green, g (s)				13.9	13.9			37.4			37.4	
Actuated g/C Ratio				0.22	0.22			0.59			0.59	
Clearance Time (s)				6.0	6.0			6.0			6.0	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				313	351			2070			1940	
v/s Ratio Prot					0.01			c0.18				
v/s Ratio Perm				c0.14							0.14	
v/c Ratio				0.64	0.03			0.30			0.23	
Uniform Delay, d1				22.4	19.4			6.5			6.1	
Progression Factor				1.00	1.00			1.00			1.00	
Incremental Delay, d2				4.2	0.0			0.4			0.3	
Delay (s)				26.6	19.4			6.8			6.4	
Level of Service				C	B			A			A	
Approach Delay (s)		0.0			25.2			6.8			6.4	
Approach LOS		A			C			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			10.1									B
HCM 2000 Volume to Capacity ratio			0.39									
Actuated Cycle Length (s)			63.3								12.0	
Intersection Capacity Utilization			47.6%									A
Analysis Period (min)			15									
c Critical Lane Group												












Lanes, Volumes, Timings  
 10: Street D & Old School Road

Future Total 2036  
 AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↖↖	↗↗	
Traffic Volume (vph)	1089	100	11	599	89	0
Future Volume (vph)	1089	100	11	599	89	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.987					
Flt Protected				0.999	0.950	
Satd. Flow (prot)	3532	0	0	3575	1789	0
Flt Permitted				0.999	0.950	
Satd. Flow (perm)	3532	0	0	3575	1789	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1089	100	11	599	89	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1189	0	0	610	89	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	44.9%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 10: Street D & Old School Road

Future Total 2036  
 AM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1089	100	11	599	89	0
Future Volume (Veh/h)	1089	100	11	599	89	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1089	100	11	599	89	0
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	349					
pX, platoon unblocked			0.81		0.81	0.81
vC, conflicting volume			1189		1460	594
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			776		1109	45
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		45	100
cM capacity (veh/h)			681		163	826
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>WB 1</b>	<b>WB 2</b>	<b>NB 1</b>	
Volume Total	726	463	211	399	89	
Volume Left	0	0	11	0	89	
Volume Right	0	100	0	0	0	
cSH	1700	1700	681	1700	163	
Volume to Capacity	0.43	0.27	0.02	0.23	0.55	
Queue Length 95th (m)	0.0	0.0	0.4	0.0	21.1	
Control Delay (s)	0.0	0.0	0.7	0.0	50.8	
Lane LOS	A			F		
Approach Delay (s)	0.0		0.2	50.8		
Approach LOS				F		
<b>Intersection Summary</b>						
Average Delay			2.5			
Intersection Capacity Utilization			44.9%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings  
11: Street A & Street D

Future Total 2036  
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	87	151	85	122	62	125
Future Volume (vph)	87	151	85	122	62	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.920		0.910	
Flt Protected		0.982			0.984	
Satd. Flow (prot)	0	1850	1733	0	1687	0
Flt Permitted		0.982			0.984	
Satd. Flow (perm)	0	1850	1733	0	1687	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	87	151	85	122	62	125
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	238	207	0	187	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	97			97	97	97
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	45.8%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis  
 11: Street A & Street D

Future Total 2036  
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	87	151	85	122	62	125
Future Volume (Veh/h)	87	151	85	122	62	125
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	87	151	85	122	62	125
<b>Pedestrians</b>						
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	207			471	146	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	207			471	146	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	94			88	86	
cM capacity (veh/h)	1364			516	901	
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	238	207	187			
Volume Left	87	0	62			
Volume Right	0	122	125			
cSH	1364	1700	722			
Volume to Capacity	0.06	0.12	0.26			
Queue Length 95th (m)	1.6	0.0	7.8			
Control Delay (s)	3.2	0.0	11.7			
Lane LOS	A		B			
Approach Delay (s)	3.2	0.0	11.7			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			4.7			
Intersection Capacity Utilization			45.8%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2036  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	104	523	147	2103	3173	28
Future Volume (vph)	104	523	147	2103	3173	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt		0.850			0.999	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	5142	5137	0
Flt Permitted	0.950		0.053			
Satd. Flow (perm)	1789	1601	100	5142	5137	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1			2	
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	104	523	147	2103	3173	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	104	523	147	2103	3201	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pt+ov	pm+pt	NA	NA	
Protected Phases	4	4 5	5	2	6	
Permitted Phases			2			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2036  
AM Peak Hour

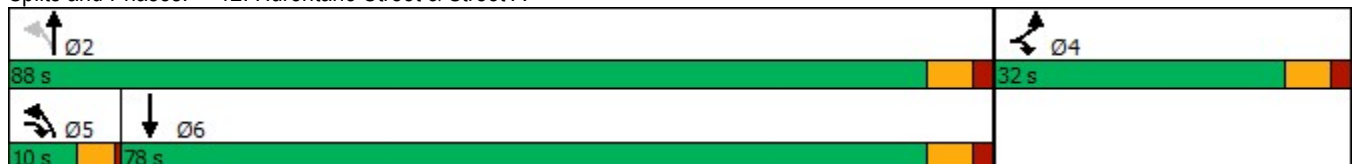


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4 5	5	2	6	
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	22.0		8.0	22.0	22.0	
Total Split (s)	32.0		10.0	88.0	78.0	
Total Split (%)	26.7%		8.3%	73.3%	65.0%	
Maximum Green (s)	26.0		6.0	82.0	72.0	
Yellow Time (s)	4.0		3.5	4.0	4.0	
All-Red Time (s)	2.0		0.5	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		4.0	6.0	6.0	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	None		None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	26.0	36.0	84.0	82.0	72.0	
Actuated g/C Ratio	0.22	0.30	0.70	0.68	0.60	
v/c Ratio	0.27	1.09	0.95	0.60	1.04	
Control Delay	41.3	106.9	86.7	11.1	51.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	41.3	106.9	86.7	11.1	51.7	
LOS	D	F	F	B	D	
Approach Delay	96.0			16.0	51.7	
Approach LOS	F			B	D	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Natural Cycle:	110
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.09
Intersection Signal Delay:	43.1
Intersection LOS:	D
Intersection Capacity Utilization:	104.3%
ICU Level of Service:	G
Analysis Period (min):	15

Splits and Phases: 12: Hurontario Street & Street A



Queues  
12: Hurontario Street & Street A

Future Total 2036  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	104	523	147	2103	3201
v/c Ratio	0.27	1.09	0.95	0.60	1.04
Control Delay	41.3	106.9	86.7	11.1	51.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	41.3	106.9	86.7	11.1	51.7
Queue Length 50th (m)	20.5	~138.6	18.6	88.0	~298.1
Queue Length 95th (m)	36.3	#204.9	#59.0	100.0	#323.5
Internal Link Dist (m)	932.1			904.0	831.3
Turn Bay Length (m)	30.0		50.0		
Base Capacity (vph)	387	481	154	3513	3083
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.27	1.09	0.95	0.60	1.04

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 12: Hurontario Street & Street A

Future Total 2036  
 AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	104	523	147	2103	3173	28
Future Volume (vph)	104	523	147	2103	3173	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1789	1601	1789	5142	5135	
Flt Permitted	0.95	1.00	0.05	1.00	1.00	
Satd. Flow (perm)	1789	1601	99	5142	5135	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	104	523	147	2103	3173	28
RTOR Reduction (vph)	0	1	0	0	1	0
Lane Group Flow (vph)	104	522	147	2103	3200	0
Turn Type	Prot	pt+ov	pm+pt	NA	NA	
Protected Phases	4	4 5	5	2	6	
Permitted Phases			2			
Actuated Green, G (s)	26.0	38.0	82.0	82.0	72.0	
Effective Green, g (s)	26.0	38.0	82.0	82.0	72.0	
Actuated g/C Ratio	0.22	0.32	0.68	0.68	0.60	
Clearance Time (s)	6.0		4.0	6.0	6.0	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	387	506	152	3513	3081	
v/s Ratio Prot	0.06	c0.33	0.05	0.41	c0.62	
v/s Ratio Perm			0.61			
v/c Ratio	0.27	1.03	0.97	0.60	1.04	
Uniform Delay, d1	39.1	41.0	38.5	10.2	24.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	48.5	62.4	0.8	27.4	
Delay (s)	39.5	89.5	101.0	10.9	51.4	
Level of Service	D	F	F	B	D	
Approach Delay (s)	81.2			16.8	51.4	
Approach LOS	F			B	D	

Intersection Summary


















HCM 2000 Control Delay	41.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	104.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Total 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	272	4	356	379	65	14	379	383	52	246	5
Future Volume (vph)	5	272	4	356	379	65	14	379	383	52	246	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.998			0.978			0.933			0.998	
Fl <sub>t</sub> Protected		0.999		0.950				0.999			0.992	
Satd. Flow (prot)	0	1861	0	1825	1828	0	0	1715	0	0	1838	0
Fl <sub>t</sub> Permitted		0.989		0.229				0.992			0.751	
Satd. Flow (perm)	0	1843	0	440	1828	0	0	1703	0	0	1391	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			10			67			1	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			342.6	
Travel Time (s)		30.4			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	5	289	4	379	403	69	15	403	407	55	262	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	298	0	379	472	0	0	825	0	0	322	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

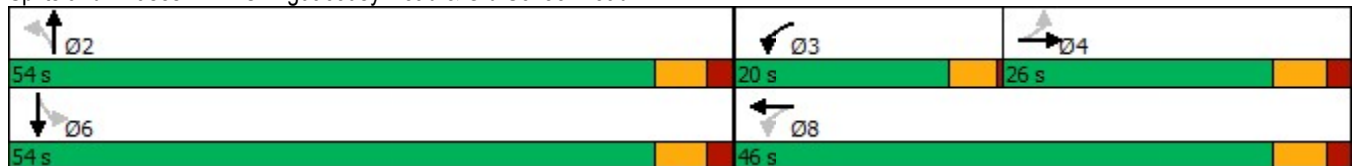
Future Total 2036  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	26.0	26.0		20.0	46.0		54.0	54.0		54.0	54.0	
Total Split (%)	26.0%	26.0%		20.0%	46.0%		54.0%	54.0%		54.0%	54.0%	
Maximum Green (s)	20.0	20.0		16.0	40.0		48.0	48.0		48.0	48.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		4.0	6.0			6.0			6.0	
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	None	None		None	None		None	None		None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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 Effect Green (s)		18.5		40.6	38.6			46.6			46.6	
Actuated g/C Ratio		0.19		0.42	0.40			0.48			0.48	
v/c Ratio		0.85		0.92	0.65			0.97			0.48	
Control Delay		60.7		52.3	28.4			48.5			20.4	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		60.7		52.3	28.4			48.5			20.4	
LOS		E		D	C			D			C	
Approach Delay		60.7			39.0			48.5			20.4	
Approach LOS		E			D			D			C	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	97.2
Natural Cycle:	80
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.97
Intersection Signal Delay:	42.6
Intersection LOS:	D
Intersection Capacity Utilization:	99.1%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 1: Chinguacousy Road & Old School Road

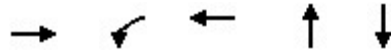


Queues

Future Total 2036

1: Chinguacousy Road & Old School Road

PM Peak Hour




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	298	379	472	825	322
v/c Ratio	0.85	0.92	0.65	0.97	0.48
Control Delay	60.7	52.3	28.4	48.5	20.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	60.7	52.3	28.4	48.5	20.4
Queue Length 50th (m)	55.4	52.5	70.8	141.3	40.6
Queue Length 95th (m)	#96.1	#102.8	104.3	#225.4	64.3
Internal Link Dist (m)	566.7		466.2	274.8	318.6
Turn Bay Length (m)					
Base Capacity (vph)	381	412	760	877	689
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.78	0.92	0.62	0.94	0.47

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.



















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Total 2036  
PM Peak Hour

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (vph)	5	272	4	356	379	65	14	379	383	52	246	5		
Future Volume (vph)	5	272	4	356	379	65	14	379	383	52	246	5		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Total Lost time (s)		6.0		4.0	6.0			6.0			6.0			
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00			
Frt		1.00		1.00	0.98			0.93			1.00			
Flt Protected		1.00		0.95	1.00			1.00			0.99			
Satd. Flow (prot)		1862		1825	1829			1716			1837			
Flt Permitted		0.99		0.23	1.00			0.99			0.75			
Satd. Flow (perm)		1843		440	1829			1703			1391			
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94		
Adj. Flow (vph)	5	289	4	379	403	69	15	403	407	55	262	5		
RTOR Reduction (vph)	0	1	0	0	6	0	0	35	0	0	1	0		
Lane Group Flow (vph)	0	297	0	379	466	0	0	790	0	0	321	0		
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%		
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA			
Protected Phases		4		3	8			2			6			
Permitted Phases	4			8			2			6				
Actuated Green, G (s)		18.6		38.6	38.6			46.6			46.6			
Effective Green, g (s)		18.6		38.6	38.6			46.6			46.6			
Actuated g/C Ratio		0.19		0.40	0.40			0.48			0.48			
Clearance Time (s)		6.0		4.0	6.0			6.0			6.0			
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0			
Lane Grp Cap (vph)		352		402	726			816			666			
v/s Ratio Prot				c0.15	0.25									
v/s Ratio Perm		0.16		c0.22				c0.46			0.23			
v/c Ratio		0.84		0.94	0.64			0.97			0.48			
Uniform Delay, d1		37.9		24.2	23.7			24.6			17.1			
Progression Factor		1.00		1.00	1.00			1.00			1.00			
Incremental Delay, d2		16.7		30.5	1.9			23.7			0.6			
Delay (s)		54.6		54.7	25.7			48.3			17.7			
Level of Service		D		D	C			D			B			
Approach Delay (s)		54.6			38.6			48.3			17.7			
Approach LOS		D			D			D			B			
<b>Intersection Summary</b>														
HCM 2000 Control Delay			41.2									HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio			0.99											
Actuated Cycle Length (s)			97.2								16.0			
Intersection Capacity Utilization			99.1%										ICU Level of Service	F
Analysis Period (min)			15											
c Critical Lane Group														

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Total 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	669	57	493	770	52	73	164	497	46	78	12
Future Volume (vph)	16	669	57	493	770	52	73	164	497	46	78	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988			0.991				0.850		0.988	
Flt Protected		0.999		0.950				0.985			0.983	
Satd. Flow (prot)	0	3452	0	1755	3575	0	0	1811	1555	0	1804	0
Flt Permitted		0.923		0.234				0.822			0.613	
Satd. Flow (perm)	0	3189	0	432	3575	0	0	1511	1555	0	1125	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			10				524		4	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	17	712	61	524	819	55	78	174	529	49	83	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	790	0	524	874	0	0	252	529	0	145	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

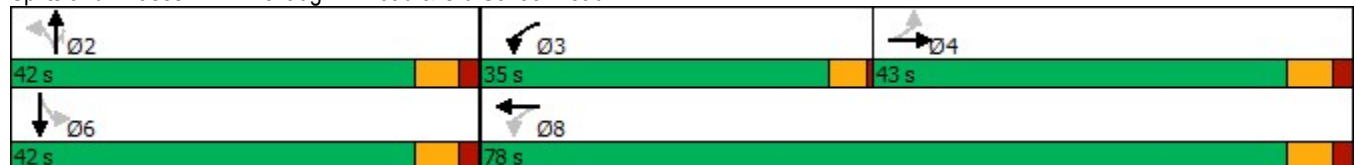
Future Total 2036  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	43.0	43.0		35.0	78.0		42.0	42.0	42.0	42.0	42.0	
Total Split (%)	35.8%	35.8%		29.2%	65.0%		35.0%	35.0%	35.0%	35.0%	35.0%	
Maximum Green (s)	37.0	37.0		31.0	72.0		36.0	36.0	36.0	36.0	36.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0		-2.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0		2.0	6.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	Max	Max		None	Max		None	None	None	None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		42.5		76.4	72.3			23.7	23.7		23.7	
Actuated g/C Ratio		0.39		0.71	0.67			0.22	0.22		0.22	
v/c Ratio		0.63		0.81	0.36			0.76	0.71		0.58	
Control Delay		31.7		25.1	9.1			54.5	8.8		45.8	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		31.7		25.1	9.1			54.5	8.8		45.8	
LOS		C		C	A			D	A		D	
Approach Delay		31.7			15.1			23.5			45.8	
Approach LOS		C			B			C			D	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	108.1
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.81
Intersection Signal Delay:	22.9
Intersection LOS:	C
Intersection Capacity Utilization:	88.1%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road

Future Total 2036  
PM Peak Hour





















Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	790	524	874	252	529	145
v/c Ratio	0.63	0.81	0.36	0.76	0.71	0.58
Control Delay	31.7	25.1	9.1	54.5	8.8	45.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.7	25.1	9.1	54.5	8.8	45.8
Queue Length 50th (m)	73.5	53.5	38.2	49.8	0.8	26.6
Queue Length 95th (m)	111.4	#123.6	64.5	76.7	28.4	46.5
Internal Link Dist (m)	869.1		325.1	564.2		239.1
Turn Bay Length (m)		50.0				
Base Capacity (vph)	1256	710	2395	505	868	378
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.74	0.36	0.50	0.61	0.38

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 2: McLaughlin Road & Old School Road























Future Total 2036  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	669	57	493	770	52	73	164	497	46	78	12
Future Volume (vph)	16	669	57	493	770	52	73	164	497	46	78	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		2.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00	
Frt		0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.98	
Satd. Flow (prot)		3453		1755	3573			1811	1555		1804	
Flt Permitted		0.92		0.23	1.00			0.82	1.00		0.61	
Satd. Flow (perm)		3191		432	3573			1512	1555		1125	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	17	712	61	524	819	55	78	174	529	49	83	13
RTOR Reduction (vph)	0	4	0	0	3	0	0	0	409	0	3	0
Lane Group Flow (vph)	0	786	0	524	871	0	0	252	120	0	142	0
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		42.5		72.3	72.3			23.7	23.7		23.7	
Effective Green, g (s)		42.5		74.3	72.3			23.7	23.7		23.7	
Actuated g/C Ratio		0.39		0.69	0.67			0.22	0.22		0.22	
Clearance Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1255		637	2391			331	341		246	
v/s Ratio Prot				c0.21	0.24							
v/s Ratio Perm		c0.25		0.35				c0.17	0.08		0.13	
v/c Ratio		0.63		0.82	0.36			0.76	0.35		0.58	
Uniform Delay, d1		26.4		15.8	7.8			39.5	35.7		37.7	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		2.4		8.4	0.4			9.9	0.6		3.3	
Delay (s)		28.7		24.2	8.2			49.4	36.3		40.9	
Level of Service		C		C	A			D	D		D	
Approach Delay (s)		28.7			14.2			40.5			40.9	
Approach LOS		C			B			D			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			25.7			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			108.0			Sum of lost time (s)			14.0			
Intersection Capacity Utilization			88.1%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	690	240	154	352	309	166	266	3314	386	172	1982	628
Future Volume (vph)	690	240	154	352	309	166	266	3314	386	172	1982	628
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.941			0.948				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3260	0	1789	3438	0	1807	5043	1633	1825	4812	1541
Flt Permitted	0.192			0.341			0.073			0.077		
Satd. Flow (perm)	369	3260	0	642	3438	0	139	5043	1633	148	4812	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		88			65				152			396
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			1155.5			855.3			844.1	
Travel Time (s)		51.8			59.4			38.5			38.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Adj. Flow (vph)	711	247	159	363	319	171	274	3416	398	177	2043	647
Shared Lane Traffic (%)												
Lane Group Flow (vph)	711	406	0	363	490	0	274	3416	398	177	2043	647
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

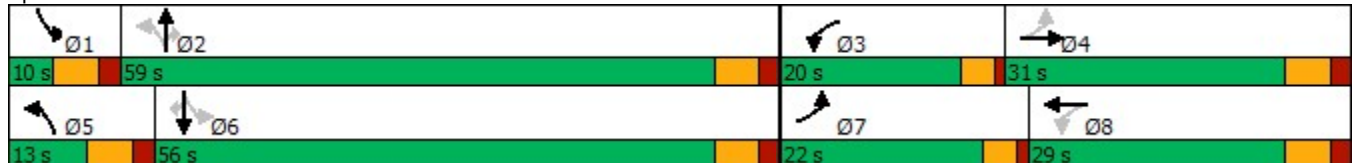
Future Total 2036  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0	29.0	10.0	29.0	29.0
Total Split (s)	22.0	31.0		20.0	29.0		13.0	59.0	59.0	10.0	56.0	56.0
Total Split (%)	18.3%	25.8%		16.7%	24.2%		10.8%	49.2%	49.2%	8.3%	46.7%	46.7%
Maximum Green (s)	18.0	25.0		16.0	23.0		7.0	53.0	53.0	4.0	50.0	50.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		0.0	-2.0		-2.0	-2.0	0.0	-2.0	-2.0	0.0
Total Lost Time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lead/Lag	Lead	Lag		Lead	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
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Walk Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	45.4	23.4		37.4	21.3		64.0	55.0	53.0	58.0	52.0	50.0
Actuated g/C Ratio	0.39	0.20		0.32	0.18		0.55	0.47	0.46	0.50	0.45	0.43
v/c Ratio	1.80	0.56		1.00	0.72		1.34	1.43	0.48	1.11	0.95	0.73
Control Delay	396.1	35.5		79.7	44.9		206.7	224.9	15.7	128.5	42.4	15.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	396.1	35.5		79.7	44.9		206.7	224.9	15.7	128.5	42.4	15.9
LOS	F	D		E	D		F	F	B	F	D	B
Approach Delay		265.1			59.7			203.3			41.7	
Approach LOS		F			E			F			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 116.4  
 Natural Cycle: 150  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.80  
 Intersection Signal Delay: 145.4  
 Intersection Capacity Utilization 139.0%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service H

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Total 2036  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	711	406	363	490	274	3416	398	177	2043	647
v/c Ratio	1.80	0.56	1.00	0.72	1.34	1.43	0.48	1.11	0.95	0.73
Control Delay	396.1	35.5	79.7	44.9	206.7	224.9	15.7	128.5	42.4	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	396.1	35.5	79.7	44.9	206.7	224.9	15.7	128.5	42.4	15.9
Queue Length 50th (m)	~227.5	34.4	64.4	48.4	~66.2	~388.9	37.2	~30.2	161.5	46.9
Queue Length 95th (m)	#304.3	50.2	#110.9	66.4	#123.3	#429.5	66.7	#77.5	#208.6	98.3
Internal Link Dist (m)		983.8		1131.5		831.3			820.1	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	394	824	363	789	205	2384	826	160	2151	888
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.80	0.49	1.00	0.62	1.34	1.43	0.48	1.11	0.95	0.73

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

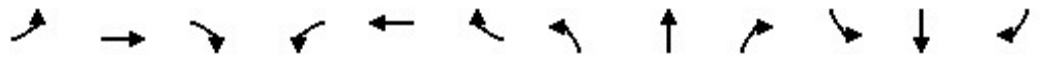
HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Total 2036  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	690	240	154	352	309	166	266	3314	386	172	1982	628	
Future Volume (vph)	690	240	154	352	309	166	266	3314	386	172	1982	628	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00	
Frt	1.00	0.94		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1825	3261		1789	3437		1807	5043	1633	1825	4812	1541	
Flt Permitted	0.19	1.00		0.34	1.00		0.07	1.00	1.00	0.08	1.00	1.00	
Satd. Flow (perm)	370	3261		642	3437		138	5043	1633	148	4812	1541	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	711	247	159	363	319	171	274	3416	398	177	2043	647	
RTOR Reduction (vph)	0	70	0	0	53	0	0	0	83	0	0	226	
Lane Group Flow (vph)	711	336	0	363	437	0	274	3416	315	177	2043	421	
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8		5	2		1	6		
Permitted Phases	4			8			2		2	6		6	
Actuated Green, G (s)	39.4	21.4		35.4	19.4		60.0	53.0	53.0	54.0	50.0	50.0	
Effective Green, g (s)	43.4	23.4		35.4	21.4		64.0	55.0	53.0	58.0	52.0	50.0	
Actuated g/C Ratio	0.37	0.20		0.30	0.18		0.55	0.47	0.46	0.50	0.45	0.43	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	387	655		352	631		204	2382	743	160	2149	661	
v/s Ratio Prot	c0.31	0.10		0.14	0.13		c0.10	c0.68		0.06	0.42		
v/s Ratio Perm	0.37			c0.17			0.63		0.19	0.49		0.27	
v/c Ratio	1.84	0.51		1.03	0.69		1.34	1.43	0.42	1.11	0.95	0.64	
Uniform Delay, d1	31.3	41.4		37.1	44.4		33.8	30.7	21.4	29.0	31.0	26.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	386.7	0.7		56.2	3.3		183.5	197.8	1.8	102.5	10.8	4.6	
Delay (s)	418.0	42.1		93.4	47.7		217.3	228.5	23.2	131.5	41.8	30.7	
Level of Service	F	D		F	D		F	F	C	F	D	C	
Approach Delay (s)		281.4			67.1			207.8			44.8		
Approach LOS		F			E			F			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			151.2									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.45										
Actuated Cycle Length (s)			116.4									Sum of lost time (s)	16.0
Intersection Capacity Utilization			139.0%									ICU Level of Service	H
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

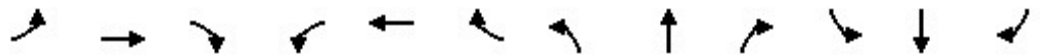
Future Total 2036  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕		↖	↕↕↕			↕			↕	
Traffic Volume (vph)	47	789	57	277	744	109	38	350	296	55	211	32
Future Volume (vph)	47	789	57	277	744	109	38	350	296	55	211	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.990			0.981			0.941			0.985	
Flt Protected		0.997		0.950				0.997			0.991	
Satd. Flow (prot)	0	5037	0	1825	5014	0	0	1755	0	0	1840	0
Flt Permitted		0.826		0.138				0.965			0.732	
Satd. Flow (perm)	0	4173	0	265	5014	0	0	1699	0	0	1359	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			28			46			7	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1665.9			1419.4			904.3			2784.8	
Travel Time (s)		85.7			73.0			40.7			125.3	
Confl. Peds. (#/hr)							1					1
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
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Adj. Flow (vph)	51	858	62	301	809	118	41	380	322	60	229	35
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	971	0	301	927	0	0	743	0	0	324	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2036  
PM Peak Hour

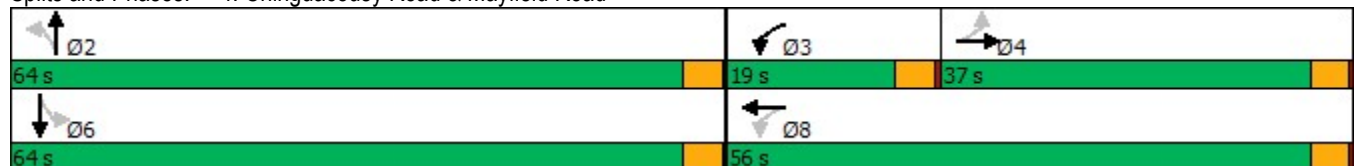


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	37.0	37.0		19.0	56.0		64.0	64.0		64.0	64.0	
Total Split (%)	30.8%	30.8%		15.8%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	33.0	33.0		15.0	52.0		60.0	60.0		60.0	60.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
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	Max	Max		None	Max		None	None		None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		33.3		52.4	52.4			50.4			50.4	
Actuated g/C Ratio		0.30		0.47	0.47			0.45			0.45	
v/c Ratio		0.77		0.89	0.39			0.93			0.52	
Control Delay		41.3		54.3	20.1			46.0			24.0	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		41.3		54.3	20.1			46.0			24.0	
LOS		D		D	C			D			C	
Approach Delay		41.3			28.4			46.0			24.0	
Approach LOS		D			C			D			C	

Intersection Summary

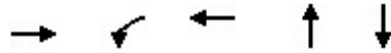
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	110.9
Natural Cycle:	55
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.93
Intersection Signal Delay:	35.8
Intersection LOS:	D
Intersection Capacity Utilization	86.0%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Total 2036  
PM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	971	301	927	743	324
v/c Ratio	0.77	0.89	0.39	0.93	0.52
Control Delay	41.3	54.3	20.1	46.0	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	41.3	54.3	20.1	46.0	24.0
Queue Length 50th (m)	72.6	46.0	47.5	140.3	47.4
Queue Length 95th (m)	95.9	#105.6	64.2	#216.7	72.1
Internal Link Dist (m)	1641.9		1395.4	880.3	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	1258	338	2385	948	744
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.77	0.89	0.39	0.78	0.44

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 4: Chinguacousy Road & Mayfield Road

Future Total 2036  
PM Peak Hour























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		←↑↑↑		↑	↑↑↑			↑			↑	↑
Traffic Volume (vph)	47	789	57	277	744	109	38	350	296	55	211	32
Future Volume (vph)	47	789	57	277	744	109	38	350	296	55	211	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frbp, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		0.99		1.00	0.98			0.94			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		5041		1825	5013			1757			1840	
Flt Permitted		0.83		0.14	1.00			0.97			0.73	
Satd. Flow (perm)		4173		265	5013			1701			1359	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	858	62	301	809	118	41	380	322	60	229	35
RTOR Reduction (vph)	0	6	0	0	15	0	0	25	0	0	4	0
Lane Group Flow (vph)	0	965	0	301	912	0	0	718	0	0	320	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		33.3		52.4	52.4			50.4			50.4	
Effective Green, g (s)		33.3		52.4	52.4			50.4			50.4	
Actuated g/C Ratio		0.30		0.47	0.47			0.45			0.45	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1254		337	2370			773			618	
v/s Ratio Prot				c0.12	0.18							
v/s Ratio Perm		0.23		c0.30				c0.42			0.24	
v/c Ratio		0.77		0.89	0.38			0.93			0.52	
Uniform Delay, d1		35.3		24.8	18.8			28.5			21.5	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		4.6		24.4	0.5			17.2			0.7	
Delay (s)		39.8		49.2	19.3			45.7			22.3	
Level of Service		D		D	B			D			C	
Approach Delay (s)		39.8			26.6			45.7			22.3	
Approach LOS		D			C			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			34.5									HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			110.8								12.0	Sum of lost time (s)
Intersection Capacity Utilization			86.0%									ICU Level of Service E
Analysis Period (min)			15									

c Critical Lane Group



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Total 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	976	85	125	1151	303	143	606	129	225	368	174
Future Volume (vph)	177	976	85	125	1151	303	143	606	129	225	368	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.988			0.969			0.974			0.952	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	5031	0	1755	4889	0	1825	3508	0	1738	3353	0
Flt Permitted	0.100			0.140			0.440			0.136		
Satd. Flow (perm)	183	5031	0	259	4889	0	845	3508	0	249	3353	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			59			21			83	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			341.6			2496.3	
Travel Time (s)		73.0			65.0			15.4			112.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	184	1017	89	130	1199	316	149	631	134	234	383	181
Shared Lane Traffic (%)												
Lane Group Flow (vph)	184	1106	0	130	1515	0	149	765	0	234	564	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

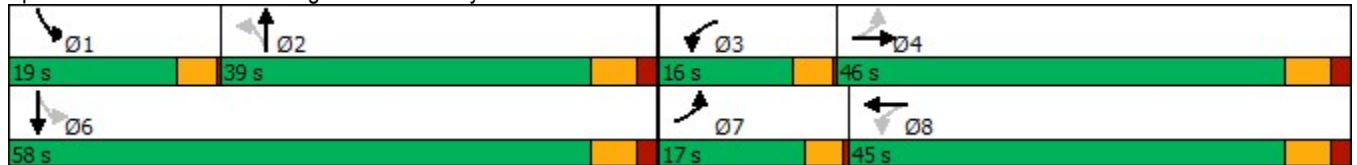
Future Total 2036  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	22.0		8.0	22.0		22.0	22.0		8.0	22.0	
Total Split (s)	17.0	46.0		16.0	45.0		39.0	39.0		19.0	58.0	
Total Split (%)	14.2%	38.3%		13.3%	37.5%		32.5%	32.5%		15.8%	48.3%	
Maximum Green (s)	13.0	40.0		12.0	39.0		33.0	33.0		15.0	52.0	
Yellow Time (s)	3.5	4.0		3.5	4.0		4.0	4.0		3.5	4.0	
All-Red Time (s)	0.5	2.0		0.5	2.0		2.0	2.0		0.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	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	
Recall Mode	None	Max		Max	Max		Max	Max		Max	None	
Walk Time (s)		5.0			5.0		5.0	5.0			5.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)		0			0		0	0			0	
Act Effct Green (s)	54.0	40.0		54.0	40.0		33.0	33.0		54.0	52.0	
Actuated g/C Ratio	0.45	0.33		0.45	0.33		0.28	0.28		0.45	0.43	
v/c Ratio	0.78	0.66		0.49	0.91		0.64	0.78		0.79	0.38	
Control Delay	47.0	35.9		24.2	45.9		52.7	45.6		43.2	20.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	47.0	35.9		24.2	45.9		52.7	45.6		43.2	20.2	
LOS	D	D		C	D		D	D		D	C	
Approach Delay		37.5			44.2			46.8			27.0	
Approach LOS		D			D			D			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Natural Cycle: 70  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 39.9  
 Intersection LOS: D  
 Intersection Capacity Utilization 88.8%  
 ICU Level of Service E  
 Analysis Period (min) 15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Total 2036  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	184	1106	130	1515	149	765	234	564
v/c Ratio	0.78	0.66	0.49	0.91	0.64	0.78	0.79	0.38
Control Delay	47.0	35.9	24.2	45.9	52.7	45.6	43.2	20.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.0	35.9	24.2	45.9	52.7	45.6	43.2	20.2
Queue Length 50th (m)	25.8	80.0	16.6	121.9	30.9	85.4	34.3	39.2
Queue Length 95th (m)	#56.9	95.6	28.2	#151.6	#55.3	108.4	#70.9	53.0
Internal Link Dist (m)		1395.4		1239.7		317.6		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	252	1685	265	1669	232	979	298	1500
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.66	0.49	0.91	0.64	0.78	0.79	0.38

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

































HCM Signalized Intersection Capacity Analysis  
 5: McLaughlin Road & Mayfield Road

Future Total 2036  
 PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	976	85	125	1151	303	143	606	129	225	368	174
Future Volume (vph)	177	976	85	125	1151	303	143	606	129	225	368	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1738	5030		1755	4887		1825	3507		1738	3352	
Flt Permitted	0.10	1.00		0.14	1.00		0.44	1.00		0.14	1.00	
Satd. Flow (perm)	183	5030		258	4887		846	3507		249	3352	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	184	1017	89	130	1199	316	149	631	134	234	383	181
RTOR Reduction (vph)	0	9	0	0	39	0	0	15	0	0	47	0
Lane Group Flow (vph)	184	1097	0	130	1476	0	149	750	0	234	517	0
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	52.0	40.0		52.0	40.0		33.0	33.0		52.0	52.0	
Effective Green, g (s)	52.0	40.0		52.0	40.0		33.0	33.0		52.0	52.0	
Actuated g/C Ratio	0.43	0.33		0.43	0.33		0.28	0.28		0.43	0.43	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	234	1676		261	1629		232	964		294	1452	
v/s Ratio Prot	c0.08	0.22		0.05	c0.30			0.21		c0.10	0.15	
v/s Ratio Perm	0.26			0.17			0.18			c0.25		
v/c Ratio	0.79	0.65		0.50	0.91		0.64	0.78		0.80	0.36	
Uniform Delay, d1	26.6	34.1		22.5	38.2		38.3	40.1		25.7	22.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.8	2.0		6.6	8.8		12.9	6.2		13.8	0.2	
Delay (s)	42.5	36.1		29.2	47.0		51.2	46.3		39.5	22.9	
Level of Service	D	D		C	D		D	D		D	C	
Approach Delay (s)		37.0			45.6			47.1			27.8	
Approach LOS		D			D			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			40.5				HCM 2000 Level of Service				D	
HCM 2000 Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			88.8%				ICU Level of Service				E	
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2036  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	693	670	127	305	868	179	243	1000	291	253	1008	980
Future Volume (vph)	693	670	127	305	868	179	243	1000	291	253	1008	980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.96	0.98		0.99			0.96			0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	4995	1601	3404	5092	1585	1789	3614	1555	1825	3510	1585
Flt Permitted	0.167			0.950			0.122			0.098		
Satd. Flow (perm)	308	4995	1540	3346	5092	1563	230	3614	1488	188	3510	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			143			185			185			625
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			889.1			610.7			609.4	
Travel Time (s)		7.3			45.7			31.4			31.3	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Adj. Flow (vph)	714	691	131	314	895	185	251	1031	300	261	1039	1010
Shared Lane Traffic (%)												
Lane Group Flow (vph)	714	691	131	314	895	185	251	1031	300	261	1039	1010
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	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	2		2	6		6
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	8.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	42.0	45.0	45.0	23.0	26.0	26.0	9.0	44.0	44.0	18.0	53.0	53.0
Total Split (%)	32.3%	34.6%	34.6%	17.7%	20.0%	20.0%	6.9%	33.8%	33.8%	13.8%	40.8%	40.8%
Maximum Green (s)	37.0	38.0	38.0	18.0	19.0	19.0	5.0	37.0	37.0	14.0	46.0	46.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.5	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	0.5	3.0	3.0	1.0	3.0	3.0
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)	5.0	7.0	7.0	5.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
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
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		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



Queues  
6: Hurontario Street & Mayfield Road

Future Total 2036  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	714	691	131	314	895	185	251	1031	300	261	1039	1010
v/c Ratio	1.27	0.47	0.24	0.67	1.20	0.48	1.81	1.00	0.54	1.00	0.84	1.06
Control Delay	168.3	39.1	5.4	60.8	150.6	11.3	412.8	75.1	18.5	90.8	45.8	62.3
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	168.3	39.1	5.4	60.8	150.6	11.3	412.8	75.1	18.5	90.8	45.8	62.3
Queue Length 50th (m)	~215.1	53.2	0.0	39.8	~101.9	0.0	~73.3	~139.8	23.6	~50.6	128.0	~173.3
Queue Length 95th (m)	#289.1	65.8	12.1	55.3	#130.0	20.8	#125.9	#185.8	52.3	#106.3	155.3	#252.7
Internal Link Dist (m)		118.1			865.1			586.7				585.4
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	561	1460	551	471	744	386	139	1028	555	260	1242	954
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.27	0.47	0.24	0.67	1.20	0.48	1.81	1.00	0.54	1.00	0.84	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

































Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road










Future Total 2036  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	693	670	127	305	868	179	243	1000	291	253	1008	980
Future Volume (vph)	693	670	127	305	868	179	243	1000	291	253	1008	980
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	7.0	7.0	5.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	4995	1540	3404	5092	1563	1789	3614	1488	1825	3510	1555
Flt Permitted	0.17	1.00	1.00	0.95	1.00	1.00	0.12	1.00	1.00	0.10	1.00	1.00
Satd. Flow (perm)	308	4995	1540	3404	5092	1563	229	3614	1488	187	3510	1555
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	714	691	131	314	895	185	251	1031	300	261	1039	1010
RTOR Reduction (vph)	0	0	93	0	0	158	0	0	132	0	0	404
Lane Group Flow (vph)	714	691	38	314	895	27	251	1031	168	261	1039	606
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Turn Type	pm+pt	NA	Perm	Prot	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	2		2	6		6
Actuated Green, G (s)	61.0	38.0	38.0	18.0	19.0	19.0	42.0	37.0	37.0	55.0	46.0	46.0
Effective Green, g (s)	61.0	38.0	38.0	18.0	19.0	19.0	42.0	37.0	37.0	55.0	46.0	46.0
Actuated g/C Ratio	0.47	0.29	0.29	0.14	0.15	0.15	0.32	0.28	0.28	0.42	0.35	0.35
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
Lane Grp Cap (vph)	556	1460	450	471	744	228	133	1028	423	255	1242	550
v/s Ratio Prot	c0.37	0.14		0.09	0.18		c0.07	0.29		c0.11	0.30	
v/s Ratio Perm	c0.24		0.02			0.02	c0.53		0.11	0.32		0.39
v/c Ratio	1.28	0.47	0.09	0.67	1.20	0.12	1.89	1.00	0.40	1.02	0.84	1.10
Uniform Delay, d1	37.3	37.8	33.4	53.2	55.5	48.2	40.6	46.5	37.5	38.5	38.5	42.0
Progression 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
Incremental Delay, d2	141.1	1.1	0.4	7.3	103.9	1.1	426.2	28.8	2.8	62.6	6.8	69.3
Delay (s)	178.5	38.9	33.8	60.4	159.4	49.3	466.8	75.3	40.3	101.1	45.3	111.3
Level of Service	F	D	C	E	F	D	F	E	D	F	D	F
Approach Delay (s)		103.3			122.5			130.7			80.5	
Approach LOS		F			F			F			F	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			105.9				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.52									
Actuated Cycle Length (s)			130.0				Sum of lost time (s)		23.0			
Intersection Capacity Utilization			116.0%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												












Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C

Future Total 2036  
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	24	36	741	40	52	555
Future Volume (vph)	24	36	741	40	52	555
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.919		0.993			
Flt Protected	0.980					0.996
Satd. Flow (prot)	1696	0	1870	0	0	1876
Flt Permitted	0.980					0.996
Satd. Flow (perm)	1696	0	1870	0	0	1876
Link Speed (k/h)	48		80			80
Link Distance (m)	204.9		2784.8			298.8
Travel Time (s)	15.4		125.3			13.4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	24	36	741	40	52	555
Shared Lane Traffic (%)						
Lane Group Flow (vph)	60	0	781	0	0	607
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	82.6%			ICU Level of Service E		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
7: Chinguacousy Road & Street C

Future Total 2036  
PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	24	36	741	40	52	555
Future Volume (Veh/h)	24	36	741	40	52	555
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	36	741	40	52	555
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						299
pX, platoon unblocked	0.78					
vC, conflicting volume	1420	761			781	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1397	761			781	
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	91			94	
cM capacity (veh/h)	113	405			837	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	60	781	607			
Volume Left	24	0	52			
Volume Right	36	40	0			
cSH	200	1700	837			
Volume to Capacity	0.30	0.46	0.06			
Queue Length 95th (m)	9.2	0.0	1.5			
Control Delay (s)	30.6	0.0	1.6			
Lane LOS	D		A			
Approach Delay (s)	30.6	0.0	1.6			
Approach LOS	D					
<b>Intersection Summary</b>						
Average Delay			2.0			
Intersection Capacity Utilization			82.6%	ICU Level of Service		E
Analysis Period (min)	15					










Lanes, Volumes, Timings  
8: Street B & Old School Road

Future Total 2036  
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↖↖	↗↗	
Traffic Volume (vph)	693	14	86	791	10	48
Future Volume (vph)	693	14	86	791	10	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Fr <sub>t</sub>	0.997			0.888		
Fl <sub>t</sub> Protected				0.995	0.991	
Satd. Flow (prot)	3568	0	0	3561	1657	0
Fl <sub>t</sub> Permitted				0.995	0.991	
Satd. Flow (perm)	3568	0	0	3561	1657	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	693	14	86	791	10	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	707	0	0	877	58	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	14		24	24		14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	57.5%			ICU Level of Service B		
Analysis Period (min)	15					


















HCM Unsignalized Intersection Capacity Analysis  
8: Street B & Old School Road

Future Total 2036  
PM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	693	14	86	791	10	48
Future Volume (Veh/h)	693	14	86	791	10	48
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	693	14	86	791	10	48
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			707	1268	354	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			707	1268	354	
tC, single (s)			4.1	6.8	6.9	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			90	93	93	
cM capacity (veh/h)			887	145	643	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	462	245	350	527	58	
Volume Left	0	0	86	0	10	
Volume Right	0	14	0	0	48	
cSH	1700	1700	887	1700	404	
Volume to Capacity	0.27	0.14	0.10	0.31	0.14	
Queue Length 95th (m)	0.0	0.0	2.4	0.0	3.8	
Control Delay (s)	0.0	0.0	3.2	0.0	15.4	
Lane LOS	A			C		
Approach Delay (s)	0.0		1.3		15.4	
Approach LOS				C		
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			57.5%	ICU Level of Service	B	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
 9: McLaughlin Road & Street A

Future Total 2036  
 PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	147	0	34	0	701	234	37	592	0
Future Volume (vph)	0	0	0	147	0	34	0	701	234	37	592	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Frt					0.850			0.962				
Flt Protected				0.950							0.997	
Satd. Flow (prot)	0	1883	0	1789	1601	0	0	3443	0	0	3568	0
Flt Permitted				0.757							0.857	
Satd. Flow (perm)	0	1883	0	1426	1601	0	0	3443	0	0	3067	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					219			76				
Link Speed (k/h)		48			48			80				80
Link Distance (m)		204.8			403.1			2496.3				588.2
Travel Time (s)		15.4			30.2			112.3				26.5
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	147	0	34	0	701	234	37	592	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	147	34	0	0	935	0	0	629	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)		3.7			3.7			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2036  
PM Peak Hour

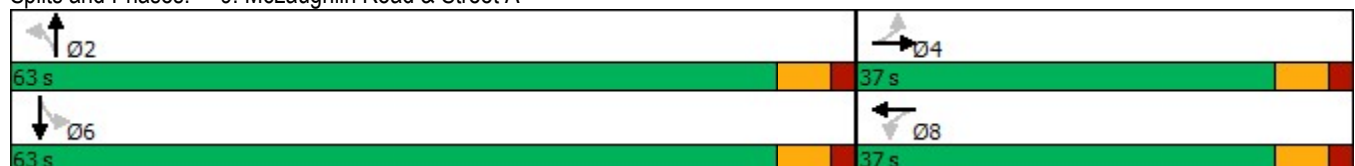


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	37.0	37.0		37.0	37.0		63.0	63.0		63.0	63.0	
Total Split (%)	37.0%	37.0%		37.0%	37.0%		63.0%	63.0%		63.0%	63.0%	
Maximum Green (s)	31.0	31.0		31.0	31.0		57.0	57.0		57.0	57.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		6.0	6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)				14.2	14.2			61.9			61.9	
Actuated g/C Ratio				0.16	0.16			0.70			0.70	
v/c Ratio				0.64	0.08			0.38			0.29	
Control Delay				46.3	0.4			5.8			5.8	
Queue Delay				0.0	0.0			0.0			0.0	
Total Delay				46.3	0.4			5.8			5.8	
LOS				D	A			A			A	
Approach Delay					37.7			5.8			5.8	
Approach LOS					D			A			A	

Intersection Summary

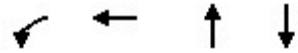
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	88.1
Natural Cycle:	45
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	9.1
Intersection Capacity Utilization:	62.3%
Analysis Period (min):	15
Intersection LOS:	A
ICU Level of Service:	B

Splits and Phases: 9: McLaughlin Road & Street A



Queues  
9: McLaughlin Road & Street A


















Future Total 2036  
PM Peak Hour



Lane Group	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	147	34	935	629
v/c Ratio	0.64	0.08	0.38	0.29
Control Delay	46.3	0.4	5.8	5.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	46.3	0.4	5.8	5.8
Queue Length 50th (m)	22.4	0.0	25.4	17.5
Queue Length 95th (m)	39.8	0.0	44.4	31.3
Internal Link Dist (m)		379.1	2472.3	564.2
Turn Bay Length (m)	30.0			
Base Capacity (vph)	502	705	2440	2153
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.29	0.05	0.38	0.29
Intersection Summary				

HCM Signalized Intersection Capacity Analysis  
 9: McLaughlin Road & Street A

Future Total 2036  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	147	0	34	0	701	234	37	592	0
Future Volume (vph)	0	0	0	147	0	34	0	701	234	37	592	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.0	6.0			6.0			6.0	
Lane Util. Factor				1.00	1.00			0.95			0.95	
Frt				1.00	0.85			0.96			1.00	
Flt Protected				0.95	1.00			1.00			1.00	
Satd. Flow (prot)				1789	1601			3444			3568	
Flt Permitted				0.76	1.00			1.00			0.86	
Satd. Flow (perm)				1426	1601			3444			3067	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	147	0	34	0	701	234	37	592	0
RTOR Reduction (vph)	0	0	0	0	29	0	0	23	0	0	0	0
Lane Group Flow (vph)	0	0	0	147	5	0	0	912	0	0	629	0
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)				14.2	14.2			61.9			61.9	
Effective Green, g (s)				14.2	14.2			61.9			61.9	
Actuated g/C Ratio				0.16	0.16			0.70			0.70	
Clearance Time (s)				6.0	6.0			6.0			6.0	
Vehicle Extension (s)				3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)				229	258			2419			2154	
v/s Ratio Prot					0.00			c0.26				
v/s Ratio Perm				c0.10							0.21	
v/c Ratio				0.64	0.02			0.38			0.29	
Uniform Delay, d1				34.6	31.1			5.3			4.9	
Progression Factor				1.00	1.00			1.00			1.00	
Incremental Delay, d2				6.0	0.0			0.4			0.3	
Delay (s)				40.6	31.1			5.8			5.2	
Level of Service				D	C			A			A	
Approach Delay (s)		0.0			38.8			5.8			5.2	
Approach LOS		A			D			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			9.0	HCM 2000 Level of Service					A			
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			88.1	Sum of lost time (s)					12.0			
Intersection Capacity Utilization			62.3%	ICU Level of Service					B			
Analysis Period (min)			15									
c Critical Lane Group												












Lanes, Volumes, Timings  
 10: Street D & Old School Road

Future Total 2036  
 PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	
Traffic Volume (vph)	1095	64	24	1192	53	0
Future Volume (vph)	1095	64	24	1192	53	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.992					
Flt Protected				0.999	0.950	
Satd. Flow (prot)	3550	0	0	3575	1789	0
Flt Permitted				0.999	0.950	
Satd. Flow (perm)	3550	0	0	3575	1789	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1095	64	24	1192	53	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1159	0	0	1216	53	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	60.1%			ICU Level of Service B		
Analysis Period (min)	15					

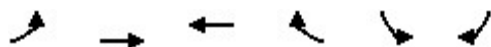
HCM Unsignalized Intersection Capacity Analysis  
 10: Street D & Old School Road

Future Total 2036  
 PM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1095	64	24	1192	53	0
Future Volume (Veh/h)	1095	64	24	1192	53	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1095	64	24	1192	53	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	349					
pX, platoon unblocked			0.86	0.86	0.86	
vC, conflicting volume			1159	1771	580	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			858	1570	184	
tC, single (s)			4.1	6.8	6.9	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			96	37	100	
cM capacity (veh/h)			669	84	711	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	730	429	421	795	53	
Volume Left	0	0	24	0	53	
Volume Right	0	64	0	0	0	
cSH	1700	1700	669	1700	84	
Volume to Capacity	0.43	0.25	0.04	0.47	0.63	
Queue Length 95th (m)	0.0	0.0	0.8	0.0	22.2	
Control Delay (s)	0.0	0.0	1.1	0.0	103.0	
Lane LOS			A		F	
Approach Delay (s)	0.0		0.4		103.0	
Approach LOS					F	
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization			60.1%		ICU Level of Service	B
Analysis Period (min)			15			

Lanes, Volumes, Timings  
11: Street A & Street D

Future Total 2036  
PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	120	182	232	29	22	77
Future Volume (vph)	120	182	232	29	22	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.985		0.895	
Flt Protected		0.981			0.989	
Satd. Flow (prot)	0	1848	1855	0	1667	0
Flt Permitted		0.981			0.989	
Satd. Flow (perm)	0	1848	1855	0	1667	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	120	182	232	29	22	77
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	302	261	0	99	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	46.2%
Analysis Period (min)	15
	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis  
 11: Street A & Street D

Future Total 2036  
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	120	182	232	29	22	77
Future Volume (Veh/h)	120	182	232	29	22	77
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	120	182	232	29	22	77
<b>Pedestrians</b>						
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	261				668	246
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	261				668	246
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				94	90
cM capacity (veh/h)	1303				384	792
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	302	261	99			
Volume Left	120	0	22			
Volume Right	0	29	77			
cSH	1303	1700	641			
Volume to Capacity	0.09	0.15	0.15			
Queue Length 95th (m)	2.3	0.0	4.1			
Control Delay (s)	3.7	0.0	11.6			
Lane LOS	A		B			
Approach Delay (s)	3.7	0.0	11.6			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			3.4			
Intersection Capacity Utilization			46.2%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2036  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	35	267	487	3931	2427	63
Future Volume (vph)	35	267	487	3931	2427	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt		0.850			0.996	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	5142	5121	0
Flt Permitted	0.950		0.062			
Satd. Flow (perm)	1789	1601	117	5142	5121	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1			4	
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	35	267	487	3931	2427	63
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	267	487	3931	2490	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2036  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	8.0	8.0	22.0	22.0	
Total Split (s)	22.0	34.0	34.0	98.0	64.0	
Total Split (%)	18.3%	28.3%	28.3%	81.7%	53.3%	
Maximum Green (s)	16.0	30.0	30.0	92.0	58.0	
Yellow Time (s)	4.0	3.5	3.5	4.0	4.0	
All-Red Time (s)	2.0	0.5	0.5	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	4.0	4.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	7.6	36.2	94.5	95.1	60.6	
Actuated g/C Ratio	0.07	0.34	0.88	0.89	0.57	
v/c Ratio	0.28	0.49	0.91	0.86	0.86	
Control Delay	54.3	30.1	52.0	8.9	25.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	54.3	30.1	52.0	8.9	25.3	
LOS	D	C	D	A	C	
Approach Delay	32.9			13.6	25.3	
Approach LOS	C			B	C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	106.9
Natural Cycle:	110
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.91
Intersection Signal Delay:	18.5
Intersection LOS:	B
Intersection Capacity Utilization:	91.9%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 12: Hurontario Street & Street A



Queues  
12: Hurontario Street & Street A

Future Total 2036  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	35	267	487	3931	2490
v/c Ratio	0.28	0.49	0.91	0.86	0.86
Control Delay	54.3	30.1	52.0	8.9	25.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	30.1	52.0	8.9	25.3
Queue Length 50th (m)	7.4	41.8	85.1	176.1	178.2
Queue Length 95th (m)	17.6	64.2	#149.8	242.4	#230.9
Internal Link Dist (m)	932.1			904.0	831.3
Turn Bay Length (m)	30.0		50.0		
Base Capacity (vph)	269	578	575	4573	2905
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.13	0.46	0.85	0.86	0.86

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 12: Hurontario Street & Street A

Future Total 2036  
 PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	35	267	487	3931	2427	63
Future Volume (vph)	35	267	487	3931	2427	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1789	1601	1789	5142	5122	
Flt Permitted	0.95	1.00	0.06	1.00	1.00	
Satd. Flow (perm)	1789	1601	117	5142	5122	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	35	267	487	3931	2427	63
RTOR Reduction (vph)	0	1	0	0	2	0
Lane Group Flow (vph)	35	266	487	3931	2488	0
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	5.0	32.8	92.4	92.4	60.6	
Effective Green, g (s)	5.0	32.8	92.4	92.4	60.6	
Actuated g/C Ratio	0.05	0.30	0.84	0.84	0.55	
Clearance Time (s)	6.0	4.0	4.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	81	480	523	4342	2837	
v/s Ratio Prot	0.02	c0.14	0.24	c0.76	0.49	
v/s Ratio Perm		0.03	c0.55			
v/c Ratio	0.43	0.55	0.93	0.91	0.88	
Uniform Delay, d1	50.8	32.2	34.3	5.6	21.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.7	1.4	23.5	3.7	4.2	
Delay (s)	54.5	33.6	57.8	9.3	25.4	
Level of Service	D	C	E	A	C	
Approach Delay (s)	36.0			14.6	25.4	
Approach LOS	D			B	C	

Intersection Summary


















HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	109.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	287	4	141	180	45	2	235	293	34	228	11
Future Volume (vph)	2	287	4	141	180	45	2	235	293	34	228	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.998			0.970			0.925			0.994	
Fl <sub>t</sub> Protected				0.950							0.994	
Satd. Flow (prot)	0	1917	0	1772	1799	0	0	1711	0	0	1786	0
Fl <sub>t</sub> Permitted		0.998		0.510				0.999			0.912	
Satd. Flow (perm)	0	1913	0	951	1799	0	0	1709	0	0	1639	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			38			186			6	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		839.5			490.2			298.8			643.0	
Travel Time (s)		43.2			25.2			13.4			28.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Adj. Flow (vph)	2	305	4	150	191	48	2	250	312	36	243	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	311	0	150	239	0	0	564	0	0	291	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												

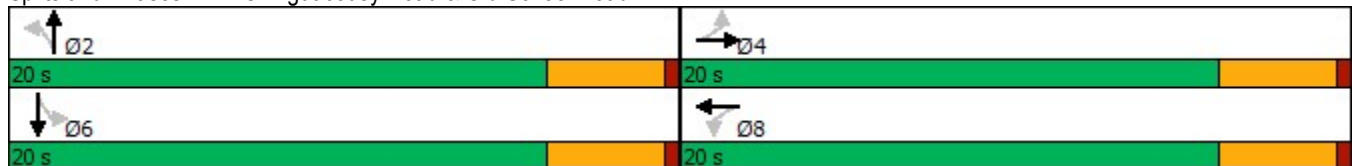
Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2041  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		10.7		10.5	10.5			19.4			19.4	
Actuated g/C Ratio		0.31		0.30	0.30			0.56			0.56	
v/c Ratio		0.53		0.52	0.42			0.54			0.32	
Control Delay		13.1		16.9	10.1			8.7			8.1	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		13.1		16.9	10.1			8.7			8.1	
LOS		B		B	B			A			A	
Approach Delay		13.1			12.7			8.7			8.1	
Approach LOS		B			B			A			A	

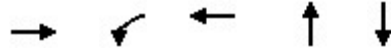
Intersection Summary	
Area Type:	Other
Cycle Length:	40
Actuated Cycle Length:	34.8
Natural Cycle:	40
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.54
Intersection Signal Delay:	10.5
Intersection LOS:	B
Intersection Capacity Utilization	76.5%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road



Queues  
1: Chinguacousy Road & Old School Road

Future Background 2041  
AM Peak Hour




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	311	150	239	564	291
v/c Ratio	0.53	0.52	0.42	0.54	0.32
Control Delay	13.1	16.9	10.1	8.7	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.1	16.9	10.1	8.7	8.1
Queue Length 50th (m)	14.1	6.8	8.6	13.0	9.2
Queue Length 95th (m)	27.6	17.3	19.2	#58.6	27.0
Internal Link Dist (m)	815.5		466.2	274.8	619.0
Turn Bay Length (m)					
Base Capacity (vph)	889	441	855	1035	916
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.35	0.34	0.28	0.54	0.32

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.



















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Background 2041  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	287	4	141	180	45	2	235	293	34	228	11
Future Volume (vph)	2	287	4	141	180	45	2	235	293	34	228	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.97			0.93			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		1917		1772	1798			1711			1787	
Flt Permitted		1.00		0.51	1.00			1.00			0.91	
Satd. Flow (perm)		1913		951	1798			1710			1640	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	2	305	4	150	191	48	2	250	312	36	243	12
RTOR Reduction (vph)	0	1	0	0	28	0	0	90	0	0	3	0
Lane Group Flow (vph)	0	310	0	150	211	0	0	474	0	0	288	0
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		9.2		9.2	9.2			18.5			18.5	
Effective Green, g (s)		9.2		9.2	9.2			18.5			18.5	
Actuated g/C Ratio		0.26		0.26	0.26			0.52			0.52	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		492		245	463			886			849	
v/s Ratio Prot					0.12							
v/s Ratio Perm		c0.16		0.16				c0.28			0.18	
v/c Ratio		0.63		0.61	0.46			0.54			0.34	
Uniform Delay, d1		11.7		11.7	11.1			5.7			5.0	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		2.5		4.5	0.7			2.3			1.1	
Delay (s)		14.3		16.2	11.9			8.1			6.1	
Level of Service		B		B	B			A			A	
Approach Delay (s)		14.3			13.5			8.1			6.1	
Approach LOS		B			B			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			10.3									B
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			35.7								8.0	
Intersection Capacity Utilization			76.5%									D
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Background 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	573	35	248	325	29	40	74	435	46	147	14
Future Volume (vph)	8	573	35	248	325	29	40	74	435	46	147	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.988				0.850		0.991	
Flt Protected		0.999		0.950				0.983			0.989	
Satd. Flow (prot)	0	3556	0	1789	3482	0	0	1864	1617	0	1858	0
Flt Permitted		0.949		0.394				0.846			0.899	
Satd. Flow (perm)	0	3378	0	742	3482	0	0	1604	1617	0	1689	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			16				278		4	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			540.0	
Travel Time (s)		45.9			18.0			26.5			24.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Adj. Flow (vph)	9	610	37	264	346	31	43	79	463	49	156	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	656	0	264	377	0	0	122	463	0	220	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	
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)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
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	
Protected Phases		4			8			2			6	

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

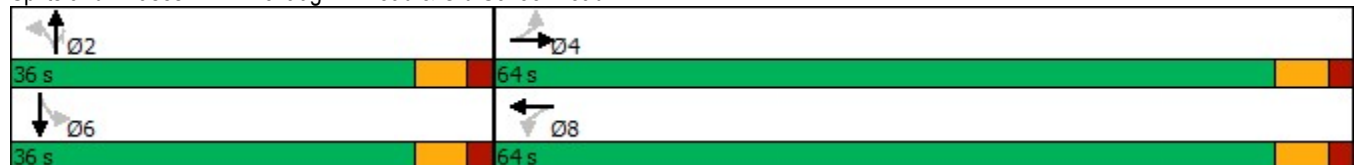
Future Background 2041  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%	36.0%	36.0%	36.0%	
Maximum Green (s)	58.0	58.0		58.0	58.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		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	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
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	Min	Min		Min	Min		None	None	None	None	None	
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)	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)		28.5		28.5	28.5			15.7	15.7		15.7	
Actuated g/C Ratio		0.49		0.49	0.49			0.27	0.27		0.27	
v/c Ratio		0.40		0.73	0.22			0.28	0.73		0.48	
Control Delay		9.7		25.3	8.2			22.5	16.9		24.6	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		9.7		25.3	8.2			22.5	16.9		24.6	
LOS		A		C	A			C	B		C	
Approach Delay		9.7			15.2			18.0			24.6	
Approach LOS		A			B			B			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 58.4  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.73  
 Intersection Signal Delay: 15.3  
 Intersection Capacity Utilization 70.3%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service C

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road



















Future Background 2041  
AM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	656	264	377	122	463	220
v/c Ratio	0.40	0.73	0.22	0.28	0.73	0.48
Control Delay	9.7	25.3	8.2	22.5	16.9	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.7	25.3	8.2	22.5	16.9	24.6
Queue Length 50th (m)	17.8	17.4	9.0	8.9	14.1	16.7
Queue Length 95th (m)	42.5	59.9	23.2	32.3	65.8	54.5
Internal Link Dist (m)	869.1		325.1	564.2		516.0
Turn Bay Length (m)		50.0				
Base Capacity (vph)	2981	654	3074	975	1092	1028
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.40	0.12	0.13	0.42	0.21
Intersection Summary						

HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road























Future Background 2041  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	573	35	248	325	29	40	74	435	46	147	14
Future Volume (vph)	8	573	35	248	325	29	40	74	435	46	147	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00	
Frt		0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	
Satd. Flow (prot)		3556		1789	3481			1864	1617		1857	
Flt Permitted		0.95		0.39	1.00			0.85	1.00		0.90	
Satd. Flow (perm)		3377		743	3481			1604	1617		1689	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	9	610	37	264	346	31	43	79	463	49	156	15
RTOR Reduction (vph)	0	5	0	0	8	0	0	0	200	0	3	0
Lane Group Flow (vph)	0	651	0	264	369	0	0	122	263	0	217	0
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		6		
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		28.5		28.5	28.5			15.7	15.7		15.7	
Effective Green, g (s)		28.5		28.5	28.5			15.7	15.7		15.7	
Actuated g/C Ratio		0.51		0.51	0.51			0.28	0.28		0.28	
Clearance Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1712		376	1765			448	451		471	
v/s Ratio Prot					0.11							
v/s Ratio Perm		0.19		0.36				0.08	0.16		0.13	
v/c Ratio		0.38		0.70	0.21			0.27	0.58		0.46	
Uniform Delay, d1		8.5		10.6	7.6			15.8	17.4		16.7	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.1		5.8	0.1			0.3	1.9		0.7	
Delay (s)		8.6		16.4	7.7			16.1	19.3		17.5	
Level of Service		A		B	A			B	B		B	
Approach Delay (s)		8.6			11.3			18.7			17.5	
Approach LOS		A			B			B			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			13.2									B
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			56.2								12.0	
Intersection Capacity Utilization			70.3%									C
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	570	261	212	340	202	158	61	1916	168	77	2665	301
Future Volume (vph)	570	261	212	340	202	158	61	1916	168	77	2665	301
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.933			0.934				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	3317	0	1722	3274	0	1722	4445	1471	1615	5043	1633
Flt Permitted	0.327			0.252			0.066			0.066		
Satd. Flow (perm)	604	3317	0	457	3274	0	120	4445	1471	112	5043	1633
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		35			14				130			167
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			1311.5			855.3			796.2	
Travel Time (s)		51.8			67.4			38.5			35.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Adj. Flow (vph)	613	281	228	366	217	170	66	2060	181	83	2866	324
Shared Lane Traffic (%)												
Lane Group Flow (vph)	613	509	0	366	387	0	66	2060	181	83	2866	324
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

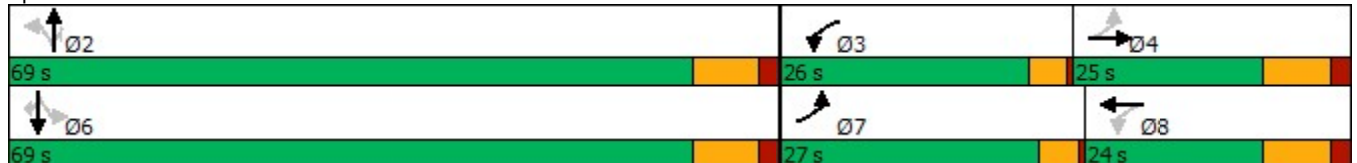
Future Background 2041  
AM Peak Hour

	↖		→		↘		↙		←		↗		↖		↑		↘		↓		↙	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR										
Permitted Phases	4				8				2				2		6				6			
Detector Phase	7		4		3		8		2		2		2		6		6		6			
Switch Phase																						
Minimum Initial (s)	4.0		4.0		4.0		4.0		4.0		4.0		4.0		4.0		4.0		4.0		4.0	
Minimum Split (s)	8.0		24.0		8.0		24.0		24.0		24.0		24.0		24.0		24.0		24.0		24.0	
Total Split (s)	27.0		25.0		26.0		24.0		69.0		69.0		69.0		69.0		69.0		69.0		69.0	
Total Split (%)	22.5%		20.8%		21.7%		20.0%		57.5%		57.5%		57.5%		57.5%		57.5%		57.5%		57.5%	
Maximum Green (s)	23.0		17.0		22.0		16.0		61.0		61.0		61.0		61.0		61.0		61.0		61.0	
Yellow Time (s)	3.5		6.0		3.5		6.0		6.0		6.0		6.0		6.0		6.0		6.0		6.0	
All-Red Time (s)	0.5		2.0		0.5		2.0		2.0		2.0		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		0.0		0.0	
Total Lost Time (s)	4.0		8.0		4.0		8.0		8.0		8.0		8.0		8.0		8.0		8.0		8.0	
Lead/Lag	Lead		Lag		Lead		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		3.0	
Recall Mode	None		None		None		None		None		None		None		None		None		None		None	
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)			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)	44.0		17.0		41.8		15.9		61.0		61.0		61.0		61.0		61.0		61.0		61.0	
Actuated g/C Ratio	0.37		0.14		0.35		0.13		0.51		0.51		0.51		0.51		0.51		0.51		0.51	
v/c Ratio	1.39		1.02		0.94		0.87		1.08		0.91		0.22		1.48		1.12		0.35			
Control Delay	215.0		92.5		64.2		69.5		173.9		34.4		5.8		316.4		87.9		9.3			
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	215.0		92.5		64.2		69.5		173.9		34.4		5.8		316.4		87.9		9.3			
LOS	F		F		E		E		F		C		A		F		F		A			
Approach Delay			159.4				66.9				36.1						85.9					
Approach LOS			F				E				D						F					

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 119.9  
 Natural Cycle: 120  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.48  
 Intersection Signal Delay: 79.7  
 Intersection Capacity Utilization 120.4%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service H

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Background 2041  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	613	509	366	387	66	2060	181	83	2866	324
v/c Ratio	1.39	1.02	0.94	0.87	1.08	0.91	0.22	1.48	1.12	0.35
Control Delay	215.0	92.5	64.2	69.5	173.9	34.4	5.8	316.4	87.9	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	215.0	92.5	64.2	69.5	173.9	34.4	5.8	316.4	87.9	9.3
Queue Length 50th (m)	~166.7	~61.5	65.8	45.9	~17.4	157.4	5.9	~26.7	~284.3	19.4
Queue Length 95th (m)	#236.0	#97.4	#122.6	#71.7	#32.4	182.2	17.6	#46.4	#310.7	38.4
Internal Link Dist (m)		983.8		1287.5		831.3			772.2	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	442	500	391	448	61	2261	812	56	2566	913
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.39	1.02	0.94	0.86	1.08	0.91	0.22	1.48	1.12	0.35

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.































Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Background 2041  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 			   			   		
Traffic Volume (vph)	570	261	212	340	202	158	61	1916	168	77	2665	301	
Future Volume (vph)	570	261	212	340	202	158	61	1916	168	77	2665	301	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00	
Frt	1.00	0.93		1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1755	3317		1722	3275		1722	4445	1471	1615	5043	1633	
Flt Permitted	0.33	1.00		0.25	1.00		0.07	1.00	1.00	0.07	1.00	1.00	
Satd. Flow (perm)	604	3317		456	3275		119	4445	1471	111	5043	1633	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	
Adj. Flow (vph)	613	281	228	366	217	170	66	2060	181	83	2866	324	
RTOR Reduction (vph)	0	30	0	0	12	0	0	0	64	0	0	82	
Lane Group Flow (vph)	613	479	0	366	375	0	66	2060	117	83	2866	242	
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm	
Protected Phases	7	4		3	8			2			6		
Permitted Phases	4			8			2		2	6		6	
Actuated Green, G (s)	40.0	17.0		37.8	15.9		61.0	61.0	61.0	61.0	61.0	61.0	
Effective Green, g (s)	40.0	17.0		37.8	15.9		61.0	61.0	61.0	61.0	61.0	61.0	
Actuated g/C Ratio	0.33	0.14		0.32	0.13		0.51	0.51	0.51	0.51	0.51	0.51	
Clearance Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	422	470		374	434		60	2261	748	56	2565	830	
v/s Ratio Prot	c0.28	0.14		0.18	0.11			0.46			0.57		
v/s Ratio Perm	c0.21			0.13			0.56		0.08	c0.74		0.15	
v/c Ratio	1.45	1.02		0.98	0.86		1.10	0.91	0.16	1.48	1.12	0.29	
Uniform Delay, d1	36.1	51.5		36.3	50.9		29.5	27.0	15.7	29.5	29.5	17.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	216.5	46.4		40.4	16.1		146.4	6.1	0.1	290.7	58.8	0.2	
Delay (s)	252.7	97.9		76.7	67.1		175.9	33.0	15.8	320.2	88.3	17.2	
Level of Service	F	F		E	E		F	C	B	F	F	B	
Approach Delay (s)		182.5			71.8			35.8			87.1		
Approach LOS		F			E			D			F		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			84.0									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.48										
Actuated Cycle Length (s)			119.9									Sum of lost time (s)	20.0
Intersection Capacity Utilization			120.4%									ICU Level of Service	H
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2041  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↕↔		↔	↔↕↔			↕			↕	
Traffic Volume (vph)	51	821	61	177	714	30	30	225	172	101	278	46
Future Volume (vph)	51	821	61	177	714	30	30	225	172	101	278	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.994			0.945			0.986	
Flt Protected		0.997		0.950				0.997			0.988	
Satd. Flow (prot)	0	4861	0	1659	4942	0	0	1741	0	0	1782	0
Flt Permitted		0.844		0.249				0.954			0.705	
Satd. Flow (perm)	0	4115	0	435	4942	0	0	1666	0	0	1272	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			8			34			6	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		586.0			1419.4			497.9			2784.8	
Travel Time (s)		30.1			73.0			22.4			125.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Adj. Flow (vph)	52	829	62	179	721	30	30	227	174	102	281	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	943	0	179	751	0	0	431	0	0	429	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	68.0	68.0		68.0	68.0		52.0	52.0		52.0	52.0	
Total Split (%)	56.7%	56.7%		56.7%	56.7%		43.3%	43.3%		43.3%	43.3%	
Maximum Green (s)	64.0	64.0		64.0	64.0		48.0	48.0		48.0	48.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		64.0		64.0	64.0			48.0			48.0	
Actuated g/C Ratio		0.53		0.53	0.53			0.40			0.40	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

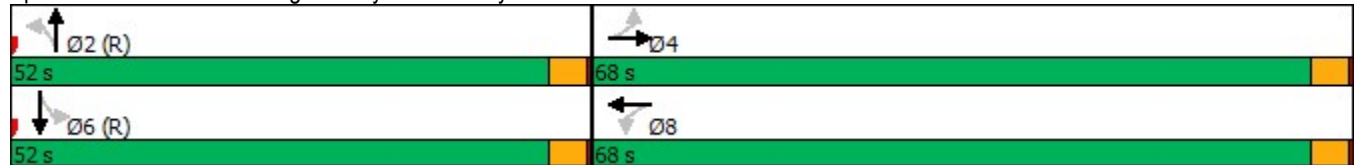
Future Background 2041  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.43		0.77	0.28			0.63			0.84	
Control Delay		17.4		58.4	17.9			31.3			48.2	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		17.4		58.4	17.9			31.3			48.2	
LOS		B		E	B			C			D	
Approach Delay		17.4			25.7			31.3			48.2	
Approach LOS		B			C			C			D	

Intersection Summary

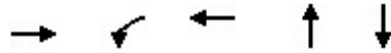
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	27.3
Intersection LOS:	C
Intersection Capacity Utilization:	93.1%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Background 2041  
AM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	943	179	751	431	429
v/c Ratio	0.43	0.77	0.28	0.63	0.84
Control Delay	17.4	58.4	17.9	31.3	48.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	58.4	17.9	31.3	48.2
Queue Length 50th (m)	46.5	31.3	30.1	74.1	88.9
Queue Length 95th (m)	57.1	#70.9	43.2	108.5	#145.4
Internal Link Dist (m)	562.0		1395.4	473.9	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	2201	232	2639	686	512
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.43	0.77	0.28	0.63	0.84

























Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 4: Chinguacousy Road & Mayfield Road

Future Background 2041  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  				  			  	
Traffic Volume (vph)	51	821	61	177	714	30	30	225	172	101	278	46
Future Volume (vph)	51	821	61	177	714	30	30	225	172	101	278	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frt		0.99		1.00	0.99			0.95			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		4863		1659	4942			1741			1782	
Flt Permitted		0.84		0.25	1.00			0.95			0.71	
Satd. Flow (perm)		4116		434	4942			1667			1272	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	52	829	62	179	721	30	30	227	174	102	281	46
RTOR Reduction (vph)	0	7	0	0	4	0	0	20	0	0	4	0
Lane Group Flow (vph)	0	936	0	179	747	0	0	411	0	0	425	0
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		64.0		64.0	64.0			48.0			48.0	
Effective Green, g (s)		64.0		64.0	64.0			48.0			48.0	
Actuated g/C Ratio		0.53		0.53	0.53			0.40			0.40	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Grp Cap (vph)		2195		231	2635			666			508	
v/s Ratio Prot					0.15							
v/s Ratio Perm		0.23		c0.41				0.25			c0.33	
v/c Ratio		0.43		0.77	0.28			0.62			0.84	
Uniform Delay, d1		16.9		22.3	15.4			28.7			32.5	
Progression Factor		1.00		1.58	1.15			1.00			1.00	
Incremental Delay, d2		0.6		20.2	0.2			4.2			15.1	
Delay (s)		17.5		55.5	18.0			32.9			47.6	
Level of Service		B		E	B			C			D	
Approach Delay (s)		17.5			25.2			32.9			47.6	
Approach LOS		B			C			C			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			27.3									C
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			120.0								8.0	
Intersection Capacity Utilization			93.1%									F
Analysis Period (min)			15									

c Critical Lane Group



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2041  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	1110	131	156	882	138	58	270	117	332	455	91
Future Volume (vph)	20	1110	131	156	882	138	58	270	117	332	455	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.984			0.980			0.955			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4888	0	1706	4770	0	1644	3397	0	1690	3444	0
Flt Permitted	0.263			0.098			0.443			0.314		
Satd. Flow (perm)	505	4888	0	176	4770	0	767	3397	0	559	3444	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			33			50			25	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			341.6			2496.3	
Travel Time (s)		73.0			65.0			15.4			112.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Adj. Flow (vph)	20	1133	134	159	900	141	59	276	119	339	464	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	1267	0	159	1041	0	59	395	0	339	557	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		8.0	23.0	
Total Split (s)	43.0	43.0		18.0	61.0		29.0	29.0		30.0	59.0	
Total Split (%)	35.8%	35.8%		15.0%	50.8%		24.2%	24.2%		25.0%	49.2%	
Maximum Green (s)	37.0	37.0		14.0	55.0		23.0	23.0		26.0	53.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		3.5	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		0.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Walk Time (s)	5.0	5.0			5.0		5.0	5.0			5.0	
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0			0	
Act Effct Green (s)	37.0	37.0		57.0	55.0		23.0	23.0		55.0	53.0	
Actuated g/C Ratio	0.31	0.31		0.48	0.46		0.19	0.19		0.46	0.44	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

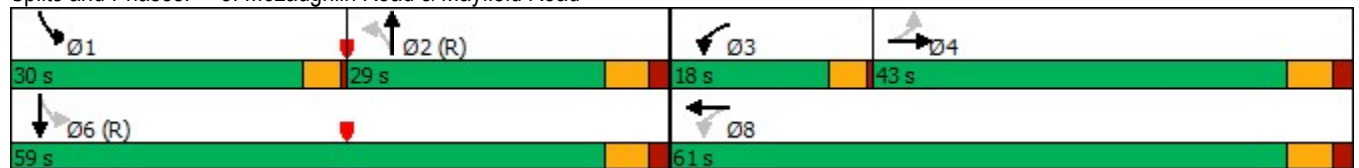
Future Background 2041  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.13	0.83		0.61	0.47		0.40	0.57		0.68	0.36	
Control Delay	33.5	44.4		32.5	22.5		51.9	42.0		29.6	22.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	33.5	44.4		32.5	22.5		51.9	42.0		29.6	22.0	
LOS	C	D		C	C		D	D		C	C	
Approach Delay		44.3			23.9			43.3			24.9	
Approach LOS		D			C			D			C	

Intersection Summary

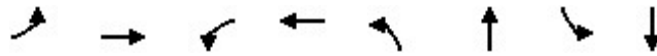
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	33.2
Intersection LOS:	C
Intersection Capacity Utilization	79.3%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Background 2041  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	20	1267	159	1041	59	395	339	557
v/c Ratio	0.13	0.83	0.61	0.47	0.40	0.57	0.68	0.36
Control Delay	33.5	44.4	32.5	22.5	51.9	42.0	29.6	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	44.4	32.5	22.5	51.9	42.0	29.6	22.0
Queue Length 50th (m)	3.8	106.1	21.1	58.6	12.3	39.1	52.9	42.8
Queue Length 95th (m)	m8.8	122.8	42.0	70.8	26.0	55.3	77.6	56.4
Internal Link Dist (m)		1395.4		1239.7		317.6		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	155	1519	262	2204	147	691	501	1535
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.83	0.61	0.47	0.40	0.57	0.68	0.36

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

































Future Background 2041  
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	1110	131	156	882	138	58	270	117	332	455	91
Future Volume (vph)	20	1110	131	156	882	138	58	270	117	332	455	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	4889		1706	4768		1644	3397		1690	3444	
Flt Permitted	0.26	1.00		0.10	1.00		0.44	1.00		0.31	1.00	
Satd. Flow (perm)	505	4889		175	4768		767	3397		558	3444	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	20	1133	134	159	900	141	59	276	119	339	464	93
RTOR Reduction (vph)	0	12	0	0	18	0	0	40	0	0	14	0
Lane Group Flow (vph)	20	1255	0	159	1023	0	59	355	0	339	543	0
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	37.0	37.0		55.0	55.0		23.0	23.0		53.0	53.0	
Effective Green, g (s)	37.0	37.0		55.0	55.0		23.0	23.0		53.0	53.0	
Actuated g/C Ratio	0.31	0.31		0.46	0.46		0.19	0.19		0.44	0.44	
Clearance Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	155	1507		258	2185		147	651		491	1521	
v/s Ratio Prot		c0.26		c0.07	0.21			0.10		c0.15	0.16	
v/s Ratio Perm	0.04			0.21			0.08			c0.16		
v/c Ratio	0.13	0.83		0.62	0.47		0.40	0.54		0.69	0.36	
Uniform Delay, d1	29.9	38.6		23.8	22.4		42.5	43.8		24.1	22.2	
Progression Factor	1.03	1.02		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.6	5.1		10.6	0.7		8.0	3.3		7.7	0.7	
Delay (s)	32.4	44.7		34.3	23.1		50.4	47.0		31.9	22.9	
Level of Service	C	D		C	C		D	D		C	C	
Approach Delay (s)		44.5			24.6			47.5			26.3	
Approach LOS		D			C			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			34.4				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			79.3%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	299	1093	120	253	703	186	99	443	257	395	1034	399
Future Volume (vph)	299	1093	120	253	703	186	99	443	257	395	1034	399
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	1.00		0.98	1.00		0.97	0.99		0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	4902	1541	3340	4948	1420	1807	3476	1512	1706	3544	1585
Fl <sub>t</sub> Permitted	0.167			0.950			0.255			0.373		
Satd. Flow (perm)	306	4902	1508	3330	4948	1395	484	3476	1467	666	3544	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			89			166			272			400
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			749.9			538.8			609.4	
Travel Time (s)		7.3			38.6			27.7			31.3	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Adj. Flow (vph)	318	1163	128	269	748	198	105	471	273	420	1100	424
Shared Lane Traffic (%)												
Lane Group Flow (vph)	318	1163	128	269	748	198	105	471	273	420	1100	424
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Minimum Split (s)	9.0	23.0	23.0	9.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	31.0	49.0	49.0	20.0	38.0	38.0	63.0	63.0	63.0	28.0	91.0	91.0
Total Split (%)	19.4%	30.6%	30.6%	12.5%	23.8%	23.8%	39.4%	39.4%	39.4%	17.5%	56.9%	56.9%
Maximum Green (s)	26.0	42.0	42.0	15.0	31.0	31.0	56.0	56.0	56.0	24.0	84.0	84.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	0.5	3.0	3.0
Lost Time Adjust (s)	-2.0	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	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
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)		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

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2041  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	66.0	42.0	42.0	15.0	31.0	31.0	56.0	56.0	56.0	87.0	84.0	84.0
Actuated g/C Ratio	0.41	0.26	0.26	0.09	0.19	0.19	0.35	0.35	0.35	0.54	0.52	0.52
v/c Ratio	0.85	0.90	0.28	0.86	0.78	0.49	0.62	0.39	0.40	0.81	0.59	0.42
Control Delay	57.9	67.7	17.7	96.1	67.8	16.5	61.7	40.3	5.5	36.6	27.8	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	0.0
Total Delay	57.9	67.7	17.7	96.1	67.8	16.5	61.7	40.3	5.5	36.6	27.8	3.6
LOS	E	E	B	F	E	B	E	D	A	D	C	A
Approach Delay		61.8			65.7			31.8			24.5	
Approach LOS		E			E			C			C	

Intersection Summary

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Pretimed
Maximum v/c Ratio:	0.90
Intersection Signal Delay:	45.2
Intersection LOS:	D
Intersection Capacity Utilization	85.0%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Background 2041  
AM Peak Hour




































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	318	1163	128	269	748	198	105	471	273	420	1100	424
v/c Ratio	0.85	0.90	0.28	0.86	0.78	0.49	0.62	0.39	0.40	0.81	0.59	0.42
Control Delay	57.9	67.7	17.7	96.1	67.8	16.5	61.7	40.3	5.5	36.6	27.8	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	0.0
Total Delay	57.9	67.7	17.7	96.1	67.8	16.5	61.7	40.3	5.5	36.6	27.8	3.6
Queue Length 50th (m)	73.5	132.1	9.5	44.2	83.8	8.5	27.7	59.3	0.2	78.9	124.1	3.6
Queue Length 95th (m)	#122.4	151.0	27.2	#68.0	99.7	33.4	52.8	75.1	20.2	#108.2	145.3	20.8
Internal Link Dist (m)		118.1			725.9			514.8			585.4	
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	376	1286	461	313	958	404	169	1216	690	518	1860	1007
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.90	0.28	0.86	0.78	0.49	0.62	0.39	0.40	0.81	0.59	0.42

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road

Future Background 2041  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		  	  			 		 	 		
Traffic Volume (vph)	299	1093	120	253	703	186	99	443	257	395	1034	399	
Future Volume (vph)	299	1093	120	253	703	186	99	443	257	395	1034	399	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	3.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frbp, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1738	4902	1508	3340	4948	1395	1805	3476	1467	1703	3544	1557	
Flt Permitted	0.17	1.00	1.00	0.95	1.00	1.00	0.25	1.00	1.00	0.37	1.00	1.00	
Satd. Flow (perm)	305	4902	1508	3340	4948	1395	484	3476	1467	668	3544	1557	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	318	1163	128	269	748	198	105	471	273	420	1100	424	
RTOR Reduction (vph)	0	0	66	0	0	134	0	0	177	0	0	190	
Lane Group Flow (vph)	318	1163	62	269	748	64	105	471	96	420	1100	234	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2	
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8			2		1	6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	62.0	42.0	42.0	15.0	31.0	31.0	56.0	56.0	56.0	84.0	84.0	84.0	
Effective Green, g (s)	64.0	42.0	42.0	15.0	31.0	31.0	56.0	56.0	56.0	84.0	84.0	84.0	
Actuated g/C Ratio	0.40	0.26	0.26	0.09	0.19	0.19	0.35	0.35	0.35	0.52	0.52	0.52	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Grp Cap (vph)	372	1286	395	313	958	270	169	1216	513	505	1860	817	
v/s Ratio Prot	c0.15	0.24		0.08	0.15			0.14		c0.12	0.31		
v/s Ratio Perm	c0.19		0.04			0.05	0.22		0.07	c0.31		0.15	
v/c Ratio	0.85	0.90	0.16	0.86	0.78	0.24	0.62	0.39	0.19	0.83	0.59	0.29	
Uniform Delay, d1	38.6	57.1	45.4	71.5	61.3	54.5	43.2	39.1	36.2	25.6	26.2	21.2	
Progression 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	
Incremental Delay, d2	21.5	10.6	0.9	25.2	6.3	2.1	16.0	0.9	0.8	14.7	1.4	0.9	
Delay (s)	60.0	67.7	46.2	96.6	67.6	56.6	59.2	40.0	37.0	40.3	27.6	22.1	
Level of Service	E	E	D	F	E	E	E	D	D	D	C	C	
Approach Delay (s)		64.5			72.2			41.4			29.1		
Approach LOS		E			E			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			50.4									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.90										
Actuated Cycle Length (s)			160.0									Sum of lost time (s)	23.0
Intersection Capacity Utilization			85.0%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Background 2041  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	256	2	294	375	55	14	387	336	43	254	5
Future Volume (vph)	5	256	2	294	375	55	14	387	336	43	254	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.999			0.981			0.939			0.998	
Fl <sub>t</sub> Protected		0.999		0.950				0.999			0.993	
Satd. Flow (prot)	0	1863	0	1825	1838	0	0	1723	0	0	1844	0
Fl <sub>t</sub> Permitted		0.989		0.271				0.991			0.840	
Satd. Flow (perm)	0	1844	0	521	1838	0	0	1709	0	0	1559	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8			64			1	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		839.5			490.2			298.8			643.0	
Travel Time (s)		43.2			25.2			13.4			28.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	5	272	2	313	399	59	15	412	357	46	270	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	279	0	313	458	0	0	784	0	0	321	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

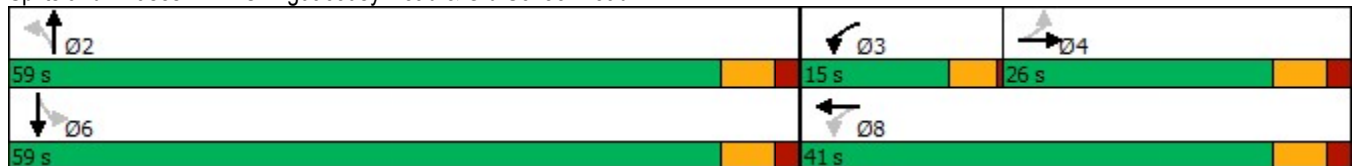
Future Background 2041  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	26.0	26.0		15.0	41.0		59.0	59.0		59.0	59.0	
Total Split (%)	26.0%	26.0%		15.0%	41.0%		59.0%	59.0%		59.0%	59.0%	
Maximum Green (s)	20.0	20.0		11.0	35.0		53.0	53.0		53.0	53.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		4.0	6.0			6.0			6.0	
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	Max	Max		None	Max		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		20.0		37.0	35.0			53.0			53.0	
Actuated g/C Ratio		0.20		0.37	0.35			0.53			0.53	
v/c Ratio		0.76		0.93	0.71			0.84			0.39	
Control Delay		52.3		62.4	34.6			28.1			15.6	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		52.3		62.4	34.6			28.1			15.6	
LOS		D		E	C			C			B	
Approach Delay		52.3			45.9			28.1			15.6	
Approach LOS		D			D			C			B	

Intersection Summary

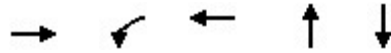
Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Natural Cycle:	75
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.93
Intersection Signal Delay:	35.8
Intersection LOS:	D
Intersection Capacity Utilization	95.1%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road



Queues

1: Chinguacousy Road & Old School Road




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	279	313	458	784	321
v/c Ratio	0.76	0.93	0.71	0.84	0.39
Control Delay	52.3	62.4	34.6	28.1	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	52.3	62.4	34.6	28.1	15.6
Queue Length 50th (m)	51.3	45.5	74.5	113.7	34.9
Queue Length 95th (m)	#87.4	#81.2	109.9	#181.5	54.3
Internal Link Dist (m)	815.5		466.2	274.8	619.0
Turn Bay Length (m)					
Base Capacity (vph)	368	336	648	935	826
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.76	0.93	0.71	0.84	0.39

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.



















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Background 2041  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	256	2	294	375	55	14	387	336	43	254	5
Future Volume (vph)	5	256	2	294	375	55	14	387	336	43	254	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		4.0	6.0			6.0			6.0	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frt		1.00		1.00	0.98			0.94			1.00	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		1863		1825	1837			1722			1843	
Flt Permitted		0.99		0.27	1.00			0.99			0.84	
Satd. Flow (perm)		1844		521	1837			1709			1559	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	5	272	2	313	399	59	15	412	357	46	270	5
RTOR Reduction (vph)	0	0	0	0	5	0	0	30	0	0	0	0
Lane Group Flow (vph)	0	279	0	313	453	0	0	754	0	0	321	0
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		20.0		35.0	35.0			53.0			53.0	
Effective Green, g (s)		20.0		35.0	35.0			53.0			53.0	
Actuated g/C Ratio		0.20		0.35	0.35			0.53			0.53	
Clearance Time (s)		6.0		4.0	6.0			6.0			6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		368		325	642			905			826	
v/s Ratio Prot				c0.11	0.25							
v/s Ratio Perm		0.15		c0.23				c0.44			0.21	
v/c Ratio		0.76		0.96	0.71			0.83			0.39	
Uniform Delay, d1		37.7		29.6	28.0			19.8			13.9	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		13.6		39.8	6.4			8.9			1.4	
Delay (s)		51.3		69.4	34.5			28.7			15.3	
Level of Service		D		E	C			C			B	
Approach Delay (s)		51.3			48.7			28.7			15.3	
Approach LOS		D			D			C			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			36.8			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			95.1%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Background 2041  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	588	39	459	666	32	51	168	469	26	71	8
Future Volume (vph)	12	588	39	459	666	32	51	168	469	26	71	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.993				0.850		0.989	
Flt Protected		0.999		0.950				0.989			0.988	
Satd. Flow (prot)	0	3465	0	1755	3584	0	0	1829	1555	0	1804	0
Flt Permitted		0.933		0.227				0.897			0.873	
Satd. Flow (perm)	0	3236	0	419	3584	0	0	1659	1555	0	1594	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			9				499		4	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			540.0	
Travel Time (s)		45.9			18.0			26.5			24.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	13	626	41	488	709	34	54	179	499	28	76	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	680	0	488	743	0	0	233	499	0	113	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

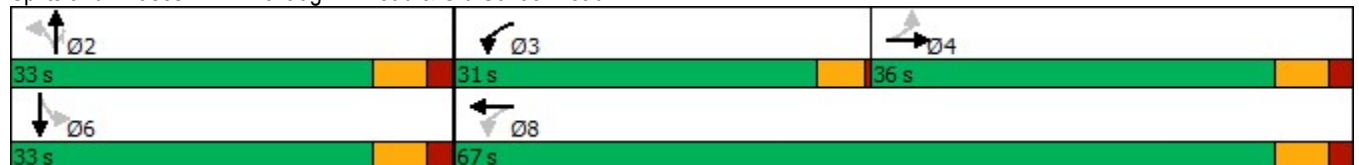
Future Background 2041  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	36.0	36.0		31.0	67.0		33.0	33.0	33.0	33.0	33.0	
Total Split (%)	36.0%	36.0%		31.0%	67.0%		33.0%	33.0%	33.0%	33.0%	33.0%	
Maximum Green (s)	30.0	30.0		27.0	61.0		27.0	27.0	27.0	27.0	27.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		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	
Total Lost Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	None	None		None	None		None	None	None	None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		21.7		47.2	45.0			17.3	17.3		17.3	
Actuated g/C Ratio		0.29		0.63	0.60			0.23	0.23		0.23	
v/c Ratio		0.73		0.81	0.35			0.61	0.67		0.31	
Control Delay		30.4		24.6	8.2			35.7	8.0		28.5	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		30.4		24.6	8.2			35.7	8.0		28.5	
LOS		C		C	A			D	A		C	
Approach Delay		30.4			14.7			16.8			28.5	
Approach LOS		C			B			B			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 75.3  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.81  
 Intersection Signal Delay: 19.7  
 Intersection Capacity Utilization 80.6%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service D

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road

Future Background 2041  
PM Peak Hour





















Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	680	488	743	233	499	113
v/c Ratio	0.73	0.81	0.35	0.61	0.67	0.31
Control Delay	30.4	24.6	8.2	35.7	8.0	28.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.4	24.6	8.2	35.7	8.0	28.5
Queue Length 50th (m)	43.6	35.6	23.6	29.1	0.0	12.6
Queue Length 95th (m)	80.3	#94.4	44.3	61.8	25.1	30.9
Internal Link Dist (m)	869.1		325.1	564.2		516.0
Turn Bay Length (m)		50.0				
Base Capacity (vph)	1391	778	2929	640	906	617
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.63	0.25	0.36	0.55	0.18

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road























Future Background 2041  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	588	39	459	666	32	51	168	469	26	71	8
Future Volume (vph)	12	588	39	459	666	32	51	168	469	26	71	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00	
Frt		0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.99	
Satd. Flow (prot)		3465		1755	3584			1829	1555		1804	
Flt Permitted		0.93		0.23	1.00			0.90	1.00		0.87	
Satd. Flow (perm)		3235		420	3584			1660	1555		1595	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	13	626	41	488	709	34	54	179	499	28	76	9
RTOR Reduction (vph)	0	5	0	0	4	0	0	0	383	0	3	0
Lane Group Flow (vph)	0	675	0	488	739	0	0	233	116	0	110	0
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		22.0		45.0	45.0			17.3	17.3		17.3	
Effective Green, g (s)		22.0		45.0	45.0			17.3	17.3		17.3	
Actuated g/C Ratio		0.30		0.61	0.61			0.23	0.23		0.23	
Clearance Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		957		595	2170			386	362		371	
v/s Ratio Prot				c0.21	0.21							
v/s Ratio Perm		0.21		c0.29				c0.14	0.07		0.07	
v/c Ratio		0.71		0.82	0.34			0.60	0.32		0.30	
Uniform Delay, d1		23.3		12.3	7.3			25.4	23.6		23.5	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		2.4		8.9	0.1			2.7	0.5		0.4	
Delay (s)		25.7		21.2	7.4			28.1	24.1		23.9	
Level of Service		C		C	A			C	C		C	
Approach Delay (s)		25.7			12.8			25.4			23.9	
Approach LOS		C			B			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			19.8		HCM 2000 Level of Service				B			
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			74.3		Sum of lost time (s)				16.0			
Intersection Capacity Utilization			80.6%		ICU Level of Service				D			
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2041  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	694	247	130	359	325	172	206	3369	391	174	1974	591
Future Volume (vph)	694	247	130	359	325	172	206	3369	391	174	1974	591
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.948			0.948				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3293	0	1789	3438	0	1807	5043	1633	1825	4812	1541
Flt Permitted	0.194			0.307			0.073			0.077		
Satd. Flow (perm)	373	3293	0	578	3438	0	139	5043	1633	148	4812	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		72			63				151			374
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			1311.5			855.3			796.2	
Travel Time (s)		51.8			67.4			38.5			35.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Adj. Flow (vph)	715	255	134	370	335	177	212	3473	403	179	2035	609
Shared Lane Traffic (%)												
Lane Group Flow (vph)	715	389	0	370	512	0	212	3473	403	179	2035	609
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Background 2041  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0	29.0	10.0	29.0	29.0
Total Split (s)	22.0	29.0		22.0	29.0		13.0	59.0	59.0	10.0	56.0	56.0
Total Split (%)	18.3%	24.2%		18.3%	24.2%		10.8%	49.2%	49.2%	8.3%	46.7%	46.7%
Maximum Green (s)	18.0	23.0		18.0	23.0		7.0	53.0	53.0	4.0	50.0	50.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		0.0	-2.0		-2.0	-2.0	0.0	-2.0	-2.0	0.0
Total Lost Time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lead/Lag	Lead	Lag		Lead	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
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Walk Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	43.9	21.9		39.9	21.9		64.0	55.0	53.0	58.0	52.0	50.0
Actuated g/C Ratio	0.38	0.19		0.34	0.19		0.55	0.47	0.45	0.50	0.44	0.43
v/c Ratio	1.84	0.58		0.97	0.74		1.04	1.46	0.49	1.13	0.95	0.70
Control Delay	412.5	38.5		69.9	46.0		102.3	238.4	16.1	134.7	42.7	15.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	412.5	38.5		69.9	46.0		102.3	238.4	16.1	134.7	42.7	15.0
LOS	F	D		E	D		F	F	B	F	D	B
Approach Delay		280.7			56.0			209.4			42.6	
Approach LOS		F			E			F			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 116.9  
 Natural Cycle: 150  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.84  
 Intersection Signal Delay: 150.1  
 Intersection Capacity Utilization 141.0%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service H

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Background 2041  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	715	389	370	512	212	3473	403	179	2035	609
v/c Ratio	1.84	0.58	0.97	0.74	1.04	1.46	0.49	1.13	0.95	0.70
Control Delay	412.5	38.5	69.9	46.0	102.3	238.4	16.1	134.7	42.7	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	412.5	38.5	69.9	46.0	102.3	238.4	16.1	134.7	42.7	15.0
Queue Length 50th (m)	~233.4	35.0	66.1	51.6	~37.0	~403.6	38.9	~31.9	162.7	42.8
Queue Length 95th (m)	#309.0	50.6	#113.6	70.1	#87.4	#439.4	68.4	#79.0	#207.2	89.2
Internal Link Dist (m)		983.8		1287.5		831.3			772.2	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	388	761	383	785	204	2373	823	159	2141	873
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.84	0.51	0.97	0.65	1.04	1.46	0.49	1.13	0.95	0.70

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Background 2041  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	694	247	130	359	325	172	206	3369	391	174	1974	591	
Future Volume (vph)	694	247	130	359	325	172	206	3369	391	174	1974	591	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00	
Frt	1.00	0.95		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1825	3295		1789	3438		1807	5043	1633	1825	4812	1541	
Flt Permitted	0.19	1.00		0.31	1.00		0.07	1.00	1.00	0.08	1.00	1.00	
Satd. Flow (perm)	373	3295		578	3438		138	5043	1633	148	4812	1541	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	715	255	134	370	335	177	212	3473	403	179	2035	609	
RTOR Reduction (vph)	0	59	0	0	51	0	0	0	83	0	0	214	
Lane Group Flow (vph)	715	330	0	370	461	0	212	3473	320	179	2035	395	
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8		5	2		1	6		
Permitted Phases	4			8			2		2	6		6	
Actuated Green, G (s)	37.9	19.9		37.9	19.9		60.0	53.0	53.0	54.0	50.0	50.0	
Effective Green, g (s)	41.9	21.9		37.9	21.9		64.0	55.0	53.0	58.0	52.0	50.0	
Actuated g/C Ratio	0.36	0.19		0.32	0.19		0.55	0.47	0.45	0.50	0.44	0.43	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	382	617		373	644		204	2372	740	159	2140	659	
v/s Ratio Prot	c0.32	0.10		0.15	0.13		c0.08	c0.69		0.06	0.42		
v/s Ratio Perm	0.35			c0.17			0.49		0.20	0.50		0.26	
v/c Ratio	1.87	0.54		0.99	0.72		1.04	1.46	0.43	1.13	0.95	0.60	
Uniform Delay, d1	32.1	42.9		35.4	44.6		34.0	31.0	21.7	29.0	31.2	25.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	402.1	0.9		44.3	3.8		73.7	211.2	1.8	109.1	10.9	4.0	
Delay (s)	434.2	43.8		79.6	48.4		107.7	242.2	23.6	138.2	42.1	29.7	
Level of Service	F	D		E	D		F	F	C	F	D	C	
Approach Delay (s)		296.7			61.5			213.7			45.5		
Approach LOS		F			E			F			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			155.5									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.44										
Actuated Cycle Length (s)			116.9									Sum of lost time (s)	16.0
Intersection Capacity Utilization			141.0%									ICU Level of Service	H
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2041  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕		↖	↕↕↕			↕			↕	
Traffic Volume (vph)	51	859	63	225	809	80	42	329	193	41	201	35
Future Volume (vph)	51	859	63	225	809	80	42	329	193	41	201	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.990			0.986			0.954			0.983	
Flt Protected		0.997		0.950				0.996			0.993	
Satd. Flow (prot)	0	5037	0	1825	5034	0	0	1784	0	0	1835	0
Flt Permitted		0.815		0.127				0.954			0.848	
Satd. Flow (perm)	0	4117	0	244	5034	0	0	1709	0	0	1567	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			19			29			8	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		586.0			1419.4			497.9			2784.8	
Travel Time (s)		30.1			73.0			22.4			125.3	
Confl. Peds. (#/hr)							1					1
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
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Adj. Flow (vph)	55	934	68	245	879	87	46	358	210	45	218	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1057	0	245	966	0	0	614	0	0	301	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Background 2041  
PM Peak Hour

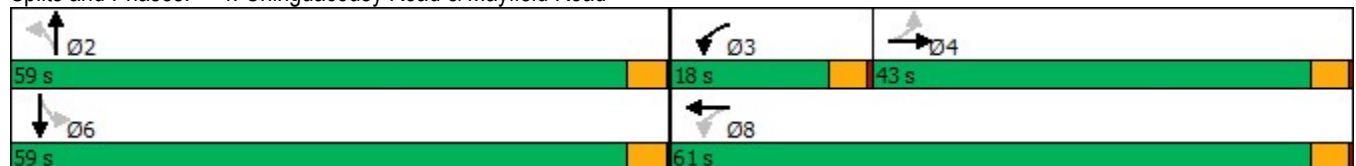


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	43.0	43.0		18.0	61.0		59.0	59.0		59.0	59.0	
Total Split (%)	35.8%	35.8%		15.0%	50.8%		49.2%	49.2%		49.2%	49.2%	
Maximum Green (s)	39.0	39.0		14.0	57.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
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	Max	Max		None	Max		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		39.5		57.0	57.0			55.0			55.0	
Actuated g/C Ratio		0.33		0.48	0.48			0.46			0.46	
v/c Ratio		0.78		0.83	0.40			0.77			0.42	
Control Delay		40.8		47.4	20.6			33.6			23.4	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		40.8		47.4	20.6			33.6			23.4	
LOS		D		D	C			C			C	
Approach Delay		40.8			26.0			33.6			23.4	
Approach LOS		D			C			C			C	

Intersection Summary

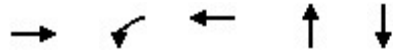
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Natural Cycle:	50
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	32.2
Intersection LOS:	C
Intersection Capacity Utilization	82.6%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Background 2041  
PM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	1057	245	966	614	301
v/c Ratio	0.78	0.83	0.40	0.77	0.42
Control Delay	40.8	47.4	20.6	33.6	23.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	40.8	47.4	20.6	33.6	23.4
Queue Length 50th (m)	81.7	34.2	51.5	113.3	45.1
Queue Length 95th (m)	99.1	#74.7	62.4	160.6	67.9
Internal Link Dist (m)	562.0		1395.4	473.9	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	1360	300	2401	799	722
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.78	0.82	0.40	0.77	0.42

























Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 4: Chinguacousy Road & Mayfield Road

Future Background 2041  
PM Peak Hour





















													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  			  			 			  		
Traffic Volume (vph)	51	859	63	225	809	80	42	329	193	41	201	35	
Future Volume (vph)	51	859	63	225	809	80	42	329	193	41	201	35	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0		
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00		
Frbp, ped/bikes		1.00		1.00	1.00			1.00			1.00		
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00		
Frt		0.99		1.00	0.99			0.95			0.98		
Flt Protected		1.00		0.95	1.00			1.00			0.99		
Satd. Flow (prot)		5040		1825	5036			1785			1835		
Flt Permitted		0.81		0.13	1.00			0.95			0.85		
Satd. Flow (perm)		4117		245	5036			1708			1568		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	55	934	68	245	879	87	46	358	210	45	218	38	
RTOR Reduction (vph)	0	6	0	0	10	0	0	16	0	0	4	0	
Lane Group Flow (vph)	0	1051	0	245	956	0	0	598	0	0	297	0	
Confl. Peds. (#/hr)							1					1	
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA		
Protected Phases		4		3	8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		39.5		57.0	57.0			55.0			55.0		
Effective Green, g (s)		39.5		57.0	57.0			55.0			55.0		
Actuated g/C Ratio		0.33		0.48	0.48			0.46			0.46		
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0		
Lane Grp Cap (vph)		1355		294	2392			782			718		
v/s Ratio Prot				c0.09	0.19								
v/s Ratio Perm		0.26		c0.30				c0.35			0.19		
v/c Ratio		0.78		0.83	0.40			0.77			0.41		
Uniform Delay, d1		36.3		23.1	20.4			27.1			21.7		
Progression Factor		1.00		1.00	1.00			1.00			1.00		
Incremental Delay, d2		4.4		18.0	0.5			7.0			1.8		
Delay (s)		40.7		41.1	20.9			34.1			23.5		
Level of Service		D		D	C			C			C		
Approach Delay (s)		40.7			25.0			34.1			23.5		
Approach LOS		D			C			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			31.8									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.82										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	12.0
Intersection Capacity Utilization			82.6%									ICU Level of Service	E
Analysis Period (min)			15										

c Critical Lane Group



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Background 2041  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	1055	83	138	1231	312	140	483	142	238	282	94
Future Volume (vph)	52	1055	83	138	1231	312	140	483	142	238	282	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.989			0.970			0.966			0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	5036	0	1755	4892	0	1825	3475	0	1738	3393	0
Flt Permitted	0.118			0.122			0.520			0.155		
Satd. Flow (perm)	216	5036	0	225	4892	0	999	3475	0	284	3393	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			68			31			25	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			341.6			2496.3	
Travel Time (s)		73.0			65.0			15.4			112.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	54	1099	86	144	1282	325	146	503	148	248	294	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	1185	0	144	1607	0	146	651	0	248	392	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

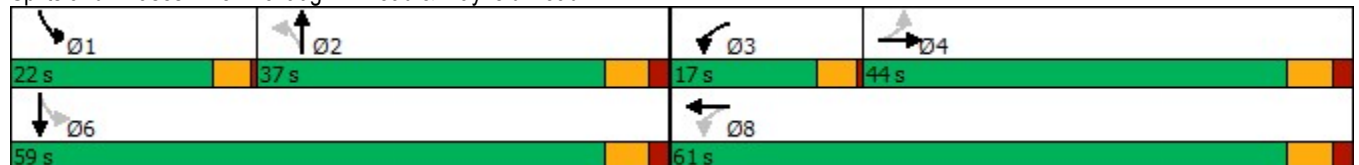
Future Background 2041  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		8.0	22.0	
Total Split (s)	44.0	44.0		17.0	61.0		37.0	37.0		22.0	59.0	
Total Split (%)	36.7%	36.7%		14.2%	50.8%		30.8%	30.8%		18.3%	49.2%	
Maximum Green (s)	38.0	38.0		13.0	55.0		31.0	31.0		18.0	53.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		3.5	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		0.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	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	
Recall Mode	Max	Max		None	Max		None	None		None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0			5.0	
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0			0	
Act Effct Green (s)	41.0	41.0		57.3	55.3		25.7	25.7		47.1	45.1	
Actuated g/C Ratio	0.36	0.36		0.51	0.49		0.23	0.23		0.42	0.40	
v/c Ratio	0.69	0.64		0.57	0.66		0.64	0.80		0.78	0.29	
Control Delay	79.6	32.8		25.5	23.0		53.1	46.9		41.3	21.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	79.6	32.8		25.5	23.0		53.1	46.9		41.3	21.3	
LOS	E	C		C	C		D	D		D	C	
Approach Delay		34.9			23.2			48.0			29.1	
Approach LOS		C			C			D			C	

Intersection Summary

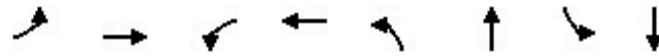
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 112.4  
 Natural Cycle: 60  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.80  
 Intersection Signal Delay: 31.8  
 Intersection LOS: C  
 Intersection Capacity Utilization 83.5%  
 ICU Level of Service E  
 Analysis Period (min) 15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Background 2041  
PM Peak Hour























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	54	1185	144	1607	146	651	248	392
v/c Ratio	0.69	0.64	0.57	0.66	0.64	0.80	0.78	0.29
Control Delay	79.6	32.8	25.5	23.0	53.1	46.9	41.3	21.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.6	32.8	25.5	23.0	53.1	46.9	41.3	21.3
Queue Length 50th (m)	10.4	80.8	17.1	94.3	29.4	68.6	36.1	27.8
Queue Length 95th (m)	#36.2	106.9	31.6	121.4	52.4	90.7	#62.3	38.7
Internal Link Dist (m)		1395.4		1239.7		317.6		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	78	1843	292	2440	277	985	353	1620
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.64	0.49	0.66	0.53	0.66	0.70	0.24

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

































HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Future Background 2041  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	1055	83	138	1231	312	140	483	142	238	282	94
Future Volume (vph)	52	1055	83	138	1231	312	140	483	142	238	282	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1738	5036		1755	4890		1825	3475		1738	3394	
Flt Permitted	0.12	1.00		0.12	1.00		0.52	1.00		0.16	1.00	
Satd. Flow (perm)	217	5036		226	4890		1000	3475		284	3394	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	54	1099	86	144	1282	325	146	503	148	248	294	98
RTOR Reduction (vph)	0	7	0	0	35	0	0	24	0	0	15	0
Lane Group Flow (vph)	54	1178	0	144	1572	0	146	627	0	248	377	0
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8		2	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	41.0	41.0		55.3	55.3		25.8	25.8		45.1	45.1	
Effective Green, g (s)	41.0	41.0		55.3	55.3		25.8	25.8		45.1	45.1	
Actuated g/C Ratio	0.36	0.36		0.49	0.49		0.23	0.23		0.40	0.40	
Clearance Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	79	1836		251	2405		229	797		311	1361	
v/s Ratio Prot		0.23		0.05	c0.32			0.18		c0.11	0.11	
v/s Ratio Perm	0.25			0.23			0.15			c0.21		
v/c Ratio	0.68	0.64		0.57	0.65		0.64	0.79		0.80	0.28	
Uniform Delay, d1	30.2	29.6		18.7	21.4		39.1	40.7		25.8	22.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	38.7	1.7		3.2	1.4		5.7	5.2		13.2	0.1	
Delay (s)	68.9	31.3		21.9	22.8		44.8	45.9		39.0	22.8	
Level of Service	E	C		C	C		D	D		D	C	
Approach Delay (s)		33.0			22.7			45.7			29.1	
Approach LOS		C			C			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			30.6				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			112.4				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			83.5%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Background 2041  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	729	734	126	337	942	188	236	838	322	270	961	1031
Future Volume (vph)	729	734	126	337	942	188	236	838	322	270	961	1031
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.96	0.98		0.99			0.96			0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	4995	1601	3404	5092	1585	1789	3614	1555	1825	3510	1585
Flt Permitted	0.148			0.950			0.154			0.133		
Satd. Flow (perm)	273	4995	1538	3349	5092	1562	290	3614	1486	256	3510	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			137			178			230			588
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			749.9			538.8			609.4	
Travel Time (s)		7.3			38.6			27.7			31.3	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Adj. Flow (vph)	752	757	130	347	971	194	243	864	332	278	991	1063
Shared Lane Traffic (%)												
Lane Group Flow (vph)	752	757	130	347	971	194	243	864	332	278	991	1063
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	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	2		2	6		6
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	8.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	41.0	45.0	45.0	25.0	29.0	29.0	9.0	48.0	48.0	17.0	56.0	56.0
Total Split (%)	30.4%	33.3%	33.3%	18.5%	21.5%	21.5%	6.7%	35.6%	35.6%	12.6%	41.5%	41.5%
Maximum Green (s)	36.0	38.0	38.0	20.0	22.0	22.0	5.0	41.0	41.0	13.0	49.0	49.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.5	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	0.5	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-2.0	0.0	0.0	0.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0	2.0	7.0	7.0
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
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		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

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

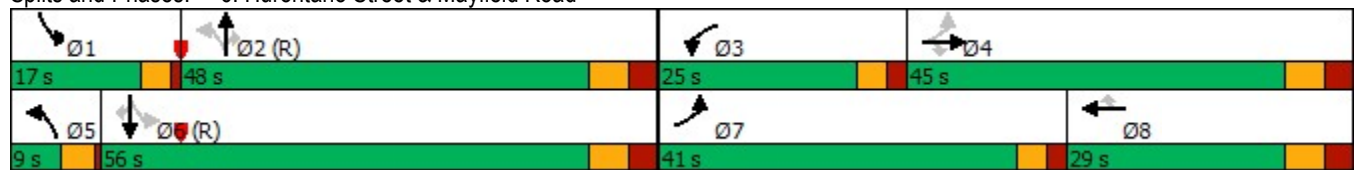
Future Background 2041  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	67.0	38.0	38.0	20.0	22.0	22.0	53.0	41.0	41.0	63.0	49.0	49.0
Actuated g/C Ratio	0.50	0.28	0.28	0.15	0.16	0.16	0.39	0.30	0.30	0.47	0.36	0.36
v/c Ratio	1.36	0.54	0.24	0.69	1.17	0.48	1.27	0.79	0.54	0.95	0.78	1.13
Control Delay	206.5	42.8	6.2	62.4	138.4	13.3	184.1	49.2	15.5	69.5	43.3	92.0
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	206.5	42.8	6.2	62.4	138.4	13.3	184.1	49.2	15.5	69.5	43.3	92.0
LOS	F	D	A	E	F	B	F	D	B	E	D	F
Approach Delay	115.0			104.9			64.2			68.6		
Approach LOS	F			F			E			E		

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: 130  
 Control Type: Pretimed  
 Maximum v/c Ratio: 1.36  
 Intersection Signal Delay: 86.6  
 Intersection LOS: F  
 Intersection Capacity Utilization 116.6%  
 ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Background 2041  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	752	757	130	347	971	194	243	864	332	278	991	1063
v/c Ratio	1.36	0.54	0.24	0.69	1.17	0.48	1.27	0.79	0.54	0.95	0.78	1.13
Control Delay	206.5	42.8	6.2	62.4	138.4	13.3	184.1	49.2	15.5	69.5	43.3	92.0
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	206.5	42.8	6.2	62.4	138.4	13.3	184.1	49.2	15.5	69.5	43.3	92.0
Queue Length 50th (m)	~248.2	62.7	0.0	45.8	~112.7	3.7	~54.8	111.0	20.7	48.3	122.8	~222.7
Queue Length 95th (m)	#324.0	76.4	13.5	62.3	#141.2	25.6	#105.3	135.7	50.7	#102.6	148.6	#303.0
Internal Link Dist (m)		118.1			725.9			514.8				585.4
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	552	1406	531	504	829	403	191	1097	611	293	1274	938
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.36	0.54	0.24	0.69	1.17	0.48	1.27	0.79	0.54	0.95	0.78	1.13

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road


















Future Background 2041  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	729	734	126	337	942	188	236	838	322	270	961	1031	
Future Volume (vph)	729	734	126	337	942	188	236	838	322	270	961	1031	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0	2.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1755	4995	1538	3404	5092	1562	1789	3614	1486	1825	3510	1555	
Flt Permitted	0.15	1.00	1.00	0.95	1.00	1.00	0.15	1.00	1.00	0.13	1.00	1.00	
Satd. Flow (perm)	274	4995	1538	3404	5092	1562	290	3614	1486	255	3510	1555	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Adj. Flow (vph)	752	757	130	347	971	194	243	864	332	278	991	1063	
RTOR Reduction (vph)	0	0	93	0	0	149	0	0	160	0	0	375	
Lane Group Flow (vph)	752	757	37	347	971	45	243	864	172	278	991	688	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3	
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%	
Turn Type	pm+pt	NA	Perm	Prot	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	2		2	6		6	
Actuated Green, G (s)	63.0	38.0	38.0	20.0	22.0	22.0	46.0	41.0	41.0	58.0	49.0	49.0	
Effective Green, g (s)	65.0	38.0	38.0	20.0	22.0	22.0	50.0	41.0	41.0	60.0	49.0	49.0	
Actuated g/C Ratio	0.48	0.28	0.28	0.15	0.16	0.16	0.37	0.30	0.30	0.44	0.36	0.36	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	
Lane Grp Cap (vph)	548	1406	432	504	829	254	185	1097	451	287	1274	564	
v/s Ratio Prot	c0.39	0.15		0.10	0.19		c0.07	0.24		c0.11	0.28		
v/s Ratio Perm	c0.27		0.02			0.03	c0.42		0.12	0.32		0.44	
v/c Ratio	1.37	0.54	0.08	0.69	1.17	0.18	1.31	0.79	0.38	0.97	0.78	1.22	
Uniform Delay, d1	39.4	41.1	35.7	54.5	56.5	48.7	38.5	43.0	37.0	31.7	38.2	43.0	
Progression 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	
Incremental Delay, d2	178.9	1.5	0.4	7.5	89.8	1.5	174.1	5.7	2.4	45.7	4.7	114.6	
Delay (s)	218.2	42.6	36.1	62.0	146.3	50.2	212.6	48.8	39.4	77.4	42.9	157.6	
Level of Service	F	D	D	E	F	D	F	D	D	E	D	F	
Approach Delay (s)		122.7			114.6			74.3			99.3		
Approach LOS		F			F			E			F		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			103.0									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.41										
Actuated Cycle Length (s)			135.0									Sum of lost time (s)	21.0
Intersection Capacity Utilization			116.6%									ICU Level of Service	H
Analysis Period (min)			15										
c Critical Lane Group													



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Total 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	307	5	183	227	49	6	235	383	40	228	11
Future Volume (vph)	2	307	5	183	227	49	6	235	383	40	228	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.998			0.973			0.917			0.995	
Fl <sub>t</sub> Protected				0.950							0.993	
Satd. Flow (prot)	0	1917	0	1772	1807	0	0	1698	0	0	1789	0
Fl <sub>t</sub> Permitted		0.998		0.532				0.997			0.892	
Satd. Flow (perm)	0	1913	0	992	1807	0	0	1693	0	0	1607	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			32			238			6	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			342.6	
Travel Time (s)		30.4			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%
Adj. Flow (vph)	2	327	5	195	241	52	6	250	407	43	243	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	334	0	195	293	0	0	663	0	0	298	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

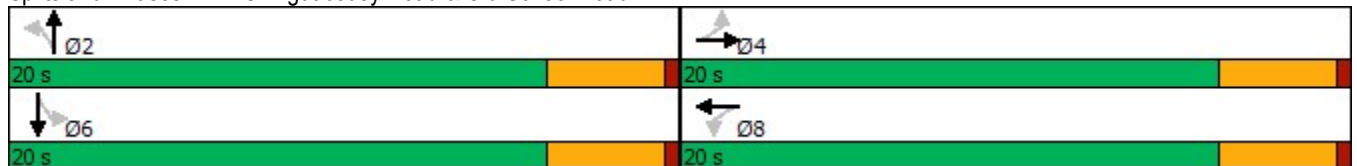
Future Total 2041  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		20.0	20.0	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	16.0	16.0		16.0	16.0		16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effect Green (s)		11.7		11.7	11.7			16.3			16.3	
Actuated g/C Ratio		0.32		0.32	0.32			0.45			0.45	
v/c Ratio		0.54		0.61	0.48			0.74			0.41	
Control Delay		13.1		18.7	11.2			13.9			9.8	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		13.1		18.7	11.2			13.9			9.8	
LOS		B		B	B			B			A	
Approach Delay		13.1			14.2			13.9			9.8	
Approach LOS		B			B			B			A	

Intersection Summary

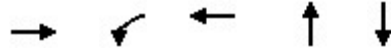
Area Type:	Other
Cycle Length:	40
Actuated Cycle Length:	36.1
Natural Cycle:	45
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	13.1
Intersection LOS:	B
Intersection Capacity Utilization:	81.4%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 1: Chinguacousy Road & Old School Road



Queues  
 1: Chinguacousy Road & Old School Road

Future Total 2041  
 AM Peak Hour




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	334	195	293	663	298
v/c Ratio	0.54	0.61	0.48	0.74	0.41
Control Delay	13.1	18.7	11.2	13.9	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.1	18.7	11.2	13.9	9.8
Queue Length 50th (m)	15.3	9.2	11.6	16.3	10.3
Queue Length 95th (m)	29.7	22.7	24.3	#72.7	28.0
Internal Link Dist (m)	566.7		466.2	274.8	318.6
Turn Bay Length (m)					
Base Capacity (vph)	857	443	826	895	729
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.39	0.44	0.35	0.74	0.41

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.



















HCM Signalized Intersection Capacity Analysis  
 1: Chinguacousy Road & Old School Road

Future Total 2041  
 AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	2	307	5	183	227	49	6	235	383	40	228	11	
Future Volume (vph)	2	307	5	183	227	49	6	235	383	40	228	11	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0		
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00		
Frt		1.00		1.00	0.97			0.92			0.99		
Flt Protected		1.00		0.95	1.00			1.00			0.99		
Satd. Flow (prot)		1917		1772	1808			1698			1788		
Flt Permitted		1.00		0.53	1.00			1.00			0.89		
Satd. Flow (perm)		1913		992	1808			1693			1607		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	2	327	5	195	241	52	6	250	407	43	243	12	
RTOR Reduction (vph)	0	1	0	0	22	0	0	130	0	0	3	0	
Lane Group Flow (vph)	0	333	0	195	271	0	0	533	0	0	295	0	
Heavy Vehicles (%)	0%	0%	0%	3%	2%	10%	0%	5%	3%	0%	7%	10%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		11.7		11.7	11.7			16.3			16.3		
Effective Green, g (s)		11.7		11.7	11.7			16.3			16.3		
Actuated g/C Ratio		0.32		0.32	0.32			0.45			0.45		
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0		
Lane Grp Cap (vph)		621		322	587			766			727		
v/s Ratio Prot					0.15								
v/s Ratio Perm		0.17		c0.20				c0.31			0.18		
v/c Ratio		0.54		0.61	0.46			0.70			0.41		
Uniform Delay, d1		9.9		10.2	9.7			7.9			6.6		
Progression Factor		1.00		1.00	1.00			1.00			1.00		
Incremental Delay, d2		0.9		3.2	0.6			5.2			1.7		
Delay (s)		10.8		13.4	10.2			13.0			8.3		
Level of Service		B		B	B			B			A		
Approach Delay (s)		10.8			11.5			13.0			8.3		
Approach LOS		B			B			B			A		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			11.4									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.66										
Actuated Cycle Length (s)			36.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			81.4%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Total 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	762	49	264	386	53	64	94	460	62	157	18
Future Volume (vph)	16	762	49	264	386	53	64	94	460	62	157	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.982				0.850		0.990	
Flt Protected		0.999		0.950				0.980			0.987	
Satd. Flow (prot)	0	3552	0	1789	3452	0	0	1861	1617	0	1849	0
Flt Permitted		0.942		0.284				0.730			0.864	
Satd. Flow (perm)	0	3349	0	535	3452	0	0	1386	1617	0	1618	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			25				174			4
Link Speed (k/h)		70			70			80				80
Link Distance (m)		893.1			349.1			588.2				263.1
Travel Time (s)		45.9			18.0			26.5				11.8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Adj. Flow (vph)	17	811	52	281	411	56	68	100	489	66	167	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	880	0	281	467	0	0	168	489	0	252	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)		3.7			3.7			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
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
Protected Phases		4			8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

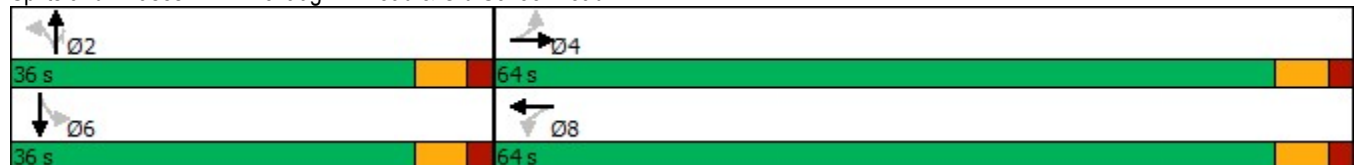
Future Total 2041  
AM Peak Hour

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	64.0	64.0		64.0	64.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	64.0%	64.0%		64.0%	64.0%		36.0%	36.0%	36.0%	36.0%	36.0%	
Maximum Green (s)	58.0	58.0		58.0	58.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		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	
Total Lost Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
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	Min	Min		Min	Min		None	None	None	None	None	
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)	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)		53.0		53.0	53.0			23.9	23.9		23.9	
Actuated g/C Ratio		0.59		0.59	0.59			0.27	0.27		0.27	
v/c Ratio		0.44		0.89	0.23			0.45	0.87		0.58	
Control Delay		11.3		49.5	8.9			32.7	38.3		34.6	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		11.3		49.5	8.9			32.7	38.3		34.6	
LOS		B		D	A			C	D		C	
Approach Delay		11.3			24.2			36.8			34.6	
Approach LOS		B			C			D			C	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 89.4  
 Natural Cycle: 80  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.89  
 Intersection Signal Delay: 24.0  
 Intersection Capacity Utilization 79.4%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service D

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road

Future Total 2041  
AM Peak Hour





















Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	880	281	467	168	489	252
v/c Ratio	0.44	0.89	0.23	0.45	0.87	0.58
Control Delay	11.3	49.5	8.9	32.7	38.3	34.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.3	49.5	8.9	32.7	38.3	34.6
Queue Length 50th (m)	44.3	42.5	19.1	25.8	57.9	39.7
Queue Length 95th (m)	61.0	#99.7	28.3	44.5	#109.4	63.5
Internal Link Dist (m)	869.1		325.1	564.2		239.1
Turn Bay Length (m)		50.0				
Base Capacity (vph)	2266	361	2340	484	678	568
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.78	0.20	0.35	0.72	0.44

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
2: McLaughlin Road & Old School Road























Future Total 2041  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	762	49	264	386	53	64	94	460	62	157	18
Future Volume (vph)	16	762	49	264	386	53	64	94	460	62	157	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00	
Frt		0.99		1.00	0.98			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.98	1.00		0.99	
Satd. Flow (prot)		3552		1789	3452			1861	1617		1849	
Flt Permitted		0.94		0.28	1.00			0.73	1.00		0.86	
Satd. Flow (perm)		3350		534	3452			1386	1617		1619	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	17	811	52	281	411	56	68	100	489	66	167	19
RTOR Reduction (vph)	0	4	0	0	10	0	0	0	127	0	3	0
Lane Group Flow (vph)	0	876	0	281	457	0	0	168	362	0	249	0
Heavy Vehicles (%)	0%	1%	14%	2%	3%	10%	0%	2%	1%	3%	0%	10%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		6		
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		53.0		53.0	53.0			23.9	23.9		23.9	
Effective Green, g (s)		53.0		53.0	53.0			23.9	23.9		23.9	
Actuated g/C Ratio		0.60		0.60	0.60			0.27	0.27		0.27	
Clearance Time (s)		6.0		6.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1997		318	2057			372	434		435	
v/s Ratio Prot					0.13							
v/s Ratio Perm		0.26		0.53				0.12	0.22		0.15	
v/c Ratio		0.44		0.88	0.22			0.45	0.83		0.57	
Uniform Delay, d1		9.8		15.3	8.4			27.0	30.6		28.1	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.2		23.9	0.1			0.9	12.9		1.8	
Delay (s)		10.0		39.2	8.4			27.9	43.5		29.9	
Level of Service		A		D	A			C	D		C	
Approach Delay (s)		10.0			20.0			39.5			29.9	
Approach LOS		A			B			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			22.6									C
HCM 2000 Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			88.9								12.0	
Intersection Capacity Utilization			79.4%									D
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	578	265	284	340	208	158	78	2020	168	77	2693	318
Future Volume (vph)	578	265	284	340	208	158	78	2020	168	77	2693	318
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.922			0.935				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	3285	0	1722	3277	0	1722	4445	1471	1615	5043	1633
Flt Permitted	0.316			0.252			0.066			0.066		
Satd. Flow (perm)	584	3285	0	457	3277	0	120	4445	1471	112	5043	1633
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		35			12				123			175
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			1149.0			855.3			750.5	
Travel Time (s)		51.8			59.1			38.5			33.8	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Adj. Flow (vph)	622	285	305	366	224	170	84	2172	181	83	2896	342
Shared Lane Traffic (%)												
Lane Group Flow (vph)	622	590	0	366	394	0	84	2172	181	83	2896	342
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

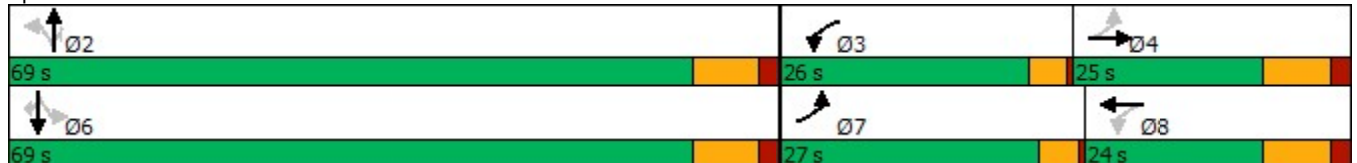
Future Total 2041  
AM Peak Hour

	↖		→		↗		↖		←		↗		↖		↑		↗		↘		↓		↘		
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR													
Permitted Phases	4				8				2				2		6				6				6		
Detector Phase	7		4		3		8		2		2		2		6		6		6						
Switch Phase																									
Minimum Initial (s)	4.0		4.0		4.0		4.0		4.0		4.0		4.0		4.0		4.0		4.0		4.0		4.0		
Minimum Split (s)	8.0		24.0		8.0		24.0		24.0		24.0		24.0		24.0		24.0		24.0		24.0		24.0		
Total Split (s)	27.0		25.0		26.0		24.0		69.0		69.0		69.0		69.0		69.0		69.0		69.0		69.0		
Total Split (%)	22.5%		20.8%		21.7%		20.0%		57.5%		57.5%		57.5%		57.5%		57.5%		57.5%		57.5%		57.5%		
Maximum Green (s)	23.0		17.0		22.0		16.0		61.0		61.0		61.0		61.0		61.0		61.0		61.0		61.0		
Yellow Time (s)	3.5		6.0		3.5		6.0		6.0		6.0		6.0		6.0		6.0		6.0		6.0		6.0		
All-Red Time (s)	0.5		2.0		0.5		2.0		2.0		2.0		2.0		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		0.0		0.0		0.0		
Total Lost Time (s)	4.0		8.0		4.0		8.0		8.0		8.0		8.0		8.0		8.0		8.0		8.0		8.0		
Lead/Lag	Lead		Lag		Lead		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		3.0		3.0		
Recall Mode	None		None		None		None		None		None		None		None		None		None		None		None		
Walk Time (s)			5.0				5.0		5.0		5.0		5.0		5.0		5.0		5.0		5.0		5.0		
Flash Dont Walk (s)			11.0				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		0		
Act Effct Green (s)	44.0		17.0		41.8		15.9		61.0		61.0		61.0		61.0		61.0		61.0		61.0		61.0		
Actuated g/C Ratio	0.37		0.14		0.35		0.13		0.51		0.51		0.51		0.51		0.51		0.51		0.51		0.51		
v/c Ratio	1.42		1.19		0.94		0.89		1.38		0.96		0.22		1.48		1.13		0.37						
Control Delay	229.0		146.4		64.2		72.0		273.7		40.4		6.3		316.4		92.7		9.5						
Queue Delay	0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0						
Total Delay	229.0		146.4		64.2		72.0		273.7		40.4		6.3		316.4		92.7		9.5						
LOS	F		F		E		E		F		D		A		F		F		A						
Approach Delay			188.8				68.2				45.9						89.7								
Approach LOS			F				E				D						F								

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 119.9  
 Natural Cycle: 130  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 1.48  
 Intersection Signal Delay: 89.3      Intersection LOS: F  
 Intersection Capacity Utilization 122.5%      ICU Level of Service H  
 Analysis Period (min) 15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Total 2041  
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	622	590	366	394	84	2172	181	83	2896	342
v/c Ratio	1.42	1.19	0.94	0.89	1.38	0.96	0.22	1.48	1.13	0.37
Control Delay	229.0	146.4	64.2	72.0	273.7	40.4	6.3	316.4	92.7	9.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	229.0	146.4	64.2	72.0	273.7	40.4	6.3	316.4	92.7	9.5
Queue Length 50th (m)	~173.0	~84.6	65.8	47.2	~26.2	174.1	6.8	~26.7	~289.7	20.8
Queue Length 95th (m)	#242.8	#120.8	#122.6	#74.3	#44.9	#215.9	18.6	#46.4	#316.1	41.0
Internal Link Dist (m)		983.8		1125.0		831.3			726.5	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	438	495	391	447	61	2261	809	56	2566	917
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.42	1.19	0.94	0.88	1.38	0.96	0.22	1.48	1.13	0.37

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.





























Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Total 2041  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			  			  	
Traffic Volume (vph)	578	265	284	340	208	158	78	2020	168	77	2693	318
Future Volume (vph)	578	265	284	340	208	158	78	2020	168	77	2693	318
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.92		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	3287		1722	3278		1722	4445	1471	1615	5043	1633
Flt Permitted	0.32	1.00		0.25	1.00		0.07	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	585	3287		456	3278		119	4445	1471	111	5043	1633
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	622	285	305	366	224	170	84	2172	181	83	2896	342
RTOR Reduction (vph)	0	30	0	0	10	0	0	0	60	0	0	86
Lane Group Flow (vph)	622	560	0	366	384	0	84	2172	121	83	2896	256
Heavy Vehicles (%)	4%	4%	1%	6%	5%	3%	6%	18%	11%	13%	4%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	40.0	17.0		37.8	15.9		61.0	61.0	61.0	61.0	61.0	61.0
Effective Green, g (s)	40.0	17.0		37.8	15.9		61.0	61.0	61.0	61.0	61.0	61.0
Actuated g/C Ratio	0.33	0.14		0.32	0.13		0.51	0.51	0.51	0.51	0.51	0.51
Clearance Time (s)	4.0	8.0		4.0	8.0		8.0	8.0	8.0	8.0	8.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	419	466		374	434		60	2261	748	56	2565	830
v/s Ratio Prot	c0.28	0.17		0.18	0.12			0.49			0.57	
v/s Ratio Perm	c0.21			0.13			0.71		0.08	c0.74		0.16
v/c Ratio	1.48	1.20		0.98	0.88		1.40	0.96	0.16	1.48	1.13	0.31
Uniform Delay, d1	36.0	51.5		36.6	51.1		29.5	28.3	15.8	29.5	29.5	17.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	230.5	109.8		40.4	18.8		254.3	11.2	0.1	290.7	63.7	0.2
Delay (s)	266.5	161.2		76.9	69.9		283.8	39.5	15.9	320.2	93.1	17.4
Level of Service	F	F		E	E		F	D	B	F	F	B
Approach Delay (s)		215.2			73.3			46.1			91.0	
Approach LOS		F			E			D			F	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			94.6				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.49									
Actuated Cycle Length (s)			119.9				Sum of lost time (s)			20.0		
Intersection Capacity Utilization			122.5%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2041  
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↕↔		↔	↔↕↔			↕			↕	
Traffic Volume (vph)	51	827	61	277	718	38	30	239	210	128	298	46
Future Volume (vph)	51	827	61	277	718	38	30	239	210	128	298	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.993			0.941			0.987	
Flt Protected		0.997		0.950				0.997			0.987	
Satd. Flow (prot)	0	4861	0	1659	4932	0	0	1735	0	0	1778	0
Flt Permitted		0.843		0.157				0.956			0.645	
Satd. Flow (perm)	0	4110	0	274	4932	0	0	1664	0	0	1162	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			9			45			6	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		864.0			1419.4			625.8			2784.8	
Travel Time (s)		44.4			73.0			28.2			125.3	
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Adj. Flow (vph)	52	835	62	280	725	38	30	241	212	129	301	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	949	0	280	763	0	0	483	0	0	476	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

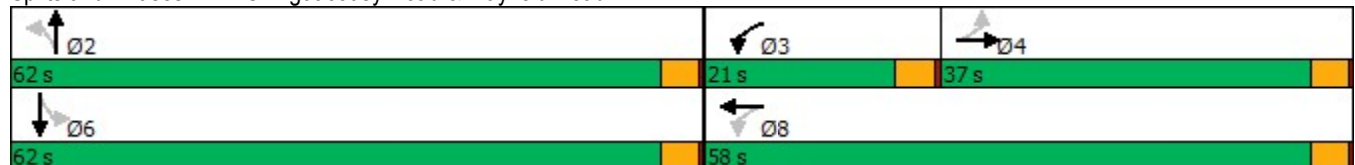
Future Total 2041  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	37.0	37.0		21.0	58.0		62.0	62.0		62.0	62.0	
Total Split (%)	30.8%	30.8%		17.5%	48.3%		51.7%	51.7%		51.7%	51.7%	
Maximum Green (s)	33.0	33.0		17.0	54.0		58.0	58.0		58.0	58.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
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	Max	Max		None	Max		None	None		None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		34.2		54.6	54.6			45.0			45.0	
Actuated g/C Ratio		0.32		0.51	0.51			0.42			0.42	
v/c Ratio		0.72		0.80	0.30			0.67			0.98	
Control Delay		38.0		40.0	17.2			27.2			65.2	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		38.0		40.0	17.2			27.2			65.2	
LOS		D		D	B			C			E	
Approach Delay		38.0			23.3			27.2			65.2	
Approach LOS		D			C			C			E	

Intersection Summary

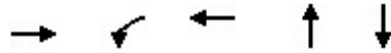
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	107.6
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.98
Intersection Signal Delay:	35.4
Intersection LOS:	D
Intersection Capacity Utilization:	99.7%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Total 2041  
AM Peak Hour



























Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	949	280	763	483	476
v/c Ratio	0.72	0.80	0.30	0.67	0.98
Control Delay	38.0	40.0	17.2	27.2	65.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	40.0	17.2	27.2	65.2
Queue Length 50th (m)	65.7	35.1	33.4	72.2	94.0
Queue Length 95th (m)	93.6	#91.0	51.3	105.5	#158.1
Internal Link Dist (m)	840.0		1395.4	601.8	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	1312	360	2505	926	635
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.72	0.78	0.30	0.52	0.75

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road





















Future Total 2041  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  				  			  	
Traffic Volume (vph)	51	827	61	277	718	38	30	239	210	128	298	46
Future Volume (vph)	51	827	61	277	718	38	30	239	210	128	298	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frt		0.99		1.00	0.99			0.94			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		4864		1659	4930			1735			1778	
Flt Permitted		0.84		0.16	1.00			0.96			0.64	
Satd. Flow (perm)		4113		274	4930			1663			1161	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	52	835	62	280	725	38	30	241	212	129	301	46
RTOR Reduction (vph)	0	6	0	0	4	0	0	26	0	0	3	0
Lane Group Flow (vph)	0	943	0	280	759	0	0	457	0	0	473	0
Heavy Vehicles (%)	0%	7%	5%	10%	5%	17%	9%	4%	3%	10%	4%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		34.3		54.6	54.6			45.0			45.0	
Effective Green, g (s)		34.3		54.6	54.6			45.0			45.0	
Actuated g/C Ratio		0.32		0.51	0.51			0.42			0.42	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1311		348	2501			695			485	
v/s Ratio Prot				c0.12	0.15							
v/s Ratio Perm		0.23		c0.29				0.27			c0.41	
v/c Ratio		0.72		0.80	0.30			0.66			0.97	
Uniform Delay, d1		32.4		19.4	15.4			25.1			30.7	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		3.4		12.7	0.3			2.3			34.0	
Delay (s)		35.8		32.1	15.7			27.4			64.7	
Level of Service		D		C	B			C			E	
Approach Delay (s)		35.8			20.1			27.4			64.7	
Approach LOS		D			C			C			E	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			33.5									C
HCM 2000 Volume to Capacity ratio			0.91									
Actuated Cycle Length (s)			107.6						12.0			
Intersection Capacity Utilization			99.7%									F
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Total 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	1130	139	156	887	138	62	336	117	332	571	195
Future Volume (vph)	64	1130	139	156	887	138	62	336	117	332	571	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.984			0.980			0.961			0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4889	0	1706	4770	0	1644	3422	0	1690	3375	0
Flt Permitted	0.262			0.098			0.356			0.249		
Satd. Flow (perm)	503	4889	0	176	4770	0	616	3422	0	443	3375	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			32			36			50	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			341.6			2496.3	
Travel Time (s)		73.0			65.0			15.4			112.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Adj. Flow (vph)	65	1153	142	159	905	141	63	343	119	339	583	199
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	1295	0	159	1046	0	63	462	0	339	782	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		8.0	23.0	
Total Split (s)	43.0	43.0		18.0	61.0		29.0	29.0		30.0	59.0	
Total Split (%)	35.8%	35.8%		15.0%	50.8%		24.2%	24.2%		25.0%	49.2%	
Maximum Green (s)	37.0	37.0		14.0	55.0		23.0	23.0		26.0	53.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		3.5	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		0.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lead/Lag	Lag	Lag		Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes		Yes		
Walk Time (s)	5.0	5.0			5.0		5.0	5.0			5.0	
Flash Dont Walk (s)	11.0	11.0			11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0			0		0	0			0	
Act Effct Green (s)	37.0	37.0		57.0	55.0		23.0	23.0		55.0	53.0	
Actuated g/C Ratio	0.31	0.31		0.48	0.46		0.19	0.19		0.46	0.44	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

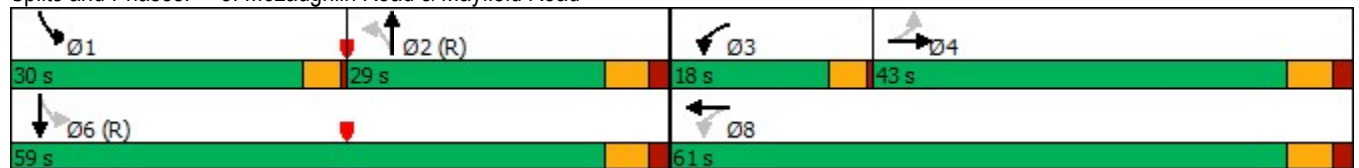
Future Total 2041  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.42	0.85		0.61	0.47		0.53	0.68		0.72	0.52	
Control Delay	43.1	44.9		32.5	22.6		61.9	47.0		31.8	24.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	43.1	44.9		32.5	22.6		61.9	47.0		31.8	24.0	
LOS	D	D		C	C		E	D		C	C	
Approach Delay		44.8			23.9			48.8			26.3	
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:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.85
Intersection Signal Delay:	34.4
Intersection LOS:	C
Intersection Capacity Utilization	81.7%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Total 2041  
AM Peak Hour





























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	65	1295	159	1046	63	462	339	782
v/c Ratio	0.42	0.85	0.61	0.47	0.53	0.68	0.72	0.52
Control Delay	43.1	44.9	32.5	22.6	61.9	47.0	31.8	24.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.1	44.9	32.5	22.6	61.9	47.0	31.8	24.0
Queue Length 50th (m)	12.1	103.2	21.1	59.0	13.5	49.5	52.9	64.1
Queue Length 95th (m)	26.8	121.8	42.0	71.2	#30.9	67.4	78.6	82.1
Internal Link Dist (m)		1395.4		1239.7		317.6		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	155	1520	262	2203	118	684	473	1518
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.85	0.61	0.47	0.53	0.68	0.72	0.52

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 5: McLaughlin Road & Mayfield Road

































Future Total 2041  
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (vph)	64	1130	139	156	887	138	62	336	117	332	571	195
Future Volume (vph)	64	1130	139	156	887	138	62	336	117	332	571	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	4887		1706	4769		1644	3423		1690	3375	
Flt Permitted	0.26	1.00		0.10	1.00		0.36	1.00		0.25	1.00	
Satd. Flow (perm)	502	4887		175	4769		615	3423		444	3375	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	65	1153	142	159	905	141	63	343	119	339	583	199
RTOR Reduction (vph)	0	13	0	0	17	0	0	29	0	0	28	0
Lane Group Flow (vph)	65	1282	0	159	1029	0	63	433	0	339	754	0
Heavy Vehicles (%)	0%	6%	2%	7%	6%	19%	11%	2%	4%	8%	2%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases		4		3	8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	37.0	37.0		55.0	55.0		23.0	23.0		53.0	53.0	
Effective Green, g (s)	37.0	37.0		55.0	55.0		23.0	23.0		53.0	53.0	
Actuated g/C Ratio	0.31	0.31		0.46	0.46		0.19	0.19		0.44	0.44	
Clearance Time (s)	6.0	6.0		4.0	6.0		6.0	6.0		4.0	6.0	
Lane Grp Cap (vph)	154	1506		258	2185		117	656		466	1490	
v/s Ratio Prot		c0.26		c0.07	0.22			0.13		c0.16	0.22	
v/s Ratio Perm	0.13			0.21			0.10			c0.16		
v/c Ratio	0.42	0.85		0.62	0.47		0.54	0.66		0.73	0.51	
Uniform Delay, d1	33.0	38.9		23.9	22.4		43.7	44.9		24.6	24.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.3	6.3		10.6	0.7		16.6	5.2		9.6	1.2	
Delay (s)	41.3	45.2		34.5	23.2		60.3	50.0		34.1	25.3	
Level of Service	D	D		C	C		E	D		C	C	
Approach Delay (s)		45.0			24.7			51.3			28.0	
Approach LOS		D			C			D			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			35.4			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			81.7%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	299	1093	140	253	703	186	104	519	257	395	1269	399
Future Volume (vph)	299	1093	140	253	703	186	104	519	257	395	1269	399
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	1.00		0.98	1.00		0.97			0.98
Fr <sub>t</sub>			0.850			0.850			0.850			0.850
Fl <sub>t</sub> Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	4902	1541	3340	4948	1420	1807	3476	1512	1706	3544	1585
Fl <sub>t</sub> Permitted	0.167			0.950			0.149			0.319		
Satd. Flow (perm)	306	4902	1508	3330	4948	1395	283	3476	1467	573	3544	1557
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			89			166			265			326
Link Speed (k/h)		70			70			70				70
Link Distance (m)		142.1			1278.8			782.4				609.4
Travel Time (s)		7.3			65.8			40.2				31.3
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%
Adj. Flow (vph)	318	1163	149	269	748	198	111	552	273	420	1350	424
Shared Lane Traffic (%)												
Lane Group Flow (vph)	318	1163	149	269	748	198	111	552	273	420	1350	424
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)		7.4			7.4			3.7				3.7
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		1.6			1.6			1.6				1.6
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases	4		4			8	2		2	6		6
Minimum Split (s)	9.0	23.0	23.0	9.0	23.0	23.0	23.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	31.0	49.0	49.0	20.0	38.0	38.0	63.0	63.0	63.0	28.0	91.0	91.0
Total Split (%)	19.4%	30.6%	30.6%	12.5%	23.8%	23.8%	39.4%	39.4%	39.4%	17.5%	56.9%	56.9%
Maximum Green (s)	26.0	42.0	42.0	15.0	31.0	31.0	56.0	56.0	56.0	24.0	84.0	84.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	3.5	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	3.0	3.0	3.0	0.5	3.0	3.0
Lost Time Adjust (s)	-2.0	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	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
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)		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

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2041  
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	66.0	42.0	42.0	15.0	31.0	31.0	56.0	56.0	56.0	87.0	84.0	84.0
Actuated g/C Ratio	0.41	0.26	0.26	0.09	0.19	0.19	0.35	0.35	0.35	0.54	0.52	0.52
v/c Ratio	0.85	0.90	0.32	0.86	0.78	0.49	1.12	0.45	0.40	0.87	0.73	0.44
Control Delay	57.9	67.7	21.6	96.1	67.8	16.5	173.5	41.7	6.1	43.3	32.0	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	0.0
Total Delay	57.9	67.7	21.6	96.1	67.8	16.5	173.5	41.7	6.1	43.3	32.0	6.5
LOS	E	E	C	F	E	B	F	D	A	D	C	A
Approach Delay		61.5			65.7			46.9			29.3	
Approach LOS		E			E			D			C	

Intersection Summary

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Pretimed
Maximum v/c Ratio:	1.12
Intersection Signal Delay:	48.3
Intersection LOS:	D
Intersection Capacity Utilization	91.8%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Total 2041  
AM Peak Hour




































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	318	1163	149	269	748	198	111	552	273	420	1350	424
v/c Ratio	0.85	0.90	0.32	0.86	0.78	0.49	1.12	0.45	0.40	0.87	0.73	0.44
Control Delay	57.9	67.7	21.6	96.1	67.8	16.5	173.5	41.7	6.1	43.3	32.0	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	0.0
Total Delay	57.9	67.7	21.6	96.1	67.8	16.5	173.5	41.7	6.1	43.3	32.0	6.5
Queue Length 50th (m)	73.5	132.1	14.8	44.2	83.8	8.5	~40.5	71.4	1.7	78.9	169.5	15.5
Queue Length 95th (m)	#122.4	151.0	35.0	#68.0	99.7	33.4	#82.0	89.0	22.3	#124.6	196.1	38.8
Internal Link Dist (m)		118.1			1254.8			758.4				585.4
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	376	1286	461	313	958	404	99	1216	685	481	1860	972
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.90	0.32	0.86	0.78	0.49	1.12	0.45	0.40	0.87	0.73	0.44

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.  
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
6: Hurontario Street & Mayfield Road










Future Total 2041  
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		  	  			 		 	 		
Traffic Volume (vph)	299	1093	140	253	703	186	104	519	257	395	1269	399	
Future Volume (vph)	299	1093	140	253	703	186	104	519	257	395	1269	399	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	3.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1738	4902	1508	3340	4948	1395	1806	3476	1467	1706	3544	1557	
Flt Permitted	0.17	1.00	1.00	0.95	1.00	1.00	0.15	1.00	1.00	0.32	1.00	1.00	
Satd. Flow (perm)	305	4902	1508	3340	4948	1395	284	3476	1467	573	3544	1557	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	318	1163	149	269	748	198	111	552	273	420	1350	424	
RTOR Reduction (vph)	0	0	66	0	0	134	0	0	172	0	0	155	
Lane Group Flow (vph)	318	1163	83	269	748	64	111	552	101	420	1350	269	
Confl. Peds. (#/hr)	2		3	3		2	2		6	6		2	
Heavy Vehicles (%)	5%	7%	6%	6%	6%	15%	1%	5%	8%	7%	3%	3%	
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	
Protected Phases	7	4		3	8			2		1	6		
Permitted Phases	4		4			8	2		2	6		6	
Actuated Green, G (s)	62.0	42.0	42.0	15.0	31.0	31.0	56.0	56.0	56.0	84.0	84.0	84.0	
Effective Green, g (s)	64.0	42.0	42.0	15.0	31.0	31.0	56.0	56.0	56.0	84.0	84.0	84.0	
Actuated g/C Ratio	0.40	0.26	0.26	0.09	0.19	0.19	0.35	0.35	0.35	0.52	0.52	0.52	
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	4.0	7.0	7.0	
Lane Grp Cap (vph)	372	1286	395	313	958	270	99	1216	513	470	1860	817	
v/s Ratio Prot	c0.15	0.24		0.08	0.15			0.16		c0.13	0.38		
v/s Ratio Perm	c0.19		0.06			0.05	c0.39		0.07	0.33		0.17	
v/c Ratio	0.85	0.90	0.21	0.86	0.78	0.24	1.12	0.45	0.20	0.89	0.73	0.33	
Uniform Delay, d1	38.6	57.1	46.1	71.5	61.3	54.5	52.0	40.2	36.3	26.4	29.2	21.8	
Progression 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	
Incremental Delay, d2	21.5	10.6	1.2	25.2	6.3	2.1	126.9	1.2	0.9	22.0	2.5	1.1	
Delay (s)	60.0	67.7	47.3	96.6	67.6	56.6	178.9	41.4	37.2	48.5	31.7	22.9	
Level of Service	E	E	D	F	E	E	F	D	D	D	C	C	
Approach Delay (s)		64.3			72.2			56.5			33.2		
Approach LOS		E			E			E			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			53.3									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			1.01										
Actuated Cycle Length (s)			160.0									Sum of lost time (s)	23.0
Intersection Capacity Utilization			91.8%									ICU Level of Service	F
Analysis Period (min)			15										
c Critical Lane Group													












Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C

Future Total 2041  
AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	36	84	542	12	31	386
Future Volume (vph)	36	84	542	12	31	386
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.905		0.997			
Flt Protected	0.985					0.996
Satd. Flow (prot)	1679	0	1878	0	0	1876
Flt Permitted	0.985					0.996
Satd. Flow (perm)	1679	0	1878	0	0	1876
Link Speed (k/h)	48		80			80
Link Distance (m)	204.9		2784.8			298.8
Travel Time (s)	15.4		125.3			13.4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	36	84	542	12	31	386
Shared Lane Traffic (%)						
Lane Group Flow (vph)	120	0	554	0	0	417
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	59.7%			ICU Level of Service B		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
7: Chinguacousy Road & Street C

Future Total 2041  
AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	36	84	542	12	31	386
Future Volume (Veh/h)	36	84	542	12	31	386
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)	36	84	542	12	31	386
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	299					
pX, platoon unblocked						
vC, conflicting volume	996	548			554	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	996	548			554	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	86	84			97	
cM capacity (veh/h)	263	536			1016	
<b>Direction, Lane #</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	120	554	417			
Volume Left	36	0	31			
Volume Right	84	12	0			
cSH	409	1700	1016			
Volume to Capacity	0.29	0.33	0.03			
Queue Length 95th (m)	9.2	0.0	0.7			
Control Delay (s)	17.4	0.0	1.0			
Lane LOS	C		A			
Approach Delay (s)	17.4	0.0	1.0			
Approach LOS	C					
<b>Intersection Summary</b>						
Average Delay			2.3			
Intersection Capacity Utilization			59.7%	ICU Level of Service		B
Analysis Period (min)			15			










Lanes, Volumes, Timings  
8: Street B & Old School Road

Future Total 2041  
AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↖↖	↗↗	
Traffic Volume (vph)	727	5	40	449	12	108
Future Volume (vph)	727	5	40	449	12	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Fr <sub>t</sub>	0.999				0.878	
Fl <sub>t</sub> Protected				0.996	0.995	
Satd. Flow (prot)	3575	0	0	3564	1645	0
Fl <sub>t</sub> Permitted				0.996	0.995	
Satd. Flow (perm)	3575	0	0	3564	1645	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	727	5	40	449	12	108
Shared Lane Traffic (%)						
Lane Group Flow (vph)	732	0	0	489	120	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	51.2%			ICU Level of Service A		
Analysis Period (min)	15					

















HCM Unsignalized Intersection Capacity Analysis  
8: Street B & Old School Road

Future Total 2041  
AM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	727	5	40	449	12	108
Future Volume (Veh/h)	727	5	40	449	12	108
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	727	5	40	449	12	108
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			732	1034	366	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			732	1034	366	
tC, single (s)			4.1	6.8	6.9	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			95	94	83	
cM capacity (veh/h)			868	217	631	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	485	247	190	299	120	
Volume Left	0	0	40	0	12	
Volume Right	0	5	0	0	108	
cSH	1700	1700	868	1700	530	
Volume to Capacity	0.29	0.15	0.05	0.18	0.23	
Queue Length 95th (m)	0.0	0.0	1.1	0.0	6.6	
Control Delay (s)	0.0	0.0	2.3	0.0	13.8	
Lane LOS	A			B		
Approach Delay (s)	0.0		0.9		13.8	
Approach LOS	B					
Intersection Summary						
Average Delay			1.6			
Intersection Capacity Utilization			51.2%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2041  
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	199	0	46	0	572	88	20	451	0
Future Volume (vph)	0	0	0	199	0	46	0	572	88	20	451	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Fr <sub>t</sub>					0.975			0.980				
Fl <sub>t</sub> Protected					0.961						0.998	
Satd. Flow (prot)	0	1883	0	0	1765	0	0	3507	0	0	3571	0
Fl <sub>t</sub> Permitted					0.766						0.918	
Satd. Flow (perm)	0	1883	0	0	1407	0	0	3507	0	0	3285	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					41			25				
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			403.1			2496.3			588.2	
Travel Time (s)		15.4			30.2			112.3			26.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	199	0	46	0	572	88	20	451	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	245	0	0	660	0	0	471	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	

Lanes, Volumes, Timings  
 9: McLaughlin Road & Street A

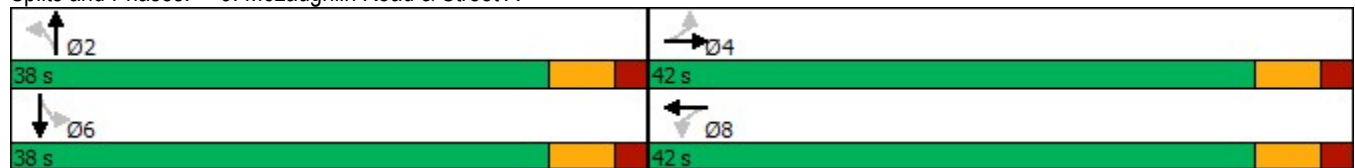
Future Total 2041  
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	42.0	42.0		42.0	42.0		38.0	38.0		38.0	38.0	
Total Split (%)	52.5%	52.5%		52.5%	52.5%		47.5%	47.5%		47.5%	47.5%	
Maximum Green (s)	36.0	36.0		36.0	36.0		32.0	32.0		32.0	32.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)					14.0			33.9			33.9	
Actuated g/C Ratio					0.23			0.57			0.57	
v/c Ratio					0.68			0.33			0.25	
Control Delay					26.8			8.0			7.9	
Queue Delay					0.0			0.0			0.0	
Total Delay					26.8			8.0			7.9	
LOS					C			A			A	
Approach Delay					26.8			8.0			7.9	
Approach LOS					C			A			A	

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 59.9  
 Natural Cycle: 45  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.68  
 Intersection Signal Delay: 11.3  
 Intersection Capacity Utilization 51.0%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service A

Splits and Phases: 9: McLaughlin Road & Street A



Queues  
9: McLaughlin Road & Street A

Future Total 2041  
AM Peak Hour



















Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	245	660	471
v/c Ratio	0.68	0.33	0.25
Control Delay	26.8	8.0	7.9
Queue Delay	0.0	0.0	0.0
Total Delay	26.8	8.0	7.9
Queue Length 50th (m)	19.2	16.8	11.9
Queue Length 95th (m)	38.5	33.6	24.7
Internal Link Dist (m)	379.1	2472.3	564.2
Turn Bay Length (m)			
Base Capacity (vph)	864	1995	1859
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.28	0.33	0.25
Intersection Summary			

# HCM Signalized Intersection Capacity Analysis

## 9: McLaughlin Road & Street A

Future Total 2041  
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	199	0	46	0	572	88	20	451	0
Future Volume (vph)	0	0	0	199	0	46	0	572	88	20	451	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.0			6.0			6.0	
Lane Util. Factor					1.00			0.95			0.95	
Frt					0.97			0.98			1.00	
Flt Protected					0.96			1.00			1.00	
Satd. Flow (prot)					1764			3507			3571	
Flt Permitted					0.77			1.00			0.92	
Satd. Flow (perm)					1406			3507			3285	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	199	0	46	0	572	88	20	451	0
RTOR Reduction (vph)	0	0	0	0	31	0	0	11	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	214	0	0	649	0	0	471	0
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)					14.0			33.9			33.9	
Effective Green, g (s)					14.0			33.9			33.9	
Actuated g/C Ratio					0.23			0.57			0.57	
Clearance Time (s)					6.0			6.0			6.0	
Vehicle Extension (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					328			1984			1859	
v/s Ratio Prot								c0.19				
v/s Ratio Perm					c0.15						0.14	
v/c Ratio					0.65			0.33			0.25	
Uniform Delay, d1					20.7			6.9			6.6	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					4.6			0.4			0.3	
Delay (s)					25.3			7.4			6.9	
Level of Service					C			A			A	
Approach Delay (s)		0.0			25.3			7.4			6.9	
Approach LOS		A			C			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			10.4		HCM 2000 Level of Service						B	
HCM 2000 Volume to Capacity ratio			0.42									
Actuated Cycle Length (s)			59.9		Sum of lost time (s)						12.0	
Intersection Capacity Utilization			51.0%		ICU Level of Service						A	
Analysis Period (min)			15									
c Critical Lane Group												













Lanes, Volumes, Timings  
 10: Street D & Old School Road

Future Total 2041  
 AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↙↙	↖	↗
Traffic Volume (vph)	1139	100	11	629	89	0
Future Volume (vph)	1139	100	11	629	89	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.988					
Flt Protected				0.999	0.950	
Satd. Flow (prot)	3536	0	0	3575	1789	1883
Flt Permitted				0.999	0.950	
Satd. Flow (perm)	3536	0	0	3575	1789	1883
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1139	100	11	629	89	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1239	0	0	640	89	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	46.3%			ICU Level of Service A		
Analysis Period (min)	15					

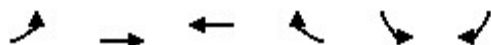
HCM Unsignalized Intersection Capacity Analysis  
10: Street D & Old School Road

Future Total 2041  
AM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1139	100	11	629	89	0
Future Volume (Veh/h)	1139	100	11	629	89	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1139	100	11	629	89	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	349					
pX, platoon unblocked			0.91		0.91	0.91
vC, conflicting volume			1239		1526	620
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1059		1375	376
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		27	100
cM capacity (veh/h)			593		122	564
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	759	480	221	419	89	0
Volume Left	0	0	11	0	89	0
Volume Right	0	100	0	0	0	0
cSH	1700	1700	593	1700	122	1700
Volume to Capacity	0.45	0.28	0.02	0.25	0.73	0.00
Queue Length 95th (m)	0.0	0.0	0.4	0.0	31.1	0.0
Control Delay (s)	0.0	0.0	0.8	0.0	90.1	0.0
Lane LOS			A		F	A
Approach Delay (s)	0.0		0.3		90.1	
Approach LOS					F	
Intersection Summary						
Average Delay			4.2			
Intersection Capacity Utilization			46.3%		ICU Level of Service	A
Analysis Period (min)			15			

Lanes, Volumes, Timings  
11: Street A & Street D

Future Total 2041  
AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	87	151	85	122	62	125
Future Volume (vph)	87	151	85	122	62	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.920		0.910	
Flt Protected		0.982			0.984	
Satd. Flow (prot)	0	1850	1733	0	1687	0
Flt Permitted		0.982			0.984	
Satd. Flow (perm)	0	1850	1733	0	1687	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	87	151	85	122	62	125
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	238	207	0	187	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	97			97	97	97
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	45.8%
Analysis Period (min)	15
	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis  
 11: Street A & Street D

Future Total 2041  
 AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	87	151	85	122	62	125
Future Volume (Veh/h)	87	151	85	122	62	125
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	87	151	85	122	62	125
<b>Pedestrians</b>						
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	207			471	146	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	207			471	146	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	94			88	86	
cM capacity (veh/h)	1364			516	901	
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	238	207	187			
Volume Left	87	0	62			
Volume Right	0	122	125			
cSH	1364	1700	722			
Volume to Capacity	0.06	0.12	0.26			
Queue Length 95th (m)	1.6	0.0	7.8			
Control Delay (s)	3.2	0.0	11.7			
Lane LOS	A		B			
Approach Delay (s)	3.2	0.0	11.7			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			4.7			
Intersection Capacity Utilization			45.8%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2041  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	104	523	147	2163	3290	28
Future Volume (vph)	104	523	147	2163	3290	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt		0.850			0.999	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	5142	5137	0
Flt Permitted	0.950		0.054			
Satd. Flow (perm)	1789	1601	102	5142	5137	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					2	
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	104	523	147	2163	3290	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	104	523	147	2163	3318	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2041  
AM Peak Hour

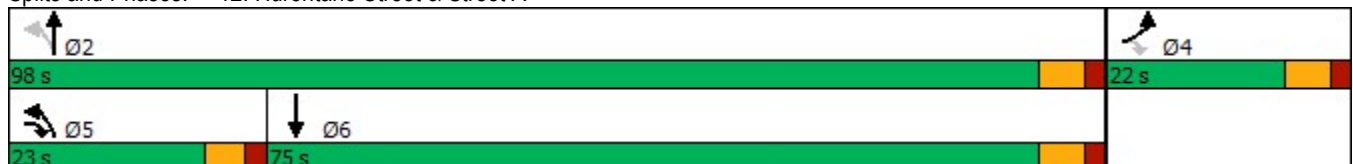


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	9.5	9.5	22.0	22.0	
Total Split (s)	22.0	23.0	23.0	98.0	75.0	
Total Split (%)	18.3%	19.2%	19.2%	81.7%	62.5%	
Maximum Green (s)	16.0	17.5	17.5	92.0	69.0	
Yellow Time (s)	4.0	3.5	3.5	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	5.5	5.5	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	11.8	35.3	92.6	92.1	69.0	
Actuated g/C Ratio	0.10	0.30	0.80	0.79	0.60	
v/c Ratio	0.57	1.07	0.44	0.53	1.08	
Control Delay	62.0	100.6	22.8	5.0	68.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	62.0	100.6	22.8	5.0	68.6	
LOS	E	F	C	A	E	
Approach Delay	94.2			6.1	68.6	
Approach LOS	F			A	E	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	115.9
Natural Cycle:	150
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.08
Intersection Signal Delay:	48.1
Intersection LOS:	D
Intersection Capacity Utilization	106.2%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 12: Hurontario Street & Street A



Queues  
12: Hurontario Street & Street A

Future Total 2041  
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	104	523	147	2163	3318
v/c Ratio	0.57	1.07	0.44	0.53	1.08
Control Delay	62.0	100.6	22.8	5.0	68.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	62.0	100.6	22.8	5.0	68.6
Queue Length 50th (m)	22.8	~131.5	13.7	52.0	~310.8
Queue Length 95th (m)	40.4	#192.3	35.3	72.1	#356.0
Internal Link Dist (m)	932.1			904.0	831.3
Turn Bay Length (m)	30.0		50.0		
Base Capacity (vph)	246	488	336	4084	3061
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	1.07	0.44	0.53	1.08

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 12: Hurontario Street & Street A

Future Total 2041  
 AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	104	523	147	2163	3290	28
Future Volume (vph)	104	523	147	2163	3290	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.5	5.5	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1789	1601	1789	5142	5135	
Flt Permitted	0.95	1.00	0.05	1.00	1.00	
Satd. Flow (perm)	1789	1601	101	5142	5135	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	104	523	147	2163	3290	28
RTOR Reduction (vph)	0	0	0	0	1	0
Lane Group Flow (vph)	104	523	147	2163	3317	0
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	11.8	29.3	92.1	92.1	69.1	
Effective Green, g (s)	11.8	29.3	92.1	92.1	69.1	
Actuated g/C Ratio	0.10	0.25	0.79	0.79	0.60	
Clearance Time (s)	6.0	5.5	5.5	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	182	404	335	4086	3061	
v/s Ratio Prot	0.06	c0.20	0.07	0.42	c0.65	
v/s Ratio Perm		0.13	0.28			
v/c Ratio	0.57	1.29	0.44	0.53	1.08	
Uniform Delay, d1	49.6	43.3	31.2	4.2	23.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.3	149.9	0.9	0.5	44.2	
Delay (s)	53.9	193.2	32.1	4.7	67.6	
Level of Service	D	F	C	A	E	
Approach Delay (s)	170.1			6.5	67.6	
Approach LOS	F			A	E	

Intersection Summary


















HCM 2000 Control Delay	55.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	115.9	Sum of lost time (s)	17.5
Intersection Capacity Utilization	106.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

Future Total 2041  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	293	4	362	412	66	16	387	390	53	254	5
Future Volume (vph)	5	293	4	362	412	66	16	387	390	53	254	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr <sub>t</sub>		0.998			0.979			0.934			0.998	
Fl <sub>t</sub> Protected		0.999		0.950				0.999			0.992	
Satd. Flow (prot)	0	1861	0	1825	1832	0	0	1717	0	0	1838	0
Fl <sub>t</sub> Permitted		0.990		0.275				0.990			0.739	
Satd. Flow (perm)	0	1844	0	528	1832	0	0	1702	0	0	1369	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8			59			1	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		590.7			490.2			298.8			342.6	
Travel Time (s)		30.4			25.2			13.4			15.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%
Adj. Flow (vph)	5	312	4	385	438	70	17	412	415	56	270	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	321	0	385	508	0	0	844	0	0	331	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												

Lanes, Volumes, Timings  
1: Chinguacousy Road & Old School Road

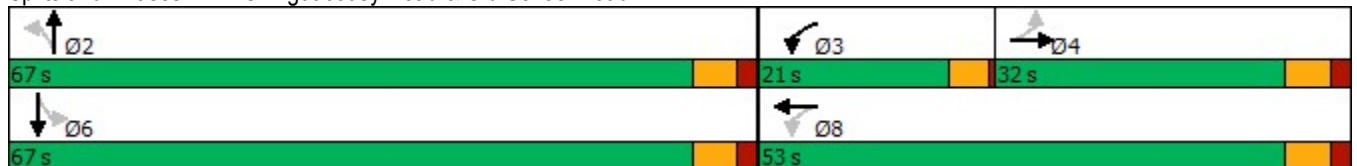
Future Total 2041  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	32.0	32.0		21.0	53.0		67.0	67.0		67.0	67.0	
Total Split (%)	26.7%	26.7%		17.5%	44.2%		55.8%	55.8%		55.8%	55.8%	
Maximum Green (s)	26.0	26.0		17.0	47.0		61.0	61.0		61.0	61.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0		-2.0	0.0			0.0			0.0	
Total Lost Time (s)		6.0		2.0	6.0			6.0			6.0	
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	Max	Max		None	Max		Max	Max		Max	Max	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		26.0		51.0	47.0			61.0			61.0	
Actuated g/C Ratio		0.22		0.42	0.39			0.51			0.51	
v/c Ratio		0.80		0.90	0.70			0.94			0.48	
Control Delay		61.1		51.5	36.5			46.0			21.9	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		61.1		51.5	36.5			46.0			21.9	
LOS		E		D	D			D			C	
Approach Delay		61.1			43.0			46.0			21.9	
Approach LOS		E			D			D			C	

Intersection Summary

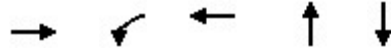
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Natural Cycle:	75
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.94
Intersection Signal Delay:	43.6
Intersection LOS:	D
Intersection Capacity Utilization	103.1%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road



Queues  
1: Chinguacousy Road & Old School Road

Future Total 2041  
PM Peak Hour




















Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	321	385	508	844	331
v/c Ratio	0.80	0.90	0.70	0.94	0.48
Control Delay	61.1	51.5	36.5	46.0	21.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	61.1	51.5	36.5	46.0	21.9
Queue Length 50th (m)	72.3	64.9	97.7	172.7	48.7
Queue Length 95th (m)	#114.8	#106.8	137.3	#262.0	73.8
Internal Link Dist (m)	566.7		466.2	274.8	318.6
Turn Bay Length (m)					
Base Capacity (vph)	399	429	722	894	696
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.80	0.90	0.70	0.94	0.48

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.



















HCM Signalized Intersection Capacity Analysis  
1: Chinguacousy Road & Old School Road

Future Total 2041  
PM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	5	293	4	362	412	66	16	387	390	53	254	5	
Future Volume (vph)	5	293	4	362	412	66	16	387	390	53	254	5	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.0		2.0	6.0			6.0			6.0		
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00		
Frt		1.00		1.00	0.98			0.93			1.00		
Flt Protected		1.00		0.95	1.00			1.00			0.99		
Satd. Flow (prot)		1862		1825	1833			1716			1837		
Flt Permitted		0.99		0.27	1.00			0.99			0.74		
Satd. Flow (perm)		1846		528	1833			1700			1370		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	5	312	4	385	438	70	17	412	415	56	270	5	
RTOR Reduction (vph)	0	0	0	0	5	0	0	29	0	0	0	0	
Lane Group Flow (vph)	0	321	0	385	503	0	0	815	0	0	331	0	
Heavy Vehicles (%)	0%	3%	0%	0%	1%	13%	0%	7%	2%	10%	2%	10%	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA		
Protected Phases		4		3	8			2			6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)		26.0		47.0	47.0			61.0			61.0		
Effective Green, g (s)		26.0		49.0	47.0			61.0			61.0		
Actuated g/C Ratio		0.22		0.41	0.39			0.51			0.51		
Clearance Time (s)		6.0		4.0	6.0			6.0			6.0		
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0		
Lane Grp Cap (vph)		399		420	717			864			696		
v/s Ratio Prot				c0.14	0.27								
v/s Ratio Perm		c0.17		0.23				c0.48			0.24		
v/c Ratio		0.80		0.92	0.70			0.94			0.47		
Uniform Delay, d1		44.6		28.7	30.6			27.9			19.1		
Progression Factor		1.00		1.00	1.00			1.00			1.00		
Incremental Delay, d2		15.7		24.4	5.7			19.6			2.3		
Delay (s)		60.3		53.1	36.3			47.5			21.4		
Level of Service		E		D	D			D			C		
Approach Delay (s)		60.3			43.6			47.5			21.4		
Approach LOS		E			D			D			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			44.1									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.90										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	14.0
Intersection Capacity Utilization			103.1%									ICU Level of Service	G
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

Future Total 2041  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	697	58	503	809	55	74	180	508	48	85	13
Future Volume (vph)	17	697	58	503	809	55	74	180	508	48	85	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.95	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989			0.990				0.850		0.988	
Flt Protected		0.999		0.950				0.986			0.984	
Satd. Flow (prot)	0	3456	0	1755	3571	0	0	1815	1555	0	1805	0
Flt Permitted		0.918		0.147				0.840			0.642	
Satd. Flow (perm)	0	3175	0	272	3571	0	0	1547	1555	0	1178	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			13				537			5
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		893.1			349.1			588.2			263.1	
Travel Time (s)		45.9			18.0			26.5			11.8	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Adj. Flow (vph)	18	741	62	535	861	59	79	191	540	51	90	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	821	0	535	920	0	0	270	540	0	155	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1		2
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left		Thru
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1		30.5
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1		1.8
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)		28.7			28.7			28.7				28.7
Detector 2 Size(m)		1.8			1.8			1.8				1.8
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6

Lanes, Volumes, Timings  
2: McLaughlin Road & Old School Road

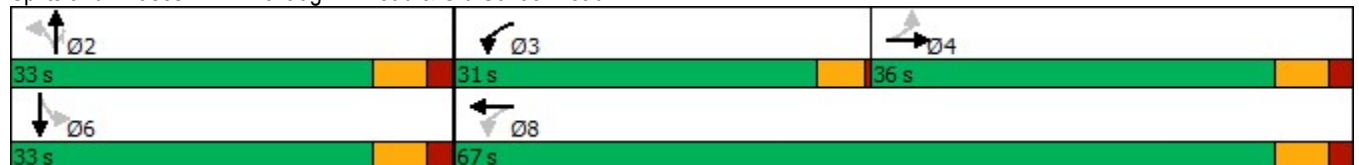
Future Total 2041  
PM Peak Hour

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		
Detector Phase	4	4		3	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	22.0		8.0	22.0		22.0	22.0	22.0	22.0	22.0	
Total Split (s)	36.0	36.0		31.0	67.0		33.0	33.0	33.0	33.0	33.0	
Total Split (%)	36.0%	36.0%		31.0%	67.0%		33.0%	33.0%	33.0%	33.0%	33.0%	
Maximum Green (s)	30.0	30.0		27.0	61.0		27.0	27.0	27.0	27.0	27.0	
Yellow Time (s)	4.0	4.0		3.5	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		0.5	2.0		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	
Total Lost Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
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	3.0	
Recall Mode	None	None		None	None		None	None	None	None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0	5.0	5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)		27.1		58.6	56.6			21.1	21.1		21.1	
Actuated g/C Ratio		0.30		0.65	0.63			0.23	0.23		0.23	
v/c Ratio		0.86		0.90	0.41			0.75	0.70		0.55	
Control Delay		40.4		41.3	9.4			46.2	8.2		38.4	
Queue Delay		0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay		40.4		41.3	9.4			46.2	8.2		38.4	
LOS		D		D	A			D	A		D	
Approach Delay		40.4			21.1			20.9			38.4	
Approach LOS		D			C			C			D	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 90  
 Natural Cycle: 80  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.90  
 Intersection Signal Delay: 26.8      Intersection LOS: C  
 Intersection Capacity Utilization 91.0%      ICU Level of Service E  
 Analysis Period (min) 15

Splits and Phases: 2: McLaughlin Road & Old School Road



Queues  
2: McLaughlin Road & Old School Road

Future Total 2041  
PM Peak Hour



Lane Group	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	821	535	920	270	540	155
v/c Ratio	0.86	0.90	0.41	0.75	0.70	0.55
Control Delay	40.4	41.3	9.4	46.2	8.2	38.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.4	41.3	9.4	46.2	8.2	38.4
Queue Length 50th (m)	73.2	73.1	39.6	46.3	0.4	24.4
Queue Length 95th (m)	#109.3	#143.0	57.2	73.5	27.3	43.9
Internal Link Dist (m)	869.1		325.1	564.2		239.1
Turn Bay Length (m)		50.0				
Base Capacity (vph)	1089	632	2482	475	849	365
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.85	0.37	0.57	0.64	0.42



















Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 2: McLaughlin Road & Old School Road























Future Total 2041  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	697	58	503	809	55	74	180	508	48	85	13
Future Volume (vph)	17	697	58	503	809	55	74	180	508	48	85	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Lane Util. Factor		0.95		1.00	0.95			1.00	1.00		1.00	
Frt		0.99		1.00	0.99			1.00	0.85		0.99	
Flt Protected		1.00		0.95	1.00			0.99	1.00		0.98	
Satd. Flow (prot)		3454		1755	3572			1815	1555		1804	
Flt Permitted		0.92		0.15	1.00			0.84	1.00		0.64	
Satd. Flow (perm)		3174		271	3572			1546	1555		1178	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	18	741	62	535	861	59	79	191	540	51	90	14
RTOR Reduction (vph)	0	6	0	0	5	0	0	0	411	0	4	0
Lane Group Flow (vph)	0	815	0	535	915	0	0	270	129	0	151	0
Heavy Vehicles (%)	0%	4%	10%	4%	1%	4%	10%	2%	5%	0%	6%	0%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		27.1		56.6	56.6			21.1	21.1		21.1	
Effective Green, g (s)		27.1		56.6	56.6			21.1	21.1		21.1	
Actuated g/C Ratio		0.30		0.63	0.63			0.24	0.24		0.24	
Clearance Time (s)		6.0		4.0	6.0			6.0	6.0		6.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		958		592	2253			363	365		277	
v/s Ratio Prot				c0.26	0.26							
v/s Ratio Perm		0.26		c0.31				c0.17	0.08		0.13	
v/c Ratio		0.85		0.90	0.41			0.74	0.35		0.55	
Uniform Delay, d1		29.4		21.7	8.2			31.8	28.6		30.1	
Progression Factor		1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2		7.3		17.2	0.1			8.0	0.6		2.2	
Delay (s)		36.7		38.9	8.3			39.8	29.2		32.3	
Level of Service		D		D	A			D	C		C	
Approach Delay (s)		36.7			19.6			32.7			32.3	
Approach LOS		D			B			C			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			27.8			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			89.7			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			91.0%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												



Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

Future Total 2041  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	699	258	167	359	335	172	276	3404	391	174	2037	630
Future Volume (vph)	699	258	167	359	335	172	276	3404	391	174	2037	630
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	65.0		0.0	35.0		60.0	35.0		60.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	1.00	1.00	0.91	1.00
Frt		0.941			0.949				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	3260	0	1789	3441	0	1807	5043	1633	1825	4812	1541
Flt Permitted	0.187			0.251			0.073			0.077		
Satd. Flow (perm)	359	3260	0	473	3441	0	139	5043	1633	148	4812	1541
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		86			63				150			386
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1007.8			1149.0			855.3			750.5	
Travel Time (s)		51.8			59.1			38.5			33.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Adj. Flow (vph)	721	266	172	370	345	177	285	3509	403	179	2100	649
Shared Lane Traffic (%)												
Lane Group Flow (vph)	721	438	0	370	522	0	285	3509	403	179	2100	649
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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane								Yes				
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5	6.1	6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8	6.1	6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	

Lanes, Volumes, Timings  
3: Hurontario Street & Old School Road

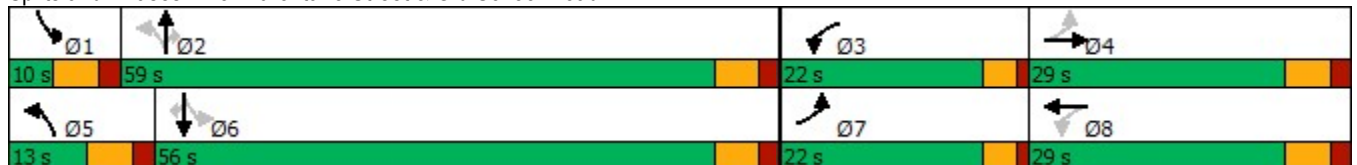
Future Total 2041  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0	29.0	10.0	29.0	29.0
Total Split (s)	22.0	29.0		22.0	29.0		13.0	59.0	59.0	10.0	56.0	56.0
Total Split (%)	18.3%	24.2%		18.3%	24.2%		10.8%	49.2%	49.2%	8.3%	46.7%	46.7%
Maximum Green (s)	18.0	23.0		18.0	23.0		7.0	53.0	53.0	4.0	50.0	50.0
Yellow Time (s)	3.0	4.0		3.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-2.0	-2.0		0.0	-2.0		-2.0	-2.0	0.0	-2.0	-2.0	0.0
Total Lost Time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lead/Lag	Lead	Lag		Lead	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
Recall Mode	None	None		None	None		None	Max	Max	None	Max	Max
Walk Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	44.1	22.1		40.1	22.1		64.0	55.0	53.0	58.0	52.0	50.0
Actuated g/C Ratio	0.38	0.19		0.34	0.19		0.55	0.47	0.45	0.50	0.44	0.43
v/c Ratio	1.87	0.64		1.02	0.75		1.40	1.48	0.49	1.13	0.98	0.74
Control Delay	426.6	39.5		83.2	46.5		232.4	246.1	16.2	135.2	48.4	16.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	426.6	39.5		83.2	46.5		232.4	246.1	16.2	135.2	48.4	16.8
LOS	F	D		F	D		F	F	B	F	D	B
Approach Delay		280.3			61.7			223.1			46.7	
Approach LOS		F			E			F			D	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	117.1
Natural Cycle:	150
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	1.87
Intersection Signal Delay:	158.4
Intersection LOS:	F
Intersection Capacity Utilization	142.2%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 3: Hurontario Street & Old School Road



Queues  
3: Hurontario Street & Old School Road

Future Total 2041  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	721	438	370	522	285	3509	403	179	2100	649
v/c Ratio	1.87	0.64	1.02	0.75	1.40	1.48	0.49	1.13	0.98	0.74
Control Delay	426.6	39.5	83.2	46.5	232.4	246.1	16.2	135.2	48.4	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	426.6	39.5	83.2	46.5	232.4	246.1	16.2	135.2	48.4	16.8
Queue Length 50th (m)	~238.4	39.5	~67.5	53.0	~73.1	~412.1	39.4	~32.2	173.1	51.2
Queue Length 95th (m)	#314.1	56.5	#125.8	71.7	#129.2	#445.7	68.7	#79.0	#218.8	102.5
Internal Link Dist (m)		983.8		1125.0		831.3			726.5	
Turn Bay Length (m)	40.0		65.0		35.0		60.0	35.0		60.0
Base Capacity (vph)	385	763	364	784	204	2369	821	159	2137	879
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.87	0.57	1.02	0.67	1.40	1.48	0.49	1.13	0.98	0.74

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
3: Hurontario Street & Old School Road

Future Total 2041  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	699	258	167	359	335	172	276	3404	391	174	2037	630
Future Volume (vph)	699	258	167	359	335	172	276	3404	391	174	2037	630
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.0	4.0		4.0	4.0		4.0	4.0	6.0	4.0	4.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91	1.00	1.00	0.91	1.00
Frt	1.00	0.94		1.00	0.95		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1825	3260		1789	3442		1807	5043	1633	1825	4812	1541
Flt Permitted	0.19	1.00		0.25	1.00		0.07	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	358	3260		473	3442		138	5043	1633	148	4812	1541
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	721	266	172	370	345	177	285	3509	403	179	2100	649
RTOR Reduction (vph)	0	70	0	0	51	0	0	0	82	0	0	221
Lane Group Flow (vph)	721	368	0	370	471	0	285	3509	321	179	2100	428
Heavy Vehicles (%)	0%	3%	9%	2%	1%	0%	1%	4%	0%	0%	9%	6%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	38.1	20.1		38.1	20.1		60.0	53.0	53.0	54.0	50.0	50.0
Effective Green, g (s)	42.1	22.1		38.1	22.1		64.0	55.0	53.0	58.0	52.0	50.0
Actuated g/C Ratio	0.36	0.19		0.33	0.19		0.55	0.47	0.45	0.50	0.44	0.43
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	379	615		356	649		203	2368	739	159	2136	657
v/s Ratio Prot	c0.32	0.11		0.16	0.14		c0.11	c0.70		0.06	0.44	
v/s Ratio Perm	0.36			c0.18			0.66		0.20	0.50		0.28
v/c Ratio	1.90	0.60		1.04	0.73		1.40	1.48	0.43	1.13	0.98	0.65
Uniform Delay, d1	32.6	43.4		34.9	44.6		34.4	31.0	21.8	29.1	32.1	26.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	415.8	1.6		58.3	4.0		208.6	219.1	1.9	109.1	15.9	5.0
Delay (s)	448.4	45.0		93.2	48.7		243.0	250.2	23.7	138.2	48.0	31.6
Level of Service	F	D		F	D		F	F	C	F	D	C
Approach Delay (s)		296.0			67.1			228.0			49.9	
Approach LOS		F			E			F			D	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			164.1									F
HCM 2000 Volume to Capacity ratio			1.50									
Actuated Cycle Length (s)			117.1							16.0		
Intersection Capacity Utilization			142.2%									H
ICU Level of Service												
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2041  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕↕		↖	↕↕↕			↕			↕	
Traffic Volume (vph)	51	869	63	297	820	110	42	362	311	57	226	35
Future Volume (vph)	51	869	63	297	820	110	42	362	311	57	226	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		0	1		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.91	0.91	0.91	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor								1.00			1.00	
Frt		0.990			0.982			0.941			0.985	
Flt Protected		0.997		0.950				0.997			0.991	
Satd. Flow (prot)	0	5037	0	1825	5018	0	0	1755	0	0	1839	0
Flt Permitted		0.809		0.102				0.959			0.709	
Satd. Flow (perm)	0	4087	0	196	5018	0	0	1688	0	0	1316	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			27			43			7	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		864.0			1419.4			625.8			2784.8	
Travel Time (s)		44.4			73.0			28.2			125.3	
Confl. Peds. (#/hr)							1					1
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
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Adj. Flow (vph)	55	945	68	323	891	120	46	393	338	62	246	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1068	0	323	1011	0	0	777	0	0	346	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)		3.7			3.7			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lanes, Volumes, Timings  
4: Chinguacousy Road & Mayfield Road

Future Total 2041  
PM Peak Hour

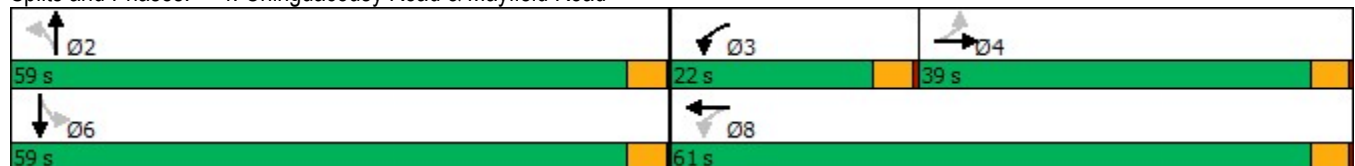


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	39.0	39.0		22.0	61.0		59.0	59.0		59.0	59.0	
Total Split (%)	32.5%	32.5%		18.3%	50.8%		49.2%	49.2%		49.2%	49.2%	
Maximum Green (s)	35.0	35.0		18.0	57.0		55.0	55.0		55.0	55.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)		4.0		4.0	4.0			4.0			4.0	
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	Max	Max		None	Max		None	None		None	None	
Walk Time (s)	5.0	5.0			5.0		5.0	5.0		5.0	5.0	
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)		35.1		57.0	57.0			54.5			54.5	
Actuated g/C Ratio		0.29		0.48	0.48			0.46			0.46	
v/c Ratio		0.89		0.96	0.42			0.98			0.57	
Control Delay		50.1		72.2	20.5			58.6			28.0	
Queue Delay		0.0		0.0	0.0			0.0			0.0	
Total Delay		50.1		72.2	20.5			58.6			28.0	
LOS		D		E	C			E			C	
Approach Delay		50.1			33.1			58.6			28.0	
Approach LOS		D			C			E			C	

Intersection Summary

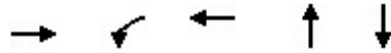
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	119.5
Natural Cycle:	75
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.98
Intersection Signal Delay:	43.3
Intersection LOS:	D
Intersection Capacity Utilization:	91.6%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 4: Chinguacousy Road & Mayfield Road



Queues  
4: Chinguacousy Road & Mayfield Road

Future Total 2041  
PM Peak Hour



























Lane Group	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	1068	323	1011	777	346
v/c Ratio	0.89	0.96	0.42	0.98	0.57
Control Delay	50.1	72.2	20.5	58.6	28.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	50.1	72.2	20.5	58.6	28.0
Queue Length 50th (m)	87.5	59.9	54.1	168.4	57.2
Queue Length 95th (m)	#111.9	#116.2	65.3	#253.2	87.6
Internal Link Dist (m)	840.0		1395.4	601.8	2760.8
Turn Bay Length (m)		50.0			
Base Capacity (vph)	1206	339	2408	800	609
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.89	0.95	0.42	0.97	0.57

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
4: Chinguacousy Road & Mayfield Road

Future Total 2041  
PM Peak Hour





















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  				  			  	
Traffic Volume (vph)	51	869	63	297	820	110	42	362	311	57	226	35
Future Volume (vph)	51	869	63	297	820	110	42	362	311	57	226	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor		0.91		1.00	0.91			1.00			1.00	
Frbp, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Flpb, ped/bikes		1.00		1.00	1.00			1.00			1.00	
Frt		0.99		1.00	0.98			0.94			0.99	
Flt Protected		1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)		5041		1825	5019			1756			1840	
Flt Permitted		0.81		0.10	1.00			0.96			0.71	
Satd. Flow (perm)		4087		197	5019			1689			1316	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	945	68	323	891	120	46	393	338	62	246	38
RTOR Reduction (vph)	0	6	0	0	14	0	0	23	0	0	4	0
Lane Group Flow (vph)	0	1062	0	323	997	0	0	754	0	0	342	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	3%	2%	0%	3%	0%	0%	1%	5%	0%	1%	10%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		35.1		57.0	57.0			54.5			54.5	
Effective Green, g (s)		35.1		57.0	57.0			54.5			54.5	
Actuated g/C Ratio		0.29		0.48	0.48			0.46			0.46	
Clearance Time (s)		4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		1200		337	2394			770			600	
v/s Ratio Prot				c0.14	0.20							
v/s Ratio Perm		0.26		c0.31				c0.45			0.26	
v/c Ratio		0.88		0.96	0.42			0.98			0.57	
Uniform Delay, d1		40.3		34.6	20.4			31.9			23.9	
Progression Factor		1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2		9.7		37.6	0.5			26.9			1.3	
Delay (s)		50.0		72.3	20.9			58.8			25.2	
Level of Service		D		E	C			E			C	
Approach Delay (s)		50.0			33.4			58.8			25.2	
Approach LOS		D			C			E			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			43.2			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			119.5			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			91.6%			ICU Level of Service				F		
Analysis Period (min)			15									

c Critical Lane Group



Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

Future Total 2041  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	1065	90	138	1250	312	151	631	142	238	386	177
Future Volume (vph)	180	1065	90	138	1250	312	151	631	142	238	386	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	30.0		0.0	50.0		30.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.988			0.970			0.972			0.953	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1738	5031	0	1755	4892	0	1825	3500	0	1738	3357	0
Flt Permitted	0.098			0.121			0.356			0.118		
Satd. Flow (perm)	179	5031	0	224	4892	0	684	3500	0	216	3357	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			55			22			65	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			341.6			2496.3	
Travel Time (s)		73.0			65.0			15.4			112.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%
Adj. Flow (vph)	188	1109	94	144	1302	325	157	657	148	248	402	184
Shared Lane Traffic (%)												
Lane Group Flow (vph)	188	1203	0	144	1627	0	157	805	0	248	586	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)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	

Lanes, Volumes, Timings  
5: McLaughlin Road & Mayfield Road

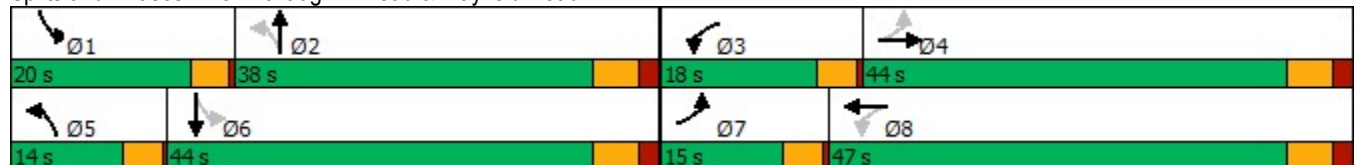
Future Total 2041  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	22.0		8.0	22.0		8.0	22.0		8.0	22.0	
Total Split (s)	15.0	44.0		18.0	47.0		14.0	38.0		20.0	44.0	
Total Split (%)	12.5%	36.7%		15.0%	39.2%		11.7%	31.7%		16.7%	36.7%	
Maximum Green (s)	11.0	38.0		14.0	41.0		10.0	32.0		16.0	38.0	
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	
All-Red Time (s)	0.5	2.0		0.5	2.0		0.5	2.0		0.5	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	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	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	53.9	41.0		53.9	41.1		41.5	30.0		51.2	35.6	
Actuated g/C Ratio	0.46	0.35		0.46	0.35		0.35	0.26		0.44	0.30	
v/c Ratio	0.83	0.68		0.59	0.93		0.47	0.88		0.85	0.55	
Control Delay	56.0	35.4		27.8	46.4		25.6	53.2		53.6	32.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	56.0	35.4		27.8	46.4		25.6	53.2		53.6	32.2	
LOS	E	D		C	D		C	D		D	C	
Approach Delay		38.2			44.9			48.7			38.5	
Approach LOS		D			D			D			D	

Intersection Summary

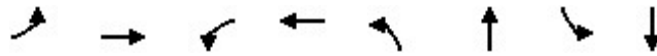
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 117.1  
 Natural Cycle: 75  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.93  
 Intersection Signal Delay: 42.7      Intersection LOS: D  
 Intersection Capacity Utilization 92.9%      ICU Level of Service F  
 Analysis Period (min) 15

Splits and Phases: 5: McLaughlin Road & Mayfield Road



Queues  
5: McLaughlin Road & Mayfield Road

Future Total 2041  
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	188	1203	144	1627	157	805	248	586
v/c Ratio	0.83	0.68	0.59	0.93	0.47	0.88	0.85	0.55
Control Delay	56.0	35.4	27.8	46.4	25.6	53.2	53.6	32.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.0	35.4	27.8	46.4	25.6	53.2	53.6	32.2
Queue Length 50th (m)	27.6	88.2	18.6	132.7	21.8	92.4	39.7	52.8
Queue Length 95th (m)	#69.5	109.0	31.7	#165.0	35.5	#117.7	#81.6	70.4
Internal Link Dist (m)		1395.4		1239.7		317.6		2472.3
Turn Bay Length (m)	30.0		30.0		50.0		50.0	
Base Capacity (vph)	229	1770	292	1750	342	973	302	1134
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.68	0.49	0.93	0.46	0.83	0.82	0.52

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

































HCM Signalized Intersection Capacity Analysis  
5: McLaughlin Road & Mayfield Road

Future Total 2041  
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	180	1065	90	138	1250	312	151	631	142	238	386	177	
Future Volume (vph)	180	1065	90	138	1250	312	151	631	142	238	386	177	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0		
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95		
Frt	1.00	0.99		1.00	0.97		1.00	0.97		1.00	0.95		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00		
Satd. Flow (prot)	1738	5032		1755	4892		1825	3502		1738	3356		
Flt Permitted	0.10	1.00		0.12	1.00		0.36	1.00		0.12	1.00		
Satd. Flow (perm)	179	5032		223	4892		683	3502		215	3356		
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	188	1109	94	144	1302	325	157	657	148	248	402	184	
RTOR Reduction (vph)	0	8	0	0	36	0	0	16	0	0	45	0	
Lane Group Flow (vph)	188	1195	0	144	1591	0	157	789	0	248	541	0	
Heavy Vehicles (%)	5%	3%	3%	4%	5%	0%	0%	1%	3%	5%	3%	5%	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA		
Protected Phases	7	4		3	8		5	2		1	6		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)	51.8	41.0		52.0	41.1		39.6	30.0		49.2	35.6		
Effective Green, g (s)	51.8	41.0		52.0	41.1		39.6	30.0		49.2	35.6		
Actuated g/C Ratio	0.44	0.35		0.44	0.35		0.34	0.26		0.42	0.30		
Clearance Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		
Lane Grp Cap (vph)	222	1761		241	1717		324	897		288	1020		
v/s Ratio Prot	c0.08	0.24		0.06	c0.33		0.04	0.23		c0.11	0.16		
v/s Ratio Perm	0.30			0.21			0.12			c0.25			
v/c Ratio	0.85	0.68		0.60	0.93		0.48	0.88		0.86	0.53		
Uniform Delay, d1	27.3	32.4		22.0	36.6		28.2	41.8		29.8	33.8		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00		
Incremental Delay, d2	24.6	2.1		3.9	10.1		1.1	9.8		22.2	0.5		
Delay (s)	51.9	34.6		26.0	46.7		29.3	51.6		52.0	34.3		
Level of Service	D	C		C	D		C	D		D	C		
Approach Delay (s)		36.9			45.0			48.0			39.6		
Approach LOS		D			D			D			D		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			42.4									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.91										
Actuated Cycle Length (s)			117.1									Sum of lost time (s)	20.0
Intersection Capacity Utilization			92.9%									ICU Level of Service	F
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

Future Total 2041  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 			 	
Traffic Volume (vph)	729	734	136	337	942	188	255	1072	322	270	1092	1031
Future Volume (vph)	729	734	136	337	942	188	255	1072	322	270	1092	1031
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.96	0.98		0.99			0.96			0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1755	4995	1601	3404	5092	1585	1789	3614	1555	1825	3510	1585
Flt Permitted	0.148			0.950			0.093			0.089		
Satd. Flow (perm)	273	4995	1538	3349	5092	1562	175	3614	1486	171	3510	1555
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			137			178			180			585
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		142.1			1278.8			782.4			609.4	
Travel Time (s)		7.3			65.8			40.2			31.3	
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Adj. Flow (vph)	752	757	140	347	971	194	263	1105	332	278	1126	1063
Shared Lane Traffic (%)												
Lane Group Flow (vph)	752	757	140	347	971	194	263	1105	332	278	1126	1063
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)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Turn Type	pm+pt	NA	Perm	Prot	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	2		2	6		6
Minimum Split (s)	10.0	23.0	23.0	10.0	23.0	23.0	8.0	23.0	23.0	8.0	23.0	23.0
Total Split (s)	41.0	45.0	45.0	25.0	29.0	29.0	9.0	48.0	48.0	17.0	56.0	56.0
Total Split (%)	30.4%	33.3%	33.3%	18.5%	21.5%	21.5%	6.7%	35.6%	35.6%	12.6%	41.5%	41.5%
Maximum Green (s)	36.0	38.0	38.0	20.0	22.0	22.0	5.0	41.0	41.0	13.0	49.0	49.0
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.5	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	3.0	0.5	3.0	3.0	1.0	3.0	3.0
Lost Time Adjust (s)	-2.0	0.0	0.0	0.0	0.0	0.0	-2.0	0.0	0.0	-2.0	0.0	0.0
Total Lost Time (s)	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0	2.0	7.0	7.0
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
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		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

Lanes, Volumes, Timings  
6: Hurontario Street & Mayfield Road

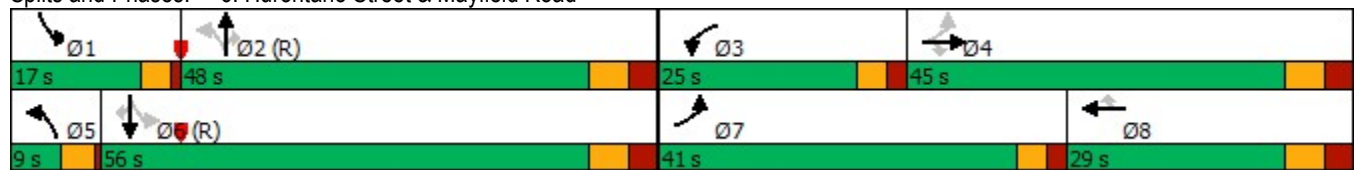
Future Total 2041  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Act Effect Green (s)	67.0	38.0	38.0	20.0	22.0	22.0	53.0	41.0	41.0	63.0	49.0	49.0
Actuated g/C Ratio	0.50	0.28	0.28	0.15	0.16	0.16	0.39	0.30	0.30	0.47	0.36	0.36
v/c Ratio	1.36	0.54	0.26	0.69	1.17	0.48	1.73	1.01	0.58	1.06	0.88	1.13
Control Delay	206.5	42.8	7.4	62.4	138.4	13.3	377.7	75.5	21.9	106.4	49.9	92.6
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	206.5	42.8	7.4	62.4	138.4	13.3	377.7	75.5	21.9	106.4	49.9	92.6
LOS	F	D	A	E	F	B	F	E	C	F	D	F
Approach Delay		114.4			104.9			111.8			74.7	
Approach LOS		F			F			F			E	

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:	120
Control Type:	Pretimed
Maximum v/c Ratio:	1.73
Intersection Signal Delay:	98.5
Intersection LOS:	F
Intersection Capacity Utilization	121.5%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 6: Hurontario Street & Mayfield Road



Queues  
6: Hurontario Street & Mayfield Road

Future Total 2041  
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	752	757	140	347	971	194	263	1105	332	278	1126	1063
v/c Ratio	1.36	0.54	0.26	0.69	1.17	0.48	1.73	1.01	0.58	1.06	0.88	1.13
Control Delay	206.5	42.8	7.4	62.4	138.4	13.3	377.7	75.5	21.9	106.4	49.9	92.6
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	206.5	42.8	7.4	62.4	138.4	13.3	377.7	75.5	21.9	106.4	49.9	92.6
Queue Length 50th (m)	~248.2	62.7	0.6	45.8	~112.7	3.7	~87.3	~157.2	33.4	~63.7	147.4	~223.8
Queue Length 95th (m)	#324.0	76.4	16.2	62.3	#141.2	25.6	#142.3	#203.6	64.7	#119.9	176.8	#304.1
Internal Link Dist (m)		118.1			1254.8			758.4				585.4
Turn Bay Length (m)	105.0		105.0	45.0		55.0	45.0		55.0	140.0		80.0
Base Capacity (vph)	552	1406	531	504	829	403	152	1097	576	263	1274	937
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.36	0.54	0.26	0.69	1.17	0.48	1.73	1.01	0.58	1.06	0.88	1.13

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.


































# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

# HCM Signalized Intersection Capacity Analysis

## 6: Hurontario Street & Mayfield Road










Future Total 2041  
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			 		 	 	
Traffic Volume (vph)	729	734	136	337	942	188	255	1072	322	270	1092	1031
Future Volume (vph)	729	734	136	337	942	188	255	1072	322	270	1092	1031
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0	7.0	5.0	7.0	7.0	2.0	7.0	7.0	2.0	7.0	7.0
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1755	4995	1538	3404	5092	1562	1789	3614	1486	1825	3510	1555
Flt Permitted	0.15	1.00	1.00	0.95	1.00	1.00	0.09	1.00	1.00	0.09	1.00	1.00
Satd. Flow (perm)	274	4995	1538	3404	5092	1562	175	3614	1486	171	3510	1555
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	752	757	140	347	971	194	263	1105	332	278	1126	1063
RTOR Reduction (vph)	0	0	98	0	0	149	0	0	125	0	0	373
Lane Group Flow (vph)	752	757	42	347	971	45	263	1105	207	278	1126	690
Confl. Peds. (#/hr)	1		11	11		1	3		13	13		3
Heavy Vehicles (%)	4%	5%	2%	4%	3%	3%	2%	1%	5%	0%	4%	3%
Turn Type	pm+pt	NA	Perm	Prot	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	2		2	6		6
Actuated Green, G (s)	63.0	38.0	38.0	20.0	22.0	22.0	46.0	41.0	41.0	58.0	49.0	49.0
Effective Green, g (s)	65.0	38.0	38.0	20.0	22.0	22.0	50.0	41.0	41.0	60.0	49.0	49.0
Actuated g/C Ratio	0.48	0.28	0.28	0.15	0.16	0.16	0.37	0.30	0.30	0.44	0.36	0.36
Clearance Time (s)	5.0	7.0	7.0	5.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0
Lane Grp Cap (vph)	548	1406	432	504	829	254	148	1097	451	259	1274	564
v/s Ratio Prot	c0.39	0.15		0.10	0.19		c0.09	0.31		c0.12	0.32	
v/s Ratio Perm	c0.27		0.03			0.03	c0.56		0.14	0.36		0.44
v/c Ratio	1.37	0.54	0.10	0.69	1.17	0.18	1.78	1.01	0.46	1.07	0.88	1.22
Uniform Delay, d1	39.4	41.1	35.8	54.5	56.5	48.7	35.4	47.0	38.0	41.3	40.3	43.0
Progression 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
Incremental Delay, d2	178.9	1.5	0.4	7.5	89.8	1.5	375.6	29.0	3.3	76.7	9.1	116.0
Delay (s)	218.2	42.6	36.3	62.0	146.3	50.2	410.9	76.0	41.3	118.0	49.5	159.0
Level of Service	F	D	D	E	F	D	F	E	D	F	D	F
Approach Delay (s)		122.1			114.6			121.0			104.4	
Approach LOS		F			F			F			F	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			114.4				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.62									
Actuated Cycle Length (s)			135.0				Sum of lost time (s)		21.0			
Intersection Capacity Utilization			121.5%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												












Lanes, Volumes, Timings  
7: Chinguacousy Road & Street C

Future Total 2041  
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	24	36	758	40	52	569
Future Volume (vph)	24	36	758	40	52	569
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.919		0.993			
Flt Protected	0.980					0.996
Satd. Flow (prot)	1696	0	1870	0	0	1876
Flt Permitted	0.980					0.996
Satd. Flow (perm)	1696	0	1870	0	0	1876
Link Speed (k/h)	48		80			80
Link Distance (m)	204.9		2784.8			298.8
Travel Time (s)	15.4		125.3			13.4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	24	36	758	40	52	569
Shared Lane Traffic (%)						
Lane Group Flow (vph)	60	0	798	0	0	621
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	1.6		1.6			1.6
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	83.3%			ICU Level of Service E		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
7: Chinguacousy Road & Street C

Future Total 2041  
PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	24	36	758	40	52	569
Future Volume (Veh/h)	24	36	758	40	52	569
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	36	758	40	52	569
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						299
pX, platoon unblocked	0.77					
vC, conflicting volume	1451	778	798			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1436	778	798			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	77	91	94			
cM capacity (veh/h)	106	396	824			
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	60	798	621			
Volume Left	24	0	52			
Volume Right	36	40	0			
cSH	189	1700	824			
Volume to Capacity	0.32	0.47	0.06			
Queue Length 95th (m)	9.8	0.0	1.5			
Control Delay (s)	32.7	0.0	1.6			
Lane LOS	D		A			
Approach Delay (s)	32.7	0.0	1.6			
Approach LOS	D					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			83.3%	ICU Level of Service		E
Analysis Period (min)			15			










Lanes, Volumes, Timings  
8: Street B & Old School Road

Future Total 2041  
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	
Traffic Volume (vph)	722	14	86	831	10	48
Future Volume (vph)	722	14	86	831	10	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Fr <sub>t</sub>	0.997			0.888		
Fl <sub>t</sub> Protected				0.995	0.991	
Satd. Flow (prot)	3568	0	0	3561	1657	0
Fl <sub>t</sub> Permitted				0.995	0.991	
Satd. Flow (perm)	3568	0	0	3561	1657	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			893.1	121.9	
Travel Time (s)	25.2			45.9	9.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	722	14	86	831	10	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	736	0	0	917	58	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	14		24	24		14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	59.4%			ICU Level of Service B		
Analysis Period (min)	15					

















HCM Unsignalized Intersection Capacity Analysis  
 8: Street B & Old School Road

Future Total 2041  
 PM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	722	14	86	831	10	48
Future Volume (Veh/h)	722	14	86	831	10	48
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	722	14	86	831	10	48
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			736	1316	368	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			736	1316	368	
tC, single (s)			4.1	6.8	6.9	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			90	93	92	
cM capacity (veh/h)			865	134	629	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	481	255	363	554	58	
Volume Left	0	0	86	0	10	
Volume Right	0	14	0	0	48	
cSH	1700	1700	865	1700	385	
Volume to Capacity	0.28	0.15	0.10	0.33	0.15	
Queue Length 95th (m)	0.0	0.0	2.5	0.0	4.0	
Control Delay (s)	0.0	0.0	3.2	0.0	16.0	
Lane LOS	A			C		
Approach Delay (s)	0.0		1.2	16.0		
Approach LOS				C		
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			59.4%	ICU Level of Service		B
Analysis Period (min)			15			

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

Future Total 2041  
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	147	0	34	0	728	234	37	610	0
Future Volume (vph)	0	0	0	147	0	34	0	728	234	37	610	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Fr <sub>t</sub>					0.975			0.964				
Fl <sub>t</sub> Protected					0.961						0.997	
Satd. Flow (prot)	0	1883	0	0	1765	0	0	3450	0	0	3568	0
Fl <sub>t</sub> Permitted					0.766						0.857	
Satd. Flow (perm)	0	1883	0	0	1407	0	0	3450	0	0	3067	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					33			70				
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			403.1			2496.3			588.2	
Travel Time (s)		15.4			30.2			112.3			26.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	147	0	34	0	728	234	37	610	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	181	0	0	962	0	0	647	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	

Lanes, Volumes, Timings  
9: McLaughlin Road & Street A

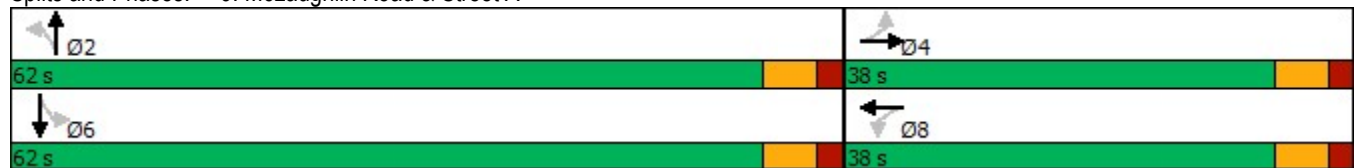
Future Total 2041  
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	22.0	22.0		22.0	22.0		22.0	22.0		22.0	22.0	
Total Split (s)	38.0	38.0		38.0	38.0		62.0	62.0		62.0	62.0	
Total Split (%)	38.0%	38.0%		38.0%	38.0%		62.0%	62.0%		62.0%	62.0%	
Maximum Green (s)	32.0	32.0		32.0	32.0		56.0	56.0		56.0	56.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.0			6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	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	
Walk Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)	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	
Act Effct Green (s)					14.4			59.9			59.9	
Actuated g/C Ratio					0.17			0.69			0.69	
v/c Ratio					0.69			0.40			0.30	
Control Delay					40.5			6.3			6.2	
Queue Delay					0.0			0.0			0.0	
Total Delay					40.5			6.3			6.2	
LOS					D			A			A	
Approach Delay					40.5			6.3			6.2	
Approach LOS					D			A			A	

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 86.4  
 Natural Cycle: 45  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.69  
 Intersection Signal Delay: 9.7  
 Intersection Capacity Utilization 64.8%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service C

Splits and Phases: 9: McLaughlin Road & Street A



Queues  
9: McLaughlin Road & Street A

















Future Total 2041  
PM Peak Hour



Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	181	962	647
v/c Ratio	0.69	0.40	0.30
Control Delay	40.5	6.3	6.2
Queue Delay	0.0	0.0	0.0
Total Delay	40.5	6.3	6.2
Queue Length 50th (m)	21.9	26.8	18.2
Queue Length 95th (m)	41.9	48.7	33.9
Internal Link Dist (m)	379.1	2472.3	564.2
Turn Bay Length (m)			
Base Capacity (vph)	542	2414	2127
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.33	0.40	0.30
Intersection Summary			

HCM Signalized Intersection Capacity Analysis  
 9: McLaughlin Road & Street A

Future Total 2041  
 PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	147	0	34	0	728	234	37	610	0
Future Volume (vph)	0	0	0	147	0	34	0	728	234	37	610	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.0			6.0			6.0	
Lane Util. Factor					1.00			0.95			0.95	
Frt					0.97			0.96			1.00	
Flt Protected					0.96			1.00			1.00	
Satd. Flow (prot)					1764			3448			3568	
Flt Permitted					0.77			1.00			0.86	
Satd. Flow (perm)					1406			3448			3066	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	147	0	34	0	728	234	37	610	0
RTOR Reduction (vph)	0	0	0	0	27	0	0	21	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	154	0	0	941	0	0	647	0
Turn Type				Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)					14.4			59.9			59.9	
Effective Green, g (s)					14.4			59.9			59.9	
Actuated g/C Ratio					0.17			0.69			0.69	
Clearance Time (s)					6.0			6.0			6.0	
Vehicle Extension (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					234			2393			2128	
v/s Ratio Prot								c0.27				
v/s Ratio Perm					c0.11						0.21	
v/c Ratio					0.66			0.39			0.30	
Uniform Delay, d1					33.6			5.6			5.1	
Progression Factor					1.00			1.00			1.00	
Incremental Delay, d2					6.5			0.5			0.4	
Delay (s)					40.1			6.0			5.5	
Level of Service					D			A			A	
Approach Delay (s)		0.0			40.1			6.0			5.5	
Approach LOS		A			D			A			A	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			9.3		HCM 2000 Level of Service					A		
HCM 2000 Volume to Capacity ratio			0.44									
Actuated Cycle Length (s)			86.3		Sum of lost time (s)				12.0			
Intersection Capacity Utilization			64.8%		ICU Level of Service				C			
Analysis Period (min)			15									
c Critical Lane Group												













Lanes, Volumes, Timings  
10: Street D & Old School Road

Future Total 2041  
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↙↑	↖	↗
Traffic Volume (vph)	1136	64	24	1244	53	0
Future Volume (vph)	1136	64	24	1244	53	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.992					
Flt Protected				0.999	0.950	
Satd. Flow (prot)	3550	0	0	3575	1789	1883
Flt Permitted				0.999	0.950	
Satd. Flow (perm)	3550	0	0	3575	1789	1883
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			1007.8	661.1	
Travel Time (s)	18.0			51.8	49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1136	64	24	1244	53	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1200	0	0	1268	53	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	14		24	24		14
Sign Control	Free			Free	Stop	
<b>Intersection Summary</b>						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	61.5%			ICU Level of Service B		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis  
 10: Street D & Old School Road

Future Total 2041  
 PM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1136	64	24	1244	53	0
Future Volume (Veh/h)	1136	64	24	1244	53	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	1136	64	24	1244	53	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	349					
pX, platoon unblocked			0.83		0.83	0.83
vC, conflicting volume			1200		1838	600
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			827		1597	103
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		32	100
cM capacity (veh/h)			662		78	772
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	757	443	439	829	53	0
Volume Left	0	0	24	0	53	0
Volume Right	0	64	0	0	0	0
cSH	1700	1700	662	1700	78	1700
Volume to Capacity	0.45	0.26	0.04	0.49	0.68	0.00
Queue Length 95th (m)	0.0	0.0	0.9	0.0	24.2	0.0
Control Delay (s)	0.0	0.0	1.1	0.0	119.2	0.0
Lane LOS			A		F	A
Approach Delay (s)	0.0		0.4		119.2	
Approach LOS					F	
Intersection Summary						
Average Delay			2.7			
Intersection Capacity Utilization			61.5%		ICU Level of Service	B
Analysis Period (min)			15			

Lanes, Volumes, Timings  
11: Street A & Street D

Future Total 2041  
PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	120	182	232	29	22	77
Future Volume (vph)	120	182	232	29	22	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.985		0.895	
Flt Protected		0.981			0.989	
Satd. Flow (prot)	0	1848	1855	0	1667	0
Flt Permitted		0.981			0.989	
Satd. Flow (perm)	0	1848	1855	0	1667	0
Link Speed (k/h)		48	48		48	
Link Distance (m)		403.1	956.1		661.1	
Travel Time (s)		30.2	71.7		49.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	120	182	232	29	22	77
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	302	261	0	99	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.7	3.7		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		1.6	1.6		1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	46.2%
Analysis Period (min)	15
	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis  
 11: Street A & Street D

Future Total 2041  
 PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	120	182	232	29	22	77
Future Volume (Veh/h)	120	182	232	29	22	77
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	120	182	232	29	22	77
<b>Pedestrians</b>						
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	261			668	246	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	261			668	246	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	91			94	90	
cM capacity (veh/h)	1303			384	792	
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>SB 1</b>			
Volume Total	302	261	99			
Volume Left	120	0	22			
Volume Right	0	29	77			
cSH	1303	1700	641			
Volume to Capacity	0.09	0.15	0.15			
Queue Length 95th (m)	2.3	0.0	4.1			
Control Delay (s)	3.7	0.0	11.6			
Lane LOS	A		B			
Approach Delay (s)	3.7	0.0	11.6			
Approach LOS			B			
<b>Intersection Summary</b>						
Average Delay			3.4			
Intersection Capacity Utilization			46.2%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2041  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	35	267	487	4037	2501	63
Future Volume (vph)	35	267	487	4037	2501	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91
Frt		0.850			0.996	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	5142	5121	0
Flt Permitted	0.950		0.061			
Satd. Flow (perm)	1789	1601	115	5142	5121	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		1			4	
Link Speed (k/h)	48			70	70	
Link Distance (m)	956.1			928.0	855.3	
Travel Time (s)	71.7			47.7	44.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	35	267	487	4037	2501	63
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	267	487	4037	2564	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane				Yes	Yes	
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	6.1	6.1	6.1	30.5	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	6.1	6.1	1.8	1.8	
Detector 1 Type	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	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			

Lanes, Volumes, Timings  
12: Hurontario Street & Street A

Future Total 2041  
PM Peak Hour

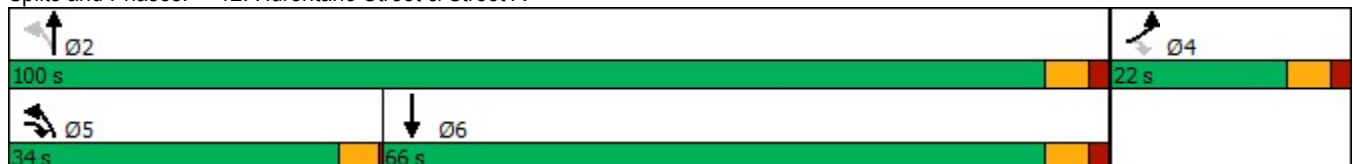


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	22.0	8.0	8.0	22.0	22.0	
Total Split (s)	22.0	34.0	34.0	100.0	66.0	
Total Split (%)	18.0%	27.9%	27.9%	82.0%	54.1%	
Maximum Green (s)	16.0	30.0	30.0	94.0	60.0	
Yellow Time (s)	4.0	3.5	3.5	4.0	4.0	
All-Red Time (s)	2.0	0.5	0.5	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	4.0	4.0	6.0	6.0	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max	
Walk Time (s)	5.0			5.0	5.0	
Flash Dont Walk (s)	11.0			11.0	11.0	
Pedestrian Calls (#/hr)	0			0	0	
Act Effct Green (s)	7.6	37.1	96.4	97.0	61.8	
Actuated g/C Ratio	0.07	0.34	0.89	0.89	0.57	
v/c Ratio	0.28	0.49	0.90	0.88	0.88	
Control Delay	55.4	30.7	51.8	9.8	26.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	55.4	30.7	51.8	9.8	26.8	
LOS	E	C	D	A	C	
Approach Delay	33.5			14.3	26.8	
Approach LOS	C			B	C	

Intersection Summary

Area Type:	Other
Cycle Length:	122
Actuated Cycle Length:	108.9
Natural Cycle:	120
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.90
Intersection Signal Delay:	19.5
Intersection LOS:	B
Intersection Capacity Utilization:	93.4%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 12: Hurontario Street & Street A



Queues  
12: Hurontario Street & Street A

Future Total 2041  
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	35	267	487	4037	2564
v/c Ratio	0.28	0.49	0.90	0.88	0.88
Control Delay	55.4	30.7	51.8	9.8	26.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	55.4	30.7	51.8	9.8	26.8
Queue Length 50th (m)	7.5	43.1	87.7	198.3	188.9
Queue Length 95th (m)	17.7	66.0	#153.9	#275.0	#243.6
Internal Link Dist (m)	932.1			904.0	831.3
Turn Bay Length (m)	30.0		50.0		
Base Capacity (vph)	264	568	565	4582	2905
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.13	0.47	0.86	0.88	0.88

Intersection Summary

# 95th percentile volume exceeds capacity, queue may be longer.  
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis  
 12: Hurontario Street & Street A

Future Total 2041  
 PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	35	267	487	4037	2501	63
Future Volume (vph)	35	267	487	4037	2501	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	4.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1789	1601	1789	5142	5123	
Flt Permitted	0.95	1.00	0.06	1.00	1.00	
Satd. Flow (perm)	1789	1601	114	5142	5123	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	35	267	487	4037	2501	63
RTOR Reduction (vph)	0	1	0	0	2	0
Lane Group Flow (vph)	35	266	487	4037	2562	0
Turn Type	Prot	pm+ov	pm+pt	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	5.0	33.7	94.5	94.5	61.8	
Effective Green, g (s)	5.0	33.7	94.5	94.5	61.8	
Actuated g/C Ratio	0.04	0.30	0.85	0.85	0.55	
Clearance Time (s)	6.0	4.0	4.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	80	483	527	4358	2839	
v/s Ratio Prot	0.02	c0.14	0.24	c0.79	0.50	
v/s Ratio Perm		0.02	0.54			
v/c Ratio	0.44	0.55	0.92	0.93	0.90	
Uniform Delay, d1	51.9	32.6	35.0	6.0	22.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.8	1.4	22.0	4.6	5.2	
Delay (s)	55.7	33.9	57.1	10.6	27.4	
Level of Service	E	C	E	B	C	
Approach Delay (s)	36.5			15.6	27.4	
Approach LOS	D			B	C	

Intersection Summary

HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	111.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



## **SimTraffic Outputs - No GTA West**

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	26.2	18.8	17.1	21.0
Average Queue (m)	12.2	10.3	8.5	8.9
95th Queue (m)	20.9	15.6	13.8	16.6
Link Distance (m)	1030.1		881.1	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	23.8	29.7	17.1	18.6
Average Queue (m)	13.4	12.4	8.6	9.2
95th Queue (m)	21.6	21.3	13.5	14.5
Link Distance (m)				828.7
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (m)	42.4	110.6	25.5	53.2	36.6	64.2	58.4	37.3	100.1	109.6
Average Queue (m)	16.2	54.0	8.2	23.4	10.2	34.3	28.9	8.7	53.9	53.9
95th Queue (m)	38.5	92.8	19.1	43.3	24.6	55.8	52.1	27.0	85.0	89.6
Link Distance (m)					1247.2			771.9		
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)	40.0		65.0		35.0			35.0		
Storage Blk Time (%)	0	24		0	1	4		0	14	
Queuing Penalty (veh)	0	12		0	5	2		0	5	

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	131.1	166.4	117.7	78.7
Average Queue (m)	43.2	78.1	66.0	33.2
95th Queue (m)	90.7	142.7	113.9	61.5
Link Distance (m)	589.0	1404.4	677.5	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	LT	R	L	TR
Maximum Queue (m)	16.9	164.3	32.3	235.5	69.8	32.5	53.8	61.9
Average Queue (m)	1.8	88.1	23.6	91.2	30.8	14.7	26.5	39.8
95th Queue (m)	8.8	147.7	39.5	199.0	54.9	34.4	46.4	60.6
Link Distance (m)		1404.4		1248.3	711.2			
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	30.0		30.0			30.0		
Storage Blk Time (%)	0	26	9	19	9	1		
Queuing Penalty (veh)	0	3	62	20	7	1		

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	B36	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	R	T	L	L	T	T	R	L	T
Maximum Queue (m)	93.6	105.3	101.8	26.7	41.4	45.2	47.4	249.4	234.3	50.0	42.2	52.0
Average Queue (m)	52.8	58.7	56.1	11.4	4.1	31.1	42.7	158.0	129.7	9.9	15.4	23.1
95th Queue (m)	91.7	100.7	89.3	23.3	45.3	52.0	55.5	257.3	243.8	33.6	33.4	40.8
Link Distance (m)		123.6	123.6		1248.3			989.2	989.2			800.9
Upstream Blk Time (%)		2	0									
Queuing Penalty (veh)		8	0									
Storage Bay Dist (m)	105.0			105.0		45.0	45.0			55.0	45.0	
Storage Blk Time (%)	3	1	0			2	8	55	8	0	1	1
Queuing Penalty (veh)	8	2	0			3	17	98	5	0	1	1

Intersection: 6: Hurontario Street & Mayfield Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R
Maximum Queue (m)	56.6	45.3	35.1	91.6	99.4	82.0
Average Queue (m)	21.3	14.2	13.7	55.9	52.1	15.4
95th Queue (m)	41.4	31.8	28.3	80.7	80.7	41.6
Link Distance (m)	800.9			591.2	591.2	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)		55.0	140.0			80.0
Storage Blk Time (%)	0	0			1	0
Queuing Penalty (veh)	0	0			2	0

Zone Summary

Zone wide Queuing Penalty: 262

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	24.2	26.1	20.6	15.1
Average Queue (m)	11.3	13.9	9.8	7.5
95th Queue (m)	18.7	21.8	16.7	12.8
Link Distance (m)	1030.1		881.1	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	23.6	36.3	28.1	17.4
Average Queue (m)	13.0	17.9	11.9	7.7
95th Queue (m)	20.1	28.3	20.5	13.3
Link Distance (m)				828.7
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (m)	42.4	91.2	43.2	87.3	37.3	160.5	151.5	33.5	88.7	86.4
Average Queue (m)	17.9	47.1	10.8	44.6	24.8	91.8	86.7	9.3	51.0	49.8
95th Queue (m)	40.0	81.2	26.6	73.2	43.1	145.4	138.9	27.2	79.2	79.6
Link Distance (m)					1247.2			771.9 771.9		
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)	40.0		65.0		35.0			35.0		
Storage Blk Time (%)	0	16	0	2	2	22	0	0	15	
Queuing Penalty (veh)	1	11	0	1	17	39	0	0	4	

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	95.6	197.0	97.0	79.8
Average Queue (m)	42.0	92.6	52.9	33.6
95th Queue (m)	79.0	172.6	90.9	73.2
Link Distance (m)	589.0	1404.4	677.5	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	WB	WB	B36	NB	NB	SB	SB
Directions Served	L	TR	L	TR	T	LT	R	L	TR
Maximum Queue (m)	27.4	157.4	32.3	174.6	86.8	87.6	32.5	44.3	48.7
Average Queue (m)	5.4	82.6	16.6	77.4	3.8	50.9	19.1	22.7	27.1
95th Queue (m)	18.3	136.6	33.8	147.3	41.9	80.9	39.8	39.3	45.5
Link Distance (m)		1404.4		1248.3	123.6	711.2			
Upstream Blk Time (%)					0				
Queuing Penalty (veh)					0				
Storage Bay Dist (m)	30.0		30.0				30.0		
Storage Blk Time (%)	0	25	2	20		22	1		
Queuing Penalty (veh)	0	5	17	20		22	3		

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	B36	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	R	T	L	L	T	T	R	L	T
Maximum Queue (m)	107.0	126.2	114.1	23.5	103.3	44.6	47.5	928.4	911.2	57.4	47.4	108.1
Average Queue (m)	79.4	67.2	52.3	7.1	15.7	26.4	42.6	603.6	587.5	9.6	28.2	51.5
95th Queue (m)	124.2	136.8	103.1	16.6	97.3	49.7	58.5	954.0	936.7	34.6	53.1	94.6
Link Distance (m)		123.6	123.6		1248.3			989.2	989.2			800.9
Upstream Blk Time (%)		8	0					0	0			
Queuing Penalty (veh)		36	1					0	0			
Storage Bay Dist (m)	105.0			105.0		45.0	45.0			55.0	45.0	
Storage Blk Time (%)	15	3	0			1	7	68	13	0	6	11
Queuing Penalty (veh)	38	8	0			2	19	163	8	0	15	10

Intersection: 6: Hurontario Street & Mayfield Road

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R
Maximum Queue (m)	118.9	57.5	87.1	110.7	120.8	68.1
Average Queue (m)	53.6	27.6	23.4	50.5	49.1	24.5
95th Queue (m)	98.4	61.2	52.9	87.8	96.0	54.3
Link Distance (m)	800.9			591.2	591.2	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)		55.0	140.0			80.0
Storage Blk Time (%)	7	0	0	0	1	0
Queuing Penalty (veh)	15	1	0	0	6	1

Zone Summary

Zone wide Queuing Penalty: 465

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	23.2	21.3	25.1	47.1	26.1
Average Queue (m)	13.4	9.5	13.0	21.4	11.8
95th Queue (m)	20.6	17.5	20.7	36.2	19.9
Link Distance (m)	991.6		476.0	286.9	647.8
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0			
Storage Blk Time (%)		0	0		
Queuing Penalty (veh)		0	0		

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	76.6	31.0	34.2	17.6	43.8	24.1
Average Queue (m)	29.5	15.4	17.4	7.3	17.8	11.4
95th Queue (m)	56.9	27.3	29.8	13.5	34.1	19.6
Link Distance (m)	879.2		333.1	574.2	574.2	798.5
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)		30.0				
Storage Blk Time (%)		0	1			
Queuing Penalty (veh)		0	1			



Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T
Maximum Queue (m)	42.5	625.6	67.3	169.7	37.2	116.2	115.8	100.5	62.5	37.3	134.3	135.0
Average Queue (m)	41.4	340.1	50.6	60.4	22.2	67.6	62.6	56.1	16.9	10.4	90.0	90.7
95th Queue (m)	48.0	649.4	78.3	151.0	41.9	102.9	96.0	85.9	52.1	29.5	121.9	123.3
Link Distance (m)		987.0		916.9		837.5	837.5	837.5			775.7	775.7
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	40.0		65.0		35.0				60.0	35.0		
Storage Blk Time (%)	47	37	16	4	17	21		4	0	1	30	
Queuing Penalty (veh)	165	120	30	9	77	11		5	1	10	10	

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (m)	131.2	62.5
Average Queue (m)	84.3	34.0
95th Queue (m)	119.3	77.1
Link Distance (m)	775.7	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		60.0
Storage Blk Time (%)	14	1
Queuing Penalty (veh)	25	4

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	LT	T	TR	LTR	LTR
Maximum Queue (m)	48.7	42.0	33.1	72.1	66.9	71.1	102.7	101.6
Average Queue (m)	25.6	17.4	7.3	30.8	30.4	35.7	62.9	59.6
95th Queue (m)	41.9	35.6	20.7	57.6	57.9	64.8	99.2	97.8
Link Distance (m)	582.9	582.9	582.9	1402.4	1402.4	1402.4	733.3	2762.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	LT	R	L	TR
Maximum Queue (m)	19.7	54.3	62.7	62.2	32.3	73.2	74.6	76.2	168.0	32.5	112.6	108.2
Average Queue (m)	2.4	31.6	35.2	35.7	17.3	19.1	24.6	29.1	71.6	20.2	56.1	65.4
95th Queue (m)	11.3	49.8	54.7	56.4	33.3	51.1	55.0	59.7	156.7	42.5	97.6	98.5
Link Distance (m)		1402.4	1402.4	1402.4		1245.0	1245.0	1245.0	727.3		2472.6	2472.6
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0					30.0		
Storage Blk Time (%)	0	8			4	3			37	1		
Queuing Penalty (veh)	0	1			9	3			31	2		

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	L	T	T	T	R	L
Maximum Queue (m)	70.6	76.3	79.9	86.6	34.8	44.6	47.4	87.2	68.0	71.2	57.4	41.4
Average Queue (m)	38.0	41.5	49.2	51.6	12.5	28.6	37.0	44.6	42.5	37.6	17.4	17.1
95th Queue (m)	66.7	71.4	78.6	81.8	26.1	51.0	53.5	73.6	62.0	63.4	41.5	36.0
Link Distance (m)		123.1	123.1	123.1				1530.4	1530.4	1530.4		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	105.0				105.0	45.0	45.0				55.0	45.0
Storage Blk Time (%)						1	4	4		2	0	2
Queuing Penalty (veh)						1	7	8		2	0	4

Intersection: 6: Hurontario Street & Mayfield Road

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	T	R	L	T	T	R
Maximum Queue (m)	60.5	61.1	48.6	91.8	109.3	118.7	82.5
Average Queue (m)	25.1	23.8	14.8	49.9	60.5	58.8	25.1
95th Queue (m)	47.2	45.4	33.9	83.8	91.1	94.3	61.5
Link Distance (m)	795.3	795.3			587.4	587.4	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)			55.0	140.0			80.0
Storage Blk Time (%)	0	0	0			2	0
Queuing Penalty (veh)	0	0	0			5	1

Zone Summary

Zone wide Queuing Penalty: 543

Queuing and Blocking Report  
 PM Peak Hour

02/19/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	30.9	28.2	35.2	62.2	23.5
Average Queue (m)	14.6	12.7	17.4	29.8	11.5
95th Queue (m)	25.0	21.3	27.3	51.9	18.8
Link Distance (m)	991.6		476.0	286.9	647.8
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0			
Storage Blk Time (%)		0	0		
Queuing Penalty (veh)		0	1		

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	130.3	32.3	71.7	26.0	68.7	22.9
Average Queue (m)	40.8	24.1	30.1	12.0	23.8	9.0
95th Queue (m)	118.7	36.5	54.8	21.4	54.8	16.9
Link Distance (m)	879.2		333.1	574.2	574.2	798.5
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)		30.0				
Storage Blk Time (%)		1	7			
Queuing Penalty (veh)		6	18			

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T
Maximum Queue (m)	42.5	991.0	67.5	179.5	37.3	427.8	436.7	441.1	62.5	37.3	117.6	116.4
Average Queue (m)	42.3	699.3	48.9	90.5	32.5	273.0	280.8	286.6	48.4	12.8	80.5	81.4
95th Queue (m)	42.7	1188.0	79.3	185.4	43.3	493.8	504.0	509.2	85.7	32.1	110.3	113.2
Link Distance (m)		987.0		916.9		837.5	837.5	837.5			775.7	775.7
Upstream Blk Time (%)		14										
Queuing Penalty (veh)		95										
Storage Bay Dist (m)	40.0		65.0		35.0				60.0	35.0		
Storage Blk Time (%)	62	32	5	22	15	35		38	1	2	36	
Queuing Penalty (veh)	174	127	13	45	123	61		115	10	11	12	

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (m)	115.4	62.5
Average Queue (m)	73.3	36.7
95th Queue (m)	111.4	74.0
Link Distance (m)	775.7	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		60.0
Storage Blk Time (%)	8	1
Queuing Penalty (veh)	26	3

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	LT	T	TR	LTR	LTR
Maximum Queue (m)	55.2	52.9	45.3	76.5	83.1	83.4	90.3	63.5
Average Queue (m)	38.8	33.6	14.9	49.0	49.5	55.5	52.1	26.5
95th Queue (m)	53.4	52.9	36.2	70.4	70.8	74.9	82.4	50.6
Link Distance (m)	582.9	582.9	582.9	1402.4	1402.4	1402.4	733.3	2762.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	LT	R	L	TR
Maximum Queue (m)	32.2	68.0	68.0	76.8	32.3	74.2	79.8	94.2	124.8	32.5	52.8	58.2
Average Queue (m)	8.9	41.8	42.0	43.3	19.0	35.4	45.2	55.8	76.4	18.8	21.2	24.3
95th Queue (m)	24.8	63.6	62.3	66.1	35.4	67.7	74.4	87.0	114.8	41.0	42.7	48.7
Link Distance (m)		1402.4	1402.4	1402.4		1245.0	1245.0	1245.0	727.3		2472.6	2472.6
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0					30.0		
Storage Blk Time (%)	0	12			3	10			32	1		
Queuing Penalty (veh)	1	4			8	10			33	2		

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	WB	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	L	L	T	T	T	R
Maximum Queue (m)	107.3	139.5	62.0	64.3	34.3	17.3	45.1	47.4	170.4	153.6	153.4	57.5
Average Queue (m)	85.4	47.3	32.4	34.3	10.8	1.0	32.1	44.9	109.3	102.9	102.0	40.5
95th Queue (m)	117.9	116.5	53.5	56.5	24.6	8.0	52.0	55.3	192.4	179.8	180.6	73.5
Link Distance (m)		123.1	123.1	123.1		1245.0			1530.4	1530.4	1530.4	
Upstream Blk Time (%)		3										
Queuing Penalty (veh)		10										
Storage Bay Dist (m)	105.0				105.0		45.0	45.0				55.0
Storage Blk Time (%)	8	0					1	10	47		44	1
Queuing Penalty (veh)	14	2					2	23	118		53	3

Intersection: 6: Hurontario Street & Mayfield Road

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R
Maximum Queue (m)	47.5	199.0	190.7	57.5	98.7	112.5	133.3	82.5
Average Queue (m)	44.0	126.2	121.0	34.0	51.1	58.0	64.7	60.9
95th Queue (m)	57.8	251.8	242.4	69.8	96.1	94.9	114.5	94.6
Link Distance (m)		795.3	795.3			587.4	587.4	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	45.0			55.0	140.0			80.0
Storage Blk Time (%)	60	44	16	1	1	0	1	5
Queuing Penalty (veh)	180	67	39	2	2	0	6	18

Zone Summary

Zone wide Queuing Penalty: 1438

Queuing and Blocking Report  
 AM Peak Hour

02/19/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	19.5	13.5	16.8	27.4	16.2
Average Queue (m)	13.2	8.8	12.3	19.0	10.9
95th Queue (m)	20.6	15.1	19.3	30.4	18.0
Link Distance (m)	584.0		476.3	286.7	334.4
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	32.3	22.0	21.2	14.1	25.4	17.2
Average Queue (m)	22.3	14.6	14.8	7.7	14.4	11.4
95th Queue (m)	34.5	25.2	25.1	15.4	28.8	19.0
Link Distance (m)	879.2		333.1	574.2	574.2	254.7
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)		30.0				
Storage Blk Time (%)		0	0			
Queuing Penalty (veh)		0	0			

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T
Maximum Queue (m)	42.4	118.5	64.0	79.2	22.4	82.0	74.9	70.1	52.8	11.6	119.4	113.9
Average Queue (m)	38.6	75.2	50.2	41.1	12.0	56.8	53.5	48.8	19.7	5.8	94.6	88.1
95th Queue (m)	49.0	145.8	73.6	92.2	28.9	88.7	80.7	77.0	55.3	15.8	122.9	122.0
Link Distance (m)		987.0		422.7		837.5	837.5	837.5			273.0	273.0
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	40.0		65.0		35.0				60.0	35.0		
Storage Blk Time (%)	27	10	4	1	0	19		2	0		32	
Queuing Penalty (veh)	94	33	8	2	2	10		2	1		10	

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (m)	85.7	41.0
Average Queue (m)	61.7	13.9
95th Queue (m)	98.9	44.7
Link Distance (m)	273.0	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		60.0
Storage Blk Time (%)	3	0
Queuing Penalty (veh)	5	1

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	LT	T	TR	LTR	LTR
Maximum Queue (m)	35.6	36.9	20.6	52.5	40.4	46.9	85.8	66.0
Average Queue (m)	26.7	19.1	10.9	31.4	22.8	22.2	72.0	49.6
95th Queue (m)	39.2	37.9	24.9	55.8	48.6	50.4	103.7	76.0
Link Distance (m)	641.0	641.0	641.0	1402.4	1402.4	1402.4	659.6	2762.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	LT	R	L	TR
Maximum Queue (m)	13.8	38.0	47.3	64.0	29.4	44.8	50.8	54.7	98.1	32.4	70.2	91.8
Average Queue (m)	6.2	29.6	34.6	42.8	16.2	18.6	22.5	23.6	75.7	16.6	50.2	69.7
95th Queue (m)	20.6	40.5	51.8	67.4	34.6	47.8	52.0	51.6	149.2	39.5	89.1	113.1
Link Distance (m)		1402.4	1402.4	1402.4		1245.0	1245.0	1245.0	644.0		2472.6	2472.6
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0					30.0		
Storage Blk Time (%)	0	5			2	2			43	1		
Queuing Penalty (veh)	0	1			4	2			37	3		

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	L	T	T	T	R	L
Maximum Queue (m)	49.7	54.2	58.3	62.4	22.3	40.4	44.2	50.4	50.3	48.5	23.5	38.0
Average Queue (m)	29.9	34.0	36.7	39.3	12.5	28.0	34.7	38.4	40.3	26.5	14.7	23.5
95th Queue (m)	60.2	60.9	63.5	66.9	26.4	48.1	50.7	59.9	56.6	52.6	25.7	43.7
Link Distance (m)		123.2	123.2	123.2				1202.4	1202.4	1202.4		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	105.0				105.0	45.0	45.0				55.0	45.0
Storage Blk Time (%)						0	1	4		1		0
Queuing Penalty (veh)						0	1	8		1		0

Intersection: 6: Hurontario Street & Mayfield Road

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	T	R	L	T	T	R
Maximum Queue (m)	44.0	36.1	25.0	62.7	91.0	89.7	69.0
Average Queue (m)	31.4	24.5	13.5	43.0	70.3	68.8	28.9
95th Queue (m)	48.2	41.9	29.6	73.4	100.5	96.6	73.5
Link Distance (m)	649.0	649.0			762.4	762.4	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)			55.0	140.0			80.0
Storage Blk Time (%)	1					2	0
Queuing Penalty (veh)	1					6	1



Intersection: 7: Chinguacousy Road & Street C

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: 8: Street B & Old School Road

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: 9: McLaughlin Road & Street A

Movement	WB	SB
Directions Served	LTR	LT
Maximum Queue (m)	21.5	1.5
Average Queue (m)	13.3	0.3
95th Queue (m)	24.6	2.7
Link Distance (m)	574.2	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 10: Street D & Old School Road

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: 11: Street A & Street D

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: 12: Hurontario Street & Street A

Movement	NB	NB	NB	SB	SB	SB
Directions Served	T	T	T	T	T	TR
Maximum Queue (m)	34.2	35.3	41.5	104.0	112.7	111.2
Average Queue (m)	25.7	29.6	32.0	78.4	81.7	85.3
95th Queue (m)	35.5	38.2	45.3	130.6	133.8	137.1
Link Distance (m)	925.5	925.5	925.5	837.5	837.5	837.5
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Network Summary

Network wide Queuing Penalty: 236

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	29.0	25.1	28.1	62.5	26.9
Average Queue (m)	14.4	12.2	16.9	29.0	11.8
95th Queue (m)	23.6	20.4	25.0	50.9	20.3
Link Distance (m)	584.0		476.3	286.7	334.4
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0			
Storage Blk Time (%)		0	0		
Queuing Penalty (veh)		0	0		

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	71.5	32.3	82.5	25.8	41.8	24.0
Average Queue (m)	34.6	23.4	31.0	12.3	18.4	9.7
95th Queue (m)	63.9	36.5	61.3	21.1	32.2	18.3
Link Distance (m)	879.2		333.1	574.2	574.2	254.7
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)		30.0				
Storage Blk Time (%)		2	5			
Queuing Penalty (veh)		8	13			

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T
Maximum Queue (m)	42.5	990.2	67.5	148.8	37.3	105.8	109.5	102.6	62.5	33.9	156.4	144.8
Average Queue (m)	42.1	682.0	42.6	73.7	28.2	71.3	76.6	77.7	40.0	12.6	99.5	88.1
95th Queue (m)	45.8	1116.1	76.2	141.6	43.7	97.9	101.4	103.1	82.0	31.7	141.9	129.9
Link Distance (m)		987.0		422.7		837.5	837.5	837.5			273.0	273.0
Upstream Blk Time (%)		5										
Queuing Penalty (veh)		36										
Storage Bay Dist (m)	40.0		65.0		35.0				60.0	35.0		
Storage Blk Time (%)	65	29	2	14	4	21		12	1	1	43	
Queuing Penalty (veh)	182	116	6	29	33	37		36	6	4	14	

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (m)	112.3	62.5
Average Queue (m)	62.9	25.8
95th Queue (m)	100.6	56.0
Link Distance (m)	273.0	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		60.0
Storage Blk Time (%)	3	0
Queuing Penalty (veh)	9	1

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	LT	T	TR	LTR	LTR
Maximum Queue (m)	62.6	60.4	48.2	76.8	75.0	76.1	93.4	54.9
Average Queue (m)	38.7	34.3	17.0	49.3	48.6	54.5	52.8	24.6
95th Queue (m)	56.7	54.6	40.9	69.6	68.6	73.7	86.9	45.7
Link Distance (m)	641.0	641.0	641.0	1402.4	1402.4	1402.4	659.6	2762.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	LT	R	L	TR
Maximum Queue (m)	32.3	80.7	71.1	69.7	32.4	75.5	83.7	95.4	136.1	32.5	43.6	57.6
Average Queue (m)	14.6	46.3	43.7	43.4	18.9	36.6	45.8	55.2	81.4	18.5	20.5	25.9
95th Queue (m)	34.2	70.0	63.8	63.9	35.2	67.4	74.3	85.1	124.9	40.6	38.2	48.9
Link Distance (m)		1402.4	1402.4	1402.4		1245.0	1245.0	1245.0	644.0		2472.6	2472.6
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0					30.0		
Storage Blk Time (%)	2	14			4	9				34	1	
Queuing Penalty (veh)	4	8			10	9				35	3	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	WB	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	L	L	T	T	T	R
Maximum Queue (m)	107.4	142.1	72.6	63.9	27.2	50.3	45.0	47.4	191.7	181.6	186.0	57.5
Average Queue (m)	87.4	58.4	36.1	37.5	11.3	5.4	33.0	43.6	129.1	121.1	116.4	40.3
95th Queue (m)	119.4	140.0	60.9	61.1	23.1	31.1	54.1	56.7	231.0	217.9	215.9	74.3
Link Distance (m)		123.2	123.2	123.2		1245.0			1202.4	1202.4	1202.4	
Upstream Blk Time (%)	8											
Queuing Penalty (veh)	26											
Storage Bay Dist (m)	105.0				105.0		45.0	45.0				55.0
Storage Blk Time (%)	11	1					3	11	55			49
Queuing Penalty (veh)	20	7					6	26	137			59

Intersection: 6: Hurontario Street & Mayfield Road

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R
Maximum Queue (m)	47.5	202.2	194.4	57.5	97.5	143.7	166.6	82.5
Average Queue (m)	45.1	131.0	126.2	41.0	59.3	71.4	80.1	61.2
95th Queue (m)	56.5	233.3	229.5	74.4	121.4	154.6	163.6	94.3
Link Distance (m)		649.0	649.0			762.4	762.4	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	45.0			55.0	140.0			80.0
Storage Blk Time (%)	71	52	23	1	9	4	1	5
Queuing Penalty (veh)	223	80	55	3	32	7	9	19

Intersection: 7: Chinguacousy Road & Street C

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: 8: Street B & Old School Road

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: 9: McLaughlin Road & Street A

Movement	WB	NB	SB
Directions Served	LTR	TR	LT
Maximum Queue (m)	24.0	8.6	7.4
Average Queue (m)	10.9	0.3	1.2
95th Queue (m)	18.8	3.5	5.5
Link Distance (m)		2472.6	574.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 10: Street D & Old School Road

Movement	EB
Directions Served	TR
Maximum Queue (m)	177.5
Average Queue (m)	18.8
95th Queue (m)	105.9
Link Distance (m)	333.1
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Street A & Street D

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: 12: Hurontario Street & Street A

Movement	NB	NB	NB	SB	SB	SB
Directions Served	T	T	T	T	T	TR
Maximum Queue (m)	943.4	942.7	939.5	72.3	78.8	79.3
Average Queue (m)	888.1	885.8	881.5	43.8	50.2	53.5
95th Queue (m)	1071.5	1072.5	1073.3	64.4	70.3	74.8
Link Distance (m)	925.5	925.5	925.5	837.5	837.5	837.5
Upstream Blk Time (%)	74	77	75			
Queuing Penalty (veh)	0	0	0			
Storage Bay Dist (m)						
Storage Blk Time (%)	66					
Queuing Penalty (veh)	0					

Network Summary

Network wide Queuing Penalty: 1313
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Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	34.8	28.9	30.9	56.3	43.4
Average Queue (m)	17.3	13.2	13.9	24.8	15.9
95th Queue (m)	29.1	24.6	27.0	45.1	34.1
Link Distance (m)	861.2		476.3	286.8	708.8
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0			
Storage Blk Time (%)		0	0		
Queuing Penalty (veh)		0	0		

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	741.8	32.3	81.9	30.8	125.0	79.9
Average Queue (m)	261.5	23.3	31.4	10.7	49.6	30.3
95th Queue (m)	714.7	36.6	63.0	23.3	121.5	68.0
Link Distance (m)	879.0		333.1	574.2	574.2	747.2
Upstream Blk Time (%)	3					
Queuing Penalty (veh)	15					
Storage Bay Dist (m)		30.0				
Storage Blk Time (%)		4	5			
Queuing Penalty (veh)		13	10			



Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T
Maximum Queue (m)	42.5	990.6	67.5	376.6	37.4	167.0	162.6	152.4	62.5	37.3	290.0	284.1
Average Queue (m)	42.0	898.7	64.2	179.3	26.7	97.0	91.6	86.2	30.4	11.4	188.0	187.2
95th Queue (m)	45.9	1164.7	76.6	424.4	45.3	155.5	147.0	139.5	73.6	30.1	323.1	319.9
Link Distance (m)		987.0		721.8		837.5	837.5	837.5			743.1	743.1
Upstream Blk Time (%)		22										
Queuing Penalty (veh)		183										
Storage Bay Dist (m)	40.0		65.0		35.0				60.0	35.0		
Storage Blk Time (%)	49	42	39	15	29	27		14	1	0	46	
Queuing Penalty (veh)	187	192	84	54	159	14		24	3	2	15	

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (m)	278.9	62.5
Average Queue (m)	183.4	44.9
95th Queue (m)	316.8	85.4
Link Distance (m)	743.1	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		60.0
Storage Blk Time (%)	38	1
Queuing Penalty (veh)	93	7

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	LT	T	TR	LTR	LTR
Maximum Queue (m)	66.0	66.0	58.2	83.6	75.7	82.7	71.5	104.8
Average Queue (m)	38.8	37.7	24.9	48.7	45.3	50.1	38.4	49.9
95th Queue (m)	57.2	57.9	51.3	76.4	72.4	79.0	63.5	84.5
Link Distance (m)	792.4	792.4	792.4	1398.7	1398.7	1398.7	691.4	2762.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	28.8	71.2	76.7	92.4	32.4	74.6	84.8	95.1	33.0	42.0	37.1	52.4
Average Queue (m)	4.3	45.4	50.2	56.4	20.9	29.7	33.3	39.8	10.5	19.3	16.6	45.1
95th Queue (m)	17.0	65.7	69.9	80.2	38.4	68.8	69.7	78.2	25.3	34.9	32.2	59.3
Link Distance (m)		1398.7	1398.7	1398.7		1244.9	1244.9	1244.9		683.3	683.3	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	0	13			11	8				0		13
Queuing Penalty (veh)	0	2			25	9				0		23

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	100.3	71.8
Average Queue (m)	42.7	35.1
95th Queue (m)	88.7	59.9
Link Distance (m)	2472.2	2472.2
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	1	
Queuing Penalty (veh)	3	

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	L	T	T	T	R	L
Maximum Queue (m)	95.8	106.9	104.8	113.8	65.0	45.3	47.4	119.8	111.0	87.7	57.5	38.0
Average Queue (m)	51.4	68.0	74.8	78.6	15.6	32.9	42.0	68.5	61.1	49.5	25.0	16.3
95th Queue (m)	87.1	94.1	99.7	104.1	40.1	52.9	56.5	109.7	93.8	79.9	56.0	31.6
Link Distance (m)		123.5	123.5	123.5				857.4	857.4	857.4		
Upstream Blk Time (%)		0										
Queuing Penalty (veh)		0										
Storage Bay Dist (m)	105.0				105.0	45.0	45.0				55.0	45.0
Storage Blk Time (%)	0	0		1	0	1	13	19		4	0	0
Queuing Penalty (veh)	1	0		1	0	3	24	37		6	1	0

Intersection: 6: Hurontario Street & Mayfield Road

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	T	R	L	T	T	R
Maximum Queue (m)	38.6	45.5	43.8	118.2	77.7	75.0	48.7
Average Queue (m)	21.3	19.2	16.7	60.6	52.8	49.9	20.0
95th Queue (m)	35.8	37.5	34.8	107.0	73.9	71.6	38.8
Link Distance (m)	724.4	724.4			587.4	587.4	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)			55.0	140.0			80.0
Storage Blk Time (%)	0	0	0	0		0	0
Queuing Penalty (veh)	0	0	0	1		0	0

Zone Summary

Zone wide Queuing Penalty: 1191

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	148.4	32.3	118.6	247.1	152.3
Average Queue (m)	36.1	29.3	58.9	79.0	40.8
95th Queue (m)	95.9	38.2	102.5	183.6	101.5
Link Distance (m)	861.2		476.3	286.8	708.8
Upstream Blk Time (%)				3	
Queuing Penalty (veh)				18	
Storage Bay Dist (m)		30.0			
Storage Blk Time (%)		14	17		
Queuing Penalty (veh)		50	40		

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	883.0	32.3	216.8	149.8	340.4	85.4
Average Queue (m)	484.5	29.5	100.1	42.0	146.1	29.2
95th Queue (m)	1087.7	38.1	181.9	161.1	365.9	82.2
Link Distance (m)	879.0		333.1	574.2	574.2	747.2
Upstream Blk Time (%)	26				1	
Queuing Penalty (veh)	138				4	
Storage Bay Dist (m)		30.0				
Storage Blk Time (%)		16	20			
Queuing Penalty (veh)		92	72			

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T
Maximum Queue (m)	42.5	991.2	67.5	359.8	37.3	850.4	853.7	851.1	62.5	37.3	165.0	164.9
Average Queue (m)	42.0	916.7	65.5	218.9	32.4	813.8	817.1	816.6	57.1	11.3	108.8	108.8
95th Queue (m)	45.7	1201.5	76.0	451.8	44.8	947.5	946.8	943.5	81.7	31.2	153.7	155.3
Link Distance (m)		987.0		721.8		837.5	837.5	837.5			743.1	743.1
Upstream Blk Time (%)		34		0		11	14	17				
Queuing Penalty (veh)		298		0		123	164	197				
Storage Bay Dist (m)	40.0		65.0		35.0				60.0	35.0		
Storage Blk Time (%)	68	27	18	47	20	40		45	2	0	45	
Queuing Penalty (veh)	216	149	57	140	188	73		196	17	0	16	

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (m)	180.0	62.5
Average Queue (m)	107.4	54.8
95th Queue (m)	162.0	79.4
Link Distance (m)	743.1	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		60.0
Storage Blk Time (%)	19	5
Queuing Penalty (veh)	90	29

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	LT	T	TR	LTR	LTR
Maximum Queue (m)	62.8	59.8	52.7	71.0	70.3	74.5	92.7	54.8
Average Queue (m)	37.1	34.9	22.5	48.3	46.8	53.4	54.6	26.8
95th Queue (m)	54.7	54.2	45.4	69.7	65.6	71.9	81.1	46.9
Link Distance (m)	792.4	792.4	792.4	1398.7	1398.7	1398.7	691.4	2762.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.3	91.9	82.4	86.8	32.3	74.3	79.7	93.2	39.5	42.2	52.6	50.7
Average Queue (m)	11.8	55.6	51.8	52.6	19.4	38.0	49.7	59.6	19.3	28.6	28.2	29.0
95th Queue (m)	31.8	79.8	75.5	78.0	37.0	65.0	76.6	87.1	35.8	40.9	46.6	47.7
Link Distance (m)		1398.7	1398.7	1398.7		1244.9	1244.9	1244.9		683.3	683.3	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	1	22			3	9			0	0		1
Queuing Penalty (veh)	3	9			10	10			0	0		1

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	50.4	37.6
Average Queue (m)	13.5	19.3
95th Queue (m)	32.9	35.2
Link Distance (m)	2472.2	2472.2
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	L	L	T	T	T
Maximum Queue (m)	107.4	146.6	91.4	66.7	28.3	104.6	17.6	45.4	47.5	477.7	466.3	436.9
Average Queue (m)	103.4	112.7	36.4	36.8	10.6	29.8	0.6	33.7	45.1	278.8	269.5	253.3
95th Queue (m)	119.9	189.3	63.1	59.5	22.0	89.1	12.4	55.6	57.3	481.1	468.0	440.7
Link Distance (m)		123.5	123.5	123.5		1244.9	1244.9			857.4	857.4	857.4
Upstream Blk Time (%)		30	0									
Queuing Penalty (veh)		113	0									
Storage Bay Dist (m)	105.0				105.0			45.0	45.0			
Storage Blk Time (%)	35	7						5	20	71		77
Queuing Penalty (veh)	68	42						12	49	190		114

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	57.5	47.5	529.2	516.0	57.5	142.5	573.8	579.5	82.5
Average Queue (m)	50.2	47.3	339.6	329.5	44.2	138.2	430.1	446.8	81.1
95th Queue (m)	76.0	48.1	577.8	563.3	76.0	161.1	708.6	712.8	89.9
Link Distance (m)			724.4	724.4			587.4	587.4	
Upstream Blk Time (%)							12	32	
Queuing Penalty (veh)							0	0	
Storage Bay Dist (m)	55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	3	95	67	27	1	84	31	10	26
Queuing Penalty (veh)	9	313	126	68	5	318	67	78	98

Zone Summary

Zone wide Queuing Penalty: 4071

Queuing and Blocking Report  
 AM Peak Hour

02/19/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	32.5	31.3	44.3	66.1	44.3
Average Queue (m)	17.4	14.2	17.9	28.5	16.5
95th Queue (m)	29.8	26.9	33.9	51.7	34.4
Link Distance (m)	584.0		476.3	286.7	334.4
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0			
Storage Blk Time (%)		0	1		
Queuing Penalty (veh)		0	1		

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	829.8	32.3	79.6	41.3	138.1	170.5
Average Queue (m)	277.1	24.2	33.0	16.5	55.1	55.1
95th Queue (m)	758.3	37.3	67.3	32.1	124.5	159.9
Link Distance (m)	879.0		333.1	572.4	572.4	254.7
Upstream Blk Time (%)	3					2
Queuing Penalty (veh)	17					0
Storage Bay Dist (m)		30.0				
Storage Blk Time (%)		6	5			
Queuing Penalty (veh)		18	10			



Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T
Maximum Queue (m)	42.5	991.0	67.5	322.0	37.2	208.7	185.9	185.9	62.5	37.2	285.0	278.5
Average Queue (m)	41.7	849.0	63.7	178.8	23.4	129.9	122.5	116.9	34.3	14.0	231.6	219.8
95th Queue (m)	47.5	1204.8	78.0	379.9	43.9	261.1	244.4	238.6	78.3	34.1	312.6	304.8
Link Distance (m)		987.0		422.7		837.5	837.5	837.5			273.0	273.0
Upstream Blk Time (%)		20		3							18	14
Queuing Penalty (veh)		167		0							0	0
Storage Bay Dist (m)	40.0		65.0		35.0				60.0	35.0		
Storage Blk Time (%)	50	37	41	19	26	27		20	1	0	50	
Queuing Penalty (veh)	193	168	92	72	144	15		35	4	2	16	

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (m)	273.2	62.5
Average Queue (m)	196.8	45.1
95th Queue (m)	300.8	86.1
Link Distance (m)	273.0	
Upstream Blk Time (%)	15	
Queuing Penalty (veh)	0	
Storage Bay Dist (m)		60.0
Storage Blk Time (%)	39	1
Queuing Penalty (veh)	96	8

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	LT	T	TR	LTR	LTR
Maximum Queue (m)	74.9	66.3	53.6	163.7	119.5	86.4	79.5	104.9
Average Queue (m)	46.3	39.2	21.6	87.1	48.6	50.7	46.9	51.8
95th Queue (m)	68.1	62.7	47.7	170.4	89.9	79.9	77.5	85.0
Link Distance (m)	543.4	543.4	543.4	1398.4	1398.4	1398.4	715.9	2762.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.3	71.9	81.2	88.1	32.4	76.7	79.7	93.9	35.1	43.0	45.2	52.4
Average Queue (m)	10.8	42.7	49.3	55.9	22.8	30.4	32.3	37.7	9.9	21.8	23.7	45.1
95th Queue (m)	29.3	64.9	70.8	79.7	38.5	69.0	68.3	76.3	23.1	36.7	41.2	60.3
Link Distance (m)		1398.4	1398.4	1398.4		1244.9	1244.9	1244.9		807.0	807.0	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	0	12			11	7				0		15
Queuing Penalty (veh)	1	6			26	9				0		33

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	121.5	94.5
Average Queue (m)	51.6	49.1
95th Queue (m)	101.8	81.3
Link Distance (m)	2470.4	2470.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	3	
Queuing Penalty (veh)	7	

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	L	T	T	T	R	L
Maximum Queue (m)	97.5	108.6	120.5	124.9	64.8	45.1	47.4	120.8	111.5	95.1	57.5	45.5
Average Queue (m)	48.3	65.2	74.1	78.4	18.6	32.7	42.7	71.4	63.5	53.1	25.3	18.7
95th Queue (m)	82.3	96.6	107.1	112.5	55.1	53.8	56.2	107.9	95.3	83.0	54.5	37.0
Link Distance (m)		123.4	123.4	123.4				736.2	736.2	736.2		
Upstream Blk Time (%)		0	0	0								
Queuing Penalty (veh)		0	0	1								
Storage Bay Dist (m)	105.0				105.0	45.0	45.0				55.0	45.0
Storage Blk Time (%)	0	0		2	0	2	12	24		4	0	0
Queuing Penalty (veh)	0	0		2	0	4	22	48		6	1	1

Intersection: 6: Hurontario Street & Mayfield Road

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	T	R	L	T	T	R
Maximum Queue (m)	51.6	52.0	37.3	139.2	125.9	120.8	69.6
Average Queue (m)	24.1	21.9	15.2	72.7	60.5	59.5	24.9
95th Queue (m)	42.2	41.9	31.7	122.7	95.8	95.2	58.1
Link Distance (m)	786.2	786.2			587.4	587.4	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)			55.0	140.0			80.0
Storage Blk Time (%)	0	0	0	1	0	1	0
Queuing Penalty (veh)	0	0	0	3	0	2	1

Intersection: 7: Chinguacousy Road & Street C

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	10.5	1.5
Average Queue (m)	2.2	0.1
95th Queue (m)	8.5	1.1
Link Distance (m)	199.4	286.7
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 8: Street B & Old School Road

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (m)	98.6	9.2	9.1
Average Queue (m)	6.2	0.4	1.7
95th Queue (m)	53.1	4.0	7.4
Link Distance (m)	476.3	879.0	114.5
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: McLaughlin Road & Street A

Movement	WB	WB	NB	SB
Directions Served	L	TR	TR	LT
Maximum Queue (m)	26.7	15.4	2.3	9.0
Average Queue (m)	12.9	7.6	0.1	1.6
95th Queue (m)	22.0	13.9	1.6	6.6
Link Distance (m)			2470.4	572.4
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	30.0			
Storage Blk Time (%)	0			
Queuing Penalty (veh)	0			

Intersection: 10: Street D & Old School Road

Movement	EB	NB
Directions Served	TR	LR
Maximum Queue (m)	338.3	13.9
Average Queue (m)	176.7	4.3
95th Queue (m)	440.8	11.9
Link Distance (m)	333.1	
Upstream Blk Time (%)	14	
Queuing Penalty (veh)	125	
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 11: Street A & Street D

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: 12: Hurontario Street & Street A

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	T	TR
Maximum Queue (m)	32.3	480.3	34.8	25.9	35.5	33.8	260.4	542.7	264.9
Average Queue (m)	13.7	375.5	15.7	7.8	11.4	9.0	62.0	80.3	68.7
95th Queue (m)	34.1	539.3	28.0	21.5	29.5	26.8	177.1	261.9	183.4
Link Distance (m)				921.8	921.8	921.8	837.5	837.5	837.5
Upstream Blk Time (%)								0	
Queuing Penalty (veh)								0	
Storage Bay Dist (m)	30.0		50.0						
Storage Blk Time (%)	0	85							
Queuing Penalty (veh)	0	28							

Network Summary

Network wide Queuing Penalty: 1385

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	43.3	32.3	76.8	82.5	35.1
Average Queue (m)	31.7	27.4	50.7	56.3	22.1
95th Queue (m)	51.0	39.2	87.1	89.0	40.6
Link Distance (m)	584.0		476.3	286.7	334.4
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0			
Storage Blk Time (%)		13	14		
Queuing Penalty (veh)		50	36		

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	103.7	32.2	160.2	55.0	58.5	34.6
Average Queue (m)	62.7	29.4	91.1	35.9	27.3	23.5
95th Queue (m)	131.6	37.2	201.0	68.9	59.7	39.3
Link Distance (m)	879.0		333.1	572.4	572.4	254.7
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)		30.0				
Storage Blk Time (%)		20	16			
Queuing Penalty (veh)		127	64			

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T
Maximum Queue (m)	42.3	207.8	65.5	120.6	36.4	417.5	433.2	438.5	62.5	22.2	159.8	148.0
Average Queue (m)	37.8	99.4	54.9	85.7	27.2	252.4	261.6	268.4	51.3	9.0	130.3	118.8
95th Queue (m)	51.7	233.1	77.4	169.7	41.5	457.4	474.5	485.3	84.8	26.3	189.9	183.3
Link Distance (m)		987.0		422.7		837.5	837.5	837.5			273.0	273.0
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	40.0		65.0		35.0				60.0	35.0		
Storage Blk Time (%)	37	10	6	15	3	41		38	1	0	45	
Queuing Penalty (veh)	122	56	20	43	32	74		167	9	0	16	

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (m)	124.8	62.4
Average Queue (m)	96.5	48.3
95th Queue (m)	153.9	78.1
Link Distance (m)	273.0	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		60.0
Storage Blk Time (%)	12	2
Queuing Penalty (veh)	58	12

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	LT	T	TR	LTR	LTR
Maximum Queue (m)	59.7	54.2	36.8	58.8	55.1	62.0	112.4	33.5
Average Queue (m)	45.1	40.1	20.4	38.0	35.0	41.5	81.5	24.0
95th Queue (m)	62.7	58.6	44.8	67.8	65.6	70.1	120.8	38.5
Link Distance (m)	543.4	543.4	543.4	1398.4	1398.4	1398.4	715.9	2762.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.2	72.6	65.0	65.2	29.6	65.5	79.5	84.2	39.4	71.1	72.8	32.4
Average Queue (m)	27.2	50.1	46.9	44.9	15.6	35.3	51.3	62.0	22.8	51.5	52.6	22.3
95th Queue (m)	39.1	78.5	70.5	68.5	31.9	66.3	80.5	91.7	48.6	78.5	79.2	40.2
Link Distance (m)		1398.4	1398.4	1398.4		1244.9	1244.9	1244.9		807.0	807.0	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	5	11			0	11			0	8		
Queuing Penalty (veh)	15	15			0	12			0	8		

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	23.3	33.8
Average Queue (m)	16.4	23.4
95th Queue (m)	26.6	38.5
Link Distance (m)	2470.4	2470.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		



Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	WB	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	L	L	T	T	T	R
Maximum Queue (m)	104.6	94.8	35.5	41.0	17.6	9.5	44.8	47.3	102.9	100.6	87.1	57.4
Average Queue (m)	85.1	57.9	22.6	24.0	9.7	2.2	39.0	45.5	81.9	72.5	57.4	37.8
95th Queue (m)	132.2	146.1	40.8	45.2	21.5	15.4	53.7	53.8	124.9	113.6	92.8	67.2
Link Distance (m)		123.4	123.4	123.4		1244.9			736.2	736.2	736.2	
Upstream Blk Time (%)		4										
Queuing Penalty (veh)		17										
Storage Bay Dist (m)	105.0				105.0		45.0	45.0				55.0
Storage Blk Time (%)	13	1					8	22	26		8	1
Queuing Penalty (veh)	24	3					20	54	69		11	2

Intersection: 6: Hurontario Street & Mayfield Road

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R
Maximum Queue (m)	47.4	195.0	192.2	57.4	90.0	136.6	166.9	82.5
Average Queue (m)	44.7	139.1	135.1	34.7	59.7	84.5	101.5	77.2
95th Queue (m)	55.8	255.5	257.6	72.0	121.3	149.0	181.6	95.8
Link Distance (m)		786.2	786.2			587.4	587.4	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	45.0			55.0	140.0			80.0
Storage Blk Time (%)	79	52	28	1	4	1	4	14
Queuing Penalty (veh)	306	96	72	3	18	1	30	60

Intersection: 7: Chinguacousy Road & Street C

Movement	WB
Directions Served	LR
Maximum Queue (m)	7.1
Average Queue (m)	2.1
95th Queue (m)	8.2
Link Distance (m)	199.4
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report  
 PM Peak Hour

02/19/2024

Intersection: 8: Street B & Old School Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	8.9	8.8
Average Queue (m)	1.8	2.4
95th Queue (m)	11.6	8.9
Link Distance (m)	879.0	114.5
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: McLaughlin Road & Street A

Movement	WB	WB	NB	SB
Directions Served	L	TR	TR	LT
Maximum Queue (m)	18.8	9.9	1.1	7.2
Average Queue (m)	12.3	5.9	0.2	3.3
95th Queue (m)	19.7	13.0	2.0	8.9
Link Distance (m)			2470.4	572.4
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	30.0			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: Street D & Old School Road

Movement	NB
Directions Served	LR
Maximum Queue (m)	9.9
Average Queue (m)	5.9
95th Queue (m)	13.0
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Street A & Street D

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: 12: Hurontario Street & Street A

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	T	TR
Maximum Queue (m)	15.7	35.5	51.7	78.4	83.6	68.2	68.1	70.6	72.3
Average Queue (m)	9.1	22.2	39.7	33.5	32.7	33.7	38.1	42.7	45.8
95th Queue (m)	18.9	40.1	58.7	84.5	83.5	78.5	73.3	76.3	81.3
Link Distance (m)				921.8	921.8	921.8	837.5	837.5	837.5
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)	30.0		50.0						
Storage Blk Time (%)		3	8	0					
Queuing Penalty (veh)		1	97	2					

Network Summary

Network wide Queuing Penalty: 1824

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	74.8	45.2	57.2	81.6	48.0
Average Queue (m)	38.6	19.5	27.3	35.4	20.5
95th Queue (m)	61.7	36.7	46.7	67.7	39.3
Link Distance (m)	1114.4	476.2	476.2	284.6	773.1
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	42.6	38.2	47.7	36.9	39.4	35.3	59.9	48.7
Average Queue (m)	17.9	16.7	27.0	8.6	15.5	15.0	26.2	23.0
95th Queue (m)	35.0	32.3	45.0	24.0	29.9	30.0	48.7	40.5
Link Distance (m)	878.6	878.6		333.4	333.4	570.5	570.5	738.4
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			0	0				
Queuing Penalty (veh)			1	0				

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.5	993.7	980.5	67.4	177.1	95.5	37.3	207.2	205.6	197.0	62.5	36.6
Average Queue (m)	42.4	670.4	432.0	60.8	85.7	32.7	24.1	122.2	120.1	115.1	32.9	10.2
95th Queue (m)	42.7	1068.8	968.5	79.2	182.3	67.6	44.6	280.7	276.6	268.5	75.9	27.7
Link Distance (m)		987.6	987.6		1126.6	1126.6		833.8	833.8	833.8		
Upstream Blk Time (%)		5	0									
Queuing Penalty (veh)		24	2									
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	73	45		34	10		18	29		17	1	0
Queuing Penalty (veh)	83	248		32	41		109	16		31	3	1

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	649.7	642.3	640.0	62.5
Average Queue (m)	459.7	452.9	441.8	50.6
95th Queue (m)	730.9	720.2	707.1	85.2
Link Distance (m)	699.3	699.3	699.3	
Upstream Blk Time (%)	6	5	5	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	47		44	1
Queuing Penalty (veh)	16		130	9

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	70.3	72.8	74.5	50.9	75.9	73.9	77.1	90.2	110.6
Average Queue (m)	42.5	43.7	36.3	26.4	32.3	41.6	47.8	47.1	56.8
95th Queue (m)	62.1	64.6	63.3	49.1	60.3	67.5	74.4	75.9	93.1
Link Distance (m)	1011.0	1011.0	1011.0		1398.8	1398.8	1398.8	766.6	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				1	1				
Queuing Penalty (veh)				2	1				

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	28.5	64.8	68.2	73.2	32.3	88.8	88.3	94.2	34.2	35.0	38.0	52.4
Average Queue (m)	3.5	36.3	39.7	43.2	23.8	37.6	37.8	45.4	12.7	20.9	20.5	48.0
95th Queue (m)	14.1	57.8	62.8	66.4	39.2	78.4	78.0	85.6	26.5	32.7	34.9	58.2
Link Distance (m)		1398.8	1398.8	1398.8		1244.9	1244.9	1244.9		799.8	799.8	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	0	7			14	9						17
Queuing Penalty (veh)	0	1			33	12						33

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	110.8	74.0
Average Queue (m)	51.4	38.9
95th Queue (m)	101.9	62.4
Link Distance (m)	2472.2	2472.2
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	3	
Queuing Penalty (veh)	9	

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	L	L	T	T	T
Maximum Queue (m)	103.1	125.1	118.0	119.9	107.1	1.8	2.9	45.1	47.4	123.6	108.0	114.0
Average Queue (m)	57.7	74.6	81.3	85.4	22.8	0.1	0.1	35.8	43.9	73.8	65.5	64.7
95th Queue (m)	94.9	106.4	109.4	113.7	70.5	1.2	2.1	52.9	56.1	111.5	94.0	101.7
Link Distance (m)		123.5	123.5	123.5		1244.9	1244.9			1475.9	1475.9	1475.9
Upstream Blk Time (%)		0	0	0								
Queuing Penalty (veh)		2	0	1								
Storage Bay Dist (m)	105.0				105.0			45.0	45.0			
Storage Blk Time (%)	1	0		1	0			3	20	20		13
Queuing Penalty (veh)	5	1		1	0			6	40	41		22

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	57.5	44.4	58.8	60.3	48.5	142.4	220.3	202.1	75.1
Average Queue (m)	36.6	19.6	23.3	22.2	15.8	98.3	84.7	75.5	24.3
95th Queue (m)	70.2	37.8	43.6	43.1	35.0	159.6	187.5	167.2	54.2
Link Distance (m)			804.0	804.0			587.5	587.5	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)	55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	1	1	0	0	0	11	2	0	0
Queuing Penalty (veh)	1	2	0	0	0	46	7	1	0

Zone Summary

Zone wide Queuing Penalty: 1014

**Intersection: 1: Chinguacousy Road & Old School Road**

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	77.5	84.8	92.9	150.8	58.0
Average Queue (m)	43.3	45.5	45.5	76.8	27.2
95th Queue (m)	71.3	77.7	79.8	134.8	48.3
Link Distance (m)	1114.4	476.2	476.2	284.6	773.1
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

**Intersection: 2: McLaughlin Road & Old School Road**

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	358.8	365.0	52.3	101.1	75.8	178.0	384.5	41.5
Average Queue (m)	106.0	103.4	41.1	36.7	29.2	35.4	106.0	12.9
95th Queue (m)	295.1	295.8	60.0	85.6	54.4	131.7	304.7	28.9
Link Distance (m)	878.6	878.6		333.4	333.4	570.5	570.5	738.4
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			7	1				
Queuing Penalty (veh)			22	3				



**Intersection: 3: Hurontario Street & Old School Road**

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.4	993.4	994.6	67.3	124.3	80.3	37.3	847.8	848.9	848.3	62.5	37.2
Average Queue (m)	42.4	886.4	745.3	55.2	52.6	39.6	28.4	825.9	829.5	828.8	56.6	10.9
95th Queue (m)	42.4	1188.7	1294.0	76.7	107.4	66.7	43.0	906.8	907.8	905.2	82.0	28.6
Link Distance (m)		987.6	987.6		1126.6	1126.6		833.8	833.8	833.8		
Upstream Blk Time (%)		51	13					7	11	14		
Queuing Penalty (veh)		260	66					85	145	174		
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	82	46		14	1		8	40		40	2	0
Queuing Penalty (veh)	92	314		19	4		85	75		181	17	0

**Intersection: 3: Hurontario Street & Old School Road**

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	236.8	235.2	245.4	62.5
Average Queue (m)	167.0	168.3	172.2	59.2
95th Queue (m)	268.7	272.7	286.3	77.0
Link Distance (m)	699.3	699.3	699.3	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	46		28	11
Queuing Penalty (veh)	17		166	66

**Intersection: 4: Chinguacousy Road & Mayfield Road**

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	48.2	50.2	43.4	48.8	60.8	57.8	63.8	179.6	91.9
Average Queue (m)	27.9	29.3	17.9	25.6	20.6	33.2	40.3	95.0	45.9
95th Queue (m)	42.2	46.1	36.7	46.2	42.3	49.8	56.6	154.1	85.3
Link Distance (m)	1011.0	1011.0	1011.0		1398.8	1398.8	1398.8	766.6	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				1	0				
Queuing Penalty (veh)				3	0				

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.3	96.8	89.6	80.7	32.3	75.7	83.5	86.4	44.3	50.4	51.9	52.4
Average Queue (m)	14.5	57.2	53.8	51.9	20.3	33.9	43.9	55.6	20.4	31.1	33.6	37.8
95th Queue (m)	34.7	83.1	78.4	74.6	37.5	61.8	71.1	84.3	37.4	46.7	51.4	57.1
Link Distance (m)		1398.8	1398.8	1398.8		1244.9	1244.9	1244.9		799.8	799.8	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	0	26			4	8			0	0		8
Queuing Penalty (veh)	0	12			13	9			0	0		10

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	80.9	47.5
Average Queue (m)	24.1	23.6
95th Queue (m)	62.7	43.1
Link Distance (m)	2472.2	2472.2
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	1	
Queuing Penalty (veh)	1	

**Intersection: 6: Hurontario Street & Mayfield Road**

Movement	EB	EB	EB	EB	EB	B36	B36	B36	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	L	T	T
Maximum Queue (m)	107.5	149.7	59.1	61.2	34.8	323.6	197.1	149.0	45.1	47.4	893.6	889.6
Average Queue (m)	107.3	138.9	36.8	38.7	11.4	180.8	40.6	18.5	27.9	44.2	516.3	512.7
95th Queue (m)	107.6	155.8	56.8	55.5	24.4	415.2	238.2	148.2	49.9	58.9	873.6	870.4
Link Distance (m)		123.5	123.5	123.5		1244.9	1244.9	1244.9			1475.9	1475.9
Upstream Blk Time (%)		64										
Queuing Penalty (veh)		260										
Storage Bay Dist (m)	105.0				105.0				45.0	45.0		
Storage Blk Time (%)	64	14							1	6	79	
Queuing Penalty (veh)	130	93							4	15	217	

**Intersection: 6: Hurontario Street & Mayfield Road**

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	883.0	57.5	47.4	441.4	440.9	57.5	142.5	600.9	606.1	82.5
Average Queue (m)	511.2	47.8	47.3	315.2	307.7	45.7	141.9	558.9	566.0	79.9
95th Queue (m)	859.5	76.1	47.8	509.9	499.5	75.4	148.3	719.0	705.1	98.4
Link Distance (m)	1475.9			804.0	804.0			587.5	587.5	
Upstream Blk Time (%)								29	72	
Queuing Penalty (veh)								0	0	
Storage Bay Dist (m)		55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	83	3	93	68	34	2	94	49	10	30
Queuing Penalty (veh)	143	9	327	145	90	8	376	116	98	119

**Zone Summary**

Zone wide Queuing Penalty: 3989

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	73.6	52.0	69.8	94.7	51.5
Average Queue (m)	42.7	28.3	32.9	52.7	21.0
95th Queue (m)	66.9	49.9	58.4	91.8	41.3
Link Distance (m)	584.0	476.1	476.1	284.6	334.3
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	51.3	59.7	52.3	82.3	57.8	42.9	70.8	62.3
Average Queue (m)	27.8	28.0	34.0	17.6	19.3	19.6	36.8	26.6
95th Queue (m)	48.0	49.2	55.3	54.4	39.7	37.0	63.2	49.6
Link Distance (m)	878.6	878.6		333.4	333.4	568.7	568.7	250.9
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			5	1				
Queuing Penalty (veh)			8	1				

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.5	999.3	995.9	67.5	261.1	222.2	37.4	435.2	433.1	426.1	62.5	37.2
Average Queue (m)	42.4	755.9	604.5	67.1	177.4	78.3	33.9	224.3	219.9	214.1	33.8	12.8
95th Queue (m)	42.5	1155.0	1148.6	72.4	254.0	180.0	46.1	454.4	448.7	448.0	79.1	33.6
Link Distance (m)		987.7	987.7		1066.5	1066.5		833.7	833.7	833.7		
Upstream Blk Time (%)		22	7									
Queuing Penalty (veh)		119	37									
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	73	43		71	34		59	26		30	1	4
Queuing Penalty (veh)	85	242		69	131		365	19		55	4	35

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	637.0	629.0	619.2	62.5
Average Queue (m)	453.0	446.0	437.1	52.2
95th Queue (m)	728.7	721.9	714.3	85.9
Link Distance (m)	656.5	656.5	656.5	
Upstream Blk Time (%)	14	13	16	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	48		44	1
Queuing Penalty (veh)	16		135	9

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	88.5	81.5	75.9	52.3	113.2	88.9	87.1	95.6	159.7
Average Queue (m)	57.2	52.8	39.3	43.7	48.0	39.7	45.4	54.3	77.5
95th Queue (m)	78.4	73.8	68.4	62.4	100.0	68.4	73.1	86.0	142.7
Link Distance (m)	632.0	632.0	632.0		1398.7	1398.7	1398.7	681.5	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				13	1				
Queuing Penalty (veh)				25	3				

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.2	62.6	65.4	66.7	32.3	90.1	81.2	91.7	34.8	47.6	47.5	52.4
Average Queue (m)	11.9	30.0	34.0	36.4	23.7	35.8	35.3	41.0	12.6	26.9	25.0	49.5
95th Queue (m)	27.6	54.4	56.9	59.0	39.2	75.6	69.4	78.6	26.9	42.6	44.2	59.0
Link Distance (m)		1398.7	1398.7	1398.7		1244.9	1244.9	1244.9		636.7	636.7	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	0	4			10	10				0		31
Queuing Penalty (veh)	1	3			25	13				0		85

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	152.8	133.5
Average Queue (m)	78.6	71.6
95th Queue (m)	137.6	113.7
Link Distance (m)	2470.4	2470.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	14	
Queuing Penalty (veh)	42	

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	WB	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	L	L	T	T	T	R
Maximum Queue (m)	100.5	109.6	120.4	128.0	93.3	3.8	45.3	47.4	136.8	131.4	97.3	57.5
Average Queue (m)	53.1	72.2	79.3	83.4	23.6	0.2	35.4	43.5	84.0	76.4	58.1	29.4
95th Queue (m)	88.7	100.1	106.5	112.8	61.8	2.3	53.2	56.2	131.9	118.1	89.8	61.5
Link Distance (m)		123.4	123.4	123.4		1244.9			736.2	736.2	736.2	
Upstream Blk Time (%)		0	0	0								
Queuing Penalty (veh)		0	1	2								
Storage Bay Dist (m)	105.0				105.0		45.0	45.0				55.0
Storage Blk Time (%)	0	0		2	0		6	22	29		8	1
Queuing Penalty (veh)	1	0		2	0		11	44	60		14	1

Intersection: 6: Hurontario Street & Mayfield Road

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R
Maximum Queue (m)	47.4	77.6	77.7	46.1	142.5	389.2	366.0	82.5
Average Queue (m)	28.6	34.7	30.0	16.4	134.4	247.1	232.5	34.5
95th Queue (m)	49.6	69.8	64.8	35.0	166.3	451.6	430.7	77.9
Link Distance (m)		684.7	684.7			587.4	587.4	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	45.0			55.0	140.0		80.0	
Storage Blk Time (%)	12	4	0	0	61	25	2	0
Queuing Penalty (veh)	25	3	1	0	305	95	8	1

Intersection: 7: Chinguacousy Road & Street C

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	27.6	20.7
Average Queue (m)	13.1	3.7
95th Queue (m)	22.6	13.4
Link Distance (m)	199.4	284.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 8: Street B & Old School Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	18.0	22.6
Average Queue (m)	4.3	11.5
95th Queue (m)	13.3	18.7
Link Distance (m)	878.6	112.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: McLaughlin Road & Street A

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	LT	TR	LT	TR
Maximum Queue (m)	32.0	53.7	49.0	61.3	32.3	29.3
Average Queue (m)	24.7	11.6	13.2	23.4	11.3	13.4
95th Queue (m)	35.3	35.3	32.2	46.0	24.3	25.8
Link Distance (m)		386.7	2470.4	2470.4	568.7	568.7
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	30.0					
Storage Blk Time (%)	5	0				
Queuing Penalty (veh)	2	0				

Intersection: 10: Street D & Old School Road

Movement	EB	EB	WB	NB
Directions Served	T	TR	LT	LR
Maximum Queue (m)	258.6	254.6	34.2	22.7
Average Queue (m)	42.0	39.3	3.6	9.6
95th Queue (m)	174.9	171.1	19.4	18.4
Link Distance (m)	333.4	333.4	987.7	641.5
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				



Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 11: Street A & Street D

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (m)	16.0	30.8
Average Queue (m)	3.7	14.2
95th Queue (m)	12.1	23.4
Link Distance (m)	386.7	641.5
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: Hurontario Street & Street A

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	T	TR
Maximum Queue (m)	32.3	487.8	47.6	19.6	25.3	24.8	314.9	452.8	441.6
Average Queue (m)	20.6	318.1	23.4	6.4	9.6	7.7	116.8	136.0	133.3
95th Queue (m)	37.9	552.3	42.4	16.5	22.4	20.0	234.6	314.0	285.2
Link Distance (m)		934.4		921.8	921.8	921.8	833.7	833.7	833.7
Upstream Blk Time (%)								0	0
Queuing Penalty (veh)								0	0
Storage Bay Dist (m)	30.0		50.0						
Storage Blk Time (%)	6	66	0						
Queuing Penalty (veh)	34	36	2						

Network Summary

Network wide Queuing Penalty: 2176
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Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	75.8	67.7	73.0	105.5	35.7
Average Queue (m)	55.9	42.6	53.2	75.4	20.9
95th Queue (m)	115.7	73.6	91.3	118.5	37.2
Link Distance (m)	584.0	476.1	476.1	284.6	334.3
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	56.2	53.3	49.7	42.5	36.9	45.8	50.9	32.0
Average Queue (m)	37.8	33.6	36.0	18.1	22.1	27.4	31.3	20.3
95th Queue (m)	61.0	57.5	56.7	45.6	38.7	50.2	61.2	36.7
Link Distance (m)	878.6	878.6		333.4	333.4	568.7	568.7	250.9
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			2	0				
Queuing Penalty (veh)			7	0				

Queuing and Blocking Report  
PM Peak Hour

02/29/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.4	192.9	68.5	65.0	64.8	49.5	37.3	400.1	415.2	419.8	62.5	21.0
Average Queue (m)	37.6	98.7	38.1	52.5	38.6	37.3	35.1	234.0	237.7	241.0	50.6	9.1
95th Queue (m)	53.2	211.3	73.8	73.4	77.9	56.0	44.4	435.5	448.7	451.7	85.2	23.8
Link Distance (m)		987.7	987.7		1066.5	1066.5		833.7	833.7	833.7		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	47	22		6	0		33	28		34	1	0
Queuing Penalty (veh)	56	148		9	1		357	75		151	13	0

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	178.9	200.8	212.4	62.5
Average Queue (m)	136.5	140.2	140.3	56.8
95th Queue (m)	199.3	218.3	237.3	75.9
Link Distance (m)	656.5	656.5	656.5	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	50		28	6
Queuing Penalty (veh)	18		167	37

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	71.0	69.5	57.6	42.7	24.8	18.4	30.3	110.3	40.1
Average Queue (m)	54.4	52.6	36.9	25.6	9.4	9.2	14.6	80.4	26.5
95th Queue (m)	76.7	74.4	65.9	48.9	28.9	19.8	32.2	129.9	49.3
Link Distance (m)	632.0	632.0	632.0		1398.7	1398.7	1398.7	681.5	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				1	0				
Queuing Penalty (veh)				3	0				

Queuing and Blocking Report  
PM Peak Hour

02/29/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B36	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	TR	T	L	T	TR
Maximum Queue (m)	32.3	94.4	80.9	80.0	31.2	69.8	80.3	88.7	3.3	36.7	57.0	54.5
Average Queue (m)	29.5	74.2	63.1	63.8	20.0	45.6	52.6	66.0	0.7	19.4	40.2	37.1
95th Queue (m)	38.1	101.1	86.0	85.3	37.0	77.2	82.8	90.9	6.1	40.2	59.1	59.1
Link Distance (m)		1398.7	1398.7	1398.7		1244.9	1244.9	1244.9	123.4		636.7	636.7
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0					50.0		
Storage Blk Time (%)	15	33			5	14				0	2	
Queuing Penalty (veh)	44	58			18	16				0	3	

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	TR
Maximum Queue (m)	39.2	58.1	39.7
Average Queue (m)	27.2	25.9	25.4
95th Queue (m)	52.1	76.8	47.0
Link Distance (m)		2470.4	2470.4
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	50.0		
Storage Blk Time (%)	6	5	
Queuing Penalty (veh)	11	10	

Queuing and Blocking Report  
PM Peak Hour

02/29/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	WB	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	L	L	T	T	T	R
Maximum Queue (m)	107.3	138.5	46.1	50.3	27.8	53.8	38.7	47.4	165.6	148.6	135.8	57.5
Average Queue (m)	94.8	100.8	38.5	39.6	15.6	19.8	28.6	42.0	101.5	95.1	82.5	44.3
95th Queue (m)	128.8	187.1	52.5	55.1	30.1	69.4	52.9	60.9	170.9	158.9	147.4	73.9
Link Distance (m)		123.4	123.4	123.4		1244.9			736.2	736.2	736.2	
Upstream Blk Time (%)		25										
Queuing Penalty (veh)		100										
Storage Bay Dist (m)	105.0				105.0		45.0	45.0				55.0
Storage Blk Time (%)	26	2					2	9	49		35	1
Queuing Penalty (veh)	54	12					5	23	135		59	3

Intersection: 6: Hurontario Street & Mayfield Road

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R
Maximum Queue (m)	47.4	251.1	252.0	57.5	105.9	224.5	285.4	82.5
Average Queue (m)	46.6	165.6	160.7	52.6	70.6	146.6	177.5	81.8
95th Queue (m)	49.4	276.5	271.7	74.6	122.8	266.8	330.2	85.9
Link Distance (m)		684.7	684.7			587.4	587.4	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	45.0			55.0	140.0			80.0
Storage Blk Time (%)	86	66	36	1	2	0	12	35
Queuing Penalty (veh)	370	149	95	6	9	0	116	161

Intersection: 7: Chinguacousy Road & Street C

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	12.8	30.3
Average Queue (m)	7.4	11.4
95th Queue (m)	15.2	41.0
Link Distance (m)	199.4	284.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report  
PM Peak Hour

02/29/2024

Intersection: 8: Street B & Old School Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	16.9	14.1
Average Queue (m)	7.2	9.5
95th Queue (m)	19.3	17.7
Link Distance (m)	878.6	112.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: McLaughlin Road & Street A

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	LT	TR	LT	TR
Maximum Queue (m)	28.5	25.1	25.5	39.0	18.5	23.4
Average Queue (m)	20.2	11.9	12.5	17.3	10.1	11.0
95th Queue (m)	32.3	37.4	31.6	41.4	20.4	25.4
Link Distance (m)		386.7	2470.4	2470.4	568.7	568.7
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	30.0					
Storage Blk Time (%)	5	0				
Queuing Penalty (veh)	2	0				

Intersection: 10: Street D & Old School Road

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (m)	1.4	9.2	16.6
Average Queue (m)	0.3	1.8	8.5
95th Queue (m)	2.5	9.2	18.1
Link Distance (m)	333.4	987.7	641.5
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report  
PM Peak Hour

02/29/2024

Intersection: 11: Street A & Street D

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (m)	14.4	5.9	15.9
Average Queue (m)	7.3	1.2	11.4
95th Queue (m)	17.9	7.0	17.1
Link Distance (m)	386.7	934.4	641.5
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Hurontario Street & Street A

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	T	TR
Maximum Queue (m)	22.7	46.8	52.3	163.6	163.4	92.2	107.8	110.3	114.2
Average Queue (m)	9.1	29.9	49.0	76.1	66.4	36.6	61.7	65.9	68.9
95th Queue (m)	26.6	54.6	57.9	187.0	187.7	112.6	124.2	127.6	132.0
Link Distance (m)		934.4		921.8	921.8	921.8	833.7	833.7	833.7
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)	30.0		50.0						
Storage Blk Time (%)	0	12	19	1					
Queuing Penalty (veh)	0	5	245	7					

Network Summary

Network wide Queuing Penalty: 2757
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Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	73.2	50.2	66.3	106.5	52.1
Average Queue (m)	40.5	20.9	27.2	42.5	21.0
95th Queue (m)	64.3	39.2	52.4	83.6	42.1
Link Distance (m)	750.9	475.7	475.7	284.6	594.4
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	75.9	80.3	48.0	39.0	40.1	28.0	96.9	47.8
Average Queue (m)	43.6	42.5	28.1	13.9	21.3	10.5	35.4	20.2
95th Queue (m)	73.5	73.8	45.5	29.2	34.3	22.2	87.9	38.9
Link Distance (m)	878.7	878.7		333.4	333.4	570.5	570.5	581.9
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			0	0				
Queuing Penalty (veh)			1	0				



Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.5	996.7	995.5	67.5	230.6	202.7	37.3	276.3	264.4	267.9	62.5	37.3
Average Queue (m)	42.4	785.2	640.2	65.0	136.8	89.3	28.8	170.6	165.5	157.7	36.6	12.3
95th Queue (m)	42.6	1195.3	1175.3	75.7	242.6	195.3	48.6	345.4	335.9	325.1	81.0	32.4
Link Distance (m)		987.7	987.7		632.3	632.3		833.8	833.8	833.8		
Upstream Blk Time (%)		31	9									
Queuing Penalty (veh)		160	46									
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	74	43		52	19		45	31		26	1	0
Queuing Penalty (veh)	92	239		52	76		277	18		49	4	2

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	579.5	577.8	578.4	62.5
Average Queue (m)	508.4	504.2	496.7	51.0
95th Queue (m)	685.1	684.2	684.0	85.7
Link Distance (m)	565.7	565.7	565.7	
Upstream Blk Time (%)	37	31	41	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	48		44	1
Queuing Penalty (veh)	17		133	10

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	76.1	74.5	63.2	52.4	105.9	90.2	79.3	89.7	112.8
Average Queue (m)	49.0	45.3	29.3	39.4	51.0	44.5	46.9	49.8	55.7
95th Queue (m)	69.9	66.3	58.3	62.9	109.5	78.2	72.7	75.9	93.4
Link Distance (m)	615.4	615.4	615.4		1398.5	1398.5	1398.5	873.0	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				30	13				
Queuing Penalty (veh)				64	21				

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	28.3	77.7	79.3	96.8	32.3	94.0	98.5	99.8	30.0	49.0	52.0	94.2
Average Queue (m)	3.6	42.6	48.0	53.0	23.5	38.2	42.7	50.6	11.1	28.2	30.4	48.0
95th Queue (m)	14.9	68.5	73.1	84.9	38.0	78.0	81.0	87.0	24.9	44.1	49.1	81.4
Link Distance (m)		1398.5	1398.5	1398.5		1245.0	1245.0	1245.0	850.6	850.6	850.6	2472.1
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0							
Storage Blk Time (%)	0	12			7	8						
Queuing Penalty (veh)	0	2			18	11						

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	48.6	63.5
Average Queue (m)	24.0	29.6
95th Queue (m)	41.5	52.7
Link Distance (m)	2472.1	2472.1
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	B36	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	L	T	T
Maximum Queue (m)	107.2	134.4	127.5	140.8	107.4	12.7	11.7	23.5	44.6	47.4	127.9	101.5
Average Queue (m)	64.5	80.1	86.5	90.8	29.6	0.5	0.5	1.1	34.6	42.9	71.8	65.4
95th Queue (m)	107.5	118.9	123.0	128.7	87.3	6.3	7.9	11.3	53.5	56.0	111.2	94.1
Link Distance (m)		123.4	123.4	123.4		1245.0	1245.0	1245.0			1216.2	1216.2
Upstream Blk Time (%)		1	1	2								
Queuing Penalty (veh)		5	4	11								
Storage Bay Dist (m)	105.0				105.0				45.0	45.0		
Storage Blk Time (%)	1	1		4	0				3	14	23	
Queuing Penalty (veh)	4	4		5	1				5	29	53	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	113.2	57.5	47.2	73.5	81.7	57.2	131.0	145.0	147.0	82.5
Average Queue (m)	59.9	33.3	23.8	38.6	40.6	28.1	71.9	67.7	65.5	33.5
95th Queue (m)	95.1	64.6	45.2	60.7	66.0	56.1	119.3	120.2	110.6	74.0
Link Distance (m)	1216.2			881.6	881.6			587.5	587.5	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)		55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	10	1	1	4	2	1	2	0	1	0
Queuing Penalty (veh)	18	1	2	3	4	1	8	0	4	1

Zone Summary

Zone wide Queuing Penalty: 1455

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	94.6	97.6	110.8	175.3	67.2
Average Queue (m)	50.4	49.5	51.3	83.2	30.0
95th Queue (m)	83.4	87.6	93.1	149.5	57.5
Link Distance (m)	750.9	475.7	475.7	284.6	594.4
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	461.3	465.9	52.3	94.6	58.7	349.7	481.4	52.9
Average Queue (m)	128.6	126.7	39.9	29.7	27.3	70.2	144.9	18.8
95th Queue (m)	371.3	372.6	58.1	71.3	47.5	257.2	418.2	41.4
Link Distance (m)	878.7	878.7		333.4	333.4	570.5	570.5	581.9
Upstream Blk Time (%)						0	1	
Queuing Penalty (veh)						0	4	
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			5	0				
Queuing Penalty (veh)			15	1				

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.4	994.2	992.2	67.4	130.9	118.4	37.3	847.6	848.6	846.8	62.5	37.3
Average Queue (m)	42.4	858.5	706.9	55.8	66.4	46.9	30.3	830.4	833.7	832.2	53.4	10.8
95th Queue (m)	42.5	1217.2	1321.3	79.4	130.4	95.0	45.1	897.8	903.0	897.6	84.8	30.4
Link Distance (m)		987.7	987.7		632.3	632.3		833.8	833.8	833.8		
Upstream Blk Time (%)		50	17					8	13	16		
Queuing Penalty (veh)		266	93					111	169	208		
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	84	44		22	4		10	42		42	2	0
Queuing Penalty (veh)	102	301		33	12		113	82		193	18	1

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	448.2	428.4	431.4	62.5
Average Queue (m)	271.1	266.4	268.6	60.5
95th Queue (m)	480.8	476.7	484.7	74.4
Link Distance (m)	565.7	565.7	565.7	
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	50		34	9
Queuing Penalty (veh)	19		202	55

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	60.7	57.1	47.1	49.4	57.0	55.9	65.1	298.4	125.5
Average Queue (m)	37.5	33.3	16.8	27.0	21.2	33.7	42.5	178.7	54.0
95th Queue (m)	54.7	51.9	39.0	47.6	40.0	50.1	61.8	350.9	99.0
Link Distance (m)	615.4	615.4	615.4		1398.5	1398.5	1398.5	873.0	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				1	0				
Queuing Penalty (veh)				3	0				

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.3	95.9	96.9	95.1	32.3	66.4	73.0	84.5	57.1	76.2	81.8	63.9
Average Queue (m)	12.9	66.9	64.3	63.0	15.6	32.8	43.2	54.8	26.8	48.3	51.4	39.3
95th Queue (m)	32.8	91.2	88.2	86.9	31.7	59.1	69.5	79.6	47.9	68.1	74.4	62.4
Link Distance (m)		1398.5	1398.5	1398.5		1245.0	1245.0	1245.0	850.6	850.6	850.6	2472.1
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0							
Storage Blk Time (%)	0	33			1	8						
Queuing Penalty (veh)	1	16			2	10						

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	37.9	48.5
Average Queue (m)	19.4	26.6
95th Queue (m)	33.0	44.3
Link Distance (m)	2472.1	2472.1
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	B36	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	L	T	T
Maximum Queue (m)	107.5	149.6	81.2	74.6	29.8	494.4	387.6	359.4	45.5	47.5	1219.0	1211.6
Average Queue (m)	107.4	140.0	42.2	43.9	12.5	291.7	130.3	71.7	26.4	45.2	767.0	758.1
95th Queue (m)	107.5	145.5	66.2	67.1	24.7	580.3	464.9	322.2	49.8	56.8	1273.8	1257.2
Link Distance (m)		123.4	123.4	123.4		1245.0	1245.0	1245.0			1216.2	1216.2
Upstream Blk Time (%)		69	0								6	4
Queuing Penalty (veh)		306	0								0	0
Storage Bay Dist (m)	105.0				105.0				45.0	45.0		
Storage Blk Time (%)	67	17							1	6	78	
Queuing Penalty (veh)	149	120							3	18	238	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	1195.9	57.5	47.5	668.6	664.8	57.5	101.0	602.5	605.4	82.5
Average Queue (m)	738.3	52.3	47.0	439.5	440.4	48.4	40.6	587.1	592.4	82.5
95th Queue (m)	1217.6	74.7	51.6	839.0	834.8	73.7	77.4	637.0	624.5	82.7
Link Distance (m)	1216.2			881.6	881.6			587.5	587.5	
Upstream Blk Time (%)	4			6	6			22	79	
Queuing Penalty (veh)	0			0	0			0	0	
Storage Bay Dist (m)		55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	83	3	71	66	54	3	0	0	29	69
Queuing Penalty (veh)	148	8	270	147	156	11	0	1	280	301

Zone Summary

Zone wide Queuing Penalty: 4188

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	81.4	62.3	77.3	112.9	54.3
Average Queue (m)	46.0	29.5	35.8	54.4	23.0
95th Queue (m)	72.9	52.2	65.0	99.2	44.7
Link Distance (m)	796.8	476.1	476.1	284.6	334.3
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	140.3	145.0	50.7	51.2	44.2	39.3	102.5	53.0
Average Queue (m)	59.2	60.7	32.4	16.9	23.4	17.7	39.9	25.9
95th Queue (m)	114.4	117.4	51.5	38.3	39.3	35.3	81.9	44.6
Link Distance (m)	878.6	878.6		333.4	333.4	568.7	568.7	250.9
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			1	0				
Queuing Penalty (veh)			3	0				



Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.5	995.0	990.7	67.4	188.6	176.3	37.3	536.3	555.2	557.1	62.5	37.3
Average Queue (m)	42.3	763.1	648.3	64.3	119.7	86.6	35.8	394.8	396.0	393.0	37.2	14.9
95th Queue (m)	43.4	1158.2	1176.3	76.5	233.5	196.4	44.1	635.8	650.3	657.6	80.9	35.9
Link Distance (m)		987.7	987.7		708.5	708.5		833.7	833.7	833.7		
Upstream Blk Time (%)		22	6									
Queuing Penalty (veh)		124	32									
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	72	44		47	17		76	27		40	1	1
Queuing Penalty (veh)	91	251		50	68		488	21		74	4	12

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	498.2	501.4	498.6	62.5
Average Queue (m)	422.6	419.0	410.9	49.8
95th Queue (m)	604.3	603.0	602.0	84.9
Link Distance (m)	483.5	483.5	483.5	
Upstream Blk Time (%)	32	27	38	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	47		44	1
Queuing Penalty (veh)	17		138	9

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	85.7	86.0	78.6	52.4	112.2	68.7	70.8	127.6	174.2
Average Queue (m)	54.9	52.3	43.4	42.4	40.5	27.2	34.0	64.1	82.9
95th Queue (m)	78.8	77.5	70.7	62.4	103.6	56.0	62.1	110.2	143.8
Link Distance (m)	739.0	739.0	739.0		1398.3	1398.3	1398.3	488.6	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				17	4				
Queuing Penalty (veh)				37	12				

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.3	95.8	104.6	107.4	32.4	113.4	106.2	101.8	45.0	60.8	58.1	52.4
Average Queue (m)	15.3	57.3	59.9	63.8	25.4	48.3	46.1	49.2	16.3	35.5	32.1	41.5
95th Queue (m)	33.3	90.9	95.2	99.9	38.6	95.2	85.5	85.9	35.9	54.5	54.4	61.5
Link Distance (m)		1398.3	1398.3	1398.3		1244.9	1244.9	1244.9		561.0	561.0	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	1	28			12	12			0	1		8
Queuing Penalty (veh)	4	18			34	18			0	1		22

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	107.8	100.0
Average Queue (m)	48.2	53.4
95th Queue (m)	89.7	84.9
Link Distance (m)	2470.4	2470.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	3	
Queuing Penalty (veh)	11	

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	B36	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	L	T	T
Maximum Queue (m)	105.3	117.9	122.4	129.0	107.2	1.1	3.8	6.4	45.3	47.4	125.5	116.4
Average Queue (m)	62.1	74.1	81.5	85.6	25.8	0.0	0.2	0.4	37.5	45.3	82.5	75.3
95th Queue (m)	104.1	104.9	112.1	117.7	74.0	0.8	2.1	4.4	53.7	54.3	122.7	113.6
Link Distance (m)		123.2	123.2	123.2		1244.9	1244.9	1244.9			736.2	736.2
Upstream Blk Time (%)		0	0	1								
Queuing Penalty (veh)		1	1	4								
Storage Bay Dist (m)	105.0				105.0				45.0	45.0		
Storage Blk Time (%)	1	1		3	0				3	19	28	
Queuing Penalty (veh)	3	1		4	0				6	40	65	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	109.2	57.5	47.4	181.8	170.2	57.5	142.5	287.8	280.3	82.5
Average Queue (m)	59.9	35.8	41.3	99.5	88.5	36.5	108.7	152.4	140.2	45.7
95th Queue (m)	94.5	67.2	58.6	169.2	158.4	68.4	173.7	307.5	288.6	95.2
Link Distance (m)	736.2			359.2	359.2			587.4	587.4	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)		55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	9	1	60	49	13	1	29	10	6	1
Queuing Penalty (veh)	15	1	141	46	31	3	156	40	20	3

Intersection: 7: Chinguacousy Road & Street C

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	30.5	31.7
Average Queue (m)	12.9	4.7
95th Queue (m)	22.5	18.2
Link Distance (m)	199.4	284.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 8: Street B & Old School Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	19.6	26.9
Average Queue (m)	4.5	12.1
95th Queue (m)	13.6	20.3
Link Distance (m)	878.6	112.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: McLaughlin Road & Street A

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	LT	TR	LT	TR
Maximum Queue (m)	32.1	52.3	39.3	54.9	34.7	37.5
Average Queue (m)	26.3	12.4	13.9	24.0	12.4	14.2
95th Queue (m)	35.5	37.7	30.9	45.8	25.6	27.4
Link Distance (m)		386.7	2470.4	2470.4	568.7	568.7
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	30.0					
Storage Blk Time (%)	5	0				
Queuing Penalty (veh)	2	0				

Intersection: 10: Street D & Old School Road

Movement	EB	EB	WB	NB
Directions Served	T	TR	LT	LR
Maximum Queue (m)	235.1	230.5	38.4	25.4
Average Queue (m)	63.2	61.3	4.0	10.6
95th Queue (m)	251.0	250.6	19.3	20.5
Link Distance (m)	333.4	333.4	987.7	641.5
Upstream Blk Time (%)	2	3		
Queuing Penalty (veh)	15	19		
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Street A & Street D

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (m)	18.1	27.1
Average Queue (m)	4.1	14.5
95th Queue (m)	13.5	23.5
Link Distance (m)	386.7	641.5
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: Hurontario Street & Street A

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	T	TR
Maximum Queue (m)	32.3	523.9	52.2	94.6	92.1	86.7	314.1	320.0	332.0
Average Queue (m)	13.6	401.1	37.5	52.4	55.2	53.3	153.4	163.6	168.4
95th Queue (m)	34.4	593.0	57.5	85.6	80.8	74.9	247.8	256.2	265.1
Link Distance (m)		934.4		921.8	921.8	921.8	833.7	833.7	833.7
Upstream Blk Time (%)									0
Queuing Penalty (veh)									0
Storage Bay Dist (m)	30.0		50.0						
Storage Blk Time (%)	1	70	11	2					
Queuing Penalty (veh)	3	38	81	4					

Network Summary

Network wide Queuing Penalty: 2280
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Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	99.7	99.5	104.0	242.4	97.4
Average Queue (m)	53.0	53.8	50.0	149.1	37.2
95th Queue (m)	84.2	87.5	90.0	277.8	77.4
Link Distance (m)	796.8	476.1	476.1	284.6	334.3
Upstream Blk Time (%)				2	
Queuing Penalty (veh)				16	
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	631.2	631.9	52.3	106.8	87.4	479.2	541.5	146.9
Average Queue (m)	187.0	186.8	46.3	49.9	37.7	93.3	180.1	45.2
95th Queue (m)	512.4	514.3	61.0	98.6	64.9	302.8	480.6	108.7
Link Distance (m)	878.6	878.6		333.4	333.4	568.7	568.7	250.9
Upstream Blk Time (%)						1	4	
Queuing Penalty (veh)						3	13	
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			11	1				
Queuing Penalty (veh)			42	5				

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.4	994.0	993.3	67.3	105.4	85.4	37.3	845.8	849.4	846.3	62.5	37.2
Average Queue (m)	42.4	886.0	758.2	55.2	49.5	39.5	35.2	822.4	826.2	826.2	53.4	10.6
95th Queue (m)	42.4	1198.3	1313.9	76.1	92.2	67.5	43.4	911.8	913.1	910.3	83.9	30.7
Link Distance (m)		987.7	987.7		708.5	708.5		833.7	833.7	833.7		
Upstream Blk Time (%)		54	17					5	8	10		
Queuing Penalty (veh)		300	97					64	105	140		
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	84	47		8	1		40	32		42	1	0
Queuing Penalty (veh)	108	323		13	2		437	89		190	16	1

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	497.3	497.1	502.1	62.5
Average Queue (m)	417.5	420.1	430.1	61.3
95th Queue (m)	577.1	581.7	590.1	70.1
Link Distance (m)	483.5	483.5	483.5	
Upstream Blk Time (%)	13	14	37	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	54		42	11
Queuing Penalty (veh)	20		257	74

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	84.8	83.2	73.2	52.2	69.6	55.7	60.9	199.3	99.6
Average Queue (m)	57.3	55.3	44.0	32.7	21.8	28.1	35.5	115.3	37.9
95th Queue (m)	77.6	75.1	70.2	54.0	53.1	53.5	60.7	190.6	76.5
Link Distance (m)	739.0	739.0	739.0		1398.3	1398.3	1398.3	488.6	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				5	1				
Queuing Penalty (veh)				12	2				

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.4	112.2	98.5	89.0	32.3	76.8	84.2	95.8	52.4	107.5	96.4	52.2
Average Queue (m)	27.0	62.2	54.2	54.7	19.5	47.7	55.2	64.9	33.5	63.3	60.9	34.4
95th Queue (m)	40.4	105.8	90.1	85.9	38.3	74.4	80.4	90.2	60.0	91.8	86.3	54.4
Link Distance (m)		1398.3	1398.3	1398.3		1244.9	1244.9	1244.9		561.0	561.0	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	15	31			1	19			0	15		3
Queuing Penalty (veh)	48	55			4	24			2	22		6

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	74.3	67.0
Average Queue (m)	32.3	40.0
95th Queue (m)	60.3	62.0
Link Distance (m)	2470.4	2470.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	1	
Queuing Penalty (veh)	1	



Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	B36	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	L	T	T
Maximum Queue (m)	107.5	149.8	66.9	68.1	38.7	522.6	472.5	404.9	45.3	47.5	748.9	749.3
Average Queue (m)	107.4	139.8	40.6	42.3	13.8	319.2	164.7	78.2	27.4	45.1	612.3	604.4
95th Queue (m)	107.5	145.6	63.3	64.6	29.5	596.0	538.0	357.6	50.0	57.1	892.0	889.2
Link Distance (m)		123.2	123.2	123.2		1244.9	1244.9	1244.9			736.2	736.2
Upstream Blk Time (%)		72									44	35
Queuing Penalty (veh)		320									0	0
Storage Bay Dist (m)	105.0				105.0				45.0	45.0		
Storage Blk Time (%)	70	18							1	7	78	
Queuing Penalty (veh)	155	125							4	20	237	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	751.6	57.5	47.5	372.8	375.8	57.5	142.4	601.8	604.6	82.5
Average Queue (m)	589.3	48.6	47.3	364.4	365.4	43.4	53.4	586.1	591.4	82.5
95th Queue (m)	886.8	77.3	48.3	371.9	375.2	75.9	110.7	637.5	622.2	82.7
Link Distance (m)	736.2			359.2	359.2			587.4	587.4	
Upstream Blk Time (%)	35			85	76			19	74	
Queuing Penalty (veh)	0			0	0			0	0	
Storage Bay Dist (m)		55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	83	2	84	71	56	2	0	3	29	69
Queuing Penalty (veh)	149	6	387	168	162	11	0	8	287	339

Intersection: 7: Chinguacousy Road & Street C

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (m)	28.4	40.5	44.2
Average Queue (m)	11.7	7.2	13.2
95th Queue (m)	23.2	50.1	34.7
Link Distance (m)	199.4	2762.0	284.6
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Street B & Old School Road

Movement	EB	WB	WB	NB
Directions Served	TR	LT	T	LR
Maximum Queue (m)	1.5	31.5	6.2	18.3
Average Queue (m)	0.0	10.4	0.2	8.2
95th Queue (m)	1.0	25.1	3.4	16.1
Link Distance (m)	476.1	878.6	878.6	112.6
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: McLaughlin Road & Street A

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	LT	TR	LT	TR
Maximum Queue (m)	31.8	36.8	86.4	104.4	33.4	37.9
Average Queue (m)	19.2	7.0	13.9	26.1	12.7	12.4
95th Queue (m)	32.0	24.5	50.2	66.4	27.8	28.3
Link Distance (m)		386.7	2470.4	2470.4	568.7	568.7
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	30.0					
Storage Blk Time (%)	3	0				
Queuing Penalty (veh)	1	0				

Intersection: 10: Street D & Old School Road

Movement	EB	EB	WB	WB	NB
Directions Served	T	TR	LT	T	LR
Maximum Queue (m)	342.5	345.3	40.4	4.8	34.7
Average Queue (m)	191.9	191.5	3.5	0.2	12.2
95th Queue (m)	449.7	452.1	19.5	3.3	32.0
Link Distance (m)	333.4	333.4	987.7	987.7	641.5
Upstream Blk Time (%)	21	24			
Queuing Penalty (veh)	131	151			
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 11: Street A & Street D

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (m)	23.2	5.9	27.2
Average Queue (m)	4.9	0.2	11.4
95th Queue (m)	15.8	2.7	19.3
Link Distance (m)	386.7	934.4	641.5
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Hurontario Street & Street A

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	T	TR
Maximum Queue (m)	32.3	76.8	52.4	936.0	936.5	939.4	130.0	137.1	131.0
Average Queue (m)	13.0	34.7	51.4	883.0	890.1	879.4	53.2	59.8	61.9
95th Queue (m)	30.6	64.3	58.2	1107.6	1098.6	1128.0	106.4	113.5	117.0
Link Distance (m)		934.4		921.8	921.8	921.8	833.7	833.7	833.7
Upstream Blk Time (%)				66	49	43			
Queuing Penalty (veh)				0	0	0			
Storage Bay Dist (m)	30.0		50.0						
Storage Blk Time (%)	0	12	18	29					
Queuing Penalty (veh)	1	5	244	146					

Network Summary

Network wide Queuing Penalty: 5547
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Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	33.1	34.8	38.7	75.6	40.5
Average Queue (m)	18.6	17.0	15.1	33.6	16.8
95th Queue (m)	30.5	30.2	29.8	59.0	32.1
Link Distance (m)	584.0	476.1	476.1	284.6	334.3
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	76.4	73.1	49.6	50.5	33.7	34.0	110.5	50.9
Average Queue (m)	27.7	25.2	30.1	10.1	15.9	13.1	34.8	22.0
95th Queue (m)	65.1	63.9	47.7	28.6	27.9	26.6	87.7	41.4
Link Distance (m)	878.6	878.6		333.4	333.4	570.5	570.5	250.9
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			1	0				
Queuing Penalty (veh)			2	0				

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.5	994.2	995.0	67.5	358.4	324.0	37.4	247.4	241.1	234.0	62.5	37.2
Average Queue (m)	42.4	809.8	639.3	66.4	218.5	173.3	30.9	123.7	121.7	114.7	31.3	14.4
95th Queue (m)	42.4	1170.7	1190.9	72.4	422.9	397.7	44.1	229.2	221.7	214.9	75.8	35.1
Link Distance (m)		987.6	987.6		894.6	894.6		833.8	833.8	833.8		
Upstream Blk Time (%)		31	10									
Queuing Penalty (veh)		167	54									
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	75	42		65	29		35	29		21	1	2
Queuing Penalty (veh)	102	237		71	117		224	18		39	3	14

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	489.4	489.2	490.7	62.5
Average Queue (m)	459.6	457.4	452.7	45.0
95th Queue (m)	544.2	543.9	552.2	84.6
Link Distance (m)	472.2	472.2	472.2	
Upstream Blk Time (%)	44	39	52	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	47		44	1
Queuing Penalty (veh)	17		133	9

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	73.0	66.4	58.1	52.4	83.0	76.6	79.5	205.8	218.4
Average Queue (m)	43.8	39.5	22.5	34.4	37.1	44.4	48.9	96.9	108.8
95th Queue (m)	63.2	60.5	49.1	58.4	70.3	69.8	73.2	190.6	195.0
Link Distance (m)	568.7	568.7	568.7		1398.7	1398.7	1398.7	527.8	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				11	3				
Queuing Penalty (veh)				27	5				

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	19.8	113.2	115.0	124.8	32.4	98.4	105.2	111.9	44.6	58.2	60.7	52.4
Average Queue (m)	5.0	71.8	76.5	83.5	25.9	45.1	47.3	54.3	14.2	36.0	34.4	41.5
95th Queue (m)	17.7	102.4	105.3	113.6	38.3	85.4	87.0	92.5	30.1	54.2	56.7	60.3
Link Distance (m)		1398.7	1398.7	1398.7		1244.9	1244.9	1244.9		494.2	494.2	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	0	29			10	10			0	1		8
Queuing Penalty (veh)	0	6			30	15			0	1		19

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	95.6	73.5
Average Queue (m)	38.8	36.3
95th Queue (m)	78.1	60.9
Link Distance (m)	2472.2	2472.2
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	1	
Queuing Penalty (veh)	3	

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	B36	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	L	T	T
Maximum Queue (m)	107.3	137.7	137.7	140.0	107.5	37.1	12.6	18.2	44.9	47.5	163.2	153.8
Average Queue (m)	79.8	95.9	94.4	99.5	37.8	4.6	0.6	1.0	38.7	45.6	105.5	96.4
95th Queue (m)	121.8	137.7	127.0	132.9	100.3	27.7	6.9	9.5	51.9	53.8	164.8	150.9
Link Distance (m)		123.1	123.1	123.1		1244.9	1244.9	1244.9			736.2	736.2
Upstream Blk Time (%)		8	1	2								
Queuing Penalty (veh)		39	6	12								
Storage Bay Dist (m)	105.0				105.0				45.0	45.0		
Storage Blk Time (%)	10	3		8	0				8	26	39	
Queuing Penalty (veh)	38	10		10	1				18	61	98	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	146.0	57.5	47.5	133.2	127.3	57.5	142.4	412.8	397.5	82.5
Average Queue (m)	73.2	38.6	42.0	81.6	75.3	36.3	126.5	253.8	237.9	44.2
95th Queue (m)	116.8	70.8	57.3	135.9	126.6	65.7	175.6	514.2	491.0	90.4
Link Distance (m)	736.2			522.0	522.0			587.4	587.4	
Upstream Blk Time (%)								2	1	
Queuing Penalty (veh)								0	0	
Storage Bay Dist (m)		55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	15	1	54	36	8	0	52	19	4	1
Queuing Penalty (veh)	27	3	119	36	19	1	267	74	15	3

Intersection: 7: Chinguacousy Road & Street C

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: 8: Street B & Old School Road

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: 9: McLaughlin Road & Street A

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: 10: Street D & Old School Road

Movement	EB	EB
Directions Served	T	TR
Maximum Queue (m)	257.4	250.9
Average Queue (m)	74.3	71.3
95th Queue (m)	265.2	264.1
Link Distance (m)	333.4	333.4
Upstream Blk Time (%)	3	3
Queuing Penalty (veh)	18	18
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		



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Intersection: 11: Street A & Street D

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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)

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Intersection: 12: Hurontario Street & Street A

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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)

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Network Summary

Network wide Queuing Penalty: 2203

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	95.4	97.5	111.5	175.7	56.7
Average Queue (m)	50.3	46.1	52.2	89.6	26.4
95th Queue (m)	80.2	80.0	89.6	153.4	46.7
Link Distance (m)	584.0	476.1	476.1	284.6	334.3
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	599.5	605.2	52.3	102.0	65.5	491.8	525.0	43.6
Average Queue (m)	189.7	188.6	40.6	32.3	26.0	111.4	194.6	17.2
95th Queue (m)	523.1	525.3	59.5	79.5	45.0	402.3	533.0	36.3
Link Distance (m)	878.6	878.6		333.4	333.4	570.5	570.5	250.9
Upstream Blk Time (%)						4	10	
Queuing Penalty (veh)						13	34	
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			6	1				
Queuing Penalty (veh)			22	3				

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.4	998.2	992.0	67.2	124.3	79.6	37.3	847.3	849.5	851.3	62.5	37.2
Average Queue (m)	42.4	905.1	785.3	54.2	50.9	38.9	29.8	833.5	838.2	837.7	56.8	12.1
95th Queue (m)	42.6	1186.3	1289.1	76.3	103.6	67.9	44.8	874.4	861.4	846.3	82.5	31.7
Link Distance (m)		987.6	987.6		894.6	894.6		833.8	833.8	833.8		
Upstream Blk Time (%)		58	21					8	13	16		
Queuing Penalty (veh)		320	113					112	174	215		
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	85	43		12	0		9	43		42	1	0
Queuing Penalty (veh)	112	300		19	1		102	88		195	16	0

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	444.4	435.5	447.6	62.5
Average Queue (m)	313.5	312.2	317.8	60.9
95th Queue (m)	508.9	511.2	519.6	72.2
Link Distance (m)	472.2	472.2	472.2	
Upstream Blk Time (%)	6	3	12	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	52		40	10
Queuing Penalty (veh)	20		235	64

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	83.2	80.5	73.6	50.2	60.2	60.3	65.3	147.4	88.7
Average Queue (m)	58.6	54.3	42.2	24.8	18.3	27.3	33.9	85.5	41.2
95th Queue (m)	79.6	77.0	68.1	43.8	42.3	53.8	61.3	132.6	69.1
Link Distance (m)	568.7	568.7	568.7		1398.7	1398.7	1398.7	527.8	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				0	0				
Queuing Penalty (veh)				1	0				

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.3	91.9	87.5	91.6	32.3	71.9	73.8	93.8	52.4	90.5	87.8	52.1
Average Queue (m)	14.6	50.0	48.4	50.0	17.6	36.1	44.0	55.0	29.9	53.3	51.8	34.5
95th Queue (m)	33.8	87.3	86.3	86.5	33.6	63.0	68.7	83.4	55.7	81.4	81.1	53.6
Link Distance (m)		1398.7	1398.7	1398.7		1244.9	1244.9	1244.9		494.2	494.2	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	0	21			1	9			0	10		3
Queuing Penalty (veh)	2	11			5	12			1	14		4

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	72.0	51.0
Average Queue (m)	20.0	23.4
95th Queue (m)	50.0	40.9
Link Distance (m)	2472.2	2472.2
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	B36	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	L	T	T
Maximum Queue (m)	107.5	147.7	74.6	85.5	37.5	843.7	824.7	735.4	45.1	47.4	751.0	752.0
Average Queue (m)	107.4	139.3	47.0	50.4	13.7	530.7	419.1	303.6	33.8	44.7	631.8	623.9
95th Queue (m)	107.5	144.3	67.5	73.1	27.9	877.5	916.5	790.5	54.7	56.0	883.9	883.0
Link Distance (m)		123.1	123.1	123.1		1244.9	1244.9	1244.9			736.2	736.2
Upstream Blk Time (%)		76									47	35
Queuing Penalty (veh)		361									0	0
Storage Bay Dist (m)	105.0				105.0				45.0	45.0		
Storage Blk Time (%)	73	15							3	14	74	
Queuing Penalty (veh)	177	110							9	43	247	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	751.5	57.5	47.5	537.7	538.7	57.5	123.6	599.3	605.3	82.5
Average Queue (m)	607.4	48.9	47.4	521.8	522.4	49.2	72.8	574.2	582.1	82.5
95th Queue (m)	879.6	76.0	47.4	573.8	577.4	74.2	142.9	668.6	664.0	82.5
Link Distance (m)	736.2			522.0	522.0			587.4	587.4	
Upstream Blk Time (%)	37			76	80			17	69	
Queuing Penalty (veh)	0			0	0			0	0	
Storage Bay Dist (m)		55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	80	3	88	71	51	3	9	3	27	66
Queuing Penalty (veh)	151	9	368	167	163	13	42	8	277	315

Intersection: 7: Chinguacousy Road & Street C

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: 8: Street B & Old School Road

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: 9: McLaughlin Road & Street A

Movement	NB	NB
Directions Served	LT	TR
Maximum Queue (m)	97.7	91.9
Average Queue (m)	9.7	10.4
95th Queue (m)	69.2	71.2
Link Distance (m)	2472.2	2472.2
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Street D & Old School Road

Movement	EB	EB
Directions Served	T	TR
Maximum Queue (m)	341.1	346.5
Average Queue (m)	207.7	206.7
95th Queue (m)	457.0	461.0
Link Distance (m)	333.4	333.4
Upstream Blk Time (%)	22	29
Queuing Penalty (veh)	121	158
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 11: Street A & Street D

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: 12: Hurontario Street & Street A

Movement	NB	NB	NB	SB	SB
Directions Served	T	T	T	T	T
Maximum Queue (m)	941.9	943.4	941.9	165.4	165.6
Average Queue (m)	841.0	842.1	843.1	11.0	5.5
95th Queue (m)	1198.9	1196.0	1193.6	166.5	116.7
Link Distance (m)	925.5	925.5	925.5	833.8	833.8
Upstream Blk Time (%)	62	72	74		
Queuing Penalty (veh)	0	0	0		
Storage Bay Dist (m)					
Storage Blk Time (%)	67				
Queuing Penalty (veh)	0				

Network Summary

Network wide Queuing Penalty: 4948

Queuing and Blocking Report  
 AM Peak Hour

02/29/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	37.1	47.0	39.6	100.6	49.8
Average Queue (m)	20.0	22.5	18.7	46.9	19.0
95th Queue (m)	34.4	39.4	34.1	85.3	37.7
Link Distance (m)	584.0	476.1	476.1	284.6	517.6
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	264.4	264.4	52.3	100.3	47.7	181.5	339.1	123.8
Average Queue (m)	66.4	66.1	37.7	22.7	19.3	28.5	85.5	38.9
95th Queue (m)	183.6	186.0	56.4	70.6	36.2	105.6	252.3	83.2
Link Distance (m)	878.6	878.6		333.4	333.4	570.5	570.5	466.1
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			9	1				
Queuing Penalty (veh)			18	4				



Queuing and Blocking Report  
AM Peak Hour

02/29/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.5	989.8	989.9	67.5	297.6	285.0	37.4	528.2	534.9	546.4	62.5	37.2
Average Queue (m)	42.4	845.5	761.4	66.5	200.7	167.0	36.9	406.6	410.5	409.8	36.0	12.4
95th Queue (m)	42.4	1175.8	1216.6	74.4	346.5	326.6	39.8	639.6	649.1	653.3	81.0	30.9
Link Distance (m)		983.8	983.8		576.0	576.0		833.7	833.7	833.7		
Upstream Blk Time (%)		38	13									
Queuing Penalty (veh)		220	76									
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	73	49		66	30		88	18		40	1	1
Queuing Penalty (veh)	100	281		75	119		576	14		75	4	6

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	494.1	494.0	493.3	62.5
Average Queue (m)	462.1	459.3	455.4	49.5
95th Queue (m)	562.2	562.0	565.0	85.3
Link Distance (m)	476.2	476.2	476.2	
Upstream Blk Time (%)	44	39	53	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	47		44	1
Queuing Penalty (veh)	17		138	11

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	109.0	105.2	90.0	52.4	127.4	72.7	76.9	159.4	155.5
Average Queue (m)	69.4	63.9	48.9	45.3	50.3	30.6	37.1	71.2	79.0
95th Queue (m)	99.6	94.1	82.6	62.3	120.3	61.8	66.6	128.3	135.2
Link Distance (m)	548.8	548.8	548.8		1398.5	1398.5	1398.5	445.8	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				25	8				
Queuing Penalty (veh)				61	25				

Queuing and Blocking Report  
AM Peak Hour

02/29/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.3	121.5	374.9	121.4	32.4	102.4	87.7	106.7	52.0	70.6	61.1	52.4
Average Queue (m)	16.4	69.9	81.6	77.2	26.0	44.6	44.2	50.2	19.9	46.1	40.6	43.5
95th Queue (m)	35.3	105.6	262.7	110.0	39.1	84.9	79.3	87.8	42.8	66.0	61.3	62.9
Link Distance (m)		1398.5	1398.5	1398.5		1244.9	1244.9	1244.9		325.2	325.2	
Upstream Blk Time (%)			0									
Queuing Penalty (veh)			0									
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	1	37			12	12			0	4		11
Queuing Penalty (veh)	2	24			37	19			0	2		34

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	118.6	109.0
Average Queue (m)	58.2	56.9
95th Queue (m)	103.2	92.9
Link Distance (m)	2472.2	2472.2
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	5	
Queuing Penalty (veh)	18	

Queuing and Blocking Report  
AM Peak Hour

02/29/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	B36	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	L	T	T
Maximum Queue (m)	107.4	131.0	136.2	137.6	107.5	18.2	11.4	12.0	46.0	47.5	168.3	161.6
Average Queue (m)	73.8	90.9	91.8	96.1	41.3	1.6	0.4	0.6	40.6	46.1	119.1	109.7
95th Queue (m)	118.8	131.3	121.7	128.4	100.0	11.4	6.4	6.1	52.0	53.3	186.7	177.2
Link Distance (m)		123.2	123.2	123.2		1244.9	1244.9	1244.9			736.2	736.2
Upstream Blk Time (%)		4	1	2								
Queuing Penalty (veh)		23	4	10								
Storage Bay Dist (m)	105.0				105.0				45.0	45.0		
Storage Blk Time (%)	7	2		5	0				10	42	43	
Queuing Penalty (veh)	25	6		7	1				24	99	108	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	141.6	57.5	47.5	334.6	320.9	57.5	142.5	564.2	553.6	82.5
Average Queue (m)	80.5	41.5	45.5	202.3	192.0	42.4	137.5	356.0	351.9	51.6
95th Queue (m)	133.1	72.8	54.2	374.5	359.7	72.1	164.8	680.0	675.9	100.7
Link Distance (m)	736.2			545.8	545.8			791.0	791.0	
Upstream Blk Time (%)								6	6	
Queuing Penalty (veh)								0	0	
Storage Bay Dist (m)		55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	21	1	86	60	19	2	69	34	10	1
Queuing Penalty (veh)	39	2	218	61	48	4	407	135	40	5

Intersection: 7: Chinguacousy Road & Street C

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	27.1	31.5
Average Queue (m)	12.7	4.3
95th Queue (m)	21.2	17.6
Link Distance (m)	199.4	284.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report  
AM Peak Hour

02/29/2024

Intersection: 8: Street B & Old School Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	23.4	21.5
Average Queue (m)	5.1	11.6
95th Queue (m)	15.4	18.4
Link Distance (m)	878.6	112.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: McLaughlin Road & Street A

Movement	WB	NB	NB	SB	SB
Directions Served	LTR	LT	TR	LT	TR
Maximum Queue (m)	62.8	38.9	55.2	25.9	28.7
Average Queue (m)	32.0	12.8	23.2	12.3	13.4
95th Queue (m)	52.7	28.4	44.0	24.2	24.5
Link Distance (m)	386.9	2472.2	2472.2	570.5	570.5
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 10: Street D & Old School Road

Movement	EB	EB	WB	WB	NB
Directions Served	T	TR	LT	T	L
Maximum Queue (m)	340.6	344.0	19.9	5.8	26.7
Average Queue (m)	130.9	129.2	2.3	0.2	10.6
95th Queue (m)	377.9	378.7	12.1	2.9	21.3
Link Distance (m)	333.4	333.4	983.8	983.8	641.5
Upstream Blk Time (%)	10	11			
Queuing Penalty (veh)	62	72			
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 11: Street A & Street D

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (m)	14.6	26.1
Average Queue (m)	1.7	14.6
95th Queue (m)	8.1	23.1
Link Distance (m)	386.9	641.5
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: Hurontario Street & Street A

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	T	TR
Maximum Queue (m)	32.3	512.6	45.5	40.3	52.5	47.7	288.5	437.3	426.6
Average Queue (m)	18.2	462.9	23.4	11.4	16.9	15.3	90.7	107.3	103.3
95th Queue (m)	40.0	575.2	40.2	29.8	41.1	39.1	202.2	285.8	252.2
Link Distance (m)		930.6		921.8	921.8	921.8	833.7	833.7	833.7
Upstream Blk Time (%)							0	0	0
Queuing Penalty (veh)							0	0	0
Storage Bay Dist (m)	30.0		50.0						
Storage Blk Time (%)	1	78	0	0					
Queuing Penalty (veh)	6	42	0	0					

Network Summary

Network wide Queuing Penalty: 3405
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Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	124.6	129.7	110.7	238.1	94.8
Average Queue (m)	70.1	67.7	52.6	142.0	43.2
95th Queue (m)	115.7	117.5	94.7	238.1	77.5
Link Distance (m)	584.0	476.1	476.1	284.6	517.6
Upstream Blk Time (%)				1	
Queuing Penalty (veh)				6	
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	761.7	773.0	52.4	111.5	81.5	537.9	580.4	95.8
Average Queue (m)	240.9	242.0	43.7	45.0	33.0	158.4	234.1	31.2
95th Queue (m)	637.4	642.2	61.1	96.4	59.9	478.3	607.2	72.8
Link Distance (m)	878.6	878.6		333.4	333.4	570.5	570.5	466.1
Upstream Blk Time (%)						4	13	
Queuing Penalty (veh)						15	50	
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			10	1				
Queuing Penalty (veh)			41	5				

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.4	990.7	990.4	67.4	158.2	139.5	37.4	842.1	847.7	850.2	62.5	37.3
Average Queue (m)	42.4	892.0	789.8	58.1	71.5	58.3	34.9	825.3	829.8	830.5	57.1	11.0
95th Queue (m)	42.6	1185.8	1305.9	76.9	148.7	125.5	42.7	885.0	887.8	882.5	81.6	29.6
Link Distance (m)		983.8	983.8		576.0	576.0		833.7	833.7	833.7		
Upstream Blk Time (%)		56	23					4	8	10		
Queuing Penalty (veh)		322	132					61	105	139		
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	85	43		21	6		31	37		42	1	0
Queuing Penalty (veh)	117	302		35	18		357	106		194	16	0

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	492.0	491.6	494.1	62.5
Average Queue (m)	450.5	450.4	451.1	61.4
95th Queue (m)	564.2	567.4	575.7	70.9
Link Distance (m)	476.2	476.2	476.2	
Upstream Blk Time (%)	21	21	53	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	54		43	9
Queuing Penalty (veh)	21		263	63

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	103.8	98.0	80.7	51.8	65.1	60.4	65.4	459.2	163.4
Average Queue (m)	68.9	63.0	50.6	34.6	18.8	24.6	33.2	360.6	57.5
95th Queue (m)	94.4	88.7	78.7	55.7	47.5	49.8	58.8	555.4	122.9
Link Distance (m)	548.8	548.8	548.8		1398.5	1398.5	1398.5	445.8	2762.0
Upstream Blk Time (%)								43	
Queuing Penalty (veh)								0	
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				3	1				
Queuing Penalty (veh)				8	2				

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.4	121.0	112.3	104.5	32.3	82.3	98.1	102.0	52.4	126.8	123.3	52.3
Average Queue (m)	27.6	74.9	65.1	63.5	20.9	47.0	57.8	66.7	34.2	75.9	70.9	34.1
95th Queue (m)	39.3	123.8	106.5	100.9	37.1	76.1	88.1	96.7	63.1	117.5	112.2	54.2
Link Distance (m)		1398.5	1398.5	1398.5		1244.9	1244.9	1244.9		325.2	325.2	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	14	27			2	17			1	27		3
Queuing Penalty (veh)	50	49			8	24			3	40		5

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	75.9	76.6
Average Queue (m)	33.2	41.1
95th Queue (m)	64.4	66.8
Link Distance (m)	2472.2	2472.2
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	1	
Queuing Penalty (veh)	3	



Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	B36	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	L	T	T
Maximum Queue (m)	107.5	149.5	73.7	73.0	36.4	897.0	871.4	839.4	45.4	47.5	750.9	746.8
Average Queue (m)	107.4	140.0	47.0	49.0	15.1	544.4	441.6	344.5	32.9	44.9	626.6	617.7
95th Queue (m)	107.7	145.3	68.1	70.0	29.3	1040.5	1062.2	925.7	53.7	56.8	891.8	889.0
Link Distance (m)		123.2	123.2	123.2		1244.9	1244.9	1244.9			736.2	736.2
Upstream Blk Time (%)		75									47	31
Queuing Penalty (veh)		360									0	0
Storage Bay Dist (m)	105.0				105.0				45.0	45.0		
Storage Blk Time (%)	72	17							2	12	76	
Queuing Penalty (veh)	175	123							7	37	255	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	748.6	57.5	47.5	560.8	561.6	57.5	142.4	808.2	810.2	82.5
Average Queue (m)	602.4	49.7	46.3	550.6	552.2	48.5	75.0	790.1	793.5	82.5
95th Queue (m)	884.7	76.1	53.8	563.7	565.0	76.6	151.7	860.4	854.5	82.5
Link Distance (m)	736.2			545.8	545.8			791.0	791.0	
Upstream Blk Time (%)	31			79	84			31	77	
Queuing Penalty (veh)	0			0	0			0	0	
Storage Bay Dist (m)		55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	81	2	66	69	58	2	5	4	29	67
Queuing Penalty (veh)	152	6	329	172	186	9	24	10	301	357

Intersection: 7: Chinguacousy Road & Street C

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (m)	28.3	16.2	81.2
Average Queue (m)	10.1	1.1	14.7
95th Queue (m)	21.3	11.3	60.1
Link Distance (m)	199.4	2762.0	284.6
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 8: Street B & Old School Road

Movement	WB	WB	NB
Directions Served	LT	T	LR
Maximum Queue (m)	27.6	10.2	19.9
Average Queue (m)	9.1	0.4	8.7
95th Queue (m)	21.5	5.3	16.0
Link Distance (m)	878.6	878.6	112.6
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: McLaughlin Road & Street A

Movement	WB	NB	NB	SB	SB
Directions Served	LTR	LT	TR	LT	TR
Maximum Queue (m)	47.4	220.6	244.3	42.6	43.0
Average Queue (m)	21.8	34.2	47.7	13.1	13.0
95th Queue (m)	39.0	146.6	165.8	31.0	30.5
Link Distance (m)	386.9	2472.2	2472.2	570.5	570.5
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 10: Street D & Old School Road

Movement	EB	EB	WB	WB	NB	NB
Directions Served	T	TR	LT	T	L	R
Maximum Queue (m)	341.2	348.3	39.8	4.4	21.5	4.9
Average Queue (m)	202.2	201.7	3.6	0.3	8.9	0.4
95th Queue (m)	457.0	460.9	19.8	4.4	17.8	3.3
Link Distance (m)	333.4	333.4	983.8	983.8	641.5	641.5
Upstream Blk Time (%)	19	27				
Queuing Penalty (veh)	122	175				
Storage Bay Dist (m)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 11: Street A & Street D

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (m)	23.3	18.8
Average Queue (m)	5.5	10.5
95th Queue (m)	16.5	16.8
Link Distance (m)	386.9	641.5
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: Hurontario Street & Street A

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	T	TR
Maximum Queue (m)	32.3	82.0	52.4	938.9	937.6	939.8	123.0	124.3	127.1
Average Queue (m)	13.1	36.6	51.6	886.4	888.0	883.4	56.8	62.8	64.2
95th Queue (m)	30.4	66.3	57.5	1110.0	1098.1	1111.1	107.8	114.0	118.0
Link Distance (m)		930.6		921.8	921.8	921.8	833.7	833.7	833.7
Upstream Blk Time (%)				66	51	43			
Queuing Penalty (veh)				0	0	0			
Storage Bay Dist (m)	30.0		50.0						
Storage Blk Time (%)	0	14	20	28					
Queuing Penalty (veh)	1	6	278	142					

Network Summary

Network wide Queuing Penalty: 5786
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# **SimTraffic Outputs - With GTA West**

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	22.2	20.3	21.9	40.3	24.7
Average Queue (m)	12.4	9.3	12.3	19.3	12.0
95th Queue (m)	19.0	15.8	19.2	34.3	19.8
Link Distance (m)	584.0		476.3	286.7	334.4
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	57.8	30.8	41.2	18.0	50.5	20.9
Average Queue (m)	26.4	13.6	16.1	7.9	17.9	10.9
95th Queue (m)	46.3	23.4	27.5	14.4	36.8	18.0
Link Distance (m)	879.2		333.1	574.2	574.2	254.7
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)		30.0				
Storage Blk Time (%)		0	0			
Queuing Penalty (veh)		0	1			

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T
Maximum Queue (m)	42.5	451.7	66.4	78.6	37.4	115.5	107.0	103.3	62.4	37.3	139.4	134.5
Average Queue (m)	41.2	254.0	37.4	35.0	20.4	68.2	64.0	58.7	16.1	18.3	100.7	92.9
95th Queue (m)	48.5	481.6	63.3	65.5	41.5	102.4	94.2	90.1	52.4	37.6	135.3	129.3
Link Distance (m)		987.0		555.2		837.5	837.5	837.5			473.2	473.2
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	40.0		65.0		35.0				60.0	35.0		
Storage Blk Time (%)	46	33	1	1	9	20		5	0	4	33	
Queuing Penalty (veh)	161	109	3	1	43	11		6	1	27	18	

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (m)	123.9	62.5
Average Queue (m)	78.7	23.4
95th Queue (m)	117.6	65.7
Link Distance (m)	473.2	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		60.0
Storage Blk Time (%)	9	0
Queuing Penalty (veh)	16	2

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	LT	T	TR	LTR	LTR
Maximum Queue (m)	57.0	51.7	28.4	70.8	58.5	64.4	120.6	136.7
Average Queue (m)	28.2	19.7	5.9	30.2	29.0	33.9	59.5	62.6
95th Queue (m)	48.0	40.8	17.5	57.6	53.6	59.2	104.1	114.9
Link Distance (m)	480.6	480.6	480.6	1402.4	1402.4	1402.4	389.9	2762.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	LT	R	L	TR
Maximum Queue (m)	28.6	51.4	56.6	61.1	32.3	60.2	62.6	78.2	184.8	32.5	111.9	106.4
Average Queue (m)	3.4	31.1	34.5	35.7	17.4	17.5	22.3	28.1	91.7	19.2	59.0	65.1
95th Queue (m)	14.7	48.9	53.0	55.9	34.3	48.1	50.0	60.1	206.4	42.3	101.9	98.6
Link Distance (m)		1402.4	1402.4	1402.4		1245.0	1245.0	1245.0	325.8		2472.6	2472.6
Upstream Blk Time (%)									1			
Queuing Penalty (veh)									0			
Storage Bay Dist (m)	30.0				30.0					30.0		
Storage Blk Time (%)	0	7			4	3			44	1		
Queuing Penalty (veh)	0	1			8	4			38	2		

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	L	T	T	T	R	L
Maximum Queue (m)	72.1	82.1	94.8	86.0	35.7	45.6	47.4	102.3	89.0	61.1	30.6	43.8
Average Queue (m)	37.2	41.6	49.1	51.2	10.9	27.1	39.5	52.3	46.8	32.1	12.9	19.8
95th Queue (m)	63.2	71.3	80.4	80.3	25.0	49.7	54.6	83.6	71.3	58.4	24.2	38.0
Link Distance (m)		123.2	123.2	123.2				736.2	736.2	736.2		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	105.0				105.0	45.0	45.0				55.0	45.0
Storage Blk Time (%)						0	5	10		0		0
Queuing Penalty (veh)						1	8	18		0		0

Intersection: 6: Hurontario Street & Mayfield Road

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	T	R	L	T	T	R
Maximum Queue (m)	59.8	50.8	45.0	108.3	110.6	100.2	74.5
Average Queue (m)	31.2	20.5	14.9	53.8	60.4	56.1	19.1
95th Queue (m)	51.9	43.7	32.7	92.9	93.7	84.0	46.3
Link Distance (m)	359.2	359.2			587.4	587.4	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)			55.0	140.0			80.0
Storage Blk Time (%)	2	0	0	0	0	1	0
Queuing Penalty (veh)	2	0	0	1	0	2	0

Zone Summary

Zone wide Queuing Penalty: 485

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	24.8	24.4	28.2	69.7	20.9
Average Queue (m)	12.9	11.5	16.3	29.6	11.4
95th Queue (m)	20.6	18.8	24.5	55.0	18.1
Link Distance (m)	584.0		476.3	286.7	334.4
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0			
Storage Blk Time (%)			0		
Queuing Penalty (veh)			0		

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	94.3	32.3	62.5	32.1	69.2	19.2
Average Queue (m)	36.4	22.7	27.1	14.3	22.2	8.4
95th Queue (m)	71.7	35.4	48.1	25.9	57.0	15.3
Link Distance (m)	879.2		333.1	574.2	574.2	254.7
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)		30.0				
Storage Blk Time (%)		2	4			
Queuing Penalty (veh)		8	11			



Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T
Maximum Queue (m)	42.5	957.9	67.5	566.8	37.3	377.7	395.1	395.9	62.5	37.4	489.2	487.8
Average Queue (m)	42.2	686.3	62.7	482.5	30.1	236.2	243.9	247.3	47.9	36.8	416.3	404.3
95th Queue (m)	44.0	1082.0	82.3	698.0	45.4	435.9	445.1	451.5	86.7	38.5	566.9	573.3
Link Distance (m)		987.0		555.2		837.5	837.5	837.5			473.2	473.2
Upstream Blk Time (%)		8		56							45	22
Queuing Penalty (veh)		52		0							0	0
Storage Bay Dist (m)	40.0		65.0		35.0				60.0	35.0		
Storage Blk Time (%)	65	23	4	75	12	38		38	1	100	5	
Queuing Penalty (veh)	176	91	14	165	94	67		99	9	478	5	

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (m)	485.0	62.5
Average Queue (m)	372.3	50.5
95th Queue (m)	574.0	87.1
Link Distance (m)	473.2	
Upstream Blk Time (%)	21	
Queuing Penalty (veh)	0	
Storage Bay Dist (m)		60.0
Storage Blk Time (%)	45	1
Queuing Penalty (veh)	152	6

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	LT	T	TR	LTR	LTR
Maximum Queue (m)	62.8	60.4	48.7	72.1	81.7	87.5	81.0	54.1
Average Queue (m)	42.4	34.3	15.0	47.3	50.7	56.0	46.4	24.3
95th Queue (m)	60.2	58.0	37.2	66.1	72.0	77.7	75.0	43.9
Link Distance (m)	480.6	480.6	480.6	1402.4	1402.4	1402.4	389.9	2762.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	LT	R	L	TR
Maximum Queue (m)	32.2	73.4	73.4	73.9	32.3	80.3	92.8	93.4	135.8	32.5	47.9	54.7
Average Queue (m)	10.2	42.9	42.6	43.6	18.4	36.5	46.1	55.6	79.4	17.2	22.5	23.2
95th Queue (m)	28.1	65.8	64.8	65.6	34.7	70.0	77.5	86.3	124.4	38.9	41.5	45.3
Link Distance (m)		1402.4	1402.4	1402.4		1245.0	1245.0	1245.0	325.8		2472.6	2472.6
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0					30.0		
Storage Blk Time (%)	0	13			5	9			35	1		
Queuing Penalty (veh)	0	5			13	9			36	2		

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	WB	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	L	L	T	T	T	R
Maximum Queue (m)	107.3	137.7	59.8	58.9	29.5	16.7	44.5	47.4	208.6	197.7	172.4	57.5
Average Queue (m)	81.6	47.7	35.5	36.5	10.7	1.6	33.9	45.4	127.4	116.9	102.7	34.3
95th Queue (m)	118.1	118.4	57.2	57.6	22.8	10.9	53.2	53.5	218.5	207.8	192.6	69.0
Link Distance (m)		123.2	123.2	123.2		1245.0			736.2	736.2	736.2	
Upstream Blk Time (%)		4										
Queuing Penalty (veh)		13										
Storage Bay Dist (m)	105.0				105.0		45.0	45.0				55.0
Storage Blk Time (%)	7	1					1	11	56		40	1
Queuing Penalty (veh)	13	3					3	25	139		49	2

Intersection: 6: Hurontario Street & Mayfield Road

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R
Maximum Queue (m)	47.4	251.1	238.5	57.5	107.6	125.3	156.7	82.4
Average Queue (m)	45.6	141.0	130.3	35.5	57.5	60.5	66.9	58.8
95th Queue (m)	54.2	259.0	244.1	72.7	113.7	116.1	128.9	92.3
Link Distance (m)		359.2	359.2			587.4	587.4	
Upstream Blk Time (%)		0						
Queuing Penalty (veh)		0						
Storage Bay Dist (m)	45.0			55.0	140.0			80.0
Storage Blk Time (%)	72	48	19	1	4	0	1	4
Queuing Penalty (veh)	218	74	45	3	14	1	7	15

Zone Summary

Zone wide Queuing Penalty: 2116

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	23.5	18.0	22.0	42.6	23.9
Average Queue (m)	12.8	9.3	12.9	19.9	11.9
95th Queue (m)	20.0	15.0	19.9	34.9	20.0
Link Distance (m)	584.0		476.3	286.7	334.4
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	66.9	31.4	36.3	20.7	47.0	20.6
Average Queue (m)	29.6	14.3	16.6	8.9	16.9	10.9
95th Queue (m)	52.9	23.8	27.9	16.3	33.6	17.7
Link Distance (m)	879.2		333.1	574.2	574.2	254.7
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)		30.0				
Storage Blk Time (%)		0	0			
Queuing Penalty (veh)		0	0			

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T
Maximum Queue (m)	42.5	645.6	67.4	129.5	37.3	106.0	101.9	87.5	47.0	37.2	134.6	142.9
Average Queue (m)	41.8	370.5	42.8	47.0	22.0	62.9	57.4	50.7	10.1	15.8	91.3	90.2
95th Queue (m)	45.3	784.7	72.2	101.9	44.3	95.7	88.8	77.6	32.8	36.2	122.9	125.9
Link Distance (m)		986.9		534.8		837.5	837.5	837.5			749.7	749.7
Upstream Blk Time (%)		0										
Queuing Penalty (veh)		1										
Storage Bay Dist (m)	40.0		65.0		35.0				60.0	35.0		
Storage Blk Time (%)	47	33	8	2	18	18		3	0	1	32	
Queuing Penalty (veh)	164	110	19	3	82	10		4	0	6	18	

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (m)	128.4	62.5
Average Queue (m)	83.3	32.0
95th Queue (m)	117.8	76.0
Link Distance (m)	749.7	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		60.0
Storage Blk Time (%)	14	1
Queuing Penalty (veh)	25	4

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	LT	T	TR	LTR	LTR
Maximum Queue (m)	41.7	47.0	39.4	65.5	69.0	70.9	129.1	114.4
Average Queue (m)	21.2	22.0	10.6	33.3	30.1	34.9	66.7	60.4
95th Queue (m)	37.1	38.3	26.1	59.7	57.4	60.4	112.1	98.4
Link Distance (m)	911.6	911.6	911.6	1402.4	1402.4	1402.4	543.4	2762.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	LT	R	L	TR
Maximum Queue (m)	32.2	58.5	63.6	69.4	32.3	63.6	64.9	77.9	161.9	32.5	109.6	117.1
Average Queue (m)	5.5	33.0	37.7	39.9	15.8	18.8	22.6	29.4	82.7	21.2	55.1	69.3
95th Queue (m)	19.3	51.7	57.7	62.9	32.4	50.1	52.2	61.2	158.5	43.4	101.0	103.3
Link Distance (m)		1402.4	1402.4	1402.4		1245.0	1245.0	1245.0	325.8		2472.6	2472.6
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0					30.0		
Storage Blk Time (%)	0	8			4	3			49	1		
Queuing Penalty (veh)	0	2			10	3			42	2		

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	L	T	T	T	R	L
Maximum Queue (m)	80.1	74.5	89.6	92.7	49.0	45.1	47.4	80.9	70.2	69.3	56.7	41.7
Average Queue (m)	36.1	44.3	51.0	53.4	12.2	28.2	37.2	46.9	45.1	35.7	17.2	19.4
95th Queue (m)	63.4	73.2	80.9	84.6	30.6	49.3	54.6	73.6	65.1	60.0	37.4	37.3
Link Distance (m)		123.1	123.1	123.1				1026.4	1026.4	1026.4		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	105.0				105.0	45.0	45.0				55.0	45.0
Storage Blk Time (%)				0	0	1	4	8		1	0	2
Queuing Penalty (veh)				0	0	1	7	14		1	0	4

Intersection: 6: Hurontario Street & Mayfield Road

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	T	R	L	T	T	R
Maximum Queue (m)	56.4	56.7	50.7	107.8	97.2	105.9	82.4
Average Queue (m)	26.0	25.9	18.3	53.6	61.8	60.4	22.7
95th Queue (m)	45.9	46.5	39.6	89.0	88.7	89.7	59.0
Link Distance (m)	848.0	848.0			587.4	587.4	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)			55.0	140.0		80.0	
Storage Blk Time (%)	1	0	0			1	0
Queuing Penalty (veh)	1	0	0			3	1

Intersection: 7: Chinguacousy Road & Street C

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: 8: Street B & Old School Road

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: 9: McLaughlin Road & Street A

Movement	WB	SB
Directions Served	LTR	LT
Maximum Queue (m)	29.1	7.4
Average Queue (m)	12.9	0.6
95th Queue (m)	22.7	3.9
Link Distance (m)	574.2	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

# Queuing and Blocking Report

## AM Peak Hour

02/19/2024

### Intersection: 10: Street D & Old School Road

Movement	EB
Directions Served	TR
Maximum Queue (m)	5.6
Average Queue (m)	0.4
95th Queue (m)	5.5
Link Distance (m)	333.1
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

### Intersection: 11: Street A & Street D

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: 12: Hurontario Street & Street A

Movement	NB	NB	NB	SB	SB	SB
Directions Served	T	T	T	T	T	TR
Maximum Queue (m)	44.9	49.4	45.7	554.7	676.7	569.4
Average Queue (m)	25.2	29.3	26.9	348.7	364.1	359.7
95th Queue (m)	36.1	41.7	41.0	615.7	645.0	628.9
Link Distance (m)	925.5	925.5	925.5	837.5	837.5	837.5
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (m)						
Storage Blk Time (%)	0					
Queuing Penalty (veh)	0					

### Network Summary

Network wide Queuing Penalty: 537

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	22.5	24.0	23.8	56.5	21.6
Average Queue (m)	13.4	12.2	16.0	28.1	10.9
95th Queue (m)	20.8	20.2	22.6	47.4	17.6
Link Distance (m)	584.0		476.3	286.7	334.4
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0			
Storage Blk Time (%)		0	0		
Queuing Penalty (veh)		0	0		

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	83.0	32.3	64.0	25.0	52.4	19.7
Average Queue (m)	35.8	22.7	26.9	12.7	20.1	8.7
95th Queue (m)	66.9	35.5	47.2	21.6	40.6	15.4
Link Distance (m)	879.2		333.1	574.2	574.2	254.7
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)		30.0				
Storage Blk Time (%)		1	3			
Queuing Penalty (veh)		4	10			



Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T
Maximum Queue (m)	42.5	990.7	67.5	407.0	37.3	98.4	101.3	98.2	62.5	37.4	741.0	718.0
Average Queue (m)	42.3	707.5	60.2	258.8	29.1	65.7	70.9	70.3	35.6	36.9	485.1	477.1
95th Queue (m)	42.8	1143.8	85.5	536.5	44.2	92.6	95.2	98.1	78.1	38.4	802.3	787.3
Link Distance (m)		986.9		534.8		837.5	837.5	837.5			749.7	749.7
Upstream Blk Time (%)		11		15							5	4
Queuing Penalty (veh)		75		0							0	0
Storage Bay Dist (m)	40.0		65.0		35.0				60.0	35.0		
Storage Blk Time (%)	65	27	6	57	7	21		9	1	98	11	
Queuing Penalty (veh)	177	107	21	125	54	36		24	5	468	13	

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (m)	701.3	62.5
Average Queue (m)	458.4	49.7
95th Queue (m)	761.8	87.5
Link Distance (m)	749.7	
Upstream Blk Time (%)	4	
Queuing Penalty (veh)	0	
Storage Bay Dist (m)		60.0
Storage Blk Time (%)	48	2
Queuing Penalty (veh)	165	8

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	LT	T	TR	LTR	LTR
Maximum Queue (m)	55.7	55.7	51.2	72.9	76.4	84.4	99.8	44.1
Average Queue (m)	33.0	32.1	20.0	48.0	49.3	56.0	55.6	22.1
95th Queue (m)	48.2	49.4	41.3	67.6	69.6	77.1	87.7	39.0
Link Distance (m)	911.6	911.6	911.6	1402.4	1402.4	1402.4	543.4	2762.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	T	TR	L	T	T	TR	LT	R	L	TR
Maximum Queue (m)	32.3	81.6	72.5	68.6	32.4	73.8	83.3	93.5	117.3	32.5	49.5	59.4
Average Queue (m)	16.2	48.7	44.6	45.6	18.3	37.7	48.3	55.9	77.5	17.7	20.5	25.3
95th Queue (m)	37.4	73.3	66.2	65.9	35.3	65.5	75.7	82.1	112.8	40.7	39.2	49.6
Link Distance (m)		1402.4	1402.4	1402.4		1245.0	1245.0	1245.0	325.8		2472.6	2472.6
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0					30.0		
Storage Blk Time (%)	2	15			3	11			34	1		
Queuing Penalty (veh)	5	8			9	11			36	3		

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	WB	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	L	L	T	T	T	R
Maximum Queue (m)	107.3	134.3	74.3	67.1	27.0	23.2	44.8	47.4	136.1	119.5	115.7	57.5
Average Queue (m)	80.2	46.3	35.8	36.8	10.6	1.6	33.4	43.3	81.6	75.4	71.0	31.4
95th Queue (m)	117.8	113.5	59.6	60.1	22.1	16.7	52.7	56.1	135.4	124.6	120.0	65.7
Link Distance (m)		123.1	123.1	123.1		1245.0			1026.4	1026.4	1026.4	
Upstream Blk Time (%)	3											
Queuing Penalty (veh)	12											
Storage Bay Dist (m)	105.0				105.0		45.0	45.0				55.0
Storage Blk Time (%)	7	1					1	6	33		23	1
Queuing Penalty (veh)	13	3					2	14	83		28	1

Intersection: 6: Hurontario Street & Mayfield Road

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R
Maximum Queue (m)	47.5	296.2	294.3	57.5	90.8	125.4	156.4	82.5
Average Queue (m)	46.6	190.3	185.1	41.5	49.6	57.0	66.6	61.8
95th Queue (m)	52.3	340.2	332.8	75.0	97.0	97.6	124.8	93.0
Link Distance (m)		848.0	848.0			587.4	587.4	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	45.0			55.0	140.0			80.0
Storage Blk Time (%)	88	61	28	1	1	0	1	5
Queuing Penalty (veh)	281	94	66	3	5	0	6	17

Intersection: 7: Chinguacousy Road & Street C

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: 8: Street B & Old School Road

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: 9: McLaughlin Road & Street A

Movement	WB	NB	SB
Directions Served	LTR	TR	LT
Maximum Queue (m)	20.7	1.3	7.4
Average Queue (m)	10.3	0.0	1.8
95th Queue (m)	17.1	0.9	6.7
Link Distance (m)		2472.6	574.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 10: Street D & Old School Road

Movement	EB
Directions Served	TR
Maximum Queue (m)	283.9
Average Queue (m)	59.8
95th Queue (m)	230.2
Link Distance (m)	333.1
Upstream Blk Time (%)	1
Queuing Penalty (veh)	5
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Street A & Street D

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: 12: Hurontario Street & Street A

Movement	NB	NB	NB	SB	SB	SB
Directions Served	T	T	T	T	T	TR
Maximum Queue (m)	941.9	941.9	941.4	59.6	66.0	71.6
Average Queue (m)	854.9	853.7	849.6	34.9	43.7	52.2
95th Queue (m)	1106.7	1106.0	1107.1	52.3	60.2	67.9
Link Distance (m)	925.5	925.5	925.5	837.5	837.5	837.5
Upstream Blk Time (%)	69	70	68			
Queuing Penalty (veh)	0	0	0			
Storage Bay Dist (m)						
Storage Blk Time (%)	66					
Queuing Penalty (veh)	0					

Network Summary

Network wide Queuing Penalty: 1997
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Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	32.9	30.8	43.1	56.7	42.2
Average Queue (m)	15.9	14.1	15.2	25.1	14.7
95th Queue (m)	26.7	26.3	30.0	45.7	31.4
Link Distance (m)	584.0		476.3	286.7	334.4
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0			
Storage Blk Time (%)		0	0		
Queuing Penalty (veh)		1	0		

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	560.2	32.3	65.0	27.9	104.1	83.4
Average Queue (m)	164.9	21.1	25.6	10.0	39.2	26.8
95th Queue (m)	466.9	35.4	49.5	22.8	87.1	66.0
Link Distance (m)	879.0		333.1	574.2	574.2	254.7
Upstream Blk Time (%)	0					
Queuing Penalty (veh)	0					
Storage Bay Dist (m)		30.0				
Storage Blk Time (%)		2	3			
Queuing Penalty (veh)		6	5			

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T
Maximum Queue (m)	42.5	990.8	67.5	567.7	37.3	161.9	158.1	158.7	62.5	37.4	503.6	496.3
Average Queue (m)	41.8	855.4	66.3	417.4	22.4	101.3	98.0	88.8	27.1	28.5	358.9	353.4
95th Queue (m)	47.4	1208.6	73.2	669.6	43.8	181.8	174.4	167.5	70.9	47.5	683.8	680.6
Link Distance (m)		987.0		578.7		837.5	837.5	837.5			594.7	594.7
Upstream Blk Time (%)		18		23							24	20
Queuing Penalty (veh)		152		0							0	0
Storage Bay Dist (m)	40.0		65.0		35.0				60.0	35.0		
Storage Blk Time (%)	52	38	24	55	17	29		15	0	27	46	
Queuing Penalty (veh)	196	173	75	170	93	16		22	2	209	34	

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (m)	491.1	62.5
Average Queue (m)	345.2	46.8
95th Queue (m)	677.2	86.2
Link Distance (m)	594.7	
Upstream Blk Time (%)	26	
Queuing Penalty (veh)	0	
Storage Bay Dist (m)		60.0
Storage Blk Time (%)	42	1
Queuing Penalty (veh)	104	8

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	LT	T	TR	LTR	LTR
Maximum Queue (m)	61.4	60.0	53.7	86.5	87.1	86.1	82.5	78.4
Average Queue (m)	38.5	36.5	21.5	47.6	48.4	52.6	38.7	46.4
95th Queue (m)	54.7	55.9	46.5	76.8	77.9	82.9	65.3	74.6
Link Distance (m)	770.1	770.1	770.1	1398.5	1398.5	1398.5	329.6	2762.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	24.8	67.5	77.3	84.7	32.4	75.7	81.7	91.8	32.0	43.1	33.6	52.4
Average Queue (m)	3.1	41.5	48.4	53.4	23.2	30.7	34.2	41.6	10.8	21.1	12.9	41.9
95th Queue (m)	14.2	61.8	69.9	77.5	39.4	68.4	71.1	81.2	23.1	36.9	28.6	59.8
Link Distance (m)		1398.5	1398.5	1398.5		1244.9	1244.9	1244.9		325.2	325.2	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	0	12			10	7				0		10
Queuing Penalty (veh)	0	2			23	9				0		17

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	98.5	68.9
Average Queue (m)	38.3	33.4
95th Queue (m)	82.7	54.8
Link Distance (m)	2472.2	2472.2
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	1	
Queuing Penalty (veh)	2	

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	L	T	T	T	R	L
Maximum Queue (m)	97.1	95.4	99.7	102.1	92.3	45.7	47.5	127.8	115.3	90.2	57.4	46.4
Average Queue (m)	49.7	63.3	72.0	75.3	18.2	33.6	43.2	77.1	68.4	53.3	26.3	15.7
95th Queue (m)	82.1	88.6	98.7	101.7	55.0	54.1	56.1	114.4	102.1	83.0	57.6	33.6
Link Distance (m)		123.2	123.2	123.2				736.2	736.2	736.2		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	105.0				105.0	45.0	45.0				55.0	45.0
Storage Blk Time (%)	0	0		0	0	2	13	28		7	0	0
Queuing Penalty (veh)	0	0		0	0	4	23	55		10	0	1

Intersection: 6: Hurontario Street & Mayfield Road

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	T	R	L	T	T	R
Maximum Queue (m)	55.7	52.3	40.9	126.1	126.5	112.1	63.5
Average Queue (m)	29.9	18.6	15.2	66.3	55.0	52.3	20.4
95th Queue (m)	50.3	41.2	32.7	113.2	108.5	100.3	43.3
Link Distance (m)	359.2	359.2			587.4	587.4	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (m)			55.0	140.0			80.0
Storage Blk Time (%)	1	0	0	2	1	0	0
Queuing Penalty (veh)	1	0	0	8	2	1	0

Zone Summary

Zone wide Queuing Penalty: 1426



Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	129.4	32.3	98.2	196.1	149.4
Average Queue (m)	36.5	26.6	45.9	76.7	38.0
95th Queue (m)	100.7	40.0	86.7	177.3	118.9
Link Distance (m)	584.0		476.3	286.7	334.4
Upstream Blk Time (%)				3	1
Queuing Penalty (veh)				20	0
Storage Bay Dist (m)		30.0			
Storage Blk Time (%)		9	13		
Queuing Penalty (veh)		31	31		

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	883.2	32.3	153.1	147.4	284.7	69.7
Average Queue (m)	451.1	28.7	65.5	29.3	133.9	23.3
95th Queue (m)	1037.8	39.2	129.5	93.3	310.0	64.2
Link Distance (m)	879.0		333.1	574.2	574.2	254.7
Upstream Blk Time (%)	20					
Queuing Penalty (veh)	107					
Storage Bay Dist (m)		30.0				
Storage Blk Time (%)		9	15			
Queuing Penalty (veh)		51	54			

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T
Maximum Queue (m)	42.5	991.1	67.5	595.1	37.4	850.5	853.9	851.1	62.5	37.3	611.2	613.9
Average Queue (m)	42.3	924.1	64.8	568.9	29.7	830.4	833.3	832.6	51.4	36.8	545.3	541.6
95th Queue (m)	42.8	1194.5	79.3	654.8	44.7	901.9	898.9	894.7	85.8	41.1	714.0	715.2
Link Distance (m)		987.0		578.7		837.5	837.5	837.5			594.7	594.7
Upstream Blk Time (%)		32		82		14	18	21			46	38
Queuing Penalty (veh)		283		0		165	208	241			0	0
Storage Bay Dist (m)	40.0		65.0		35.0				60.0	35.0		
Storage Blk Time (%)	73	20	13	68	8	50		52	1	90	13	
Queuing Penalty (veh)	221	109	54	220	80	91		191	11	503	22	

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (m)	613.1	62.5
Average Queue (m)	539.4	55.7
95th Queue (m)	718.9	80.5
Link Distance (m)	594.7	
Upstream Blk Time (%)	59	
Queuing Penalty (veh)	0	
Storage Bay Dist (m)		60.0
Storage Blk Time (%)	45	4
Queuing Penalty (veh)	215	21

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	LT	T	TR	LTR	LTR
Maximum Queue (m)	55.8	58.5	52.1	75.3	67.8	76.1	92.3	53.0
Average Queue (m)	37.2	36.3	22.2	44.9	46.1	51.7	53.1	25.3
95th Queue (m)	53.3	55.9	47.9	65.6	65.5	69.8	83.5	45.9
Link Distance (m)	770.1	770.1	770.1	1398.5	1398.5	1398.5	329.6	2762.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B36	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	TR	T	L	T	TR
Maximum Queue (m)	32.3	85.8	78.2	84.5	32.3	73.6	88.5	103.2	1.8	43.2	50.3	51.5
Average Queue (m)	11.8	56.0	51.9	51.0	20.6	38.6	50.4	60.5	0.1	17.6	31.2	26.4
95th Queue (m)	31.1	78.8	72.4	73.0	36.9	68.8	80.1	90.8	1.3	31.9	46.6	47.3
Link Distance (m)		1398.5	1398.5	1398.5		1244.9	1244.9	1244.9	123.2		325.2	325.2
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0					50.0		
Storage Blk Time (%)	0	22			4	11				0	0	
Queuing Penalty (veh)	1	9			14	12				0	0	

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	TR
Maximum Queue (m)	49.3	42.4	38.6
Average Queue (m)	25.9	11.8	16.3
95th Queue (m)	47.0	30.0	31.8
Link Distance (m)		2472.2	2472.2
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	50.0		
Storage Blk Time (%)	1	0	
Queuing Penalty (veh)	1	0	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	WB	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	L	L	T	T	T	R
Maximum Queue (m)	107.4	141.3	72.1	66.4	27.0	62.0	45.2	47.5	525.5	507.5	469.9	57.5
Average Queue (m)	100.5	94.3	35.5	36.7	11.3	12.9	34.1	46.5	325.7	312.4	289.1	47.4
95th Queue (m)	121.4	178.5	59.0	60.8	24.3	44.1	54.0	52.9	594.8	576.4	546.7	75.0
Link Distance (m)		123.2	123.2	123.2		1244.9			736.2	736.2	736.2	
Upstream Blk Time (%)		17							0			
Queuing Penalty (veh)		64							0			
Storage Bay Dist (m)	105.0				105.0		45.0	45.0				55.0
Storage Blk Time (%)	24	2					3	19	72		73	3
Queuing Penalty (veh)	47	12					7	47	191		109	8

Intersection: 6: Hurontario Street & Mayfield Road

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R
Maximum Queue (m)	47.4	370.1	363.8	57.5	142.5	562.7	572.4	82.5
Average Queue (m)	47.3	272.5	261.0	42.9	135.5	434.2	455.6	81.7
95th Queue (m)	48.4	413.3	406.2	75.9	168.3	704.4	704.2	88.3
Link Distance (m)		359.2	359.2			587.4	587.4	
Upstream Blk Time (%)		24	5			12	34	
Queuing Penalty (veh)		0	0			0	0	
Storage Bay Dist (m)	45.0			55.0	140.0			80.0
Storage Blk Time (%)	94	64	26	1	78	33	12	33
Queuing Penalty (veh)	310	119	67	4	296	70	96	127

Zone Summary

Zone wide Queuing Penalty: 4539

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	35.1	28.1	46.5	51.9	33.1
Average Queue (m)	15.5	11.8	16.8	23.9	11.8
95th Queue (m)	27.5	22.5	33.8	43.8	26.0
Link Distance (m)	584.0		476.3	286.7	334.4
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0			
Storage Blk Time (%)		0	1		
Queuing Penalty (veh)		0	1		

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	539.7	32.3	67.2	46.5	105.6	135.9
Average Queue (m)	199.3	21.5	25.0	16.7	40.3	50.8
95th Queue (m)	605.3	35.4	50.4	33.4	85.5	159.5
Link Distance (m)	879.0		333.1	572.4	572.4	254.7
Upstream Blk Time (%)	2					4
Queuing Penalty (veh)	9					0
Storage Bay Dist (m)		30.0				
Storage Blk Time (%)		2	4			
Queuing Penalty (veh)		6	7			

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T
Maximum Queue (m)	42.5	990.7	67.5	792.2	37.3	219.6	208.3	201.7	62.5	37.3	698.4	691.2
Average Queue (m)	41.6	879.3	65.3	502.1	27.6	115.4	107.4	103.2	31.1	27.9	561.6	557.3
95th Queue (m)	47.8	1192.1	80.1	874.5	46.0	188.5	179.3	174.3	75.4	45.0	942.0	932.5
Link Distance (m)		987.0		1004.7		837.5	837.5	837.5			768.5	768.5
Upstream Blk Time (%)		21		1							23	20
Queuing Penalty (veh)		172		0							0	0
Storage Bay Dist (m)	40.0		65.0		35.0				60.0	35.0		
Storage Blk Time (%)	50	38	29	52	27	30		19	0	19	47	
Queuing Penalty (veh)	187	172	91	162	154	16		29	3	147	35	

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (m)	678.5	62.5
Average Queue (m)	545.7	47.9
95th Queue (m)	919.9	87.1
Link Distance (m)	768.5	
Upstream Blk Time (%)	23	
Queuing Penalty (veh)	0	
Storage Bay Dist (m)		60.0
Storage Blk Time (%)	47	1
Queuing Penalty (veh)	116	8

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	LT	T	TR	LTR	LTR
Maximum Queue (m)	65.9	62.8	48.9	117.1	90.5	91.0	82.7	81.6
Average Queue (m)	42.2	38.1	21.8	64.2	47.4	50.5	42.6	46.4
95th Queue (m)	60.1	57.2	46.2	107.2	76.9	79.4	72.6	73.5
Link Distance (m)	643.8	643.8	643.8	1398.5	1398.5	1398.5	329.7	2762.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report  
AM Peak Hour

03/01/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.3	74.6	84.3	86.7	32.4	77.0	79.0	95.3	31.2	42.4	37.3	52.4
Average Queue (m)	10.8	46.1	51.3	57.4	22.6	31.2	34.6	39.1	9.7	24.6	15.8	42.6
95th Queue (m)	29.7	67.5	74.7	82.4	39.1	70.2	71.1	78.0	23.0	39.2	32.9	59.6
Link Distance (m)		1398.5	1398.5	1398.5		1244.9	1244.9	1244.9		325.2	325.2	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	1	13			11	8			0	0		11
Queuing Penalty (veh)	2	6			26	10			0	0		23

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	104.2	85.0
Average Queue (m)	45.0	44.6
95th Queue (m)	88.0	69.2
Link Distance (m)	2470.4	2470.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	2	
Queuing Penalty (veh)	4	

Queuing and Blocking Report  
AM Peak Hour

03/01/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	WB	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	L	L	T	T	T	R
Maximum Queue (m)	99.7	108.1	121.7	124.5	91.3	5.9	44.8	47.4	117.8	109.9	93.2	57.5
Average Queue (m)	50.4	65.1	75.0	77.7	16.9	0.2	29.5	41.9	69.3	62.3	49.1	24.0
95th Queue (m)	86.3	92.2	103.7	105.7	50.0	3.2	53.0	57.0	104.1	92.4	78.6	51.0
Link Distance (m)		123.4	123.4	123.4		1244.9			736.2	736.2	736.2	
Upstream Blk Time (%)		0	0	0								
Queuing Penalty (veh)		0	0	1								
Storage Bay Dist (m)	105.0				105.0		45.0	45.0				55.0
Storage Blk Time (%)	0	0		1	0		1	8	23		4	0
Queuing Penalty (veh)	1	1		1	0		3	14	45		6	0

Intersection: 6: Hurontario Street & Mayfield Road

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R
Maximum Queue (m)	40.7	63.8	69.9	44.5	141.5	150.6	148.9	82.5
Average Queue (m)	19.1	25.4	24.0	15.9	79.3	70.5	65.8	21.9
95th Queue (m)	36.9	50.0	50.5	34.5	135.5	128.8	118.0	56.4
Link Distance (m)		788.5	788.5			587.4	587.4	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)	45.0			55.0	140.0			80.0
Storage Blk Time (%)	3	1	0	0	3	0	1	0
Queuing Penalty (veh)	5	1	1	0	13	1	4	1

Intersection: 7: Chinguacousy Road & Street C

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)



Queuing and Blocking Report  
AM Peak Hour

03/01/2024

Intersection: 8: Street B & Old School Road

Movement	EB
Directions Served	TR
Maximum Queue (m)	21.5
Average Queue (m)	2.8
95th Queue (m)	28.3
Link Distance (m)	476.3
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: McLaughlin Road & Street A

Movement	WB	WB	SB
Directions Served	L	TR	LT
Maximum Queue (m)	25.4	21.1	10.1
Average Queue (m)	12.0	7.9	1.7
95th Queue (m)	20.3	15.6	7.3
Link Distance (m)			572.4
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	30.0		
Storage Blk Time (%)	0	0	
Queuing Penalty (veh)	0	0	

Intersection: 10: Street D & Old School Road

Movement	EB
Directions Served	TR
Maximum Queue (m)	337.5
Average Queue (m)	175.0
95th Queue (m)	422.6
Link Distance (m)	333.1
Upstream Blk Time (%)	12
Queuing Penalty (veh)	102
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Street A & Street D

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: 12: Hurontario Street & Street A

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	T	TR
Maximum Queue (m)	32.3	481.1	31.8	32.4	38.4	33.0	124.5	273.1	138.2
Average Queue (m)	19.0	406.0	12.3	10.6	15.0	11.0	58.5	71.9	67.0
95th Queue (m)	38.5	584.8	25.1	26.1	33.3	28.6	113.7	189.9	127.3
Link Distance (m)				921.8	921.8	921.8	837.5	837.5	837.5
Upstream Blk Time (%)								0	
Queuing Penalty (veh)								0	
Storage Bay Dist (m)	30.0		50.0						
Storage Blk Time (%)	1	83							
Queuing Penalty (veh)	2	48							

Network Summary

Network wide Queuing Penalty: 1634

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	136.2	32.3	113.5	131.3	87.2
Average Queue (m)	33.9	27.2	50.1	58.2	29.8
95th Queue (m)	84.8	39.9	96.8	99.5	67.1
Link Distance (m)	584.0		476.3	286.7	334.4
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)		30.0			
Storage Blk Time (%)		9	11		
Queuing Penalty (veh)		34	26		

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	L	TR	LT	R	LTR
Maximum Queue (m)	883.2	32.3	156.1	92.5	258.4	57.6
Average Queue (m)	451.9	28.6	69.8	30.8	116.6	20.3
95th Queue (m)	1035.5	38.4	131.2	66.1	281.7	45.9
Link Distance (m)	879.0		333.1	572.4	572.4	254.7
Upstream Blk Time (%)	21					
Queuing Penalty (veh)	107					
Storage Bay Dist (m)		30.0				
Storage Blk Time (%)		12	13			
Queuing Penalty (veh)		66	48			

Queuing and Blocking Report  
PM Peak Hour

03/01/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	WB	WB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	T	R	L	T	T
Maximum Queue (m)	42.5	991.1	67.5	1020.4	37.3	849.5	850.8	848.1	62.5	37.3	785.8	785.8
Average Queue (m)	42.3	929.8	65.6	899.1	29.7	834.2	836.3	836.5	52.1	36.9	608.7	606.8
95th Queue (m)	42.7	1157.5	77.6	1216.9	44.5	875.5	875.1	873.4	85.2	40.8	938.2	935.9
Link Distance (m)		987.0		1004.7		837.5	837.5	837.5			768.5	768.5
Upstream Blk Time (%)		31		64		9	12	15			30	29
Queuing Penalty (veh)		273		0		98	133	170			0	0
Storage Bay Dist (m)	40.0		65.0		35.0				60.0	35.0		
Storage Blk Time (%)	67	24	13	68	10	51		51	1	84	16	
Queuing Penalty (veh)	205	134	55	221	97	92		189	13	487	27	

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB
Directions Served	T	R
Maximum Queue (m)	785.6	62.5
Average Queue (m)	603.1	54.4
95th Queue (m)	931.9	82.8
Link Distance (m)	768.5	
Upstream Blk Time (%)	38	
Queuing Penalty (veh)	0	
Storage Bay Dist (m)		60.0
Storage Blk Time (%)	46	4
Queuing Penalty (veh)	219	26

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	LT	T	TR	LTR	LTR
Maximum Queue (m)	66.9	58.5	51.7	105.8	75.6	72.9	116.0	65.3
Average Queue (m)	41.8	36.1	18.1	56.9	44.8	50.3	69.7	29.5
95th Queue (m)	58.8	55.7	41.7	92.2	66.4	68.6	105.3	52.5
Link Distance (m)	643.8	643.8	643.8	1398.5	1398.5	1398.5	329.7	2762.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report  
PM Peak Hour

03/01/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.4	93.9	78.6	75.8	32.3	68.2	77.9	88.7	52.3	88.3	86.2	49.5
Average Queue (m)	22.4	50.5	44.7	46.8	17.8	36.1	48.2	56.6	25.8	50.4	45.3	27.7
95th Queue (m)	39.5	79.2	67.0	67.5	35.2	63.9	75.3	83.4	47.2	75.6	69.2	45.6
Link Distance (m)		1398.5	1398.5	1398.5		1244.9	1244.9	1244.9		325.2	325.2	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	2	14			3	9			0	7		1
Queuing Penalty (veh)	7	18			9	9			0	7		1

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	45.4	47.3
Average Queue (m)	21.1	28.2
95th Queue (m)	38.4	44.0
Link Distance (m)	2470.4	2470.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	WB	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	L	L	T	T	T	R
Maximum Queue (m)	107.4	145.0	70.8	63.5	29.6	151.4	45.5	47.5	450.9	443.0	404.9	57.5
Average Queue (m)	102.7	110.5	35.5	37.3	11.0	49.8	36.1	46.3	282.6	270.6	243.7	48.7
95th Queue (m)	121.0	189.1	57.7	58.2	23.6	151.6	55.1	53.5	484.6	471.4	438.5	75.3
Link Distance (m)		123.4	123.4	123.4		1244.9			736.2	736.2	736.2	
Upstream Blk Time (%)		35										
Queuing Penalty (veh)		132										
Storage Bay Dist (m)	105.0				105.0		45.0	45.0				55.0
Storage Blk Time (%)	42	6					5	25	74		75	2
Queuing Penalty (veh)	82	33					13	63	197		112	5

Intersection: 6: Hurontario Street & Mayfield Road

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R
Maximum Queue (m)	47.5	747.5	738.3	57.5	142.5	600.5	603.0	82.5
Average Queue (m)	47.2	532.3	530.9	42.6	141.6	502.9	507.1	74.9
95th Queue (m)	48.6	828.3	821.6	75.4	149.8	728.3	742.3	99.4
Link Distance (m)		788.5	788.5			587.4	587.4	
Upstream Blk Time (%)		13	12			32	46	
Queuing Penalty (veh)		0	0			0	0	
Storage Bay Dist (m)	45.0			55.0	140.0			80.0
Storage Blk Time (%)	88	73	48	2	95	43	6	13
Queuing Penalty (veh)	355	137	121	8	392	92	49	54

Intersection: 7: Chinguacousy Road & Street C

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)

Queuing and Blocking Report  
PM Peak Hour

03/01/2024

Intersection: 8: Street B & Old School Road

Movement	EB
Directions Served	TR
Maximum Queue (m)	424.6
Average Queue (m)	89.3
95th Queue (m)	354.7
Link Distance (m)	476.3
Upstream Blk Time (%)	5
Queuing Penalty (veh)	29
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 9: McLaughlin Road & Street A

Movement	WB	WB	NB	SB
Directions Served	L	TR	TR	LT
Maximum Queue (m)	25.9	15.8	7.2	12.2
Average Queue (m)	11.5	5.7	0.6	3.1
95th Queue (m)	20.4	13.2	4.3	9.7
Link Distance (m)			2470.4	572.4
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)	30.0			
Storage Blk Time (%)	0			
Queuing Penalty (veh)	0			

Intersection: 10: Street D & Old School Road

Movement	EB
Directions Served	TR
Maximum Queue (m)	339.0
Average Queue (m)	246.7
95th Queue (m)	480.6
Link Distance (m)	333.1
Upstream Blk Time (%)	26
Queuing Penalty (veh)	226
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 11: Street A & Street D

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: 12: Hurontario Street & Street A

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	T	TR
Maximum Queue (m)	31.1	49.0	52.4	939.7	939.0	938.2	241.2	248.0	97.2
Average Queue (m)	11.3	20.6	49.8	751.7	750.7	749.3	34.5	40.7	36.8
95th Queue (m)	24.7	36.7	65.0	1245.0	1244.1	1242.8	148.4	156.0	78.5
Link Distance (m)				921.8	921.8	921.8	837.5	837.5	837.5
Upstream Blk Time (%)				59	54	54	0	0	
Queuing Penalty (veh)				0	0	0	0	0	
Storage Bay Dist (m)	30.0		50.0						
Storage Blk Time (%)	0	2	3	47					
Queuing Penalty (veh)	1	1	31	160					

Network Summary

Network wide Queuing Penalty: 5063



Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	71.9	42.3	53.9	85.6	43.3
Average Queue (m)	38.3	20.7	23.8	37.2	18.6
95th Queue (m)	60.6	36.8	43.9	69.2	38.1
Link Distance (m)	584.0	476.1	476.1	284.6	334.3
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	46.2	40.7	48.9	23.8	27.2	36.1	68.8	49.0
Average Queue (m)	18.3	16.6	24.3	6.3	13.0	14.5	24.9	22.0
95th Queue (m)	35.7	32.2	42.4	17.5	25.3	29.2	45.6	39.9
Link Distance (m)	878.6	878.6		333.4	333.4	570.5	570.5	250.9
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			0					
Queuing Penalty (veh)			0					

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.4	981.9	958.0	67.3	112.8	87.7	37.3	148.8	147.5	132.3	62.5	37.4
Average Queue (m)	42.4	679.0	423.9	54.4	48.0	42.1	25.3	92.1	89.8	83.5	29.8	32.6
95th Queue (m)	42.6	1063.0	931.4	78.3	101.5	70.5	44.2	137.0	133.8	126.4	74.7	46.8
Link Distance (m)		987.6	987.6		719.0	719.0		833.8	833.8	833.8		
Upstream Blk Time (%)		6	1									
Queuing Penalty (veh)		27	4									
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	76	41		10	1		14	28		15	1	56
Queuing Penalty (veh)	82	230		8	3		86	15		24	3	466

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	567.5	567.1	569.6	62.5
Average Queue (m)	469.3	465.3	457.6	43.9
95th Queue (m)	677.4	676.4	678.9	84.9
Link Distance (m)	551.1	551.1	551.1	
Upstream Blk Time (%)	52	44	53	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	33		44	1
Queuing Penalty (veh)	24		129	7

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	71.2	72.9	63.0	52.3	79.9	78.1	79.7	85.9	101.8
Average Queue (m)	46.0	45.7	34.8	28.3	30.3	41.8	47.8	42.9	56.1
95th Queue (m)	64.7	65.3	60.3	52.0	60.7	67.8	72.7	73.4	91.3
Link Distance (m)	828.5	828.5	828.5		1398.5	1398.5	1398.5	329.7	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				2	1				
Queuing Penalty (veh)				4	1				

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.2	63.6	72.3	75.5	32.4	91.2	84.8	92.4	34.3	45.8	41.5	52.4
Average Queue (m)	4.7	35.8	41.1	45.8	21.2	33.8	35.0	42.5	12.2	23.9	15.6	45.8
95th Queue (m)	18.7	56.9	63.0	68.6	37.2	77.0	73.9	80.8	26.5	40.0	31.3	59.5
Link Distance (m)		1398.5	1398.5	1398.5		1244.9	1244.9	1244.9		325.2	325.2	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	0	7			10	9				0		14
Queuing Penalty (veh)	0	1			25	11				0		27

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	114.1	75.1
Average Queue (m)	49.4	35.7
95th Queue (m)	100.0	60.2
Link Distance (m)	2472.2	2472.2
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	2	
Queuing Penalty (veh)	6	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	B36	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	L	T	T
Maximum Queue (m)	102.3	118.7	123.5	132.1	107.5	3.2	1.8	5.6	45.5	47.5	129.5	119.2
Average Queue (m)	58.0	73.6	81.3	84.9	23.9	0.1	0.1	0.4	31.8	42.2	76.7	70.2
95th Queue (m)	93.1	105.1	112.7	117.7	74.0	2.2	1.3	4.1	52.6	56.4	113.3	104.4
Link Distance (m)		123.2	123.2	123.2		1244.9	1244.9	1244.9			736.2	736.2
Upstream Blk Time (%)		0	1	1								
Queuing Penalty (veh)		1	2	5								
Storage Bay Dist (m)	105.0				105.0				45.0	45.0		
Storage Blk Time (%)	0	1		3	0				1	10	27	
Queuing Penalty (veh)	1	1		3	0				3	20	55	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	103.9	57.5	41.0	56.8	49.5	43.7	142.4	254.0	235.0	69.2
Average Queue (m)	57.2	29.3	18.9	28.7	18.0	14.7	114.4	130.0	117.9	23.2
95th Queue (m)	89.2	58.0	35.6	48.6	38.5	31.9	172.6	276.2	252.4	54.3
Link Distance (m)	736.2			359.2	359.2			587.4	587.4	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)		55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	6	0	1	1	0	0	27	9	1	0
Queuing Penalty (veh)	11	1	2	1	0	0	116	34	2	0

Zone Summary

Zone wide Queuing Penalty: 1443

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	75.4	71.8	76.9	154.1	71.0
Average Queue (m)	41.1	35.8	41.2	77.1	25.3
95th Queue (m)	68.5	61.3	71.7	135.4	56.0
Link Distance (m)	584.0	476.1	476.1	284.6	334.3
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	463.4	467.0	52.2	86.6	49.0	194.6	396.1	46.0
Average Queue (m)	122.0	120.0	37.5	22.7	23.0	34.1	114.3	13.7
95th Queue (m)	355.2	354.9	57.3	59.8	41.7	127.7	324.1	34.3
Link Distance (m)	878.6	878.6		333.4	333.4	570.5	570.5	250.9
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			4	0				
Queuing Penalty (veh)			11	1				

**Intersection: 3: Hurontario Street & Old School Road**

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.4	995.7	991.7	67.5	221.2	207.3	37.3	846.2	848.3	848.2	62.5	37.4
Average Queue (m)	42.4	879.7	744.4	63.4	123.2	108.8	29.5	831.0	835.4	835.9	52.3	37.3
95th Queue (m)	42.4	1185.7	1298.3	77.7	232.8	209.2	44.8	889.0	881.9	864.2	84.9	37.4
Link Distance (m)		987.6	987.6		719.0	719.0		833.8	833.8	833.8		
Upstream Blk Time (%)		52	12					11	15	18		
Queuing Penalty (veh)		266	64					138	188	229		
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	82	45		43	25		6	45		47	1	98
Queuing Penalty (veh)	87	303		59	85		69	85		178	13	608

**Intersection: 3: Hurontario Street & Old School Road**

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	568.8	568.4	570.3	62.5
Average Queue (m)	542.7	541.3	543.6	55.6
95th Queue (m)	637.1	639.8	642.5	80.1
Link Distance (m)	551.1	551.1	551.1	
Upstream Blk Time (%)	56	47	78	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	11		41	3
Queuing Penalty (veh)	19		238	20

**Intersection: 4: Chinguacousy Road & Mayfield Road**

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	53.5	54.2	47.4	51.1	41.7	54.0	62.5	190.5	78.9
Average Queue (m)	30.5	30.0	16.9	25.6	18.5	30.8	40.1	91.0	38.9
95th Queue (m)	47.0	48.2	37.9	45.7	35.6	46.5	57.4	156.0	71.2
Link Distance (m)	828.5	828.5	828.5		1398.5	1398.5	1398.5	329.7	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				1	0				
Queuing Penalty (veh)				2	0				

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.3	88.4	80.0	76.5	32.3	67.5	78.6	94.2	46.0	63.0	62.1	51.7
Average Queue (m)	12.8	56.0	53.7	51.6	18.2	34.4	44.3	54.8	19.8	37.8	30.9	33.6
95th Queue (m)	33.4	79.9	75.7	75.4	35.1	61.2	70.8	82.7	36.8	56.5	51.0	53.2
Link Distance (m)		1398.5	1398.5	1398.5		1244.9	1244.9	1244.9		325.2	325.2	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	0	26			2	8			0	1		5
Queuing Penalty (veh)	1	12			7	9			1	1		6

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	56.2	47.3
Average Queue (m)	17.4	22.1
95th Queue (m)	41.8	39.0
Link Distance (m)	2472.2	2472.2
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	1	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	B36	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	L	T	T
Maximum Queue (m)	107.5	148.5	77.0	68.9	29.5	266.2	117.8	60.7	44.5	47.5	747.5	745.9
Average Queue (m)	107.2	135.1	35.7	37.9	10.8	141.4	4.8	2.0	28.7	44.1	534.8	524.4
95th Queue (m)	108.6	171.3	60.4	60.5	23.6	315.4	63.5	42.8	51.6	59.1	836.3	826.7
Link Distance (m)		123.2	123.2	123.2		1244.9	1244.9	1244.9			736.2	736.2
Upstream Blk Time (%)		61									21	15
Queuing Penalty (veh)		248									0	0
Storage Bay Dist (m)	105.0				105.0				45.0	45.0		
Storage Blk Time (%)	63	10							2	9	79	
Queuing Penalty (veh)	128	68							5	25	217	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	746.3	57.5	47.5	319.5	309.7	57.5	142.5	599.9	603.3	82.5
Average Queue (m)	502.5	50.3	47.3	250.2	233.5	44.3	137.8	560.9	569.2	78.1
95th Queue (m)	807.0	75.1	48.2	373.9	366.8	76.9	166.6	718.3	703.6	100.7
Link Distance (m)	736.2			359.2	359.2			587.4	587.4	
Upstream Blk Time (%)	15			17	7			33	69	
Queuing Penalty (veh)	0			0	0			0	0	
Storage Bay Dist (m)		55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	82	4	87	64	36	1	82	35	11	30
Queuing Penalty (veh)	141	9	307	136	96	5	328	83	107	121

Zone Summary

Zone wide Queuing Penalty: 4725



Queuing and Blocking Report  
AM Peak Hour

03/01/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	72.9	56.4	66.5	102.8	46.9
Average Queue (m)	41.2	25.2	28.5	47.8	20.3
95th Queue (m)	67.4	45.2	51.1	84.9	40.0
Link Distance (m)	584.0	476.1	476.1	284.6	334.3
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	88.2	90.7	52.0	49.2	40.0	48.5	114.4	63.5
Average Queue (m)	30.7	30.9	32.2	13.1	18.2	20.6	41.3	27.5
95th Queue (m)	67.5	68.5	52.5	33.8	34.5	39.4	94.5	50.2
Link Distance (m)	878.6	878.6		333.4	333.4	568.7	568.7	565.6
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			3	0				
Queuing Penalty (veh)			5	0				

Queuing and Blocking Report  
AM Peak Hour

03/01/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.4	992.8	993.9	67.4	123.2	74.8	37.3	495.0	500.3	502.4	62.5	37.4
Average Queue (m)	42.4	748.3	565.1	56.6	58.2	40.7	36.6	313.4	308.1	299.6	36.5	35.6
95th Queue (m)	42.4	1178.2	1174.0	79.8	121.8	65.9	40.3	548.9	548.5	545.9	81.9	44.8
Link Distance (m)		987.6	987.6		1607.6	1607.6		833.7	833.7	833.7		
Upstream Blk Time (%)		24	7									
Queuing Penalty (veh)		126	38									
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	74	41		16	1		82	23		38	1	66
Queuing Penalty (veh)	82	233		14	4		521	16		62	4	555

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	657.8	657.6	656.5	62.5
Average Queue (m)	598.9	596.3	593.4	44.6
95th Queue (m)	785.0	784.8	784.8	84.9
Link Distance (m)	639.9	639.9	639.9	
Upstream Blk Time (%)	63	59	69	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	39		43	1
Queuing Penalty (veh)	29		135	8

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	73.5	74.6	72.2	52.3	100.1	68.2	79.4	101.0	112.6
Average Queue (m)	44.7	46.1	41.5	39.9	35.5	39.6	46.9	56.3	64.3
95th Queue (m)	64.0	67.4	67.9	59.9	77.7	63.6	71.1	92.2	103.2
Link Distance (m)	1461.0	1461.0	1461.0		1398.5	1398.5	1398.5	893.7	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				7	1				
Queuing Penalty (veh)				13	3				

Queuing and Blocking Report  
AM Peak Hour

03/01/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.2	59.3	64.9	68.2	32.4	96.4	85.2	96.6	39.4	51.9	47.7	52.4
Average Queue (m)	11.2	29.5	34.5	38.6	23.7	39.9	36.8	42.1	13.3	29.7	20.3	48.5
95th Queue (m)	27.6	52.1	55.7	61.9	40.6	83.7	74.6	81.7	29.8	47.7	39.9	59.2
Link Distance (m)		1398.5	1398.5	1398.5		1244.9	1244.9	1244.9		325.2	325.2	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	0	4			16	12			0	0		26
Queuing Penalty (veh)	0	2			38	15			0	0		67

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	145.9	102.0
Average Queue (m)	69.3	58.5
95th Queue (m)	125.1	89.7
Link Distance (m)	2470.4	2470.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	9	
Queuing Penalty (veh)	26	

Queuing and Blocking Report  
AM Peak Hour

03/01/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	L	L	T	T	T
Maximum Queue (m)	101.4	114.1	121.0	131.8	95.3	2.1	8.2	45.3	47.5	104.4	95.9	106.6
Average Queue (m)	52.1	72.6	80.9	85.8	27.5	0.1	0.3	34.8	41.9	67.2	60.6	60.1
95th Queue (m)	90.2	101.7	108.4	117.3	76.6	1.5	4.7	51.3	56.8	100.4	88.7	93.0
Link Distance (m)		123.2	123.2	123.2		1244.9	1244.9			1625.3	1625.3	1625.3
Upstream Blk Time (%)		0	0	1								
Queuing Penalty (veh)		0	2	3								
Storage Bay Dist (m)	105.0				105.0			45.0	45.0			
Storage Blk Time (%)	0	0		3	0			2	11	19		11
Queuing Penalty (veh)	0	1		3	1			4	22	39		18

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	57.5	47.3	101.6	92.3	50.7	142.5	493.2	491.2	82.5
Average Queue (m)	33.5	36.0	56.4	45.7	20.1	133.6	294.7	281.2	42.8
95th Queue (m)	66.5	57.0	125.7	99.5	42.5	172.9	560.5	546.1	93.4
Link Distance (m)			1003.1	1003.1			587.4	587.4	
Upstream Blk Time (%)							4	3	
Queuing Penalty (veh)							0	0	
Storage Bay Dist (m)	55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	1	41	21	1	0	65	29	6	0
Queuing Penalty (veh)	1	91	18	3	0	354	108	19	3

Intersection: 7: Chinguacousy Road & Street C

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	23.7	26.5
Average Queue (m)	11.6	3.3
95th Queue (m)	19.5	14.6
Link Distance (m)	199.4	284.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report  
AM Peak Hour

03/01/2024

Intersection: 8: Street B & Old School Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	15.9	25.6
Average Queue (m)	3.7	11.7
95th Queue (m)	12.6	19.7
Link Distance (m)	878.6	112.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: McLaughlin Road & Street A

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	LT	TR	LT	TR
Maximum Queue (m)	31.6	35.6	38.6	55.5	24.4	27.7
Average Queue (m)	21.7	6.9	11.9	20.8	8.5	10.8
95th Queue (m)	32.8	20.8	27.0	41.8	19.9	22.5
Link Distance (m)		386.7	2470.4	2470.4	568.7	568.7
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	30.0					
Storage Blk Time (%)	2	0				
Queuing Penalty (veh)	1	0				

Intersection: 10: Street D & Old School Road

Movement	EB	EB	WB	NB
Directions Served	T	TR	LT	LR
Maximum Queue (m)	234.2	233.4	19.1	34.9
Average Queue (m)	64.1	62.0	2.0	13.9
95th Queue (m)	250.8	250.1	9.4	25.9
Link Distance (m)	333.4	333.4	987.6	641.5
Upstream Blk Time (%)	2	3		
Queuing Penalty (veh)	13	18		
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Street A & Street D

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (m)	18.4	1.2	24.9
Average Queue (m)	3.6	0.0	13.1
95th Queue (m)	12.9	0.8	20.9
Link Distance (m)	386.7	934.4	641.5
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Hurontario Street & Street A

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	T	TR
Maximum Queue (m)	32.3	554.8	44.8	27.7	29.0	30.4	139.5	151.2	148.0
Average Queue (m)	30.7	473.9	21.1	8.0	12.2	9.9	73.3	82.2	83.4
95th Queue (m)	37.2	609.1	38.2	20.6	24.4	23.1	140.3	148.5	149.9
Link Distance (m)		934.4		921.8	921.8	921.8	833.7	833.7	833.7
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)	30.0		50.0						
Storage Blk Time (%)	61	42	0	0					
Queuing Penalty (veh)	321	44	2	0					

Network Summary

Network wide Queuing Penalty: 3085
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Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	103.1	100.1	89.2	176.2	76.7
Average Queue (m)	57.5	48.3	46.1	92.6	28.6
95th Queue (m)	97.8	82.2	77.3	157.5	54.5
Link Distance (m)	584.0	476.1	476.1	284.6	334.3
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	448.7	447.3	52.2	82.8	55.4	365.7	475.1	69.9
Average Queue (m)	131.0	129.4	35.5	24.6	22.9	86.6	143.2	24.5
95th Queue (m)	391.4	391.5	56.4	61.9	43.1	299.5	436.0	53.2
Link Distance (m)	878.6	878.6		333.4	333.4	568.7	568.7	565.6
Upstream Blk Time (%)						0	3	
Queuing Penalty (veh)						1	11	
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			4	0				
Queuing Penalty (veh)			14	1				

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.4	996.4	994.4	67.5	316.6	266.4	37.4	848.7	850.6	845.3	62.5	37.4
Average Queue (m)	42.4	868.6	709.2	67.3	199.8	167.3	32.6	832.5	834.9	834.2	49.0	37.3
95th Queue (m)	42.4	1206.1	1284.4	67.6	324.4	280.8	44.5	873.1	874.3	868.2	86.7	37.3
Link Distance (m)		987.6	987.6		1607.6	1607.6		833.7	833.7	833.7		
Upstream Blk Time (%)		49	13					7	11	13		
Queuing Penalty (veh)		262	70					95	139	171		
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	81	43		43	55		19	43		47	1	99
Queuing Penalty (veh)	90	295		61	191		205	110		180	13	636

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	657.8	658.5	659.2	62.5
Average Queue (m)	626.0	624.9	626.8	55.9
95th Queue (m)	744.6	747.7	746.2	80.9
Link Distance (m)	639.9	639.9	639.9	
Upstream Blk Time (%)	56	51	79	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	7		42	6
Queuing Penalty (veh)	13		264	38

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	66.5	65.8	68.2	52.1	66.5	58.1	65.9	177.0	72.2
Average Queue (m)	44.8	44.7	38.5	32.5	23.2	27.2	34.4	94.9	36.2
95th Queue (m)	62.8	63.5	63.4	56.1	54.7	52.9	63.0	152.0	62.4
Link Distance (m)	1461.0	1461.0	1461.0		1398.5	1398.5	1398.5	893.7	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				4	0				
Queuing Penalty (veh)				10	0				



Queuing and Blocking Report  
PM Peak Hour

03/01/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.4	116.0	91.2	94.0	32.3	88.7	104.5	105.6	52.3	76.1	69.3	52.1
Average Queue (m)	28.6	57.9	47.1	45.7	22.1	53.6	63.0	73.9	22.0	43.5	38.0	33.7
95th Queue (m)	38.9	102.1	83.9	77.6	39.3	81.0	93.4	100.1	45.4	66.2	62.6	56.0
Link Distance (m)		1398.5	1398.5	1398.5		1244.9	1244.9	1244.9		325.2	325.2	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	20	20			6	22			0	3		6
Queuing Penalty (veh)	59	34			21	25			1	5		10

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	65.0	64.4
Average Queue (m)	22.1	27.8
95th Queue (m)	53.2	49.7
Link Distance (m)	2470.4	2470.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	1	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	WB	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	L	L	T	T	T	R
Maximum Queue (m)	107.5	150.9	57.0	65.3	34.2	204.4	45.2	47.5	923.3	925.1	916.8	57.5
Average Queue (m)	107.1	136.5	33.0	35.7	13.1	106.7	29.5	42.8	572.1	566.5	566.9	51.2
95th Queue (m)	109.3	165.8	54.1	58.7	26.5	242.1	52.8	59.6	951.5	947.1	939.8	75.0
Link Distance (m)		123.2	123.2	123.2		1244.9			1625.3	1625.3	1625.3	
Upstream Blk Time (%)		58										
Queuing Penalty (veh)		239										
Storage Bay Dist (m)	105.0				105.0		45.0	45.0				55.0
Storage Blk Time (%)	61	11					3	9	79		83	4
Queuing Penalty (veh)	125	70					7	24	218		142	12

Intersection: 6: Hurontario Street & Mayfield Road

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R
Maximum Queue (m)	47.5	1016.9	1020.2	57.5	142.5	604.2	606.7	82.5
Average Queue (m)	47.2	844.2	844.0	40.2	142.3	581.2	586.5	78.3
95th Queue (m)	48.7	1199.5	1198.4	73.9	143.7	663.9	652.1	95.2
Link Distance (m)		1003.1	1003.1			587.4	587.4	
Upstream Blk Time (%)		46	45			30	80	
Queuing Penalty (veh)		0	0			0	0	
Storage Bay Dist (m)	45.0			55.0	140.0			80.0
Storage Blk Time (%)	95	74	46	1	95	40	8	20
Queuing Penalty (veh)	444	173	121	5	442	94	74	93

Intersection: 7: Chinguacousy Road & Street C

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	19.6	37.4
Average Queue (m)	9.8	9.6
95th Queue (m)	18.7	27.5
Link Distance (m)	199.4	284.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report  
PM Peak Hour

03/01/2024

Intersection: 8: Street B & Old School Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	29.3	16.6
Average Queue (m)	7.8	8.3
95th Queue (m)	20.5	15.4
Link Distance (m)	878.6	112.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: McLaughlin Road & Street A

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	LT	TR	LT	TR
Maximum Queue (m)	29.8	21.2	43.2	72.2	30.7	29.2
Average Queue (m)	15.7	4.9	11.4	23.2	10.2	11.4
95th Queue (m)	28.4	15.0	29.9	50.8	22.9	24.4
Link Distance (m)		386.7	2470.4	2470.4	568.7	568.7
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	30.0					
Storage Blk Time (%)	1					
Queuing Penalty (veh)	0					

Intersection: 10: Street D & Old School Road

Movement	EB	EB	WB	WB	NB
Directions Served	T	TR	LT	T	LR
Maximum Queue (m)	341.8	346.2	38.0	12.0	26.9
Average Queue (m)	170.6	169.8	5.1	0.4	9.2
95th Queue (m)	423.3	425.7	21.4	6.1	20.9
Link Distance (m)	333.4	333.4	987.6	987.6	641.5
Upstream Blk Time (%)	16	19			
Queuing Penalty (veh)	93	112			
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 11: Street A & Street D

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (m)	20.7	2.8	19.4
Average Queue (m)	4.3	0.1	9.4
95th Queue (m)	13.9	1.4	16.5
Link Distance (m)	386.7	934.4	641.5
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Hurontario Street & Street A

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	T	TR
Maximum Queue (m)	30.1	73.6	52.4	940.4	938.4	938.9	86.5	94.6	100.0
Average Queue (m)	9.8	29.1	51.7	855.2	859.2	854.7	37.3	43.0	45.1
95th Queue (m)	25.2	53.9	58.3	1188.1	1165.3	1169.4	72.5	79.7	85.1
Link Distance (m)		934.4		921.8	921.8	921.8	833.7	833.7	833.7
Upstream Blk Time (%)				70	54	48			
Queuing Penalty (veh)				0	0	0			
Storage Bay Dist (m)	30.0		50.0						
Storage Blk Time (%)	0	8	8	37					
Queuing Penalty (veh)	1	3	103	181					

Network Summary

Network wide Queuing Penalty: 5800
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Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	80.0	45.0	66.6	96.9	48.6
Average Queue (m)	43.3	20.4	24.7	39.1	20.2
95th Queue (m)	69.5	37.5	50.4	75.5	39.6
Link Distance (m)	584.0	476.1	476.1	284.6	334.3
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	73.2	65.8	51.0	43.2	40.9	39.4	76.6	39.8
Average Queue (m)	39.7	38.0	29.3	13.8	19.8	12.6	31.8	18.2
95th Queue (m)	64.2	61.7	47.3	30.9	35.6	28.3	62.0	35.3
Link Distance (m)	878.7	878.7		333.4	333.4	570.5	570.5	423.9
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			1	0				
Queuing Penalty (veh)			1	0				

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.5	997.6	992.7	67.4	149.4	103.3	37.3	207.0	204.1	196.3	62.5	37.4
Average Queue (m)	42.4	742.3	557.1	60.0	68.3	51.9	22.3	103.1	100.3	93.5	31.7	32.9
95th Queue (m)	42.5	1158.7	1142.4	77.1	141.2	95.7	43.4	168.2	162.0	153.0	76.6	46.6
Link Distance (m)		987.6	987.6		929.8	929.8		833.8	833.8	833.8		
Upstream Blk Time (%)		20	3									
Queuing Penalty (veh)		100	17									
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	75	43		18	3		20	27		17	1	45
Queuing Penalty (veh)	89	241		17	10		125	16		29	3	384

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	628.7	625.6	627.4	62.5
Average Queue (m)	536.9	532.9	526.9	48.0
95th Queue (m)	768.6	766.7	766.4	86.3
Link Distance (m)	609.9	609.9	609.9	
Upstream Blk Time (%)	51	44	55	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	42		44	1
Queuing Penalty (veh)	32		130	9

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	74.1	69.7	62.9	52.4	130.1	100.6	81.5	102.2	127.3
Average Queue (m)	48.4	46.4	31.3	45.8	65.3	48.8	48.8	56.4	60.0
95th Queue (m)	67.4	66.1	59.2	63.2	126.2	86.5	74.3	93.9	106.6
Link Distance (m)	658.7	658.7	658.7		1399.1	1399.1	1399.1	423.6	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				45	20				
Queuing Penalty (veh)				96	32				

Queuing and Blocking Report  
 AM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B36	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	TR	T	L	T	TR
Maximum Queue (m)	32.2	75.3	78.3	85.8	32.4	91.3	100.5	104.2	2.0	35.0	59.3	50.1
Average Queue (m)	4.6	43.2	47.2	54.5	23.6	40.4	42.5	49.1	0.1	12.8	33.6	26.5
95th Queue (m)	18.7	66.9	72.6	81.7	37.3	77.3	78.7	85.1	1.3	28.9	51.4	48.3
Link Distance (m)		1399.1	1399.1	1399.1		1245.0	1245.0	1245.0	123.3	471.9	471.9	471.9
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0							
Storage Blk Time (%)	0	13			6	10						
Queuing Penalty (veh)	0	2			17	14						

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	TR
Maximum Queue (m)	91.6	40.1	53.1
Average Queue (m)	47.4	23.2	29.1
95th Queue (m)	78.4	37.9	47.6
Link Distance (m)	2472.1	2472.1	2472.1
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report  
AM Peak Hour

02/19/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	L	L	T	T	T
Maximum Queue (m)	106.0	117.4	110.7	123.6	91.8	4.8	1.4	45.6	47.5	141.8	118.6	115.7
Average Queue (m)	63.2	75.8	82.4	86.4	22.5	0.3	0.0	35.3	44.8	86.7	76.6	62.9
95th Queue (m)	103.0	108.2	110.7	118.4	64.7	3.9	0.9	54.3	53.9	126.6	113.5	97.4
Link Distance (m)		123.3	123.3	123.3		1245.0	1245.0			736.2	736.2	736.2
Upstream Blk Time (%)		1	0	1								
Queuing Penalty (veh)		4	0	2								
Storage Bay Dist (m)	105.0				105.0			45.0	45.0			
Storage Blk Time (%)	2	0		2	0			2	17	34		9
Queuing Penalty (veh)	7	1		3	0			5	37	77		17

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	57.5	47.4	103.6	94.7	57.5	130.7	139.9	127.1	82.5
Average Queue (m)	32.9	29.2	49.9	45.6	27.0	80.7	65.4	63.7	36.8
95th Queue (m)	64.9	52.9	84.6	79.0	52.5	129.9	103.3	100.6	78.8
Link Distance (m)			552.5	552.5			587.4	587.4	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)	55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	1	11	11	3	0	0	0	2	0
Queuing Penalty (veh)	1	22	10	8	1	1	0	8	1

Zone Summary

Zone wide Queuing Penalty: 1569



Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	84.8	84.9	108.9	125.1	58.5
Average Queue (m)	44.9	41.1	46.0	72.0	27.0
95th Queue (m)	73.3	70.6	86.4	117.5	52.0
Link Distance (m)	584.0	476.1	476.1	284.6	334.3
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	495.1	496.1	52.3	93.1	61.2	428.9	488.2	49.8
Average Queue (m)	164.8	163.9	36.9	29.2	25.0	109.8	165.8	19.1
95th Queue (m)	480.8	482.8	57.7	74.5	48.4	394.8	473.0	40.3
Link Distance (m)	878.7	878.7		333.4	333.4	570.5	570.5	423.9
Upstream Blk Time (%)						5	6	
Queuing Penalty (veh)						17	21	
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			4	1				
Queuing Penalty (veh)			13	3				

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.4	995.0	992.8	67.4	130.6	97.1	37.3	847.0	848.6	847.8	62.5	37.3
Average Queue (m)	42.4	913.4	822.2	56.2	57.5	53.3	28.3	837.0	839.3	837.9	52.7	37.1
95th Queue (m)	42.6	1177.0	1283.8	76.9	112.9	83.5	43.7	843.0	846.6	844.2	85.7	38.9
Link Distance (m)		987.6	987.6		929.8	929.8		833.8	833.8	833.8		
Upstream Blk Time (%)		59	27					13	18	21		
Queuing Penalty (veh)		312	143					175	239	275		
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	84	41		14	2		7	50		50	1	85
Queuing Penalty (veh)	96	283		20	8		72	97		193	14	543

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	627.7	625.7	627.1	62.5
Average Queue (m)	553.8	552.5	556.4	57.2
95th Queue (m)	741.2	743.6	745.9	79.5
Link Distance (m)	609.9	609.9	609.9	
Upstream Blk Time (%)	36	33	64	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	18		40	6
Queuing Penalty (veh)	31		234	40

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	59.9	54.8	44.2	52.0	64.6	59.9	61.0	317.3	98.7
Average Queue (m)	36.6	30.9	15.6	30.2	22.4	33.3	41.5	181.2	49.3
95th Queue (m)	53.6	50.5	36.8	50.1	48.2	52.3	59.0	326.3	84.7
Link Distance (m)	658.7	658.7	658.7		1399.1	1399.1	1399.1	423.6	2762.0
Upstream Blk Time (%)								1	
Queuing Penalty (veh)								0	
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				3	0				
Queuing Penalty (veh)				7	1				

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.3	102.4	93.4	84.5	32.3	65.8	81.1	85.6	51.5	73.9	76.6	67.6
Average Queue (m)	12.7	65.0	61.7	58.3	17.2	32.9	42.7	53.7	26.9	50.8	48.6	38.3
95th Queue (m)	33.0	90.7	84.9	82.4	33.8	58.1	68.0	79.2	46.4	67.7	70.3	61.3
Link Distance (m)		1399.1	1399.1	1399.1		1245.0	1245.0	1245.0	471.9	471.9	471.9	2472.1
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0							
Storage Blk Time (%)	0	33			1	8						
Queuing Penalty (veh)	0	16			6	10						

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	43.9	49.8
Average Queue (m)	18.8	25.5
95th Queue (m)	35.5	43.7
Link Distance (m)	2472.1	2472.1
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report  
PM Peak Hour

02/19/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	B36	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	L	T	T
Maximum Queue (m)	107.5	151.9	70.6	73.2	31.0	452.0	399.3	360.8	44.7	47.5	748.3	747.6
Average Queue (m)	107.3	138.9	39.0	41.3	12.0	319.0	151.6	75.8	28.1	44.3	608.8	599.7
95th Queue (m)	108.1	159.8	60.5	63.2	24.7	568.6	481.9	326.9	51.1	59.0	896.0	893.7
Link Distance (m)		123.3	123.3	123.3		1245.0	1245.0	1245.0			736.2	736.2
Upstream Blk Time (%)		70									46	35
Queuing Penalty (veh)		306									0	0
Storage Bay Dist (m)	105.0				105.0				45.0	45.0		
Storage Blk Time (%)	67	16							1	6	78	
Queuing Penalty (veh)	149	110							3	18	238	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	746.5	57.5	47.5	562.3	566.4	57.5	96.0	600.1	604.0	82.5
Average Queue (m)	584.8	51.1	47.2	476.6	474.7	49.4	43.9	586.7	591.3	82.5
95th Queue (m)	889.6	75.1	50.8	646.2	646.7	75.0	84.5	640.8	632.3	82.5
Link Distance (m)	736.2			552.5	552.5			587.4	587.4	
Upstream Blk Time (%)	33			40	42			23	78	
Queuing Penalty (veh)	0			0	0			0	0	
Storage Bay Dist (m)		55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	82	2	80	72	55	2			29	69
Queuing Penalty (veh)	146	7	308	161	159	10			283	304

Zone Summary

Zone wide Queuing Penalty: 5069

Queuing and Blocking Report  
AM Peak Hour

03/01/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	76.0	56.0	64.8	108.0	52.9
Average Queue (m)	42.2	25.3	31.0	51.6	22.1
95th Queue (m)	67.7	44.6	53.2	93.3	42.1
Link Distance (m)	584.0	476.1	476.1	284.6	334.3
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	151.7	152.8	50.7	44.7	40.4	38.4	91.1	58.0
Average Queue (m)	60.5	61.5	31.7	14.1	20.4	18.7	42.0	23.7
95th Queue (m)	129.6	130.6	49.4	31.6	35.0	35.7	82.6	46.2
Link Distance (m)	878.6	878.6		333.4	333.4	568.7	568.7	250.9
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			1	0				
Queuing Penalty (veh)			2	0				

Queuing and Blocking Report  
AM Peak Hour

03/01/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.4	994.9	991.4	67.3	105.3	83.4	37.4	508.0	511.8	515.2	62.5	37.3
Average Queue (m)	42.4	766.7	639.0	57.2	48.7	48.2	36.3	352.9	349.7	343.1	37.3	35.4
95th Queue (m)	42.5	1185.4	1186.7	77.5	95.3	72.5	41.8	620.5	628.1	632.0	82.2	43.2
Link Distance (m)		987.7	987.7		1138.2	1138.2		833.7	833.7	833.7		
Upstream Blk Time (%)		26	8									
Queuing Penalty (veh)		139	41									
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	74	40		9	0		78	28		40	1	62
Queuing Penalty (veh)	90	231		9	1		508	21		66	4	534

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	849.7	849.0	847.7	62.5
Average Queue (m)	791.4	788.3	784.6	46.5
95th Queue (m)	978.3	978.9	981.9	85.9
Link Distance (m)	831.2	831.2	831.2	
Upstream Blk Time (%)	64	61	71	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	41		44	1
Queuing Penalty (veh)	31		138	9

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	73.6	76.0	75.4	52.4	97.0	69.2	75.6	141.6	199.0
Average Queue (m)	46.1	47.2	44.6	36.5	26.1	24.8	32.2	67.6	84.0
95th Queue (m)	66.4	67.6	70.4	58.6	73.3	52.6	59.3	123.8	163.3
Link Distance (m)	1658.6	1658.6	1658.6		1398.5	1398.5	1398.5	888.7	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				7	1				
Queuing Penalty (veh)				15	2				

Queuing and Blocking Report  
AM Peak Hour

03/01/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.3	97.7	99.8	117.7	32.3	89.8	89.9	98.3	47.7	65.3	59.6	52.4
Average Queue (m)	14.6	60.8	63.8	69.3	24.2	42.1	42.3	48.3	16.3	37.9	31.3	40.2
95th Queue (m)	33.0	96.9	100.1	107.5	38.5	76.5	74.5	83.6	34.9	57.1	53.4	60.3
Link Distance (m)		1398.5	1398.5	1398.5		1244.9	1244.9	1244.9		325.2	325.2	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	2	30			10	10			0	1		7
Queuing Penalty (veh)	6	18			26	15			1	1		18

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	94.6	85.6
Average Queue (m)	46.4	48.9
95th Queue (m)	84.1	75.4
Link Distance (m)	2470.4	2470.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	1	
Queuing Penalty (veh)	4	

Queuing and Blocking Report  
AM Peak Hour

03/01/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	B36	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	L	T	T
Maximum Queue (m)	107.2	134.9	116.2	129.0	107.0	9.7	2.8	5.9	45.6	47.5	129.2	117.2
Average Queue (m)	60.7	77.8	83.8	86.4	29.5	0.3	0.1	0.2	36.9	44.3	80.4	70.3
95th Queue (m)	101.9	113.4	112.0	116.4	76.7	5.7	2.0	3.0	53.1	55.2	120.1	106.0
Link Distance (m)		123.2	123.2	123.2		1244.9	1244.9	1244.9			875.3	875.3
Upstream Blk Time (%)		1	0	0								
Queuing Penalty (veh)		4	0	2								
Storage Bay Dist (m)	105.0				105.0				45.0	45.0		
Storage Blk Time (%)	2	0		2	0				3	20	25	
Queuing Penalty (veh)	6	1		2	0				6	44	58	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	112.0	57.5	47.5	244.2	237.7	57.5	142.3	286.2	273.0	82.5
Average Queue (m)	61.0	33.5	42.6	135.7	130.1	39.7	116.1	165.8	152.8	50.0
95th Queue (m)	98.2	64.7	57.7	275.9	268.1	71.2	173.3	315.7	296.4	98.4
Link Distance (m)	875.3			588.8	588.8			587.4	587.4	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)		55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	9	1	72	50	14	1	32	12	9	1
Queuing Penalty (veh)	17	2	173	48	32	2	185	47	34	4

Intersection: 7: Chinguacousy Road & Street C

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	27.8	31.3
Average Queue (m)	12.6	4.1
95th Queue (m)	21.2	16.8
Link Distance (m)	199.4	284.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		



Queuing and Blocking Report  
AM Peak Hour

03/01/2024

Intersection: 8: Street B & Old School Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	18.5	23.0
Average Queue (m)	4.6	11.9
95th Queue (m)	13.8	19.4
Link Distance (m)	878.6	112.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: McLaughlin Road & Street A

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	LT	TR	LT	TR
Maximum Queue (m)	31.5	47.2	41.7	56.2	30.2	29.0
Average Queue (m)	22.0	8.8	12.9	22.4	10.9	11.6
95th Queue (m)	32.8	27.9	30.6	44.2	24.5	24.0
Link Distance (m)		386.7	2470.4	2470.4	568.7	568.7
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	30.0					
Storage Blk Time (%)	3	0				
Queuing Penalty (veh)	1	0				

Intersection: 10: Street D & Old School Road

Movement	EB	EB	WB	NB
Directions Served	T	TR	LT	LR
Maximum Queue (m)	254.7	255.5	31.8	33.8
Average Queue (m)	74.7	73.5	3.0	14.3
95th Queue (m)	275.8	275.4	15.3	27.7
Link Distance (m)	333.4	333.4	987.7	641.5
Upstream Blk Time (%)	2	3		
Queuing Penalty (veh)	14	19		
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report  
AM Peak Hour

03/01/2024

Intersection: 11: Street A & Street D

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (m)	15.6	26.5
Average Queue (m)	3.4	13.7
95th Queue (m)	12.4	22.4
Link Distance (m)	386.7	641.5
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: Hurontario Street & Street A

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	T	TR
Maximum Queue (m)	32.3	514.0	52.3	126.9	126.3	110.2	273.4	149.0	149.1
Average Queue (m)	20.1	401.7	35.5	61.6	65.1	56.4	111.7	115.5	120.1
95th Queue (m)	38.4	605.9	57.7	127.1	126.1	88.0	211.1	152.4	153.7
Link Distance (m)		934.4		921.8	921.8	921.8	833.7	833.7	833.7
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)	30.0		50.0						
Storage Blk Time (%)	3	66	15	3					
Queuing Penalty (veh)	16	69	104	5					

Network Summary

Network wide Queuing Penalty: 2825
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Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	106.2	97.2	96.9	239.4	141.7
Average Queue (m)	52.5	48.5	46.2	141.5	42.5
95th Queue (m)	89.6	82.4	80.8	251.3	122.2
Link Distance (m)	584.0	476.1	476.1	284.6	334.3
Upstream Blk Time (%)				0	1
Queuing Penalty (veh)				1	0
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	579.8	581.0	52.3	100.9	79.8	505.7	555.2	128.2
Average Queue (m)	180.7	179.8	41.3	35.7	31.7	131.7	189.6	42.9
95th Queue (m)	501.6	504.0	58.5	78.9	58.2	417.9	524.8	113.0
Link Distance (m)	878.6	878.6		333.4	333.4	568.7	568.7	250.9
Upstream Blk Time (%)						4	6	
Queuing Penalty (veh)						14	24	
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			5	0				
Queuing Penalty (veh)			21	2				

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.4	994.4	993.8	67.5	216.4	187.2	37.4	847.6	849.8	846.5	62.5	37.4
Average Queue (m)	42.4	893.5	753.5	63.3	122.0	89.9	32.9	834.5	837.3	837.0	49.0	36.8
95th Queue (m)	42.6	1190.0	1314.1	78.3	247.7	188.9	45.9	855.4	852.4	846.4	86.6	39.4
Link Distance (m)		987.7	987.7		1138.2	1138.2		833.7	833.7	833.7		
Upstream Blk Time (%)		53	19					8	13	16		
Queuing Penalty (veh)		293	106					112	172	207		
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	84	44		45	19		28	42		50	1	75
Queuing Penalty (veh)	101	303		70	68		313	112		192	12	492

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	849.7	848.4	850.4	62.5
Average Queue (m)	767.1	768.3	770.7	60.6
95th Queue (m)	1015.2	1012.5	1013.8	73.9
Link Distance (m)	831.2	831.2	831.2	
Upstream Blk Time (%)	40	44	69	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	27		42	7
Queuing Penalty (veh)	46		263	49

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	70.5	71.2	69.3	52.0	63.1	57.6	67.9	178.8	93.8
Average Queue (m)	47.0	47.5	43.6	30.0	19.4	27.0	36.0	104.0	38.6
95th Queue (m)	66.6	67.5	66.7	50.0	45.0	50.9	60.5	168.7	74.5
Link Distance (m)	1658.6	1658.6	1658.6		1398.5	1398.5	1398.5	888.7	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				2	0				
Queuing Penalty (veh)				5	0				

Queuing and Blocking Report  
PM Peak Hour

03/01/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B36	NB	NB	NB
Directions Served	L	T	T	TR	L	T	T	TR	T	L	T	TR
Maximum Queue (m)	32.4	111.9	98.4	90.0	32.3	86.1	88.8	97.3	1.4	52.4	116.8	104.9
Average Queue (m)	28.0	68.9	58.5	58.4	19.4	45.8	54.3	64.5	0.0	37.4	70.6	65.5
95th Queue (m)	39.1	109.4	90.7	87.7	36.4	76.1	83.0	92.6	1.0	63.2	102.1	94.4
Link Distance (m)		1398.5	1398.5	1398.5		1244.9	1244.9	1244.9	123.2		325.2	325.2
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0					50.0		
Storage Blk Time (%)	13	26			2	17				1	19	
Queuing Penalty (veh)	43	45			7	22				3	28	

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB	SB
Directions Served	L	T	TR
Maximum Queue (m)	52.2	79.4	65.6
Average Queue (m)	36.7	28.2	34.4
95th Queue (m)	56.9	58.1	55.7
Link Distance (m)		2470.4	2470.4
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)	50.0		
Storage Blk Time (%)	4	0	
Queuing Penalty (veh)	8	1	

Queuing and Blocking Report  
PM Peak Hour

03/01/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	B36	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	L	T	T
Maximum Queue (m)	107.5	149.0	67.3	71.2	37.3	452.5	316.6	283.0	45.1	47.5	862.0	857.5
Average Queue (m)	107.4	140.0	38.6	41.8	14.8	277.5	107.2	55.5	28.4	44.6	623.7	614.0
95th Queue (m)	107.5	145.3	61.8	64.5	30.3	530.4	407.6	271.4	52.2	59.1	1000.5	992.9
Link Distance (m)		123.2	123.2	123.2		1244.9	1244.9	1244.9			875.3	875.3
Upstream Blk Time (%)		71									24	18
Queuing Penalty (veh)		315									0	0
Storage Bay Dist (m)	105.0				105.0				45.0	45.0		
Storage Blk Time (%)	70	18							2	10	76	
Queuing Penalty (veh)	156	125							5	28	232	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	843.8	57.5	47.5	604.7	604.6	57.5	125.3	600.5	605.6	82.5
Average Queue (m)	596.6	52.3	46.9	589.1	589.2	47.8	54.4	586.2	590.6	82.5
95th Queue (m)	973.0	76.2	51.0	642.4	645.2	76.5	113.7	644.2	639.4	82.5
Link Distance (m)	875.3			588.8	588.8			587.4	587.4	
Upstream Blk Time (%)	15			80	84			21	73	
Queuing Penalty (veh)	0			0	0			0	0	
Storage Bay Dist (m)		55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	83	2	73	70	59	2	2	2	30	69
Queuing Penalty (veh)	148	6	364	171	173	9	8	4	293	345

Intersection: 7: Chinguacousy Road & Street C

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (m)	24.2	7.3	39.8
Average Queue (m)	9.8	0.4	10.3
95th Queue (m)	18.4	6.0	29.0
Link Distance (m)	199.4	2762.0	284.6
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report  
PM Peak Hour

03/01/2024

Intersection: 8: Street B & Old School Road

Movement	EB	WB	WB	NB
Directions Served	TR	LT	T	LR
Maximum Queue (m)	5.9	34.4	11.6	18.1
Average Queue (m)	0.2	9.7	0.4	8.8
95th Queue (m)	2.7	24.7	6.0	16.3
Link Distance (m)	476.1	878.6	878.6	112.6
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: McLaughlin Road & Street A

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	LT	TR	LT	TR
Maximum Queue (m)	30.3	32.9	98.2	119.5	30.5	27.3
Average Queue (m)	18.2	5.5	20.1	31.3	10.5	10.5
95th Queue (m)	31.1	18.7	84.1	99.2	23.6	23.3
Link Distance (m)		386.7	2470.4	2470.4	568.7	568.7
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	30.0					
Storage Blk Time (%)	2	0				
Queuing Penalty (veh)	1	0				

Intersection: 10: Street D & Old School Road

Movement	EB	EB	WB	NB
Directions Served	T	TR	LT	LR
Maximum Queue (m)	343.6	345.7	43.1	21.5
Average Queue (m)	185.5	184.4	4.7	9.0
95th Queue (m)	439.4	440.8	22.2	18.5
Link Distance (m)	333.4	333.4	987.7	641.5
Upstream Blk Time (%)	18	25		
Queuing Penalty (veh)	108	149		
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Street A & Street D

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (m)	22.2	2.8	20.0
Average Queue (m)	5.5	0.1	9.5
95th Queue (m)	16.6	1.7	15.9
Link Distance (m)	386.7	934.4	641.5
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 12: Hurontario Street & Street A

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	T	TR
Maximum Queue (m)	32.3	73.7	52.4	940.4	939.7	937.5	94.0	106.9	113.1
Average Queue (m)	12.6	31.5	51.7	891.7	889.7	881.4	38.7	44.5	47.4
95th Queue (m)	30.7	57.9	58.3	1113.8	1111.2	1127.1	78.6	87.8	93.4
Link Distance (m)		934.4		921.8	921.8	921.8	833.7	833.7	833.7
Upstream Blk Time (%)				79	63	57			
Queuing Penalty (veh)				0	0	0			
Storage Bay Dist (m)	30.0		50.0						
Storage Blk Time (%)	1	9	13	41					
Queuing Penalty (veh)	2	3	169	199					

Network Summary

Network wide Queuing Penalty: 6149
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Queuing and Blocking Report  
 AM Peak Hour

02/29/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	42.0	39.3	34.1	75.1	39.3
Average Queue (m)	19.4	16.4	14.6	33.6	16.3
95th Queue (m)	33.5	29.7	27.9	60.3	32.4
Link Distance (m)	832.9	476.0	476.0	284.6	634.6
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	60.1	53.0	52.0	59.8	30.1	38.7	92.7	43.3
Average Queue (m)	23.7	21.9	27.9	10.6	14.8	12.7	32.2	21.1
95th Queue (m)	42.3	40.0	45.5	30.6	25.7	26.5	65.5	37.5
Link Distance (m)	878.6	878.6		333.4	333.4	570.5	570.5	528.0
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			1	0				
Queuing Penalty (veh)			2	0				

Queuing and Blocking Report  
AM Peak Hour

02/29/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.5	994.7	995.7	67.3	129.3	81.9	37.3	327.9	327.0	330.3	62.5	37.4
Average Queue (m)	42.4	771.2	596.5	57.4	51.6	43.3	30.2	187.8	185.1	178.9	36.0	31.4
95th Queue (m)	42.6	1178.5	1206.1	76.8	116.2	70.4	47.2	414.0	412.3	411.5	81.0	46.4
Link Distance (m)		987.6	987.6		1294.3	1294.3		833.8	833.8	833.8		
Upstream Blk Time (%)		27	12									
Queuing Penalty (veh)		144	62									
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	75	41		14	4		40	28		25	1	42
Queuing Penalty (veh)	98	236		14	12		254	17		42	5	376

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	800.5	800.5	801.3	62.5
Average Queue (m)	701.6	699.5	696.2	51.6
95th Queue (m)	973.5	972.4	973.3	86.0
Link Distance (m)	783.4	783.4	783.4	
Upstream Blk Time (%)	53	51	63	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	38		44	1
Queuing Penalty (veh)	30		132	9

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	69.7	64.8	57.4	52.4	97.0	79.7	76.4	168.0	195.8
Average Queue (m)	44.3	39.7	25.2	36.8	38.9	43.8	48.7	87.7	115.6
95th Queue (m)	62.8	61.0	51.6	59.3	78.9	70.7	73.3	159.7	209.3
Link Distance (m)	578.4	578.4	578.4		1398.5	1398.5	1398.5	482.2	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				16	4				
Queuing Penalty (veh)				39	6				

Queuing and Blocking Report  
AM Peak Hour

02/29/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.2	109.3	111.2	117.5	32.3	99.3	101.8	117.2	44.4	62.4	59.2	52.4
Average Queue (m)	5.8	69.9	76.7	82.5	24.8	43.3	45.4	52.5	16.7	37.9	33.1	41.2
95th Queue (m)	20.4	98.1	103.3	108.5	37.8	86.2	83.9	93.5	35.5	56.9	54.4	62.4
Link Distance (m)		1398.5	1398.5	1398.5		1244.9	1244.9	1244.9		325.2	325.2	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	0	28			8	10			0	1		10
Queuing Penalty (veh)	0	6			24	16			0	1		22

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	103.6	75.1
Average Queue (m)	38.8	37.4
95th Queue (m)	81.1	62.0
Link Distance (m)	2472.2	2472.2
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	1	
Queuing Penalty (veh)	4	

Queuing and Blocking Report  
AM Peak Hour

02/29/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	B36	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	L	T	T
Maximum Queue (m)	107.3	139.5	134.4	141.8	107.5	22.5	14.2	18.5	45.4	47.5	182.9	171.4
Average Queue (m)	71.9	87.6	91.7	95.4	35.6	1.2	0.7	1.0	40.1	46.5	120.4	107.7
95th Queue (m)	114.5	126.7	125.4	133.2	95.8	10.1	6.2	8.2	52.0	51.5	197.8	182.4
Link Distance (m)		123.5	123.5	123.5		1244.9	1244.9	1244.9			736.2	736.2
Upstream Blk Time (%)		2	1	3								
Queuing Penalty (veh)		12	5	16								
Storage Bay Dist (m)	105.0				105.0				45.0	45.0		
Storage Blk Time (%)	4	2		8	0				10	41	40	
Queuing Penalty (veh)	14	7		9	1				24	96	102	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	135.4	57.5	47.4	192.6	181.7	57.5	142.4	330.1	325.3	82.5
Average Queue (m)	74.2	37.0	42.9	118.5	111.1	41.0	118.7	171.3	159.2	43.8
95th Queue (m)	121.6	68.9	58.2	217.3	207.7	70.4	174.2	360.2	340.9	87.4
Link Distance (m)	736.2			517.1	517.1			587.4	587.4	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)		55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	16	1	70	52	11	2	34	15	4	1
Queuing Penalty (veh)	31	2	154	52	29	4	177	59	15	3

Zone Summary

Zone wide Queuing Penalty: 2358

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	88.2	74.0	92.4	161.0	69.1
Average Queue (m)	46.1	40.8	49.3	89.6	28.4
95th Queue (m)	75.8	66.8	82.9	152.2	55.4
Link Distance (m)	832.9	476.0	476.0	284.6	634.6
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	623.5	631.2	52.2	89.9	61.7	465.6	555.1	48.2
Average Queue (m)	207.3	206.0	36.0	24.5	23.8	135.6	215.8	17.2
95th Queue (m)	569.6	571.8	56.1	64.8	44.2	430.1	575.1	37.9
Link Distance (m)	878.6	878.6		333.4	333.4	570.5	570.5	528.0
Upstream Blk Time (%)						4	5	
Queuing Penalty (veh)						13	18	
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			4	0				
Queuing Penalty (veh)			12	1				

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.4	994.9	994.2	67.4	185.1	144.7	37.3	845.3	848.6	847.5	62.5	37.4
Average Queue (m)	42.4	906.4	791.3	59.9	89.1	65.7	28.8	837.0	839.4	837.8	54.9	35.7
95th Queue (m)	42.4	1193.1	1298.2	77.8	197.5	133.6	44.8	842.4	846.3	844.1	84.9	43.7
Link Distance (m)		987.6	987.6		1294.3	1294.3		833.8	833.8	833.8		
Upstream Blk Time (%)		60	17					13	18	21		
Queuing Penalty (veh)		330	92					178	238	278		
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	86	49		28	9		7	49		49	1	74
Queuing Penalty (veh)	106	338		46	33		75	100		193	16	484

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	799.9	800.7	802.0	62.5
Average Queue (m)	705.9	703.8	707.0	60.2
95th Queue (m)	951.1	950.0	953.6	73.3
Link Distance (m)	783.4	783.4	783.4	
Upstream Blk Time (%)	39	38	62	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	23		42	5
Queuing Penalty (veh)	39		246	32

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	91.7	90.1	73.1	48.5	48.7	55.0	65.2	197.6	76.4
Average Queue (m)	59.1	54.3	41.0	24.5	19.7	27.0	34.7	94.6	40.4
95th Queue (m)	79.3	74.1	65.1	44.5	41.9	50.5	60.5	166.3	71.6
Link Distance (m)	578.4	578.4	578.4		1398.5	1398.5	1398.5	482.2	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				1	0				
Queuing Penalty (veh)				3	0				

Queuing and Blocking Report  
PM Peak Hour

02/29/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.3	95.3	91.4	95.1	32.3	63.6	82.9	87.8	52.4	82.4	80.8	52.0
Average Queue (m)	12.9	52.9	51.1	52.1	17.0	32.3	43.7	53.7	28.4	52.1	46.8	30.8
95th Queue (m)	30.6	90.9	85.5	83.6	33.1	60.8	72.8	81.1	53.4	77.6	73.1	51.6
Link Distance (m)		1398.5	1398.5	1398.5		1244.9	1244.9	1244.9		325.2	325.2	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	1	21			1	7			0	8		3
Queuing Penalty (veh)	3	11			4	10			1	12		4

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	71.6	48.1
Average Queue (m)	19.3	23.0
95th Queue (m)	47.0	41.3
Link Distance (m)	2472.2	2472.2
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Queuing and Blocking Report  
PM Peak Hour

02/29/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	B36	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	L	T	T
Maximum Queue (m)	107.5	151.2	76.1	83.5	38.3	789.9	764.6	665.1	44.8	47.4	752.3	748.4
Average Queue (m)	107.4	140.9	48.5	51.9	13.7	475.2	358.4	242.0	33.1	45.2	640.5	631.4
95th Queue (m)	107.7	147.1	71.3	75.1	27.7	846.4	864.3	685.6	53.1	55.1	877.0	874.1
Link Distance (m)		123.5	123.5	123.5		1244.9	1244.9	1244.9			736.2	736.2
Upstream Blk Time (%)		75									51	36
Queuing Penalty (veh)		360									0	0
Storage Bay Dist (m)	105.0				105.0				45.0	45.0		
Storage Blk Time (%)	73	16							2	11	74	
Queuing Penalty (veh)	178	115							7	36	250	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	752.3	57.5	47.5	531.4	532.1	57.5	98.2	602.2	604.5	82.5
Average Queue (m)	617.0	49.3	46.8	493.0	492.4	48.1	62.5	587.5	592.7	82.5
95th Queue (m)	874.8	76.5	52.3	609.2	612.2	75.8	127.8	647.0	636.9	82.5
Link Distance (m)	736.2			517.1	517.1			587.4	587.4	
Upstream Blk Time (%)	35			61	68			23	79	
Queuing Penalty (veh)	0			0	0			0	0	
Storage Bay Dist (m)		55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	81	2	73	67	53	4	4	1	28	67
Queuing Penalty (veh)	152	7	307	157	172	15	17	2	287	322

Zone Summary

Zone wide Queuing Penalty: 5296



Queuing and Blocking Report  
AM Peak Hour

02/29/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	45.6	37.6	45.6	107.6	41.5
Average Queue (m)	19.7	19.2	18.8	47.4	17.8
95th Queue (m)	34.9	32.8	35.2	87.5	33.9
Link Distance (m)	584.0	476.1	476.1	284.6	334.3
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	138.2	144.3	51.6	69.0	42.0	76.9	149.9	70.0
Average Queue (m)	40.0	40.7	31.7	14.9	17.5	22.8	49.1	31.5
95th Queue (m)	112.6	114.4	49.6	43.7	32.9	59.2	135.5	54.6
Link Distance (m)	878.6	878.6		333.4	333.4	570.5	570.5	250.9
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			3	0				
Queuing Penalty (veh)			6	1				

Queuing and Blocking Report  
AM Peak Hour

02/29/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.5	988.9	992.8	67.4	146.4	112.8	37.4	530.2	532.2	536.3	62.5	37.3
Average Queue (m)	42.4	804.5	683.7	61.6	74.8	53.1	35.7	391.1	392.0	387.4	36.9	35.3
95th Queue (m)	42.6	1178.4	1214.5	76.7	151.9	89.4	45.5	602.0	608.8	610.5	82.2	42.6
Link Distance (m)		984.0	984.0		1131.8	1131.8		833.7	833.7	833.7		
Upstream Blk Time (%)		32	13									
Queuing Penalty (veh)		181	72									
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	72	39		24	5		82	23		41	1	58
Queuing Penalty (veh)	95	225		25	18		553	18		68	4	522

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	756.0	756.0	756.0	62.5
Average Queue (m)	709.7	706.0	704.4	50.5
95th Queue (m)	876.4	875.5	878.9	87.3
Link Distance (m)	737.5	737.5	737.5	
Upstream Blk Time (%)	66	60	75	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	35		43	1
Queuing Penalty (veh)	27		137	10

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	84.0	85.3	85.5	52.4	121.4	80.8	81.0	169.4	181.3
Average Queue (m)	56.0	55.8	49.0	43.7	50.1	36.0	41.2	73.6	88.5
95th Queue (m)	78.3	79.2	76.8	62.9	111.3	69.2	71.3	142.7	166.1
Link Distance (m)	856.3	856.3	856.3		1398.5	1398.5	1398.5	610.0	2762.0
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				20	5				
Queuing Penalty (veh)				48	14				

Queuing and Blocking Report  
AM Peak Hour

02/29/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.3	108.4	114.0	120.6	32.3	102.6	95.0	101.7	52.3	75.0	67.2	52.4
Average Queue (m)	14.5	68.9	72.1	77.2	25.5	46.2	44.6	50.8	19.4	47.8	42.1	42.8
95th Queue (m)	33.0	105.2	110.4	116.0	39.5	89.0	82.8	88.3	40.5	69.2	63.7	62.8
Link Distance (m)		1398.5	1398.5	1398.5		1244.9	1244.9	1244.9		325.2	325.2	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	0	30			11	11			0	5		11
Queuing Penalty (veh)	2	19			34	17			0	3		30

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	112.3	96.0
Average Queue (m)	54.3	52.6
95th Queue (m)	98.0	84.2
Link Distance (m)	2472.2	2472.2
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	4	
Queuing Penalty (veh)	13	

Queuing and Blocking Report  
AM Peak Hour

02/29/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	B36	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	L	T	T
Maximum Queue (m)	107.4	141.1	131.1	137.5	107.5	32.8	9.1	14.5	45.8	47.5	169.3	142.3
Average Queue (m)	74.8	89.7	92.1	95.4	41.4	1.8	0.4	0.5	40.8	46.5	110.9	88.0
95th Queue (m)	115.6	132.4	125.5	130.8	98.0	16.1	5.4	5.8	52.1	51.5	177.3	137.8
Link Distance (m)		123.4	123.4	123.4		1244.9	1244.9	1244.9			1265.0	1265.0
Upstream Blk Time (%)		4	1	2								
Queuing Penalty (veh)		23	7	9								
Storage Bay Dist (m)	105.0				105.0				45.0	45.0		
Storage Blk Time (%)	7	3		6	0				10	40	35	
Queuing Penalty (veh)	26	9		8	1				24	94	87	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	147.6	57.5	47.4	417.2	399.7	57.5	142.5	536.2	537.7	82.5
Average Queue (m)	82.2	44.0	46.2	228.5	222.0	39.7	135.9	392.6	387.9	62.1
95th Queue (m)	132.2	73.3	50.1	409.7	396.7	72.3	168.8	706.5	703.1	107.5
Link Distance (m)	1265.0			760.6	760.6			587.4	587.4	
Upstream Blk Time (%)								22	20	
Queuing Penalty (veh)								0	0	
Storage Bay Dist (m)		55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	23	2	96	71	17	2	63	29	13	1
Queuing Penalty (veh)	43	5	250	74	44	4	399	114	52	6

Intersection: 7: Chinguacousy Road & Street C

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	26.9	18.2
Average Queue (m)	12.7	3.2
95th Queue (m)	21.4	11.8
Link Distance (m)	199.4	284.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report  
AM Peak Hour

02/29/2024

Intersection: 8: Street B & Old School Road

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	18.3	24.1
Average Queue (m)	4.8	11.7
95th Queue (m)	14.1	19.3
Link Distance (m)	878.6	112.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: McLaughlin Road & Street A

Movement	WB	NB	NB	SB	SB
Directions Served	LTR	LT	TR	LT	TR
Maximum Queue (m)	57.6	39.6	54.1	28.9	28.6
Average Queue (m)	27.7	12.4	22.6	9.7	11.8
95th Queue (m)	45.9	28.0	43.9	21.9	23.3
Link Distance (m)	386.9	2472.2	2472.2	570.5	570.5
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 10: Street D & Old School Road

Movement	EB	EB	WB	NB
Directions Served	T	TR	LT	L
Maximum Queue (m)	327.9	330.7	21.7	45.4
Average Queue (m)	91.4	88.4	1.7	16.8
95th Queue (m)	293.6	290.2	10.1	34.5
Link Distance (m)	333.4	333.4	984.0	641.5
Upstream Blk Time (%)	3	4		
Queuing Penalty (veh)	20	24		
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report  
AM Peak Hour

02/29/2024

Intersection: 11: Street A & Street D

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (m)	19.5	26.9
Average Queue (m)	2.6	13.2
95th Queue (m)	11.1	21.1
Link Distance (m)	386.9	641.5
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: Hurontario Street & Street A

Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	T	TR
Maximum Queue (m)	32.3	507.6	49.1	50.2	46.6	51.0	140.2	282.6	149.6
Average Queue (m)	26.7	443.7	24.5	18.9	25.2	23.1	83.8	96.5	93.4
95th Queue (m)	41.0	564.3	42.2	37.3	44.9	45.3	139.8	212.2	153.5
Link Distance (m)		930.6		921.8	921.8	921.8	833.7	833.7	833.7
Upstream Blk Time (%)									0
Queuing Penalty (veh)									0
Storage Bay Dist (m)	30.0		50.0						
Storage Blk Time (%)	7	69	0	0					
Queuing Penalty (veh)	34	72	1	0					

Network Summary

Network wide Queuing Penalty: 3575
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Queuing and Blocking Report  
PM Peak Hour

02/29/2024

Intersection: 1: Chinguacousy Road & Old School Road

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	L	TR	LTR	LTR
Maximum Queue (m)	140.1	78.3	104.8	267.5	91.8
Average Queue (m)	66.4	43.2	54.2	171.0	47.1
95th Queue (m)	112.7	68.9	92.6	253.9	74.2
Link Distance (m)	584.0	476.1	476.1	284.6	334.3
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: McLaughlin Road & Old School Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	LT	TR	L	T	TR	LT	R	LTR
Maximum Queue (m)	752.7	770.2	52.3	111.3	65.0	476.3	572.9	102.1
Average Queue (m)	200.4	202.3	44.0	39.9	26.2	99.2	186.5	33.0
95th Queue (m)	566.6	570.2	59.4	88.8	43.7	306.9	500.8	65.3
Link Distance (m)	878.6	878.6		333.4	333.4	570.5	570.5	250.9
Upstream Blk Time (%)							3	
Queuing Penalty (veh)							10	
Storage Bay Dist (m)			50.0					
Storage Blk Time (%)			7	1				
Queuing Penalty (veh)			27	4				

Queuing and Blocking Report  
PM Peak Hour

02/29/2024

Intersection: 3: Hurontario Street & Old School Road

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	T	R	L
Maximum Queue (m)	42.4	988.2	988.8	67.5	185.7	126.0	37.4	847.1	852.3	847.5	62.5	37.3
Average Queue (m)	42.4	867.2	737.6	62.3	116.6	63.0	33.6	834.2	839.5	837.1	54.1	37.1
95th Queue (m)	42.5	1220.9	1286.5	81.5	188.9	103.5	44.1	840.6	848.9	843.1	84.1	37.9
Link Distance (m)		984.0	984.0		1131.8	1131.8		833.7	833.7	833.7		
Upstream Blk Time (%)		52	15					7	11	15		
Queuing Penalty (veh)		298	84					97	150	201		
Storage Bay Dist (m)	40.0			65.0			35.0				60.0	35.0
Storage Blk Time (%)	86	43		53	25		26	40		50	1	76
Queuing Penalty (veh)	111	299		89	88		294	111		194	14	516

Intersection: 3: Hurontario Street & Old School Road

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (m)	753.4	756.7	756.7	62.5
Average Queue (m)	714.6	715.5	714.5	59.1
95th Queue (m)	861.0	863.2	872.1	76.2
Link Distance (m)	737.5	737.5	737.5	
Upstream Blk Time (%)	37	47	77	
Queuing Penalty (veh)	0	0	0	
Storage Bay Dist (m)				60.0
Storage Blk Time (%)	32		42	7
Queuing Penalty (veh)	55		266	50

Intersection: 4: Chinguacousy Road & Mayfield Road

Movement	EB	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	LT	T	TR	L	T	T	TR	LTR	LTR
Maximum Queue (m)	82.0	83.1	80.2	52.3	66.3	70.4	73.4	629.2	90.7
Average Queue (m)	55.9	56.6	49.8	35.6	26.9	31.6	40.4	565.7	48.9
95th Queue (m)	70.2	74.8	70.8	56.9	60.1	56.3	65.6	724.6	80.7
Link Distance (m)	856.3	856.3	856.3		1398.5	1398.5	1398.5	610.0	2762.0
Upstream Blk Time (%)								60	
Queuing Penalty (veh)								0	
Storage Bay Dist (m)				50.0					
Storage Blk Time (%)				5	0				
Queuing Penalty (veh)				15	1				



Queuing and Blocking Report  
PM Peak Hour

02/29/2024

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	SB
Directions Served	L	T	T	TR	L	T	T	TR	L	T	TR	L
Maximum Queue (m)	32.3	160.9	147.6	107.3	32.3	90.8	98.4	105.7	52.4	106.8	104.5	52.2
Average Queue (m)	26.0	70.1	62.6	58.8	22.4	49.1	57.9	67.8	38.8	72.3	66.6	37.0
95th Queue (m)	40.9	121.3	105.4	91.7	37.5	81.1	85.4	101.4	65.6	101.6	92.8	56.5
Link Distance (m)		1398.5	1398.5	1398.5		1244.9	1244.9	1244.9		325.2	325.2	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	30.0				30.0				50.0			50.0
Storage Blk Time (%)	19	24			0	18			0	19		12
Queuing Penalty (veh)	69	44			1	24			1	29		23

Intersection: 5: McLaughlin Road & Mayfield Road

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (m)	112.6	94.9
Average Queue (m)	40.2	46.3
95th Queue (m)	80.8	72.7
Link Distance (m)	2472.2	2472.2
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)	0	
Queuing Penalty (veh)	1	

Queuing and Blocking Report  
PM Peak Hour

02/29/2024

Intersection: 6: Hurontario Street & Mayfield Road

Movement	EB	EB	EB	EB	EB	B36	B36	B36	WB	WB	WB	WB
Directions Served	L	T	T	T	R	T	T	T	L	L	T	T
Maximum Queue (m)	107.5	149.7	71.4	71.4	28.4	728.2	711.5	684.9	44.6	47.5	1162.2	1126.6
Average Queue (m)	107.3	137.1	48.2	51.4	15.7	377.9	229.4	169.9	34.3	45.5	722.2	711.5
95th Queue (m)	107.6	168.5	66.3	72.5	29.5	705.6	691.8	591.2	53.7	53.0	1130.2	1113.4
Link Distance (m)		123.4	123.4	123.4		1244.9	1244.9	1244.9			1265.0	1265.0
Upstream Blk Time (%)		72										
Queuing Penalty (veh)		347										
Storage Bay Dist (m)	105.0				105.0				45.0	45.0		
Storage Blk Time (%)	72	13							1	10	74	
Queuing Penalty (veh)	174	93							5	32	248	

Intersection: 6: Hurontario Street & Mayfield Road

Movement	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	R	L	T	T	R
Maximum Queue (m)	1118.3	57.5	47.5	779.9	772.6	57.5	142.4	603.3	606.6	82.5
Average Queue (m)	700.9	50.4	45.1	709.3	708.1	46.6	60.1	591.0	596.0	82.5
95th Queue (m)	1087.8	76.0	55.6	894.8	895.8	73.8	116.0	600.3	603.6	82.5
Link Distance (m)	1265.0			760.6	760.6			587.4	587.4	
Upstream Blk Time (%)				61	64			20	75	
Queuing Penalty (veh)				0	0			0	0	
Storage Bay Dist (m)		55.0	45.0			55.0	140.0			80.0
Storage Blk Time (%)	81	1	48	65	59	2	0	5	26	66
Queuing Penalty (veh)	151	5	260	165	189	11	0	13	271	359

Intersection: 7: Chinguacousy Road & Street C

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (m)	22.8	54.4
Average Queue (m)	10.2	9.4
95th Queue (m)	17.3	30.8
Link Distance (m)	199.4	284.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Street B & Old School Road

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (m)	6.6	33.9	23.3
Average Queue (m)	0.2	7.9	9.1
95th Queue (m)	2.2	21.0	15.7
Link Distance (m)	476.1	878.6	112.6
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: McLaughlin Road & Street A

Movement	WB	NB	NB	SB	SB
Directions Served	LTR	LT	TR	LT	TR
Maximum Queue (m)	45.5	42.8	69.3	33.8	33.0
Average Queue (m)	19.4	13.7	23.1	10.7	11.1
95th Queue (m)	36.0	31.1	52.5	24.1	26.3
Link Distance (m)	386.9	2472.2	2472.2	570.5	570.5
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 10: Street D & Old School Road

Movement	EB	EB	WB	NB
Directions Served	T	TR	LT	L
Maximum Queue (m)	339.6	343.8	28.9	29.0
Average Queue (m)	180.7	179.6	3.1	11.9
95th Queue (m)	434.8	436.5	14.7	22.0
Link Distance (m)	333.4	333.4	984.0	641.5
Upstream Blk Time (%)	21	26		
Queuing Penalty (veh)	133	160		
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report  
PM Peak Hour

02/29/2024

Intersection: 11: Street A & Street D

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (m)	33.1	15.9
Average Queue (m)	3.5	9.6
95th Queue (m)	15.1	15.9
Link Distance (m)	386.9	641.5
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 12: Hurontario Street & Street A

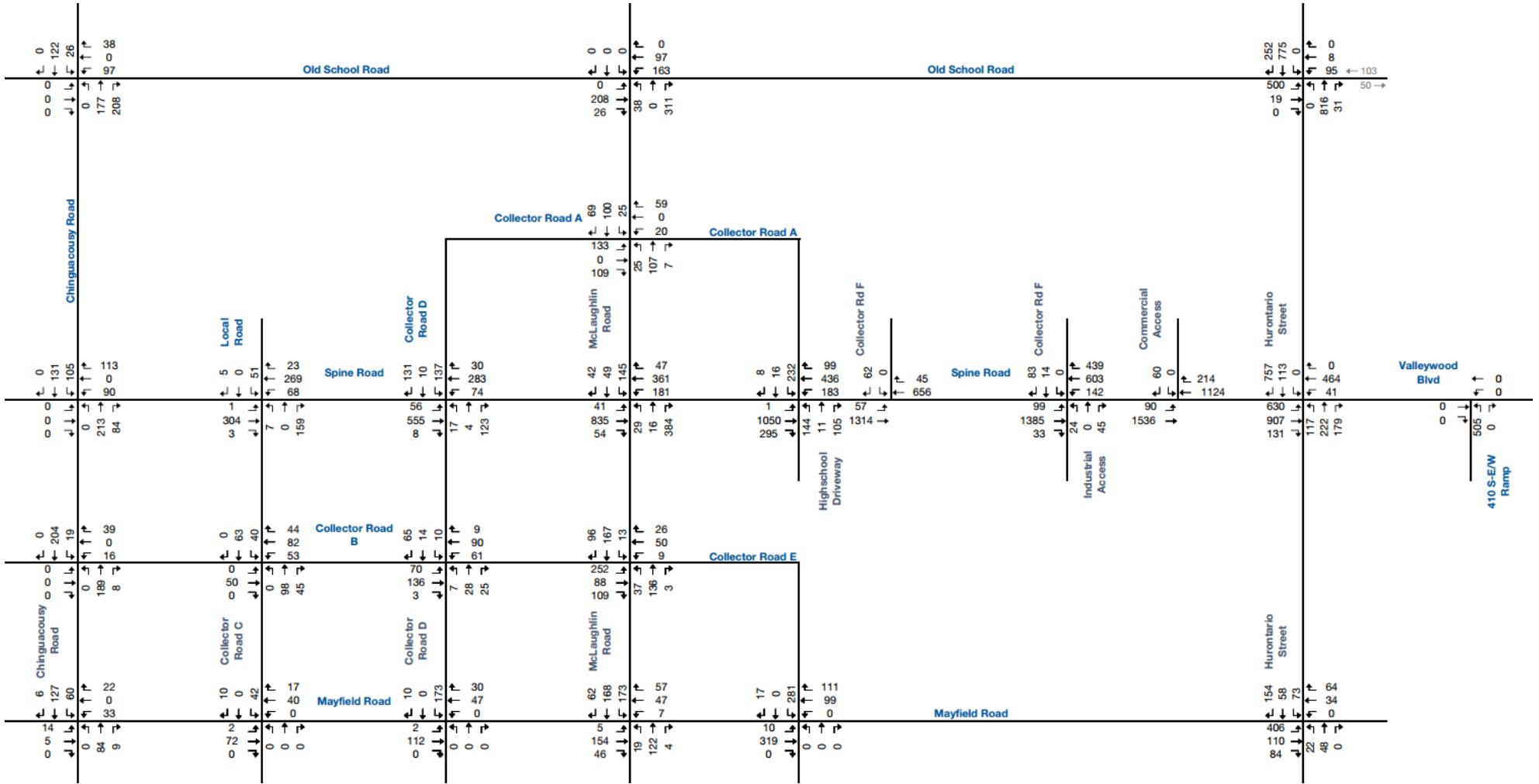
Movement	EB	EB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	T	TR
Maximum Queue (m)	32.3	58.8	52.4	941.1	937.7	941.1	103.8	107.8	117.7
Average Queue (m)	13.0	30.9	52.3	898.4	897.0	899.1	46.9	52.1	55.2
95th Queue (m)	31.3	54.7	52.4	1080.0	1079.4	1079.5	98.5	100.3	108.8
Link Distance (m)		930.6		921.8	921.8	921.8	833.7	833.7	833.7
Upstream Blk Time (%)				81	68	60			
Queuing Penalty (veh)				0	0	0			
Storage Bay Dist (m)	30.0		50.0						
Storage Blk Time (%)	0	11	11	41					
Queuing Penalty (veh)	0	4	145	199					

Network Summary

Network wide Queuing Penalty: 6131
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# **Appendix E**

## **Background Developments**



## Site Trip Assignment – AM Peak Hour



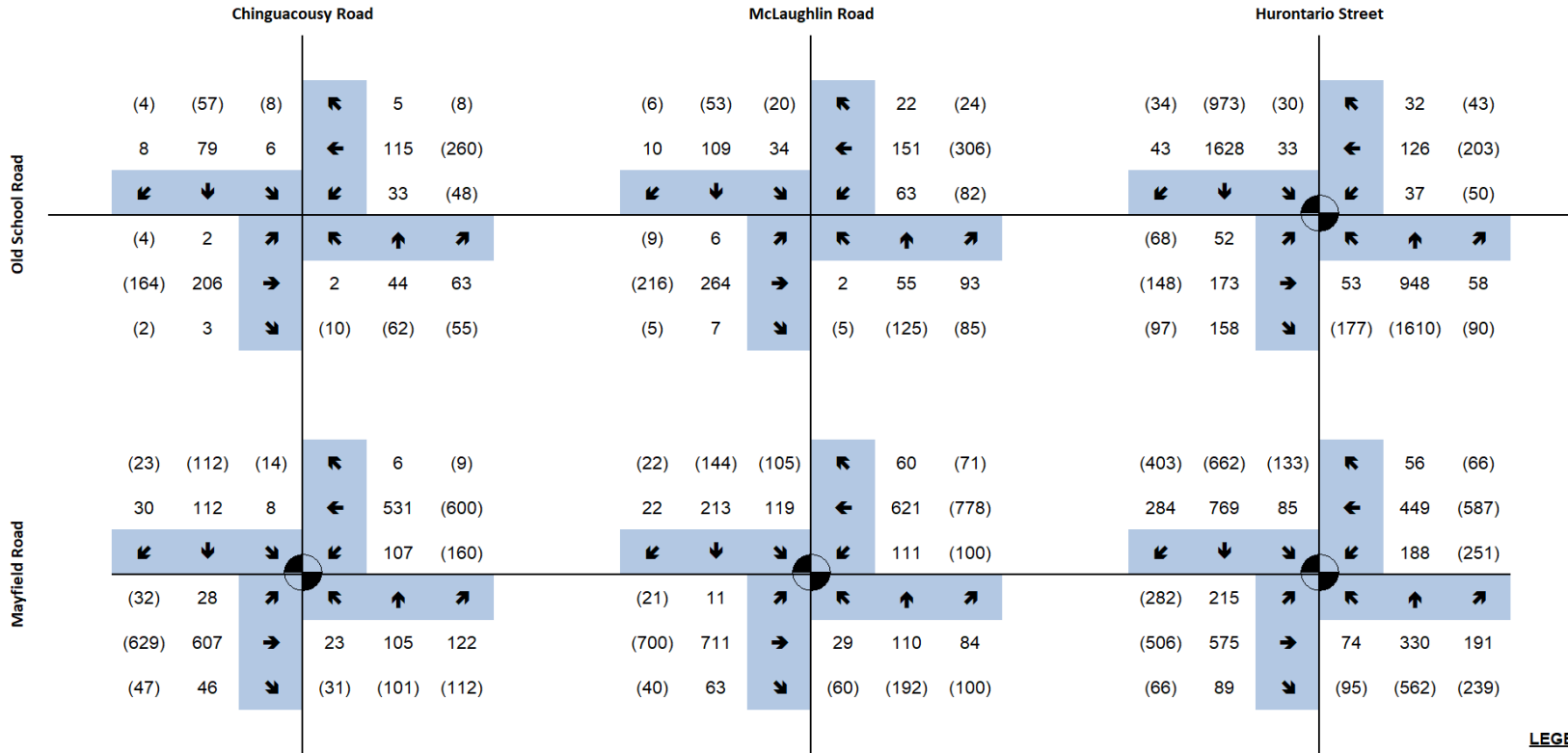



**FIGURE 16 SITE TRAFFIC VOLUMES WITH THE GTA WEST HIGHWAY**



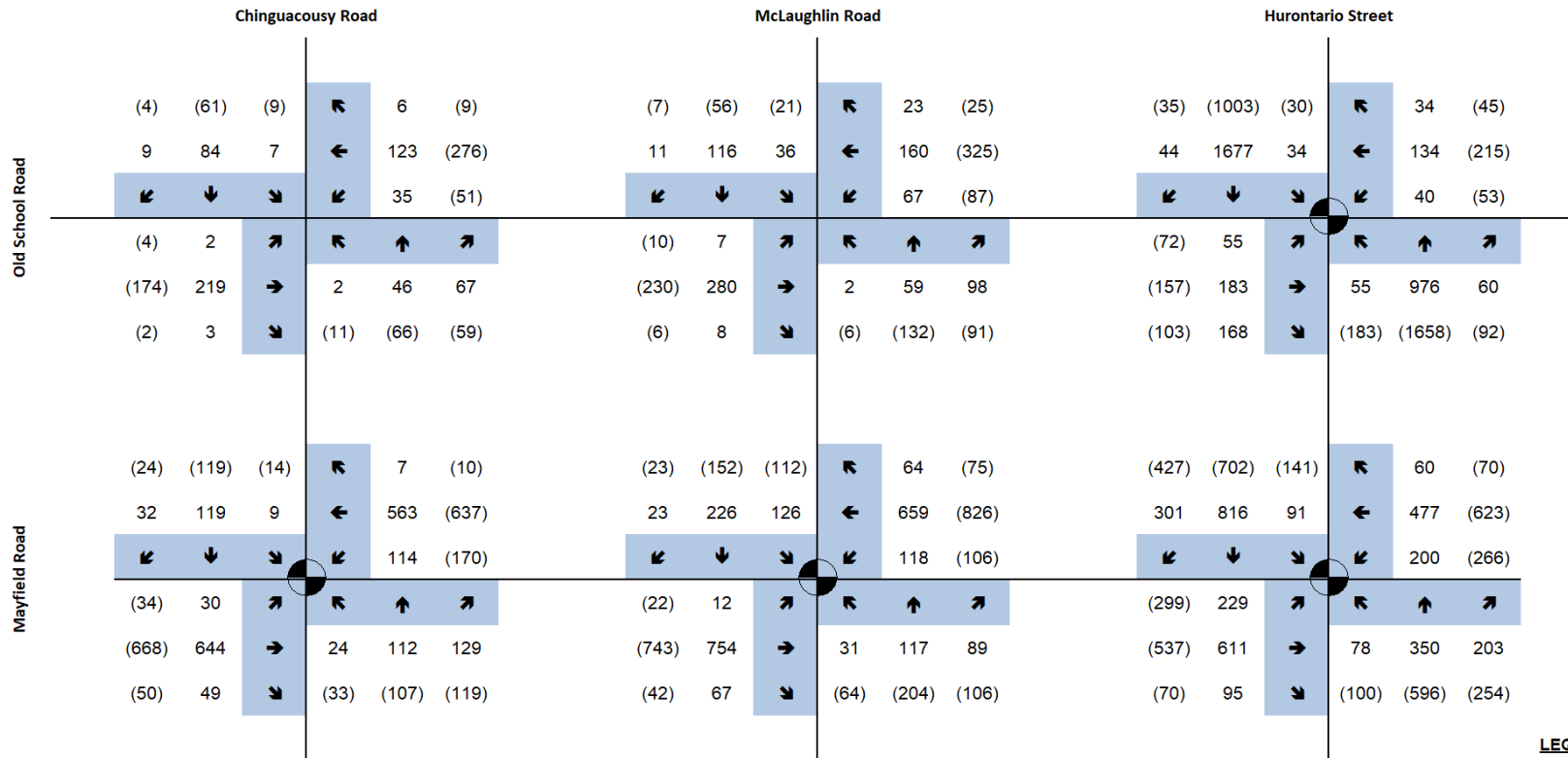


FIGURE 17 SITE TRAFFIC VOLUMES WITHOUT THE GTA WEST HIGHWAY



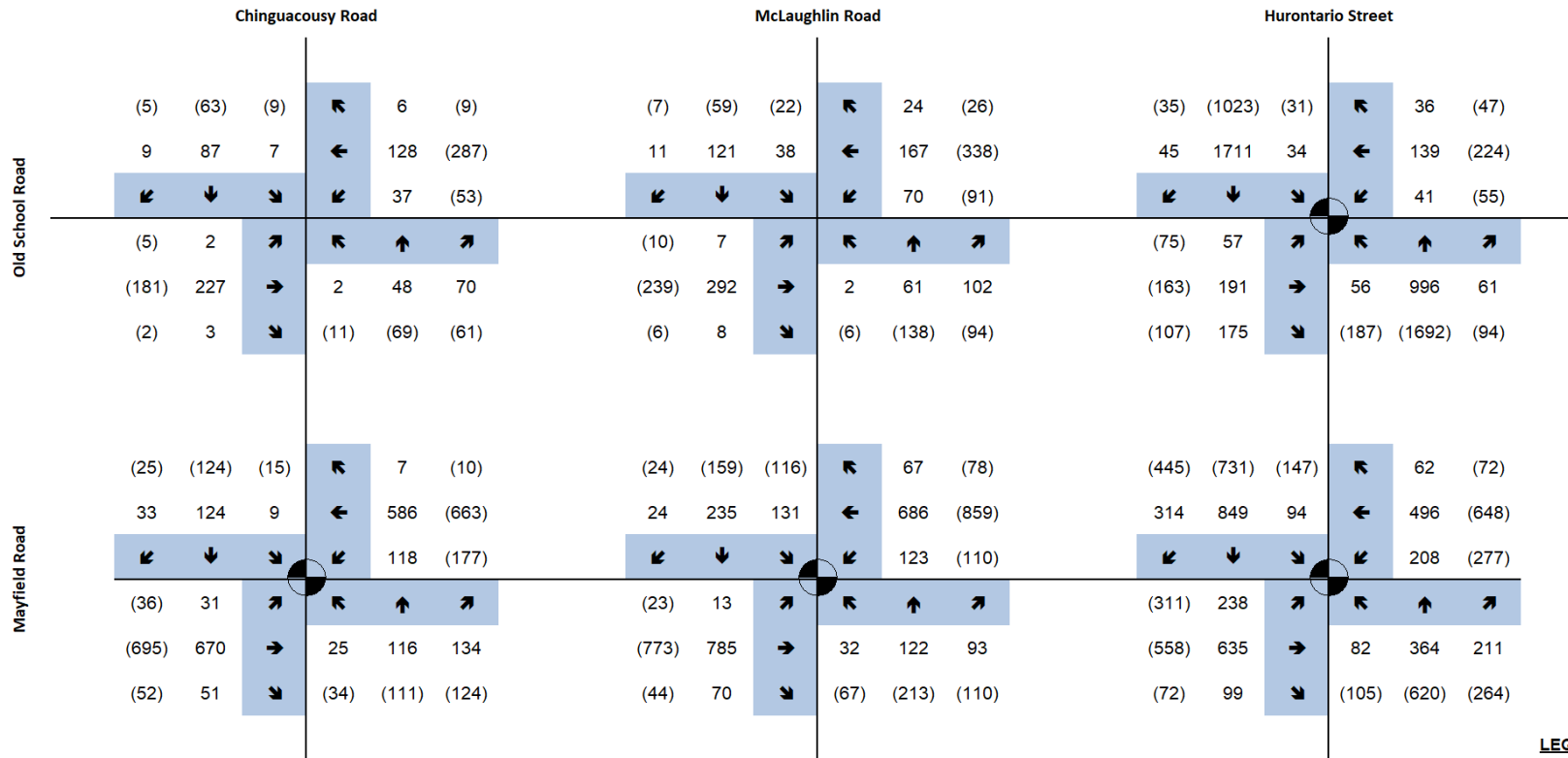
**LEGEND**  
 XX AM Peak Hour Volumes  
 (XX) PM Peak Hour Volumes  
 Traffic Signal

Corridor Growth - 2026



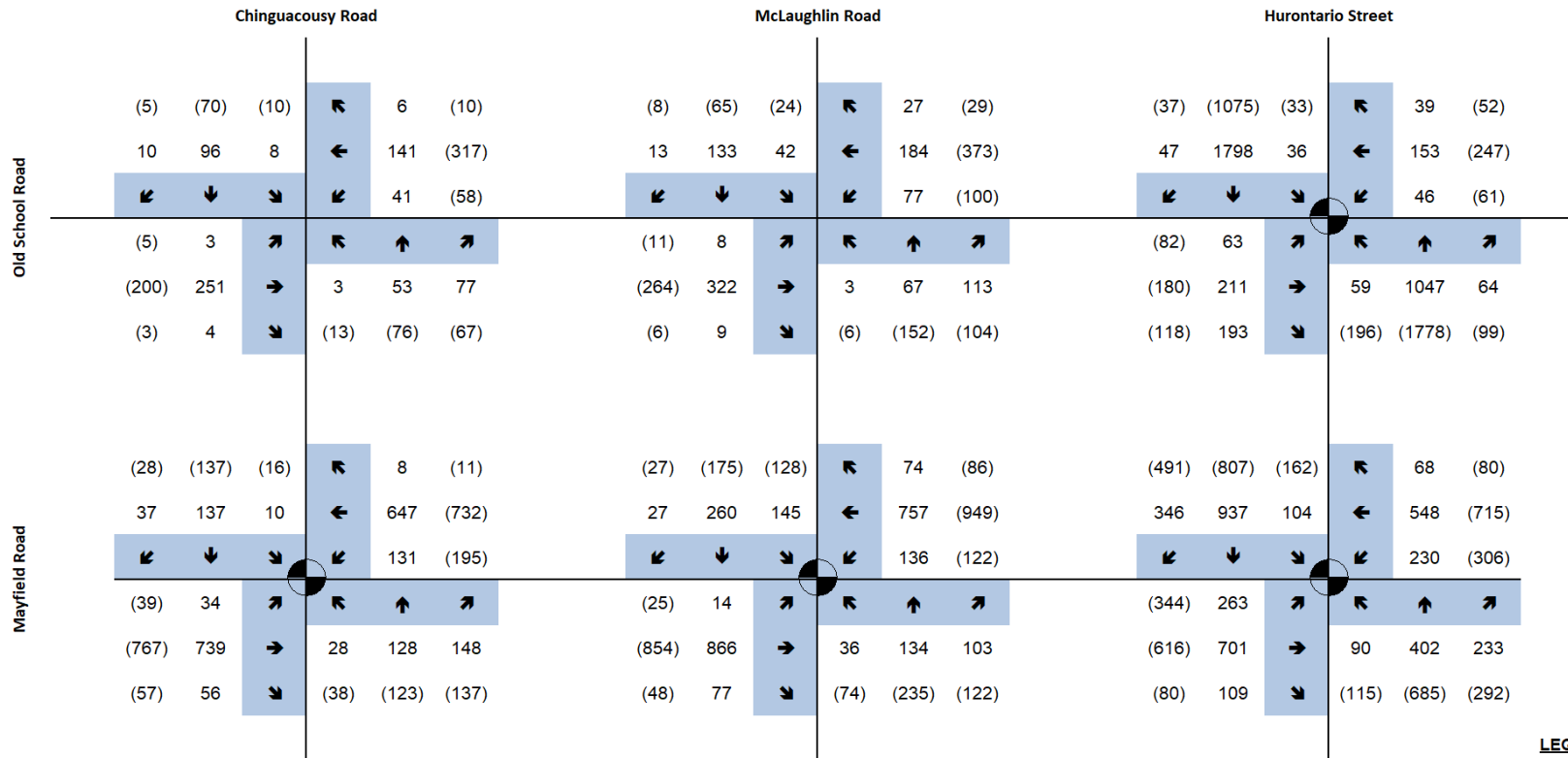
**LEGEND**  
 XX AM Peak Hour Volumes  
 (XX) PM Peak Hour Volumes  
 ● Traffic Signal

Corridor Growth - 2029



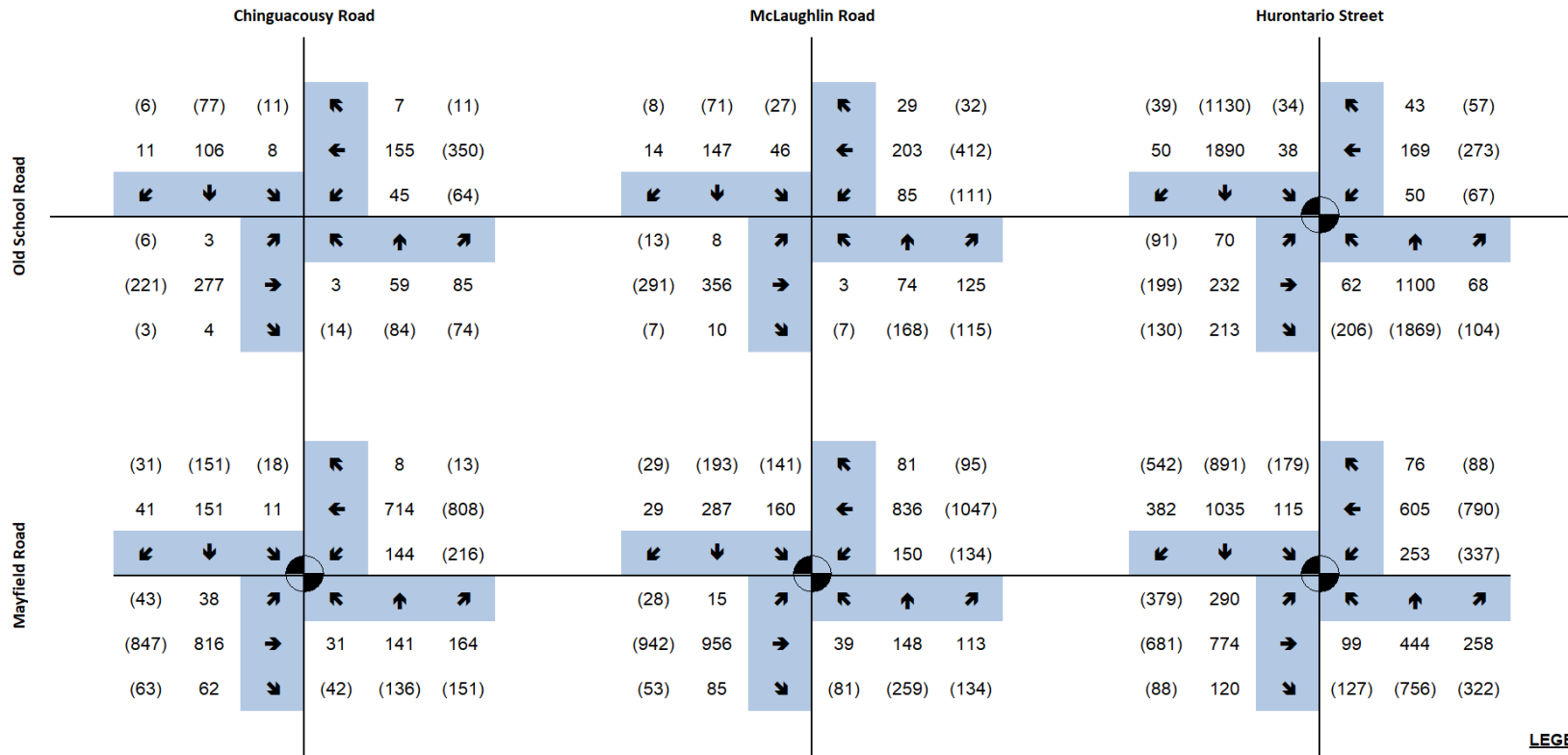
**LEGEND**  
 XX AM Peak Hour Volumes  
 (XX) PM Peak Hour Volumes  
 Traffic Signal

Corridor Growth - 2031



**LEGEND**  
 XX AM Peak Hour Volumes  
 (XX) PM Peak Hour Volumes  
 ● Traffic Signal

Corridor Growth - 2036



**LEGEND**

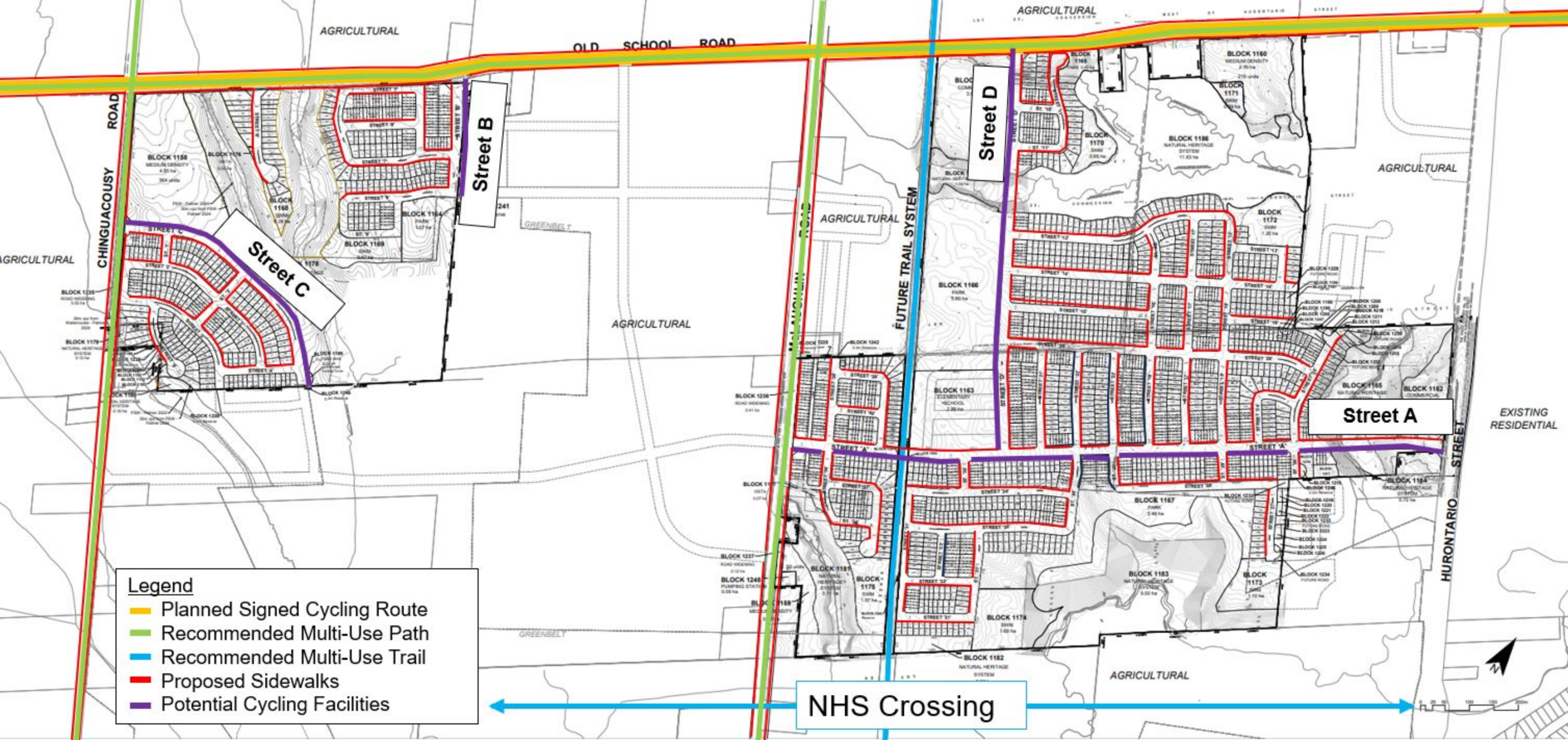
- XX AM Peak Hour Volumes
- (XX) PM Peak Hour Volumes
- Traffic Signal

Corridor Growth - 2041

# **Appendix F**

**Active Transportation Plan**





**Legend**

- Planned Signed Cycling Route
- Recommended Multi-Use Path
- Recommended Multi-Use Trail
- Proposed Sidewalks
- Potential Cycling Facilities

NHS Crossing





