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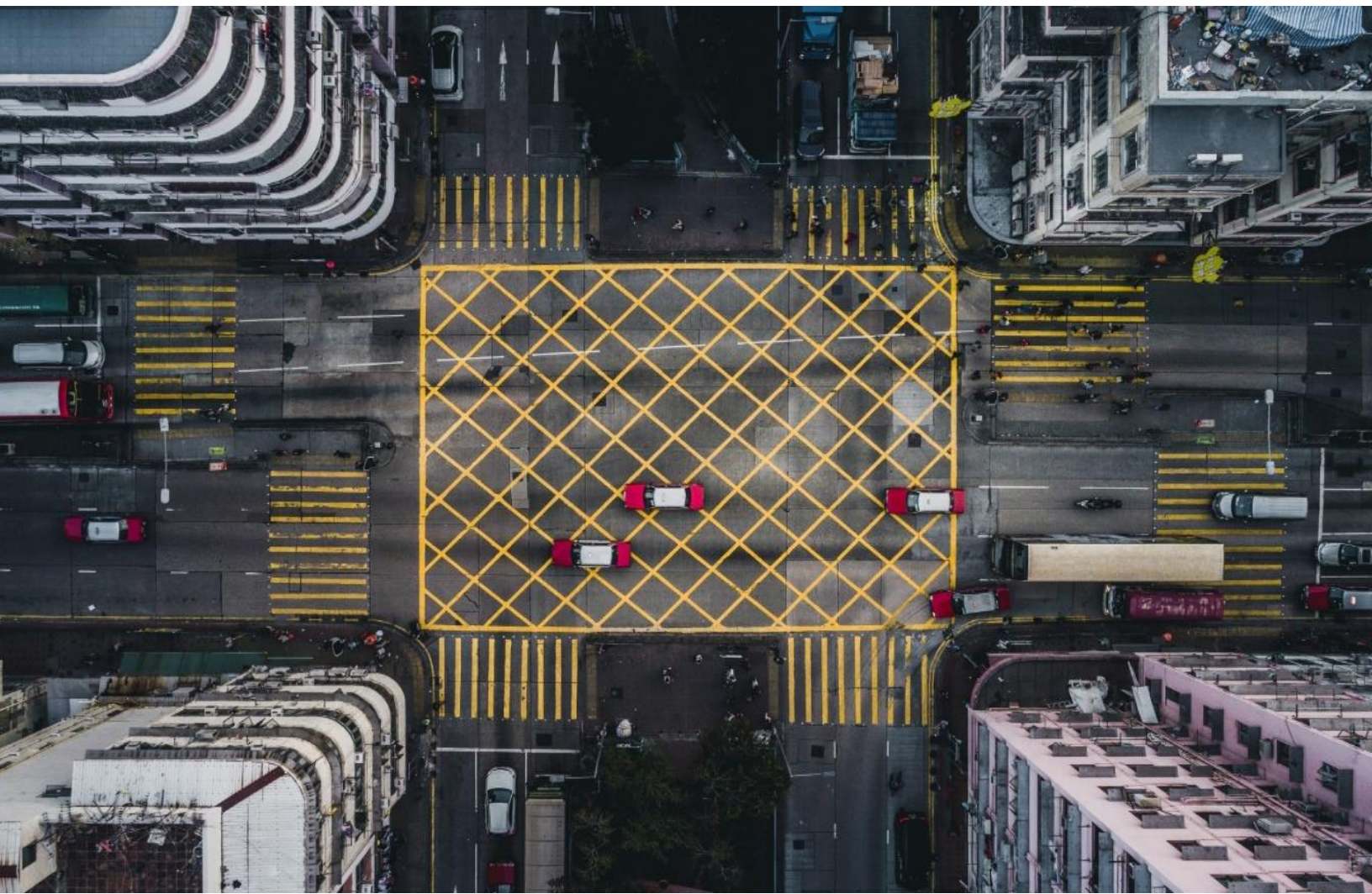
Traffic Impact Study

Mayfield West Phase 2 Stage 3

Brookvalley Project Management Inc.

13 July 2022

→ The Power of Commitment



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 background traffic and road network conditions derived for a 2028, 2033 and 2038 future planning horizon year.

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

- 1,883 Single/Semi-Detached
- 1,412 Street/Rear-Lane Townhouse
- 1,255 Back-to-Back/Stacked Townhouse
- 20,800 m² of commercial GFA

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 a total of 2,675 new two-way trips consisting of 809 inbound and 1,866 outbound trips during weekday a.m. peak hour and 3,694 new two-way trips consisting of 2,182 inbound and 1,512 outbound trips during the weekday p.m. peak hour.

Under the Baseline 2022 scenario, the intersection of Hurontario Street & Old School Road and Chinguacousy Road & Mayfield Road are reported to operate over capacity during the p.m. peak hour.

Under the Future Background and Future Total 2028, 2033 and 2038 horizon years, with the addition of corridor growth, background traffic, site generated traffic and the proposed widening along Mayfield Road, a majority of the study intersections are expected to operate above capacity.

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 Old School Road from 2 to 4 lanes (McLaughlin Road to Hurontario Street)
- Widening of Chinguacousy Road from 2 to 4 lanes (from Mayfield Road to Old School Road)
- Widening of McLaughlin from 2 to 4 lanes (north of Tim Manley Boulevard to Old School Road)
- Widening of Hurontario from 4 to 6 lanes (north of Highway 410).
- Signalization of the intersection of Old School Road & Chinguacousy Road, Old School Road & McLaughlin Road, McLaughlin & Street E, Hurontario Street & Street E.
- The addition of auxiliary turning lanes at study intersections that have been widened, including
 - Left-turn lanes in the eastbound and westbound directions and a right-turn lane in the northbound direction at Old School Road and Chinguacousy Road
 - Left-turn lanes in the westbound and northbound directions at Old School Road and McLaughlin Road
 - Left-turn lanes at all study intersections where the proposed collector roads intersect existing roads.

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.

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

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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 2022 and determine future background operating conditions for a future planning horizon in 2028, 2033, and 2038.
- 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.

GHD submitted a terms of reference to the Town to establish the scope of work and requirements for this study. At this time, GHD has not received formal comments from the Town on the submitted terms of reference, as a result, this study has been prepared to be consistent with other studies prepared in the area and with the former analysis undertaken for the Mayfield West Stage 2 Phase 3 lands which was submitted to the Town in 2018.

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:

- 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
- The proposed collectors onto Chinguacousy Road, McLaughlin Road, Hurontario Street, and Old School Road

2.2 Proposed Development Content

A land use plan prepared by Malone Given Parsons is shown in **Figure 2**. The proposed subdivision consists of the following characteristics

- 1,883 Single/Semi-Detached
- 1,412 Street/Rear-Lane Townhouse
- 1,255 Back-to-Back/Stacked Townhouse
- 20,800 m² of commercial GFA

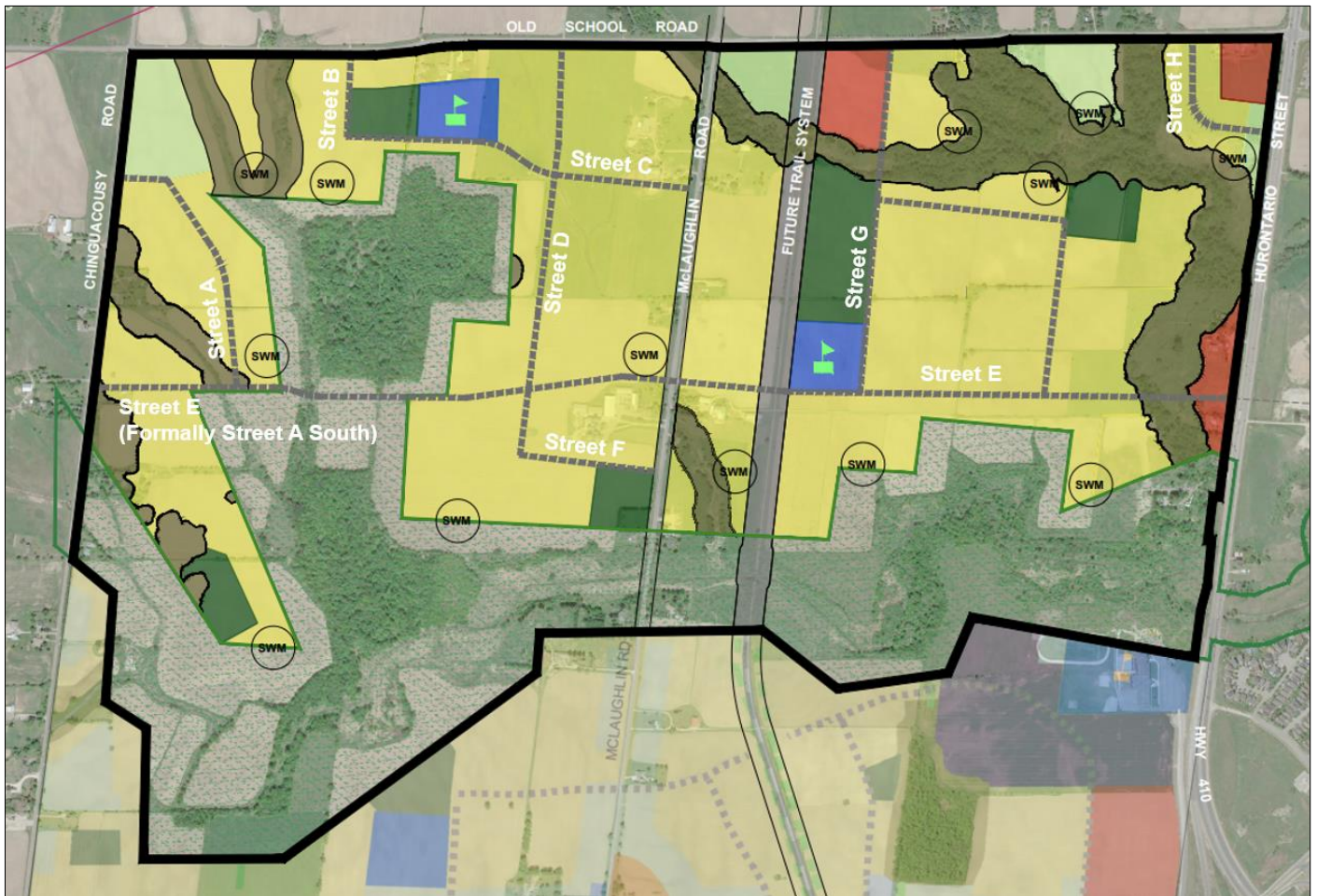


Figure 2 Land Use Plan

Access to the proposed subdivision from the regional arterial roads is proposed via 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. 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. The intersections of McLaughlin Road and Mayfield Road is signalized, with an auxiliary right-turn lane in the northbound direction only. 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 are shown in **Figure 3** below.

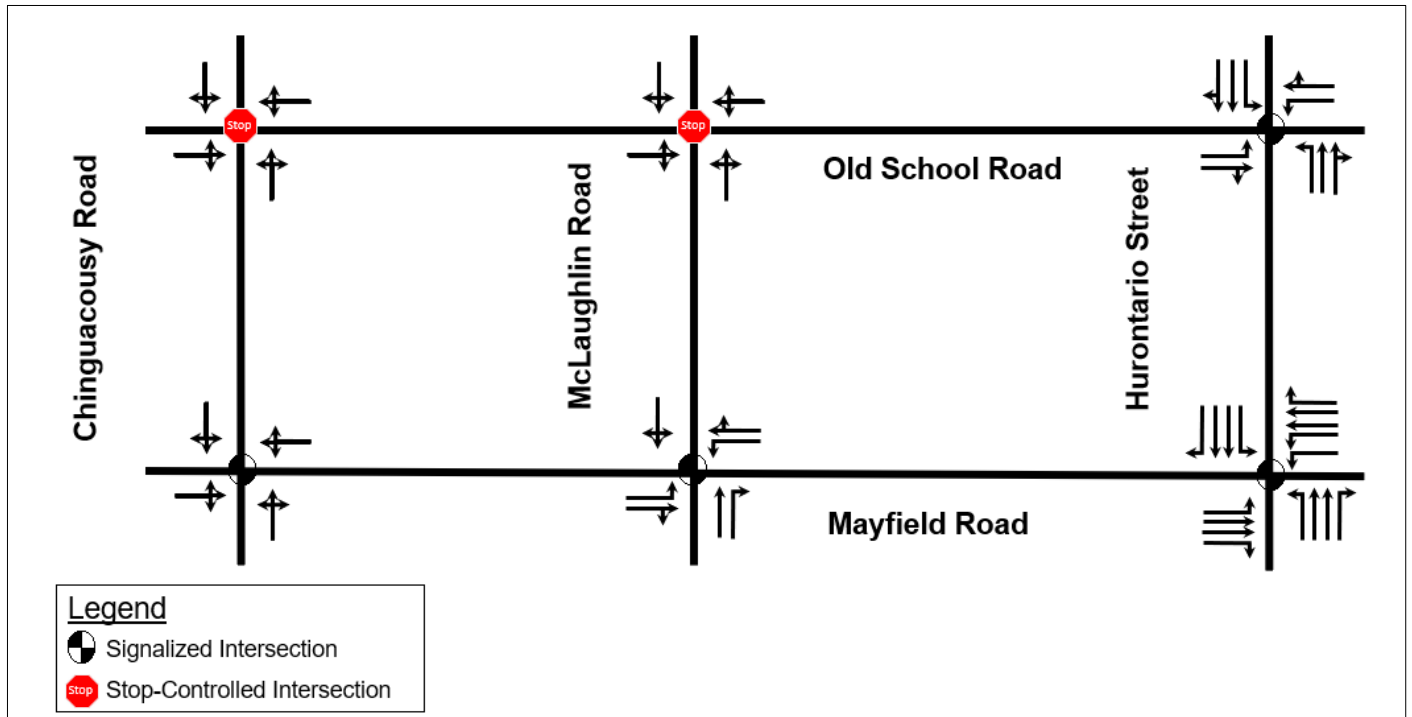


Figure 3 Existing Lane Configuration

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

For the study, GHD utilized traffic counts from the Transportation Master Plan prepared by Paradigm Traffic Solutions, dated January 2018.

The 2018 counts were grown by 2% along all study area roads, except for Hurontario Street at the intersection of Old School Road which used a 1% growth rate. The growth rates are further discussed in Section 4.3.

The projected baseline 2022 traffic volumes for the a.m. and p.m. peak hours are summarized in Figure 4.

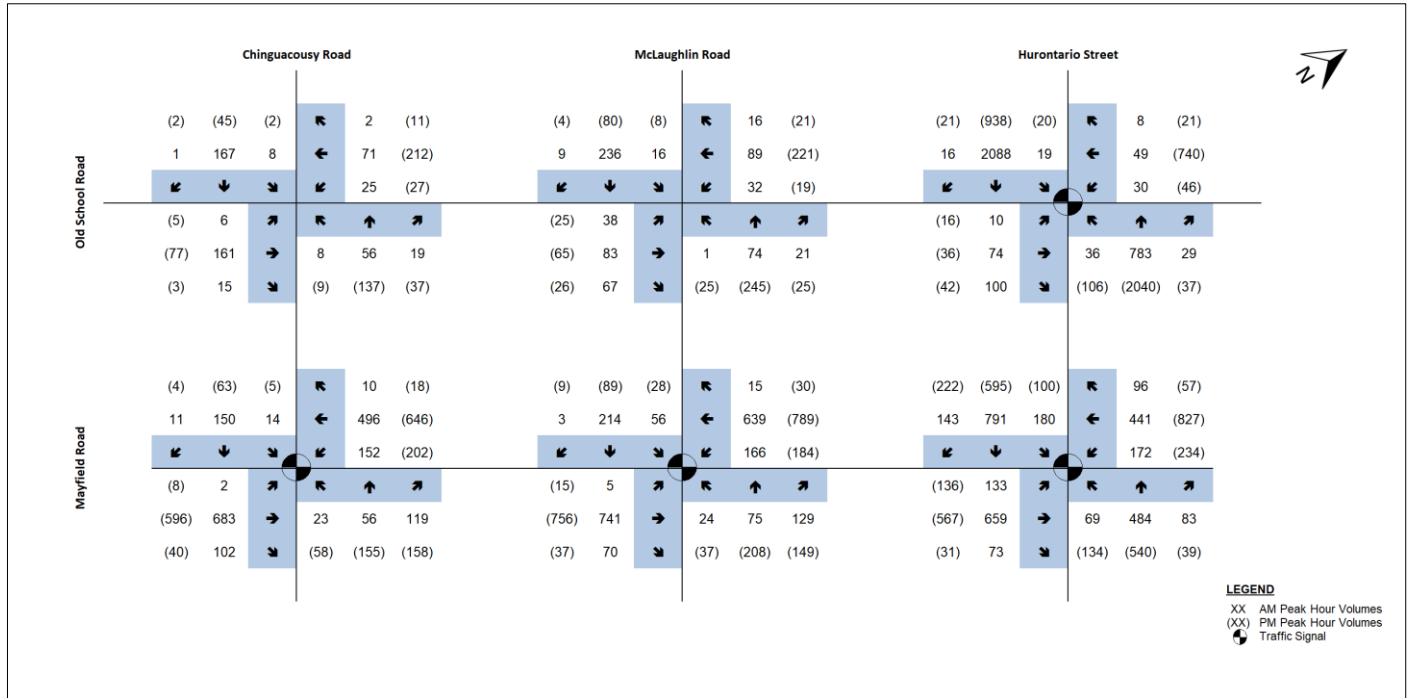


Figure 4 Projected 2022 Existing Traffic Volumes

4. Future Background Traffic

4.1 Study Horizon Year

The horizon years selected for analysis includes full build-out in 2028, 5-years post build-out in 2033 and 10-years post build-out in 2038.

4.2 Future Road Network Improvements

The Mayfield Road Improvements Environmental Study Report, dated July 2014, recommended a series of road improvements along Mayfield Road between Chinguacousy Road and Heart Lake Road. The report recommended widening Mayfield Road to a six-lane cross-section within the study area and the addition of auxiliary turning lanes along Mayfield Road and other intersecting roads.

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 5a**.

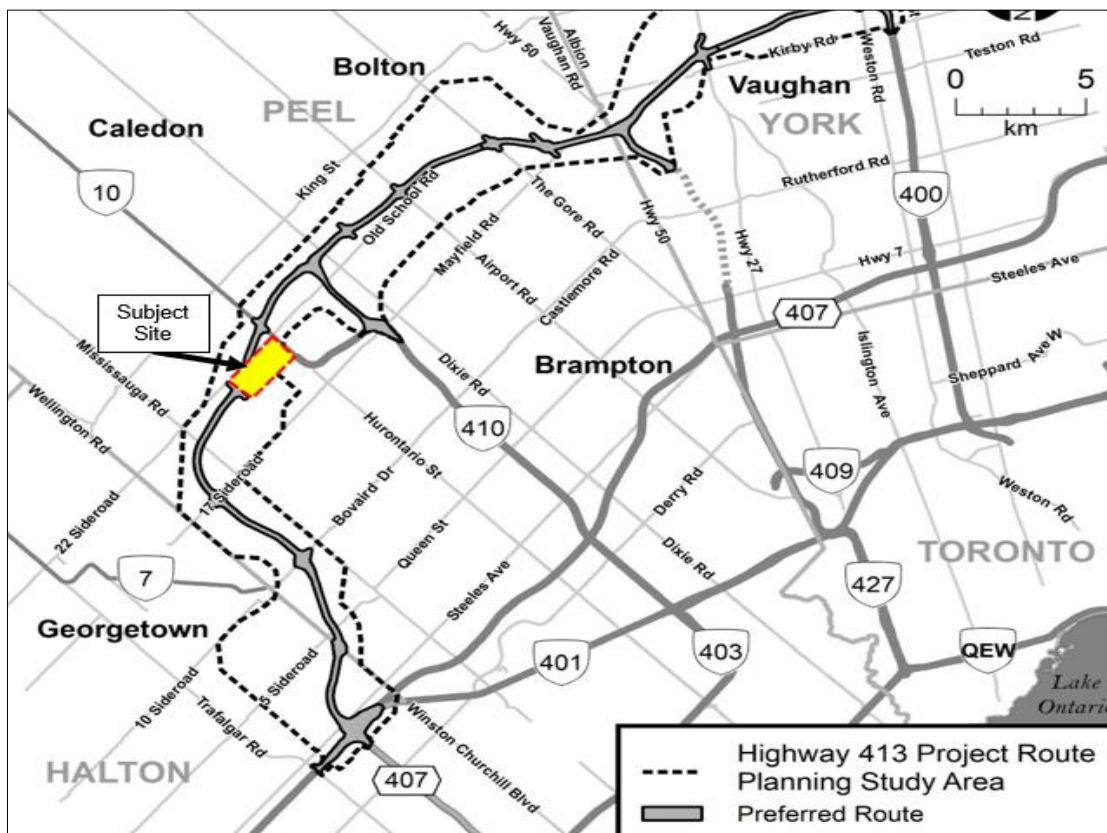


Figure 5a Proposed Highway 413 Corridor (highway413.ca)

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 configuration of the proposed interchange is shown in **Figure 5b** below.

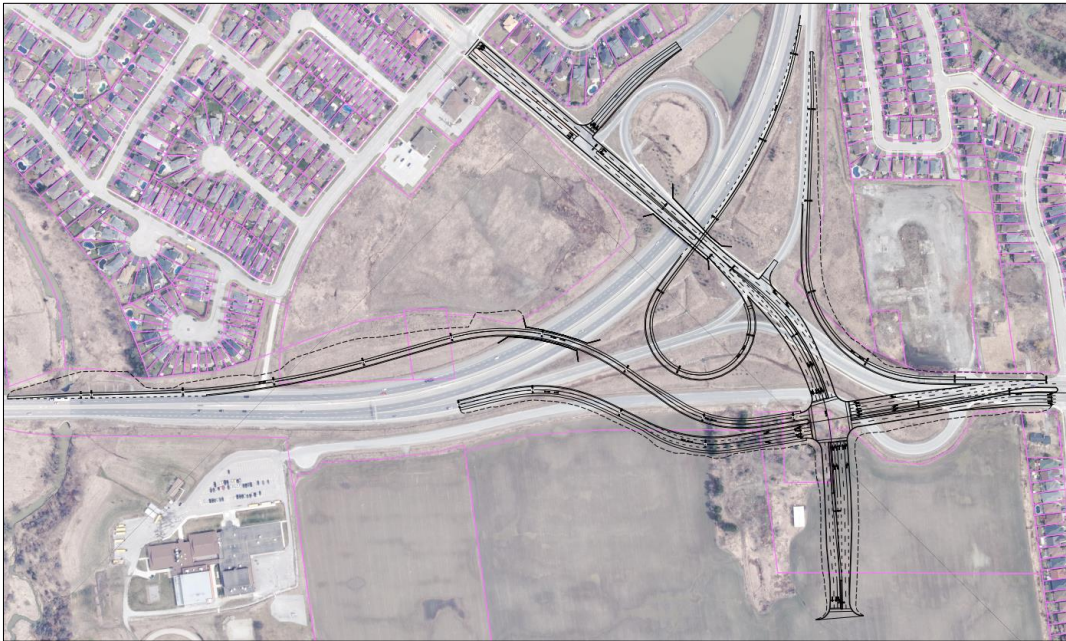


Figure 5b Highway 410/Hurontario Street Interchange Reconfiguration (Amec Foster Wheeler)

4.2.3 Future Road Network Lane Configuration

The proposed lane configuration for all study area roads can be found in **Figure 6** below, which includes the proposed widening along Mayfield Road. All collector roads were assumed to have a two-lane cross-section and would have a stop-control at all intersections.

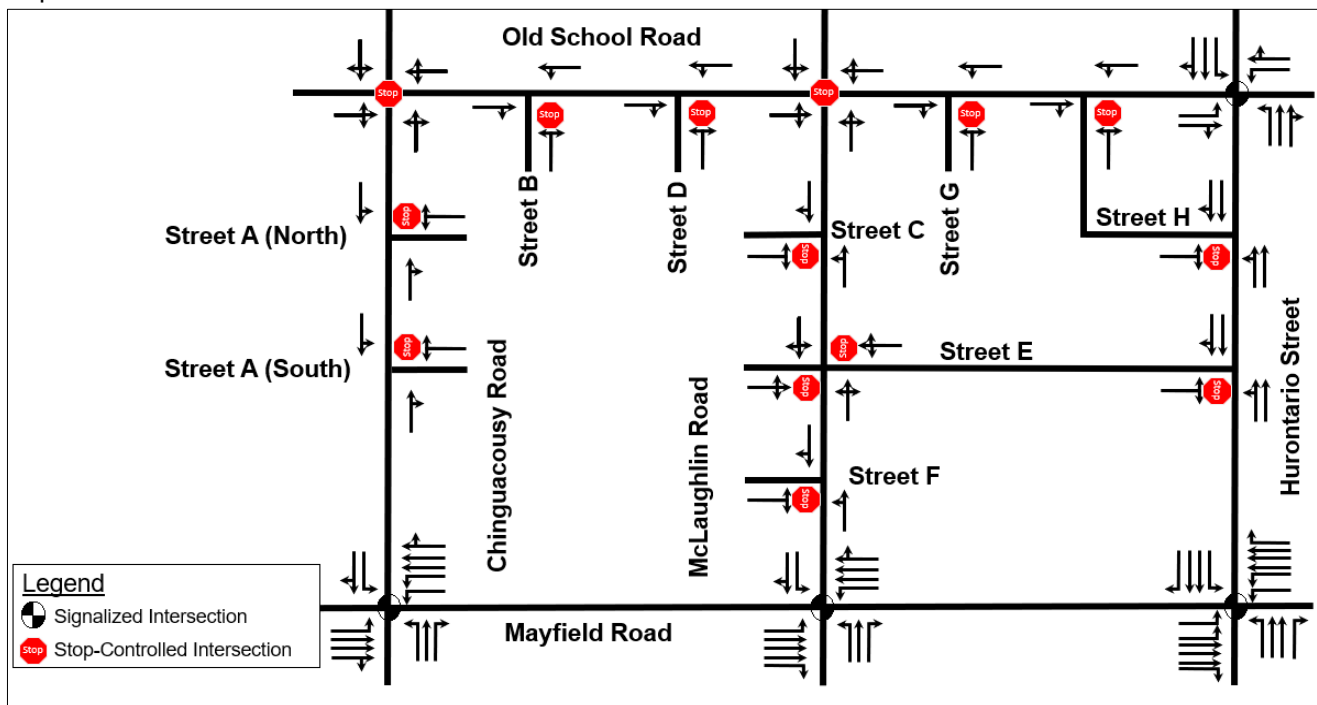


Figure 6 Future Lane Configuration

4.3 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.

4.4 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:

- 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 C**. The total site trips from all nine background developments are provided in **Figure 7**.

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

4.5 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 2022 traffic volumes and adding the total background development site traffic from **Figure 7** (without the GTA West Highway) and **Figure 8** (with the GTA West Highway)

The resulting 2027 and 2032 future background traffic volumes are summarized in **Figure 9, Figure 10, and Figure 11** for the scenario without the GTA West Highway and in **Figure 12, Figure 13, and Figure 14** for the scenario with the GTA West Highway.

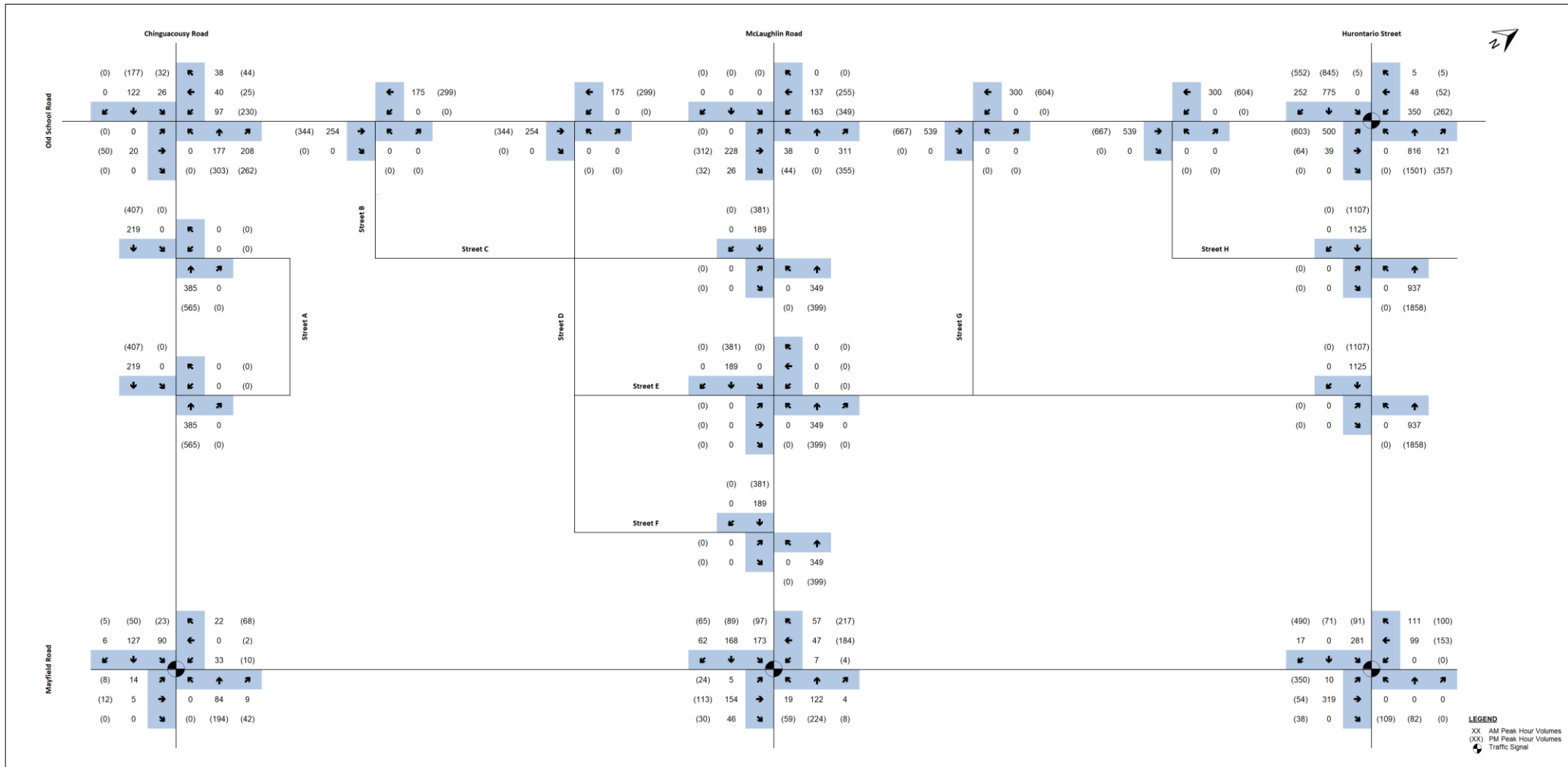


Figure 7 Total Background Development Site Traffic – Without GTA West Highway

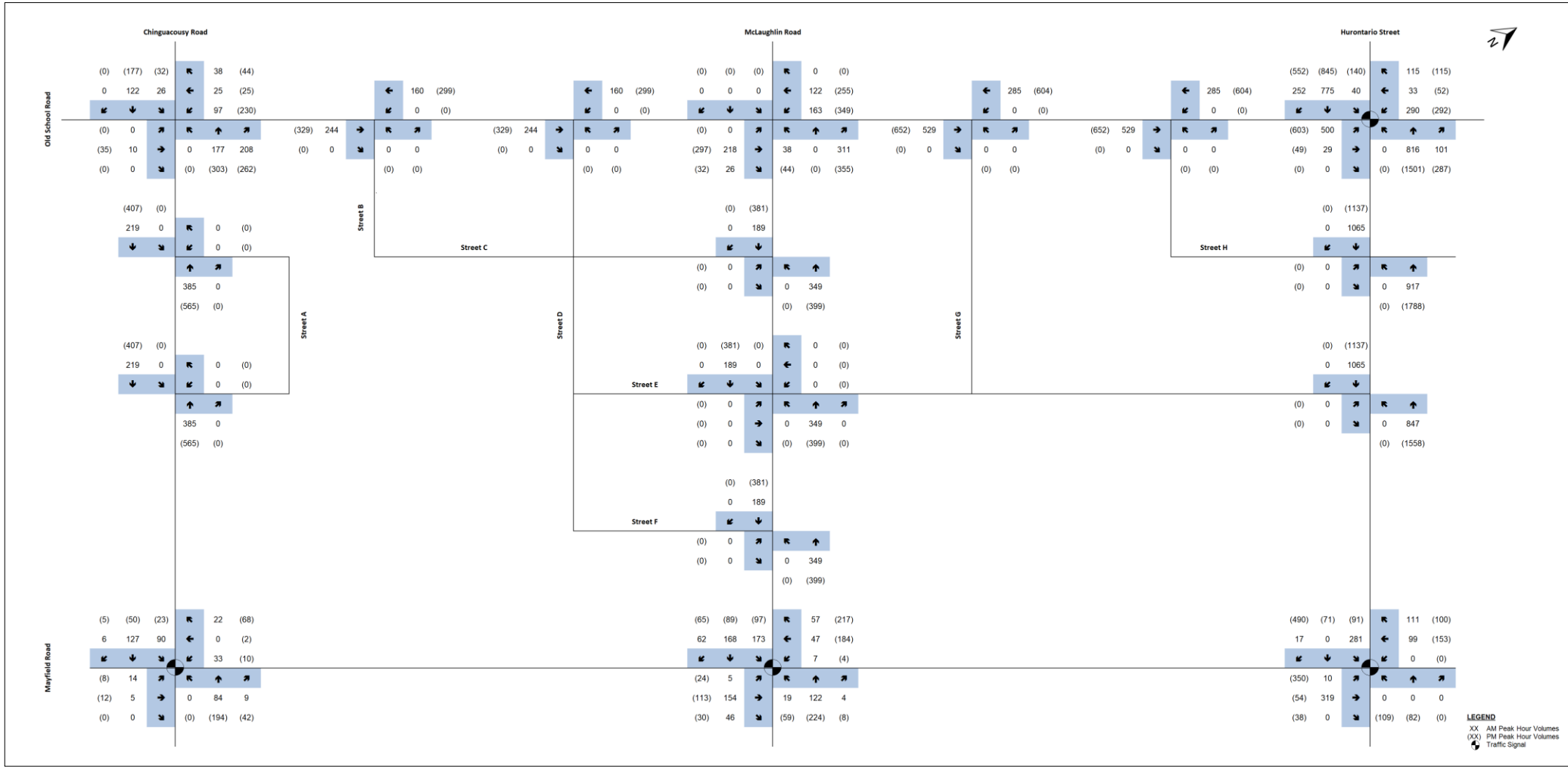


Figure 8 Total Background Development Site Traffic – With GTA West Highway

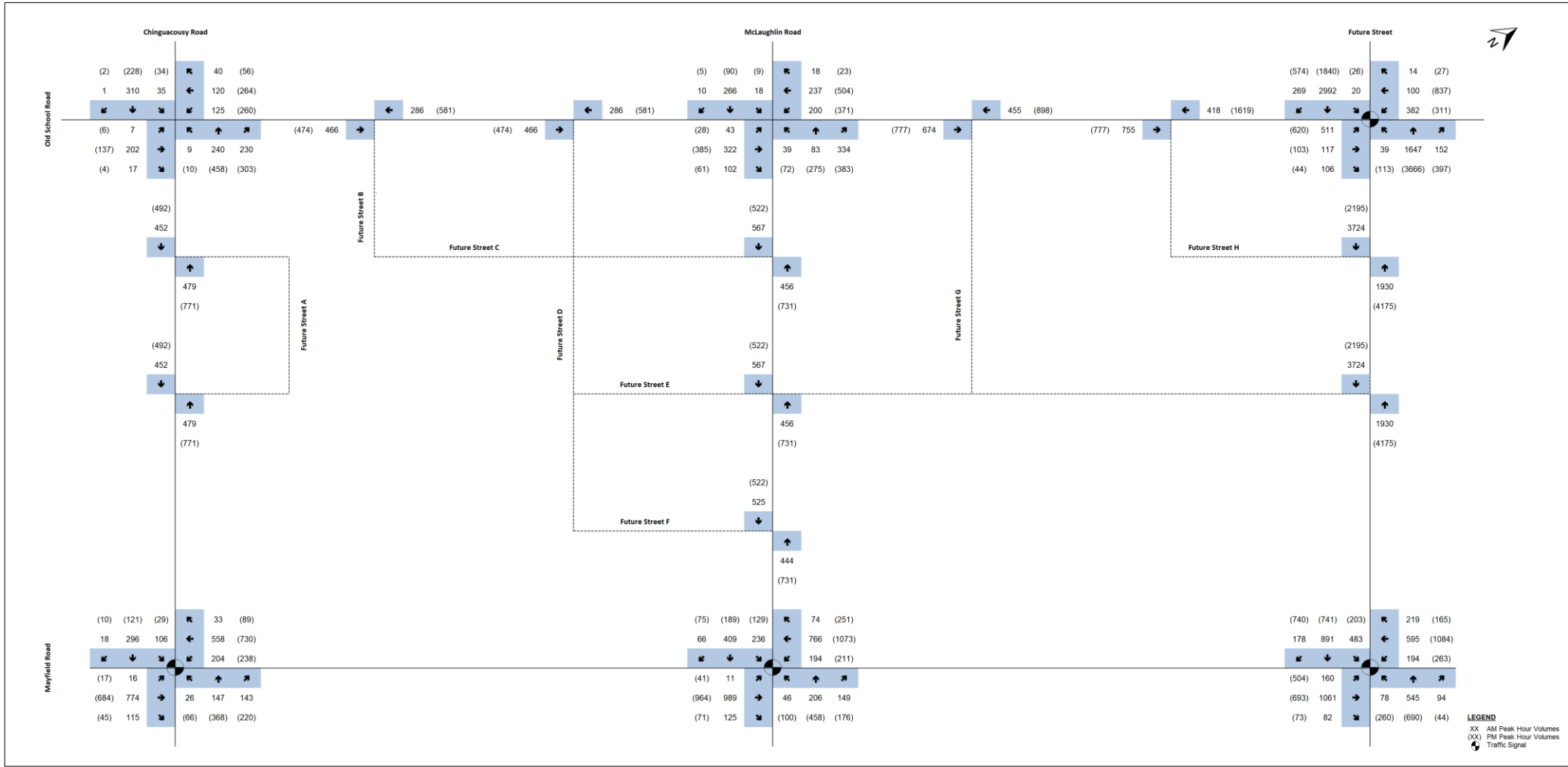


Figure 9 2028 Future Background Traffic Volumes – Without GTA West Highway

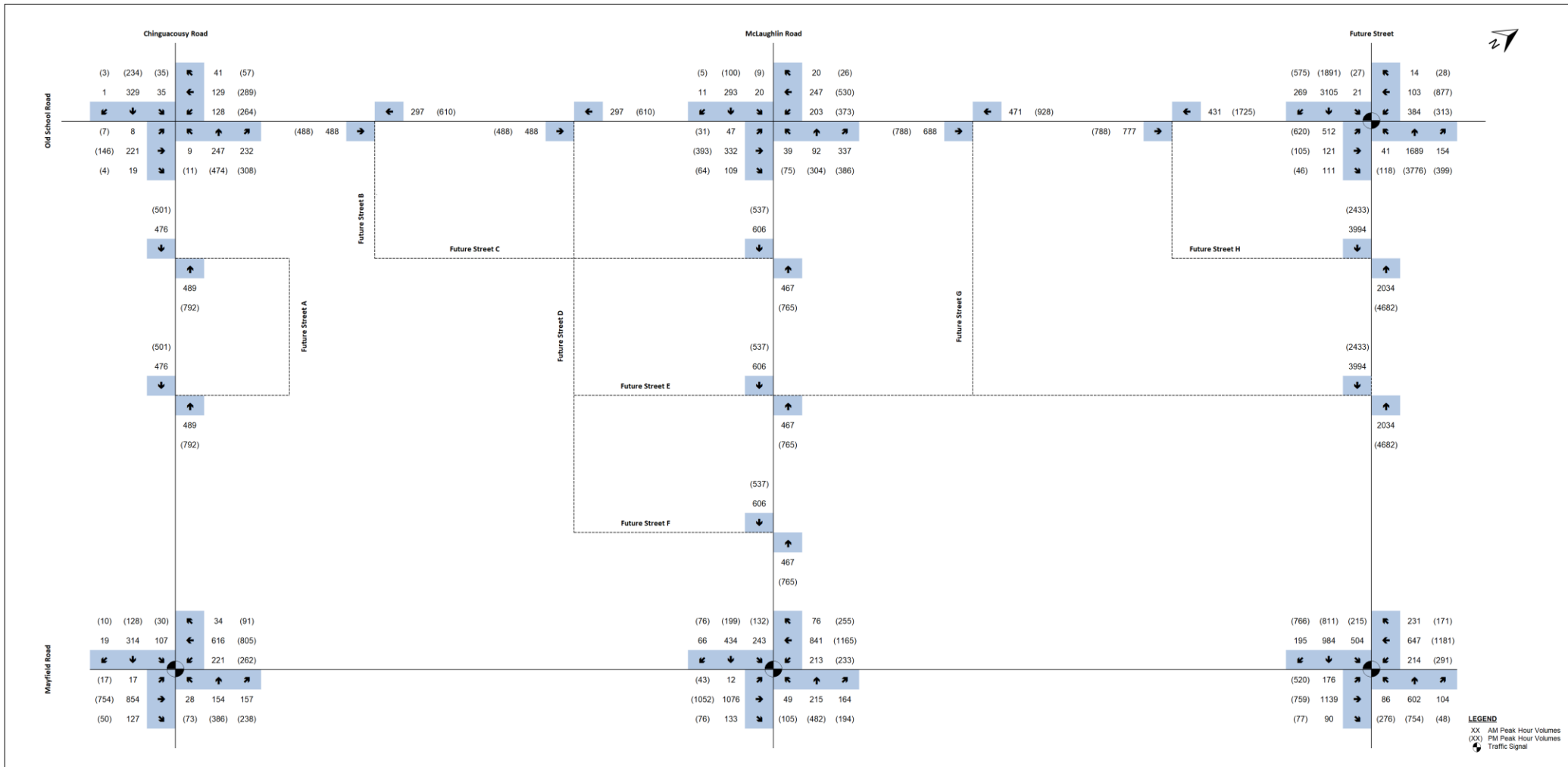


Figure 10 2033 Future Background Traffic Volumes – Without GTA West Highway

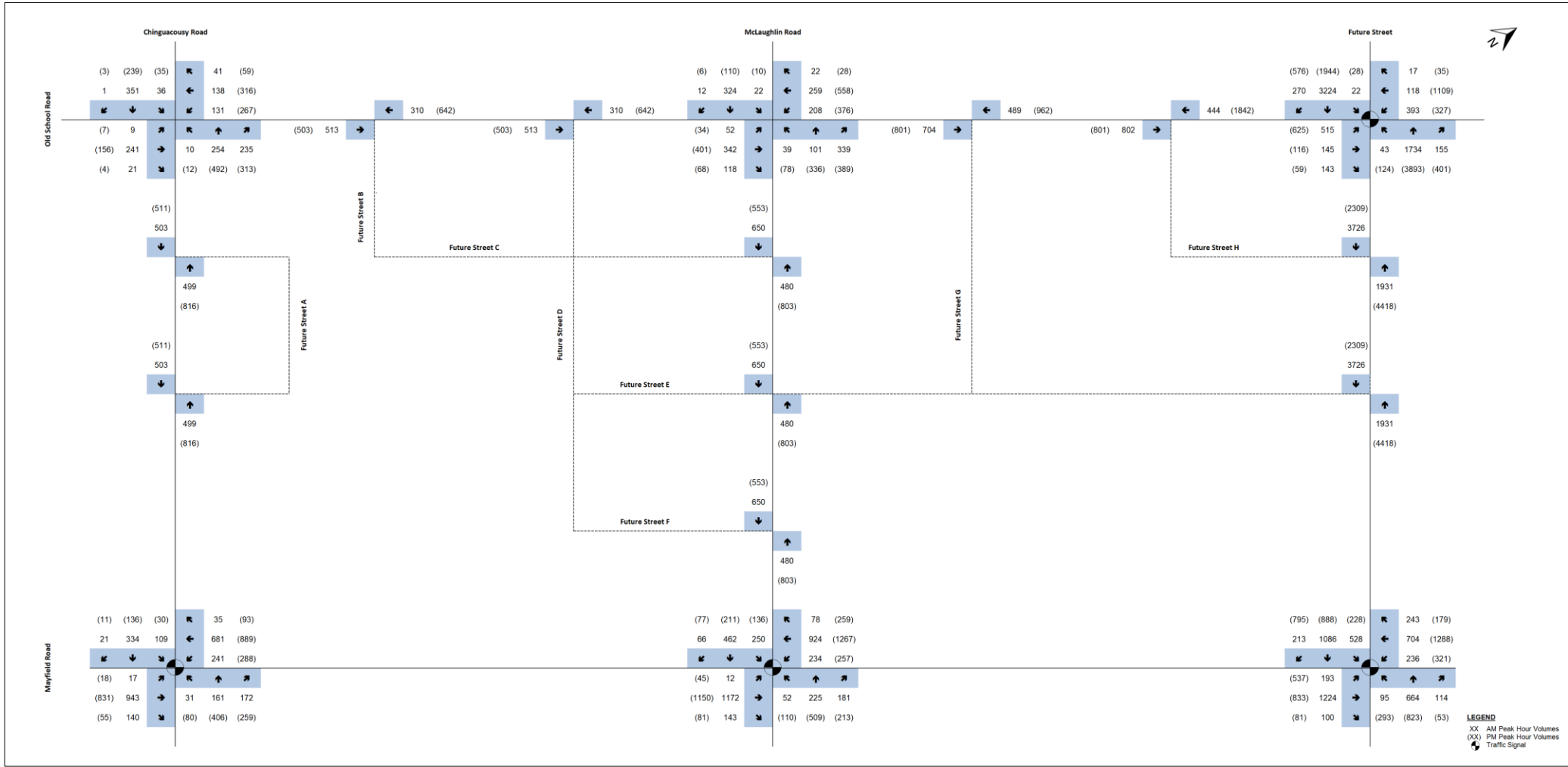


Figure 11 2038 Future Background Traffic Volumes – Without GTA West Highway

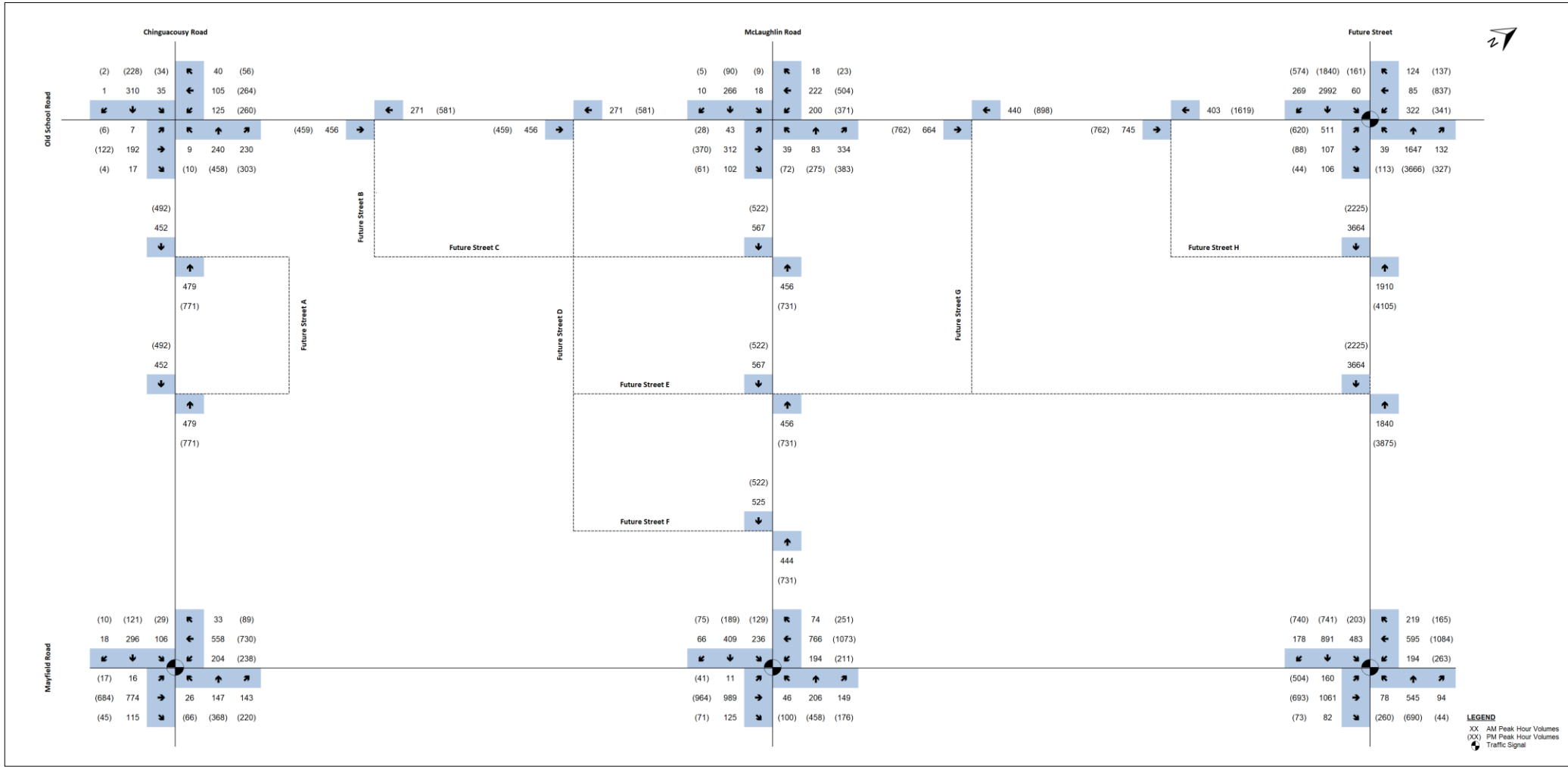


Figure 12 2028 Future Background Traffic Volumes – With GTA West Highway

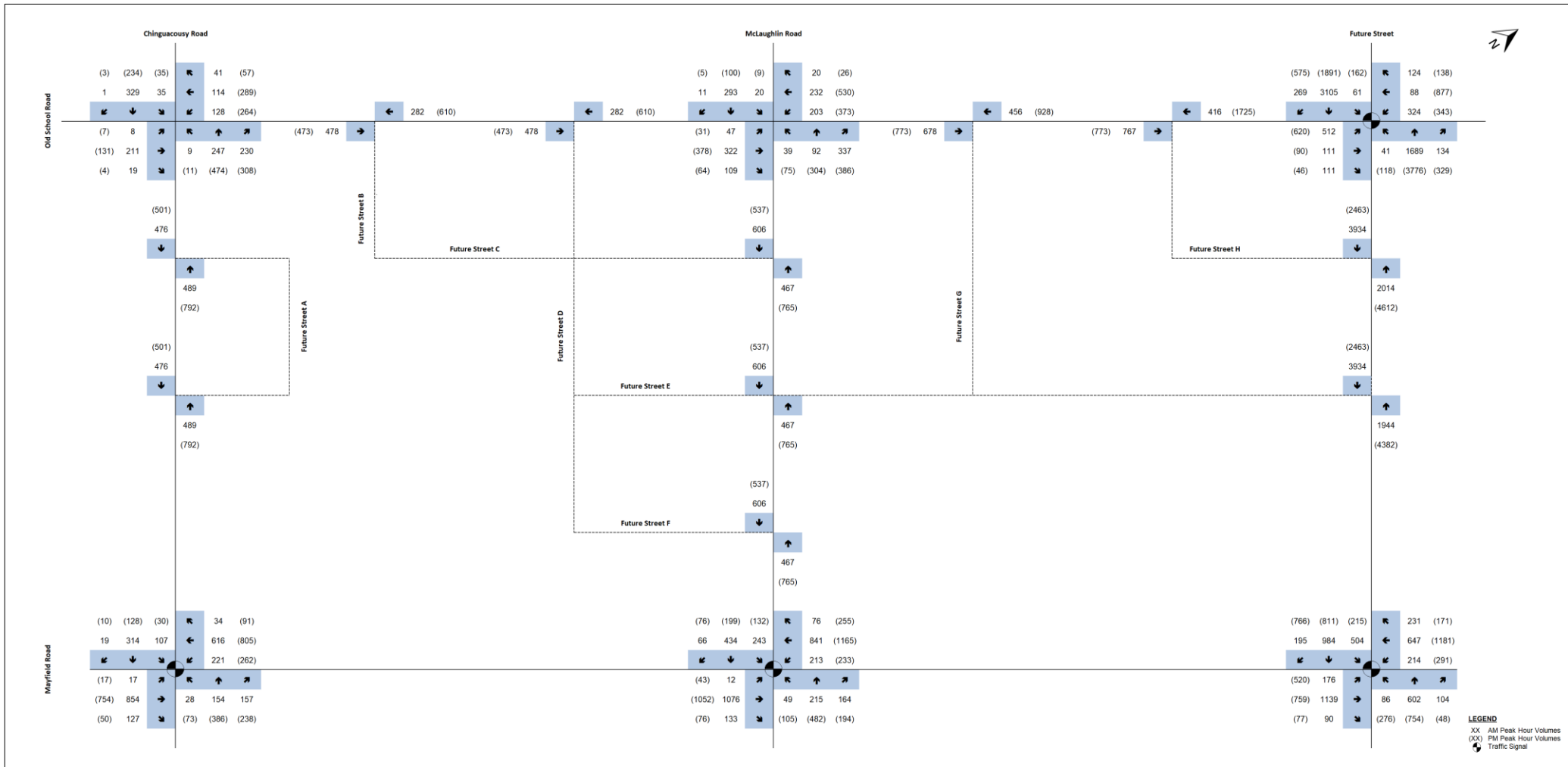


Figure 13 2033 Future Background Traffic Volumes – With GTA West Highway

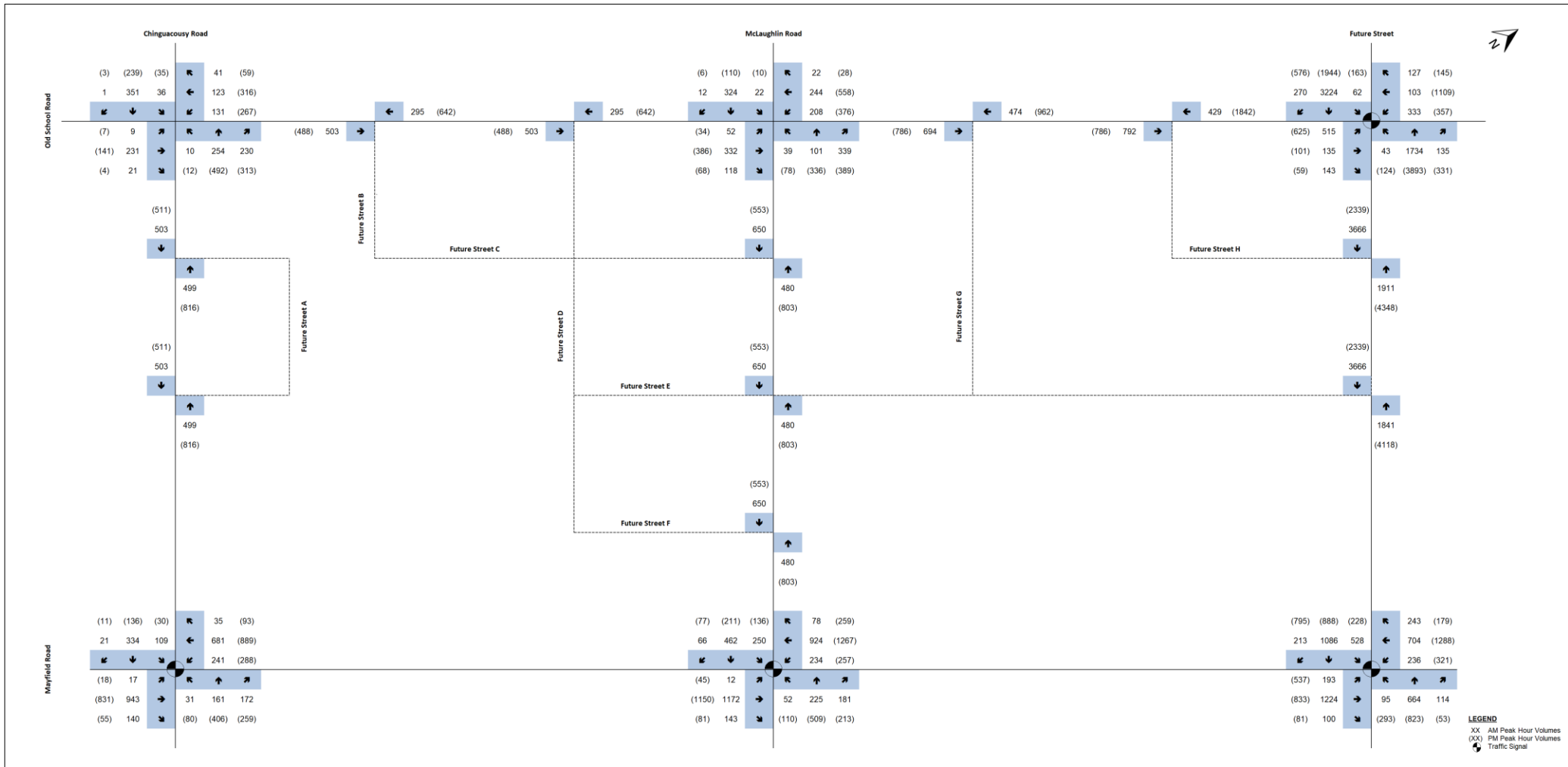


Figure 14 2038 Future Background Traffic Volumes – With GTA West Highway

5. Site Generated Traffic

5.1 Site Traffic Generation

Mayfield Phase 2 Stage 3 consists of 1,883 Single/Semi-Detached, 1,412 Street/Rear-Lane Townhouse, 1,255 Back-to-Back/Stacked Townhouse, and 20,800 m² of commercial GFA.

The trip generation for the residential uses was calculated using rates provided in the Institute of Transportation Engineer's (ITE) Trip Generation Manual, 11th Edition using Land Use Code (LUC) 210 (Single-Family Detached Housing), 215 (Single-Family Attached Housing), and LUC 220 (Multifamily Housing – Low-Rise) for the residential component and LUC 820 (Shopping Center - >150k) for the commercial component.

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 (Mayfield West Phase 2 Stage 2)

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

Table 2 *Estimated Site Trips*

Land Uses	GFA (Dwelling Units)	Parameters	Peak Hour					
			Weekday AM			Weekday PM		
			In	Out	Total	In	Out	Total
Single/Semi-Detached, (LUC 210)	1,883 units	Trip Ratio	26%	74		63	37	
		Gross Trips	343	975	1318	1115	655	1770
		Total Mode Split Reduction	17	49	66	56	3	389
		Total New Trips	326	926	1252	1059	622	1681
Street/Rear-Lane Townhouse (LUC 215)	1,412 units	Trip Ratio	31	69		57	43	
		Gross Trips	225	504	729	481	362	843
		Total Mode Split Reduction	11	25	36	24	18	42
		Total New Trips	214	479	693	457	344	801
Back-to-Back/Stacked Townhouse (LUC 220)	1,255 units	Trip Ratio	24	76		63	37	
		Gross Trips	119	383		403	237	640
		Total Mode Split Reduction	6	19	25	20	12	32
		Total New Trips	113	364	477	383	225	608
Commercial (LUC 820)	20,800 m ²	Trip Ratio	62	38		48	52	
		Gross Trips	164	102	266	484	524	1008
		Total Mode Split Reduction	8	5	13	24	26	50

	Pass By (35%)	0	0	0	177	177	354
	Total New Trips	156	97	253	283	321	604
	Total Primary Trips	809	1866	2675	2182	1512	3694
	Total Pass-By	0	0	0	177	177	354

The proposed subdivision is expected to generate a total of 2,675 new two-way trips consisting of 809 inbound and 1,866 outbound trips during weekday a.m. peak hour and 3,694 new two-way trips consisting of 2,182 inbound and 1,512 outbound trips during the weekday p.m. peak hour. In addition, the proposed subdivision is expected to generate a total of 354 pass-by trips during the p.m. peak hour, consisting of 177 inbound and 177 outbound trips.

5.2 Site Traffic Distribution and Assignment

Due to the large area covered by the proposed subdivision, GHD divided the subject into 6 zones based on the assumed route used along the study area roads. The 6 zones are shown in **Figure 15**, with the breakdown of each dwelling type per zone provided in **Table 3**.

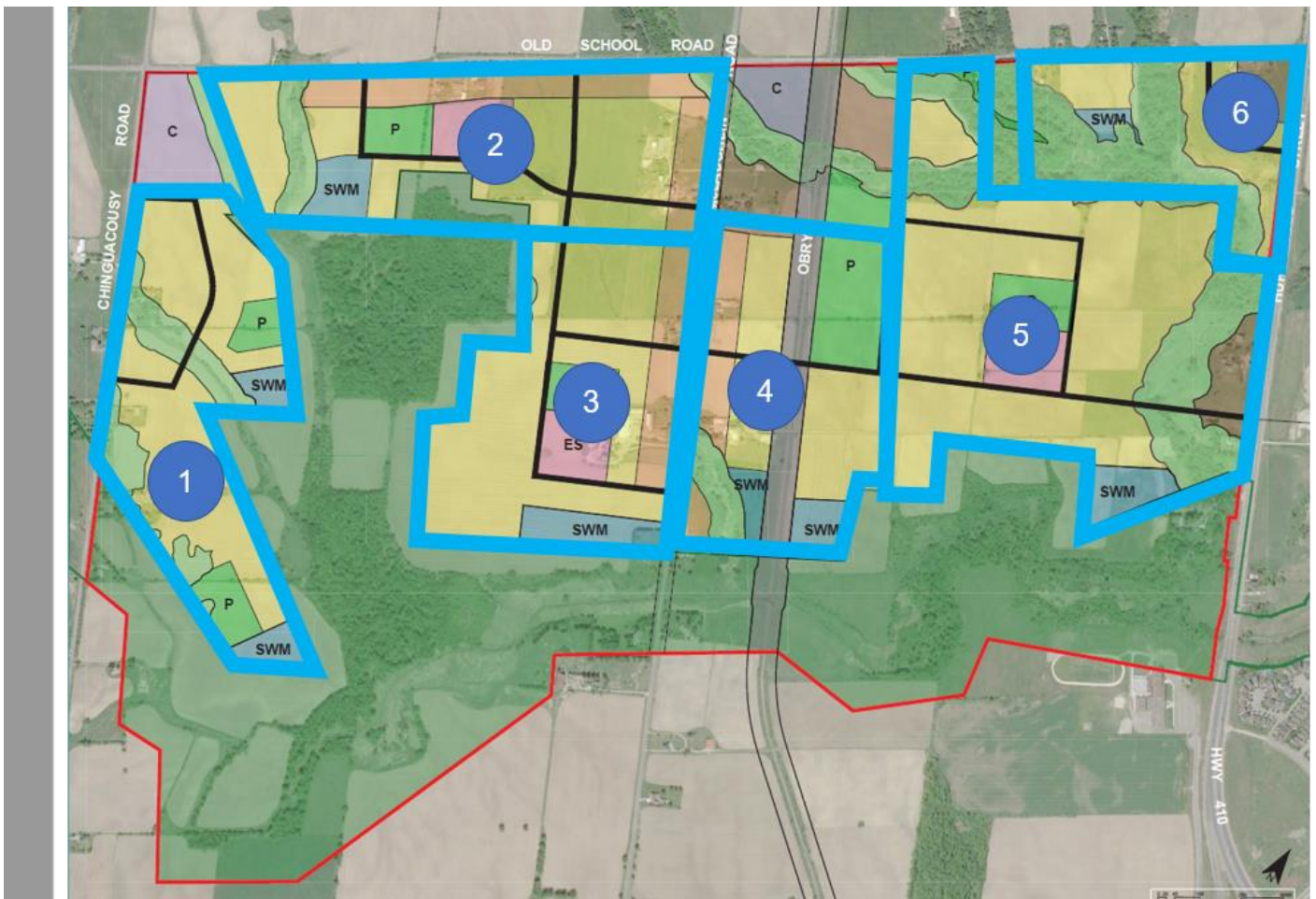


Figure 15 Zone Breakdown

Table 3 Dwelling Unit Count per Zone

Zone	Percentage
Zone 1	15%
Zone 2	18%
Zone 3	18%
Zone 4	14%
Zone 5	31%
Zone 6	4%
TOTAL	100%

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%
Total	100%	100%	100%	100%

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%

Origin/Destination	AM Peak Hour		PM Peak Hour	
	Percentage of Inbound Trips	Percentage of Outbound Trips	Percentage of Inbound Trips	Percentage of Outbound Trips
North on Hurontario Street	8%	5%	4%	5%
South on Hurontario Street	19%	25%	24%	20%
South on Chinguacousy Road	15%	10%	14%	15%
East/West to the GTA West Highway	5%	5%	5%	5%
Total	100%	100%	100%	100%

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 16** and **Figure 17** for the scenarios without and with the proposed GTA West Highway.

6. Future Total Traffic

The future total traffic conditions in the weekday a.m. and p.m. peak hours for the 2028, 2033, and 2038 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 18**, **Figure 19**, and **Figure 20** for the scenario without the GTA West Highway and **Figure 21**, **Figure 22**, and **Figure 23** for the scenario with the GTA West Highway.

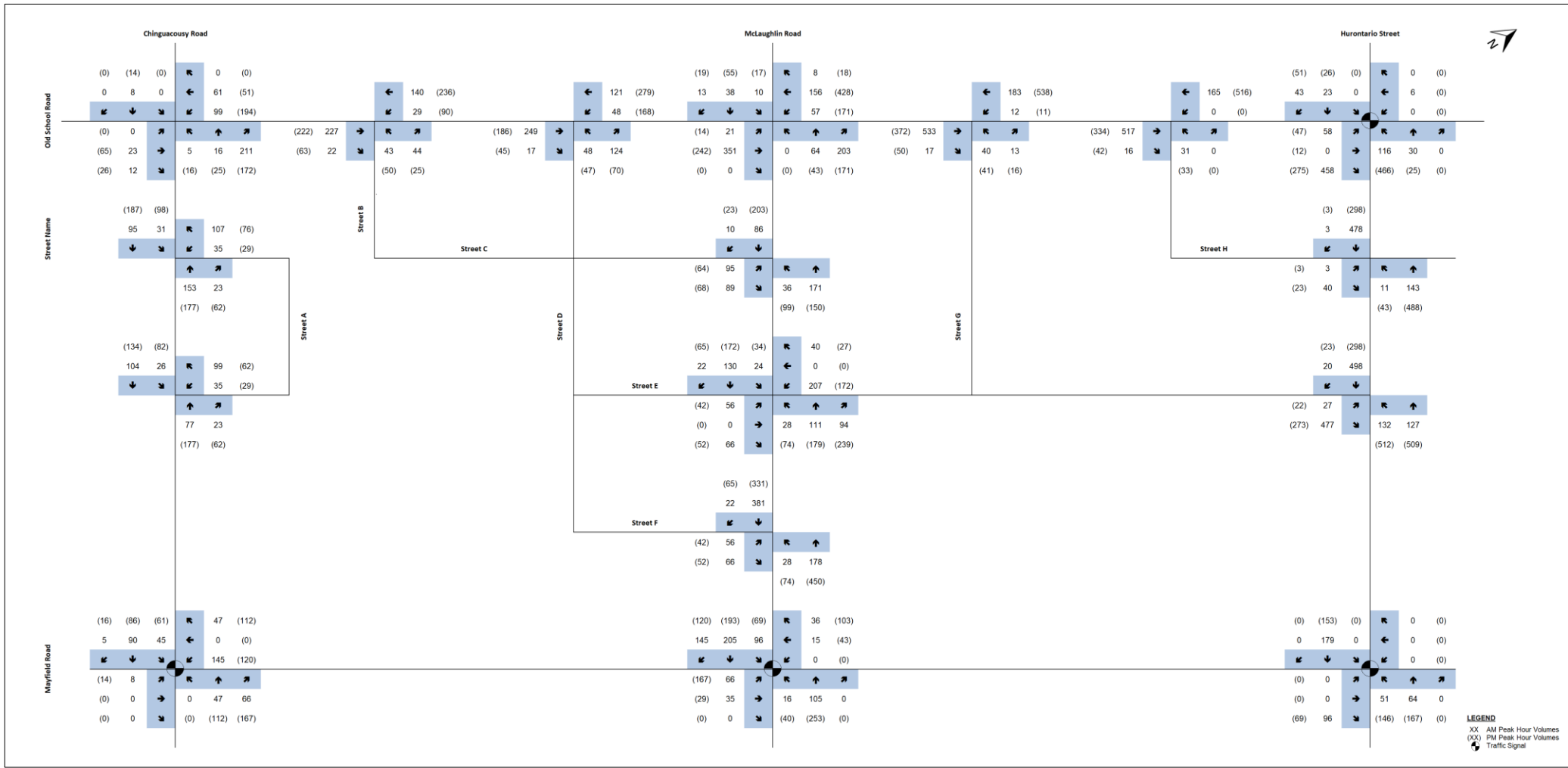


Figure 16 Total Site Trips – Without GTA West Highway

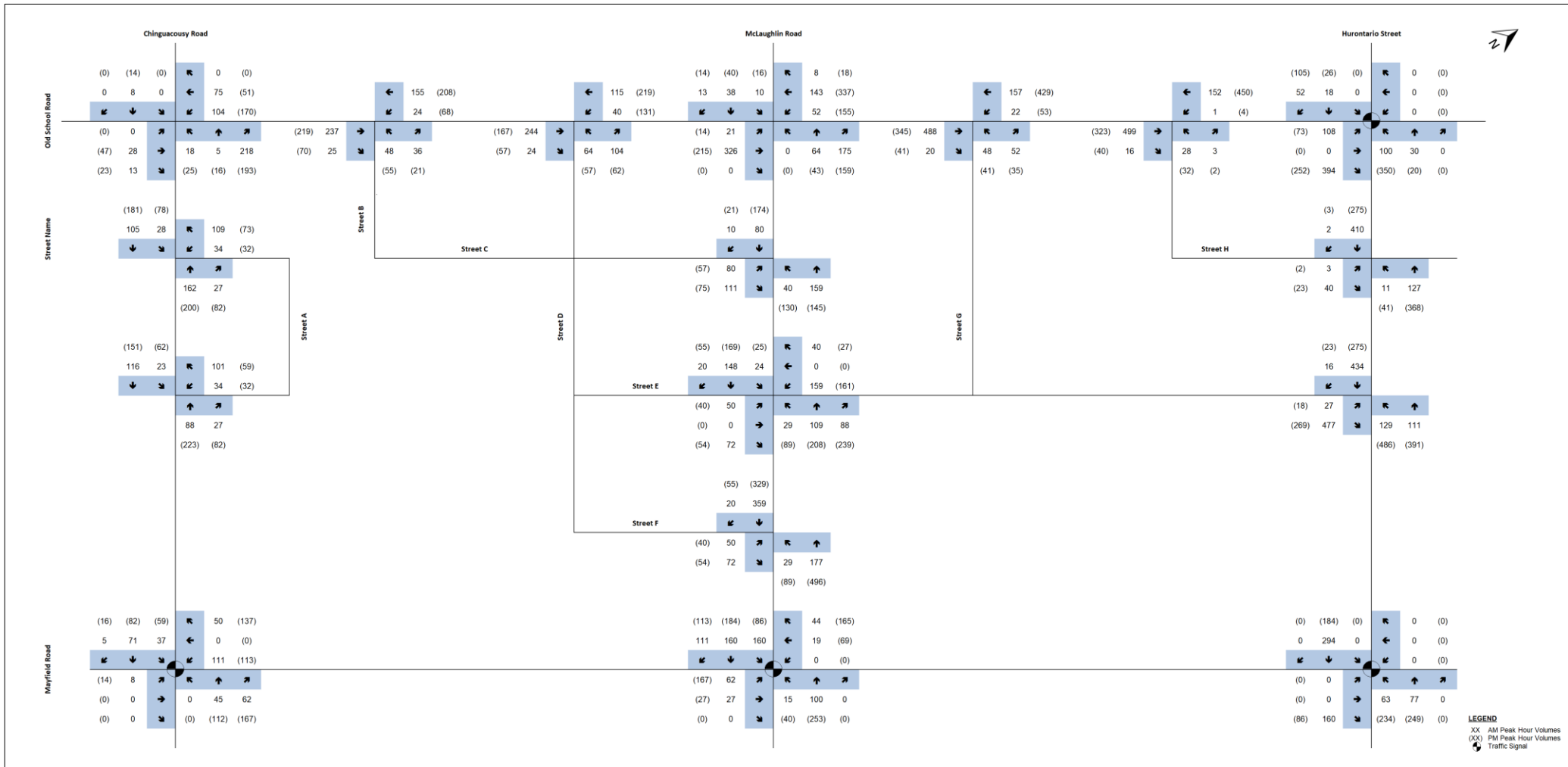


Figure 17 Total Site Trips – With GTA West Highway

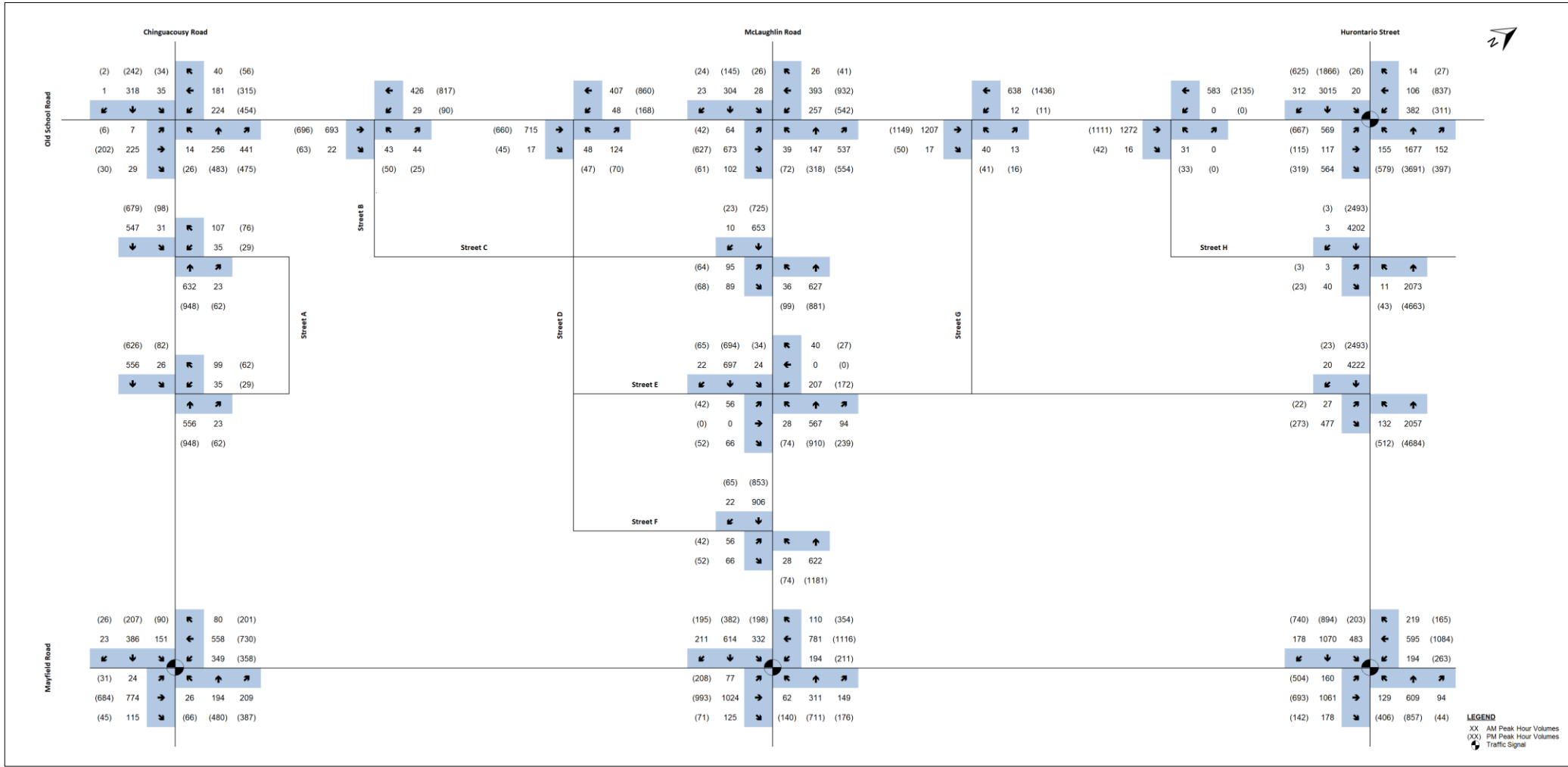


Figure 18 2028 Future Total Traffic Volumes – Without GTA West Highway

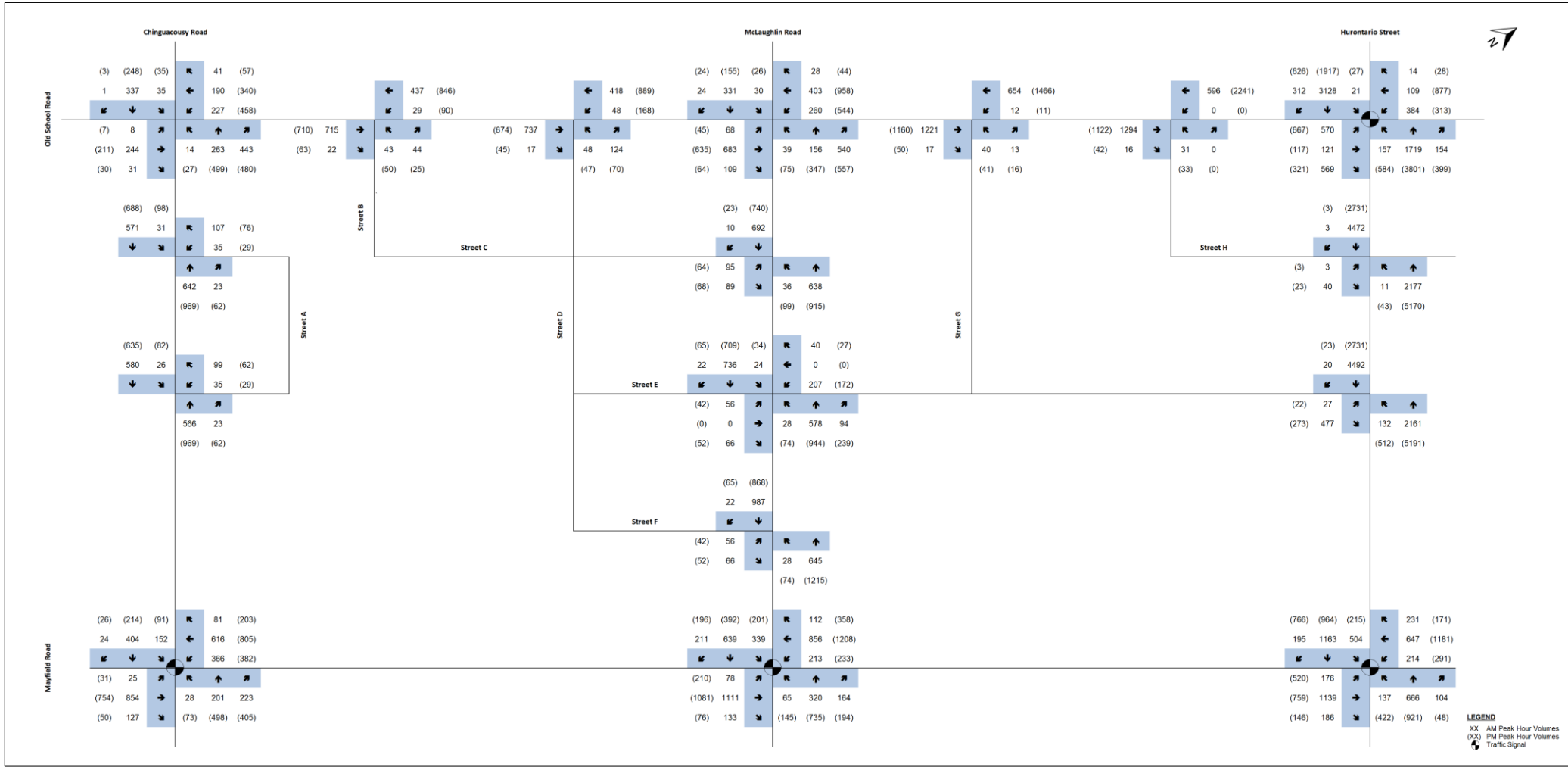


Figure 19 2033 Future Total Traffic Volumes – Without GTA West Highway

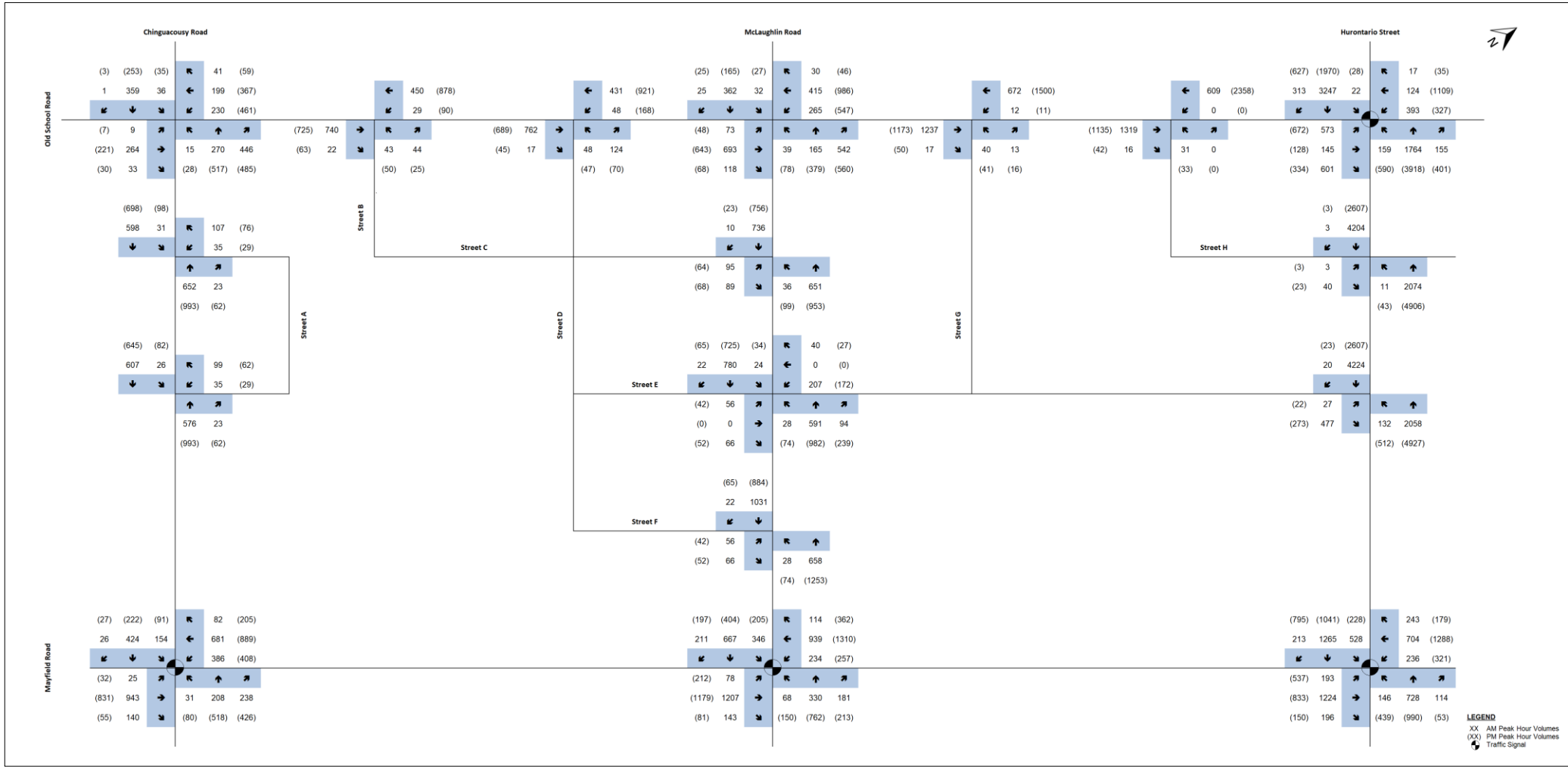


Figure 20 2038 Future Total Traffic Volumes – Without GTA West Highway

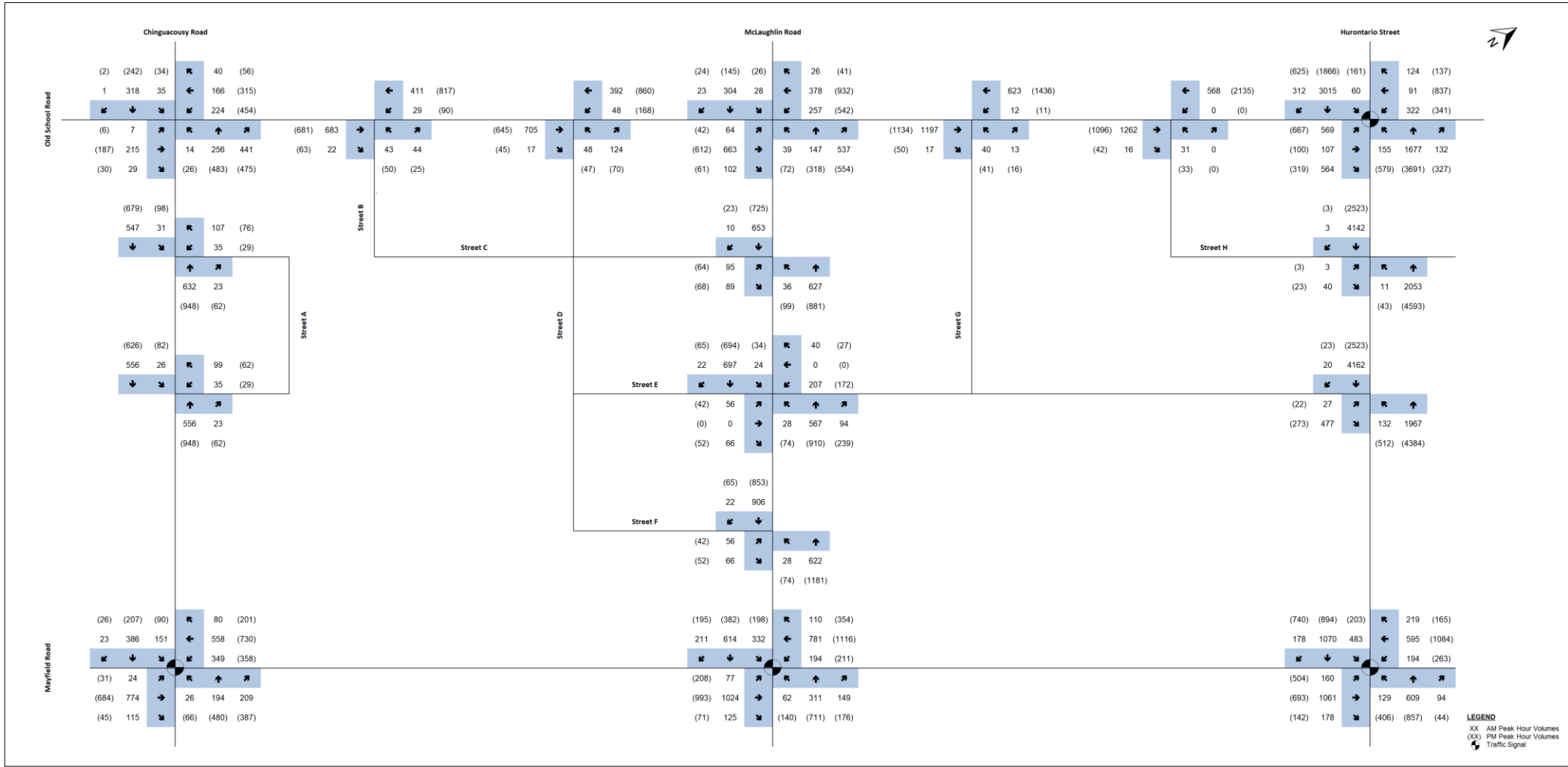


Figure 21 2028 Future Total Traffic Volumes – With GTA West Highway

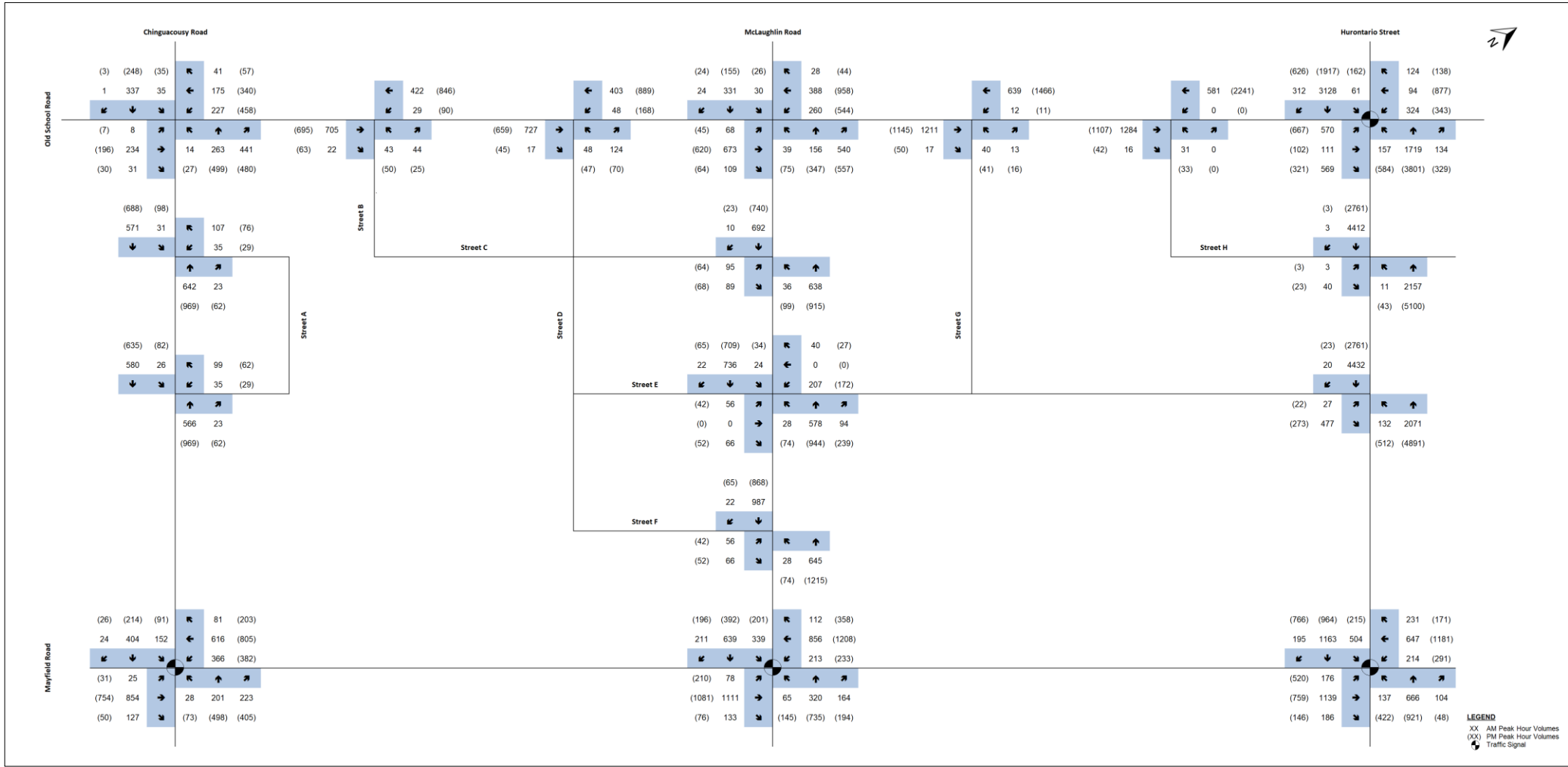


Figure 22 2033 Future Total Traffic Volumes – With GTA West Highway

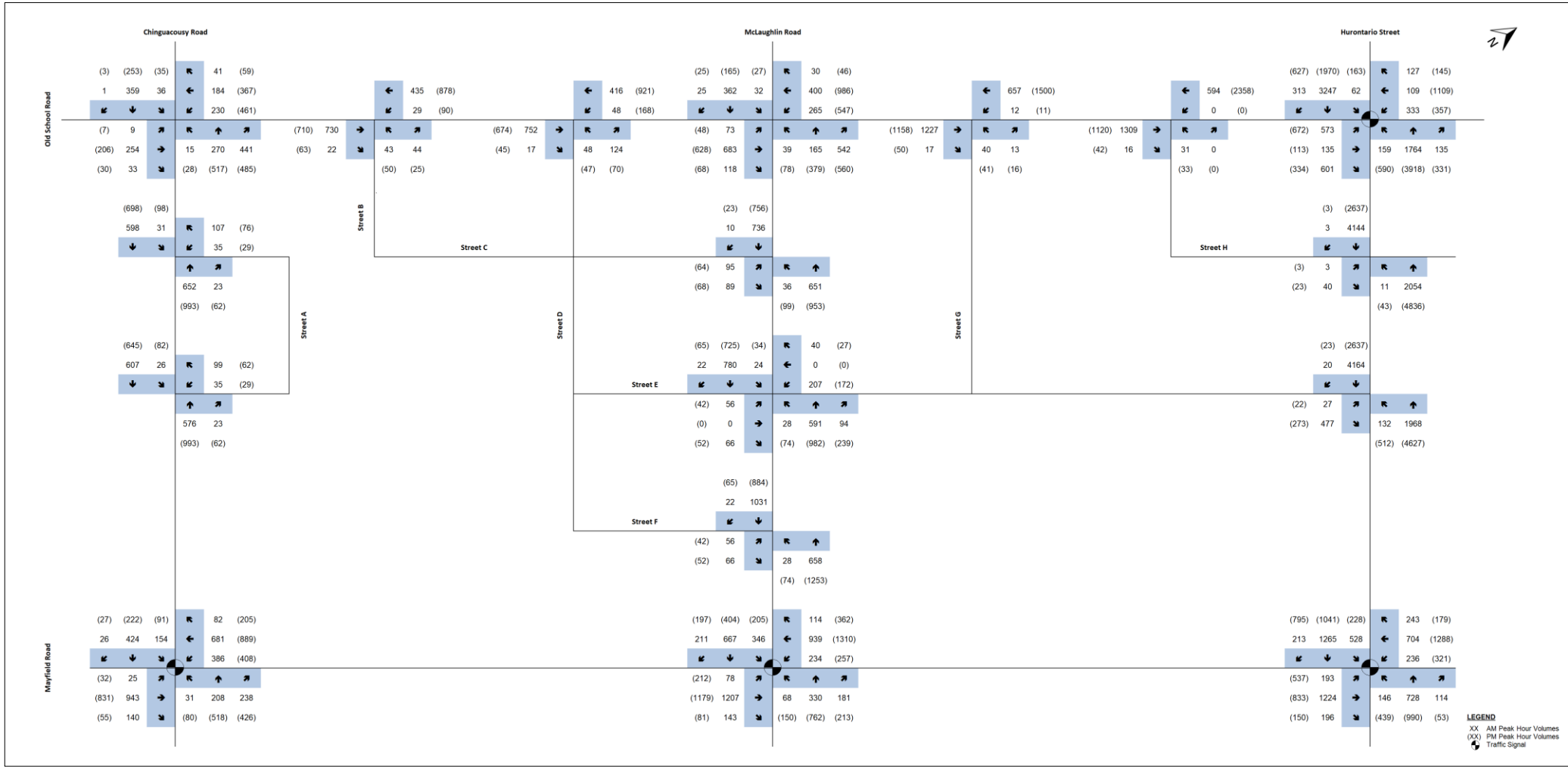


Figure 23 2038 Future Total Traffic Volumes – With GTA West Highway

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 10 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 traffic counts were 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
- 95th 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 (2022), future background (2028, 2033 & 2038) and future total (2028, 2033 & 2038) traffic conditions. The detailed calculation sheets are provided in **Appendix B**.

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

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Existing 2022	EBTLR = 0.26 (A) 9 WBTLR = 0.14 (A) 9 NBTLR = 0.12 (A) 8 SBTLR = 0.25 (A) 9	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.12 (A) 9 WBTLR = 0.35 (B) 10 NBTLR = 0.26 (A) 10 SBTLR = 0.07 (A) 8	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Background 2028 (Without GTA West Highway)	EBTLR = 0.57 (C) 22 WBTLR = 0.69 (D) 28 NBTLR = 1.04 (F) 79 SBTLR = 0.81 (E) 36	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.38 (C) 17 WBTLR = 1.29 (F) 170 NBTLR = 1.66 (F) 323 SBTLR = 0.64 (C) 24	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Total 2028 (Without GTA West Highway)	EBTLR = 0.74 (D) 35 WBTLR = 1.19 (F) 135 NBTLR = 1.81 (F) 392 SBTLR = 0.95 (F) 64	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.63 (D) 26 WBTLR = 2.02 (F) 487 NBTLR = 2.31 (F) 612 SBTLR = 0.73 (D) 31	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Background 2033 (Without GTA West Highway)	EBTLR = 0.64 (D) 26 WBTLR = 0.75 (D) 33 NBTLR = 1.13 (F) 110 SBTLR = 0.89 (E) 49	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.41 (C) 18 WBTLR = 1.37 (F) 203 NBTLR = 1.72 (F) 352 SBTLR = 0.66 (D) 25	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2033 (Without GTA West Highway)	EBTLR = 0.81 (E) 43 WBTLR = 1.26 (F) 162 NBTLR = 1.9 (F) 434 SBTLR = 1.03 (F) 84	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.66 (D) 28 WBTLR = 2.12 (F) 531 NBTLR = 2.39 (F) 650 SBTLR = 0.74 (D) 33	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Background 2038 (Without GTA West Highway)	EBTLR = 0.74 (D) 34 WBTLR = 0.83 (E) 43 NBTLR = 1.26 (F) 161 SBTLR = 1.00 (F) 73	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.44 (C) 18 WBTLR = 1.47 (F) 242 NBTLR = 1.8 (F) 387 SBTLR = 0.68 (D) 27	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Total 2038 (Without GTA West Highway)	EBTLR = 0.88 (F) 52 WBTLR = 1.32 (F) 188 NBTLR = 1.97 (F) 464 SBTLR = 1.11 (F) 109	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.69 (D) 30 WBTLR = 2.24 (F) 584 NBTLR = 2.49 (F) 694 SBTLR = 0.77 (E) 36	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Total 2038 with Improvements (Without GTA West Highway)	<u>Overall: 0.54 (C) 21</u> EBTL = 0.32 (B) 19 EBR = 0.03 (B) 16 WBL = 0.54 (C) 31 WBT = 0.23 (B) 19 WBR = 0.03 (C) 21 NBTL = 0.38 (C) 21 NBR = 0.3 (B) 12 SBTLR = 0.55 (C) 27	EBTL = 60 m EBR = 5 m WBL = 75 m WBT = 50 m WBR = 10 m NBTL = 60 m NBR = 5 m SBTLR = 105 m	<u>Overall: 0.81 (D) 36</u> EBTL = 0.73 (E) 59 EBR = 0.02 (D) 40 WBL = 0.85 (E) 59 WBT = 0.43 (D) 35 WBR = 0.04 (E) 58 NBTL = 0.73 (C) 27 NBR = 0.33 (B) 14 SBTLR = 0.55 (C) 28	EBTL = 90 m EBR = 10 m WBL = 160 m WBT = 105 m WBR = 15 m NBTL = 125 m NBR = 10 m SBTLR = 85 m
Future Background 2028 (With GTA West Highway)	EBTLR = 0.53 (C) 20 WBTLR = 0.65 (C) 25 NBTLR = 1.02 (F) 71 SBTLR = 0.79 (D) 33	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.34 (C) 16 WBTLR = 1.28 (F) 163 NBTLR = 1.63 (F) 313 SBTLR = 0.63 (C) 24	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Total 2028 (With GTA West Highway)	EBTLR = 0.71 (D) 32 WBTLR = 1.14 (F) 116 NBTLR = 1.79 (F) 384 SBTLR = 0.94 (F) 62	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.59 (C) 24 WBTLR = 2 (F) 475 NBTLR = 2.27 (F) 598 SBTLR = 0.72 (D) 30	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Background 2033 (With GTA West Highway)	EBTLR = 0.61 (C) 24 WBTLR = 0.7 (D) 29 NBTLR = 1.09 (F) 96 SBTLR = 0.87 (E) 44	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.37 (C) 17 WBTLR = 1.36 (F) 195 NBTLR = 1.7 (F) 341 SBTLR = 0.65 (C) 24	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Total 2033 (With GTA West Highway)	EBTLR = 0.78 (E) 39 WBTLR = 1.21 (F) 142 NBTLR = 1.87 (F) 422 SBTLR = 1.02 (F) 81	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.62 (D) 25 WBTLR = 2.09 (F) 518 NBTLR = 2.36 (F) 634 SBTLR = 0.74 (D) 32	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Background 2038 (With GTA West Highway)	EBTLR = 0.7 (D) 30 WBTLR = 0.78 (E) 36 NBTLR = 1.2 (F) 137 SBTLR = 0.97 (F) 65	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.4 (C) 17 WBTLR = 1.45 (F) 234 NBTLR = 1.78 (F) 376 SBTLR = 0.67 (D) 26	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2038 (With GTA West Highway)	EBTLR = 0.85 (E) 48 WBTLR = 1.27 (F) 167 NBTLR = 1.93 (F) 450 SBTLR = 1.1 (F) 106	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.65 (D) 27 WBTLR = 2.21 (F) 570 NBTLR = 2.45 (F) 678 SBTLR = 0.76 (D) 34	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Total 2038 with Improvements (With GTA West Highway)	Overall: 0.54 (C) 20 EBTL = 0.32 (B) 20 EBR = 0.02 (B) 16 WBL = 0.54 (C) 31 WBT = 0.22 (B) 18 WBR = 0.03 (C) 20 NBTL = 0.38 (C) 20 NBR = 0.3 (B) 12 SBTLR = 0.54 (C) 26	EBTL = 60 m EBR = 5 m WBL = 75 m WBT = 45 m WBR = 10 m NBTL = 60 m NBR = 5 m SBTLR = 105 m	Overall: 0.8 (C) 35 EBTL = 0.68 (E) 56 EBR = 0.02 (D) 40 WBL = 0.83 (E) 56 WBT = 0.43 (D) 36 WBR = 0.04 (E) 61 NBTL = 0.73 (C) 27 NBR = 0.33 (B) 14 SBTLR = 0.55 (C) 28	EBTL = 80 m EBR = 10 m WBL = 160 m WBT = 110 m WBR = 15 m NBTL = 125 m NBR = 10 m SBTLR = 85 m

Under existing conditions, the 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 10 seconds or less during the p.m. peak.

With the addition of corridor growth and background traffic under all future background scenarios (2028, 2033, and 2038), most approaches continue to operate satisfactorily with substantial reserve capacity, low levels of delay and negligible queueing. The northbound approach during both peak hours as well as the westbound approach during the p.m. peak hour are reported to operate above capacity.

Under all future total traffic conditions (2028, 2033, and 2038), with the addition of the site traffic generated by the development, the intersection continues to operate with the northbound and westbound approaches reported to be over capacity during both peak hours.

With the intersection operating under signalized control, the addition of auxiliary turning lanes along Old School Road and widening of Chinguacousy Road south of the intersection, the intersection is operating with a reported v/c ratio of 0.54 LOS C and 0.81 LOS C during the a.m. and p.m. peak hours respectively under the scenario without the GTA West highway. With the proposed GTA West Highway, the intersection operates with v/c ratios of 0.54 LOS B and 0.80 LOS C during the a.m. and p.m. peak hours respectively. There are no critical approaches under the proposed configuration.

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

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Existing 2022	EBTLR = 0.28 (A) 10 WBTLR = 0.21 (A) 10 NBTLR = 0.15 (A) 9 SBTLR = 0.39 (B) 11	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 0.19 (A) 10 WBTLR = 0.41 (B) 12 NBTLR = 0.46 (B) 12 SBTLR = 0.15 (A) 10	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Background 2028 (Without GTA West Highway)	EBTLR = 1.28 (F) 169 WBTLR = 1.27 (F) 168 NBTLR = 1.21 (F) 141 SBTLR = 0.85 (E) 48	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 1.1 (F) 100 WBTLR = 2.12 (F) 531 NBTLR = 1.65 (F) 321 SBTLR = 0.3 (C) 17	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Total 2028 (Without GTA West Highway)	EBTLR = 2.41 (F) 661 WBTLR = 1.96 (F) 465 NBTLR = 2 (F) 479 SBTLR = 1.02 (F) 83	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 1.86 (F) 414 WBTLR = 3.89 (F) 1323 NBTLR = 2.31 (F) 617 SBTLR = 0.56 (C) 24	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Background 2033 (Without GTA West Highway)	EBTLR = 1.37 (F) 208 WBTLR = 1.35 (F) 200 NBTLR = 1.27 (F) 166 SBTLR = 0.94 (F) 63	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 1.15 (F) 115 WBTLR = 2.22 (F) 573 NBTLR = 1.74 (F) 362 SBTLR = 0.33 (C) 17	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Total 2033 (Without GTA West Highway)	EBTLR = 2.47 (F) 691 WBTLR = 2.01 (F) 487 NBTLR = 2.03 (F) 492 SBTLR = 1.11 (F) 112	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 1.9 (F) 435 WBTLR = 4 (F) 1374 NBTLR = 2.42 (F) 663 SBTLR = 0.59 (D) 25	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Background 2038 (Without GTA West Highway)	EBTLR = 1.47 (F) 249 WBTLR = 1.42 (F) 230 NBTLR = 1.33 (F) 190 SBTLR = 1.03 (F) 87	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 1.19 (F) 133 WBTLR = 2.32 (F) 620 NBTLR = 1.86 (F) 413 SBTLR = 0.36 (C) 18	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Total 2038 (Without GTA West Highway)	EBTLR = 2.54 (F) 722 WBTLR = 2.06 (F) 509 NBTLR = 2.06 (F) 508 SBTLR = 1.21 (F) 144	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 1.96 (F) 462 WBTLR = 4.13 (F) 1431 NBTLR = 2.55 (F) 721 SBTLR = 0.62 (D) 27	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Total 2038 with Improvements (Without GTA West Highway)	<u>Overall: 0.88 (C) 35</u> EBL = 0.15 (B) 12 EBTR = 0.39 (B) 14 WBL = 0.88 (C) 24 WBTR = 0.21 (A) 8 NBL = 0.28 (D) 44 NBT = 0.32 (D) 40 NBR = 0.89 (E) 80 SBTLR = 0.83 (D) 53	EBL = 20 m EBTR = 70 m WBL = 40 m WBTR = 20 m NBL = 20 m NBT = 50 m NBR = 125 m SBTLR = 155 m	<u>Overall: 0.85 (D) 54</u> EBL = 0.42 (D) 43 EBTR = 0.84 (D) 46 WBL = 0.86 (C) 24 WBTR = 0.49 (A) 8 NBL = 0.33 (D) 50 NBT = 0.75 (E) 60 NBR = 0.38 (F) 177 SBTLR = 0.64 (D) 45	EBL = 20 m EBTR = 115 m WBL = 60 m WBTR = 45 m NBL = 35 m NBT = 120 m NBR = 70 m SBTLR = 75 m
Future Background 2028 (With GTA West Highway)	EBTLR = 1.25 (F) 158 WBTLR = 1.23 (F) 151 NBTLR = 1.21 (F) 141 SBTLR = 0.85 (E) 48	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 1.07 (F) 89 WBTLR = 2.12 (F) 531 NBTLR = 1.65 (F) 321 SBTLR = 0.3 (C) 17	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Total 2028 (With GTA West Highway)	EBTLR = 2.38 (F) 650 WBTLR = 1.92 (F) 446 NBTLR = 2 (F) 479 SBTLR = 1.02 (F) 83	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 1.82 (F) 397 WBTLR = 3.89 (F) 1323 NBTLR = 2.31 (F) 617 SBTLR = 0.56 (C) 24	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Background 2033 (With GTA West Highway)	EBTLR = 1.34 (F) 196 WBTLR = 1.31 (F) 183 NBTLR = 1.27 (F) 166 SBTLR = 0.94 (F) 63	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 1.11 (F) 103 WBTLR = 2.22 (F) 573 NBTLR = 1.74 (F) 362 SBTLR = 0.33 (C) 17	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Total 2033 (With GTA West Highway)	EBTLR = 2.44 (F) 678 WBTLR = 1.97 (F) 468 NBTLR = 2.03 (F) 492 SBTLR = 1.11 (F) 112	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 1.87 (F) 419 WBTLR = 4 (F) 1374 NBTLR = 2.42 (F) 663 SBTLR = 0.59 (D) 25	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Background 2038 (With GTA West Highway)	EBTLR = 1.44 (F) 237 WBTLR = 1.38 (F) 212 NBTLR = 1.33 (F) 190 SBTLR = 1.03 (F) 87	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 1.16 (F) 120 WBTLR = 2.32 (F) 620 NBTLR = 1.86 (F) 413 SBTLR = 0.36 (C) 18	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Total 2038 (With GTA West Highway)	EBTLR = 2.51 (F) 709 WBTLR = 2.02 (F) 490 NBTLR = 2.06 (F) 508 SBTLR = 1.21 (F) 144	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m	EBTLR = 1.92 (F) 445 WBTLR = 4.13 (F) 1431 NBTLR = 2.55 (F) 721 SBTLR = 0.62 (D) 27	EBTLR = 0 m WBTLR = 0 m NBTLR = 0 m SBTLR = 0 m
Future Total 2038 with Improvements (With GTA West Highway)	<u>Overall: 0.87 (C) 34</u> EBL = 0.14 (B) 11 EBTR = 0.39 (B) 14 WBL = 0.86 (B) 20 WBTR = 0.21 (A) 8 NBL = 0.28 (D) 44 NBT = 0.32 (D) 40 NBR = 0.88 (E) 79 SBTLR = 0.83 (D) 53	EBL = 20 m EBTR = 70 m WBL = 25 m WBTR = 15 m NBL = 20 m NBT = 50 m NBR = 125 m SBTLR = 155 m	<u>Overall: 0.84 (D) 52</u> EBL = 0.44 (D) 45 EBTR = 0.85 (D) 48 WBL = 0.86 (C) 24 WBTR = 0.5 (A) 9 NBL = 0.31 (D) 48 NBT = 0.73 (E) 57 NBR = 0.38 (F) 166 SBTLR = 0.6 (D) 43	EBL = 20 m EBTR = 120 m WBL = 55 m WBTR = 40 m NBL = 30 m NBT = 115 m NBR = 70 m SBTLR = 75 m

Under existing conditions, the 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 11 seconds or less during the a.m. peak and 12 seconds or less during the p.m. peak.

With the addition of corridor growth and background traffic under all future background scenarios (2028, 2033, and 2038), the eastbound, eastbound and northbound approaches at the stop-controlled intersection are all reported to operate above capacity with high levels of delay

Under all future total traffic conditions (2028, 2033, and 2038), with the addition of the site traffic generated by the development, all approaches during the a.m. peak hour and the eastbound, westbound and northbound approaches during the p.m. peak hour are reported to operate above capacity at the intersection stop-controlled intersection

With the intersection operating as a signalized intersection, widening along Old School Road and McLaughlin Road, and the addition of auxiliary turning lanes in the northbound and westbound approaches, the intersection is operating with a reported v/c ratio of 0.88 LOS C and 0.85 LOS D during the a.m. and p.m. peak hours respectively under the scenario without the GTA West highway. With the proposed GTA West Highway, the intersection operates with v/c ratios of 0.87 LOS C and 0.94 LOS D during the a.m. and p.m. peak hours respectively. There are no critical approaches under the proposed configuration

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

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Existing 2022	Overall: <u>0.86 (E) 72</u> EBL = 0.03 (C) 35 EBTR = 0.41 (D) 44 WBL = 0.13 (D) 36 WBTR = 0.14 (D) 40 NBL = 0.26 (C) 30 NBTR = 0.44 (B) 16 SBL = 0.06 (B) 10 SBTR = 1.15 (F) 98	EBL = 10 m EBTR = 50 m WBL = 15 m WBTR = 25 m NBL = 10 m NBTR = 75 m SBL = 5 m SBTR = 375 m	Overall: <u>1.27 (F) 158</u> EBL = 0.11 (D) 38 EBTR = 0.14 (D) 40 WBL = 0.15 (D) 36 WBTR = 2.11 (F) 557 NBL = 0.39 (B) 16 NBTR = 1.13 (F) 93 SBL = 0.14 (C) 28 SBTR = 0.52 (B) 18	EBL = 10 m EBTR = 25 m WBL = 20 m WBTR = 390 m NBL = 20 m NBTR = 370 m SBL = 5 m SBTR = 95 m
Future Background 2028 (Without GTA West Highway)	Overall: <u>1.67 (F) 332</u> EBL = 1.26 (F) 170 EBTR = 0.48 (D) 41 WBL = 1.25 (F) 176 WBTR = 0.27 (D) 39 NBL = 0.27 (C) 30 NBTR = 1.16 (F) 111 SBL = 0.14 (C) 27 SBTR = 2.11 (F) 532	EBL = 225 m EBTR = 70 m WBL = 180 m WBTR = 40 m NBL = 10 m NBTR = 330 m SBL = 5 m SBTR = 740 m	Overall: <u>2.51 (F) 656</u> EBL = 2.63 (F) 778 EBTR = 0.34 (D) 40 WBL = 0.7 (D) 35 WBTR = 1.82 (F) 421 NBL = 0.51 (C) 32 NBTR = 2.89 (F) 885 SBL = 0.18 (C) 30 SBTR = 1.97 (F) 474	EBL = 325 m EBTR = 50 m WBL = 85 m WBTR = 415 m NBL = 30 m NBTR = 980 m SBL = 10 m SBTR = 545 m
Future Total 2028 (Without GTA West Highway)	Overall: <u>1.95 (F) 372</u> EBL = 1.42 (F) 239 EBTR = 1.63 (F) 338 WBL = 1.97 (F) 489 WBTR = 0.29 (D) 40 NBL = 1.1 (F) 133 NBTR = 1.18 (F) 119 SBL = 0.14 (C) 27 SBTR = 2.15 (F) 553	EBL = 260 m EBTR = 310 m WBL = 200 m WBTR = 45 m NBL = 75 m NBTR = 340 m SBL = 5 m SBTR = 755 m	Overall: <u>2.77 (F) 672</u> EBL = 2.83 (F) 868 EBTR = 1.00 (F) 89 WBL = 1.07 (F) 104 WBTR = 1.82 (F) 421 NBL = 2.61 (F) 771 NBTR = 2.9 (F) 892 SBL = 0.18 (C) 30 SBTR = 2.03 (F) 503	EBL = 350 m EBTR = 165 m WBL = 130 m WBTR = 415 m NBL = 310 m NBTR = 985 m SBL = 10 m SBTR = 570 m
Future Background 2033 (Without GTA West Highway)	Overall: <u>1.72 (F) 355</u> EBL = 1.27 (F) 175 EBTR = 0.5 (D) 42 WBL = 1.29 (F) 192 WBTR = 0.28 (D) 39 NBL = 0.28 (C) 30 NBTR = 1.19 (F) 123 SBL = 0.14 (C) 28 SBTR = 2.18 (F) 565	EBL = 230 m EBTR = 70 m WBL = 185 m WBTR = 40 m NBL = 10 m NBTR = 345 m SBL = 10 m SBTR = 770 m	Overall: <u>2.46 (F) 648</u> EBL = 2.44 (F) 706 EBTR = 0.34 (D) 49 WBL = 0.69 (D) 42 WBTR = 1.96 (F) 496 NBL = 0.51 (D) 39 NBTR = 2.79 (F) 850 SBL = 0.24 (D) 40 SBTR = 1.99 (F) 496	EBL = 395 m EBTR = 60 m WBL = 100 m WBTR = 540 m NBL = 45 m NBTR = 1235 m SBL = 10 m SBTR = 690 m
Future Total 2033 (Without GTA West Highway)	Overall: <u>1.99 (F) 393</u> EBL = 1.43 (F) 243 EBTR = 1.65 (F) 346 WBL = 1.97 (F) 491 WBTR = 0.3 (D) 40 NBL = 1.12 (F) 140 NBTR = 1.21 (F) 131 SBL = 0.14 (C) 28 SBTR = 2.23 (F) 586	EBL = 265 m EBTR = 315 m WBL = 200 m WBTR = 45 m NBL = 75 m NBTR = 350 m SBL = 10 m SBTR = 790 m	Overall: <u>2.66 (F) 664</u> EBL = 2.63 (F) 788 EBTR = 0.99 (F) 98 WBL = 1.09 (F) 124 WBTR = 1.96 (F) 496 NBL = 2.51 (F) 741 NBTR = 2.81 (F) 857 SBL = 0.24 (D) 40 SBTR = 2.06 (F) 525	EBL = 425 m EBTR = 195 m WBL = 160 m WBTR = 540 m NBL = 375 m NBTR = 1240 m SBL = 10 m SBTR = 715 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Background 2038 (Without GTA West Highway)	Overall: 1.8 (F) 392 EBL = 1.3 (F) 188 EBTR = 0.61 (D) 44 WBL = 1.48 (F) 272 WBTR = 0.3 (D) 38 NBL = 0.3 (C) 31 NBTR = 1.24 (F) 146 SBL = 0.15 (C) 28 SBTR = 2.3 (F) 618	EBL = 230 m EBTR = 90 m WBL = 200 m WBTR = 45 m NBL = 10 m NBTR = 360 m SBL = 10 m SBTR = 805 m	Overall: 2.72 (F) 751 EBL = 2.82 (F) 864 EBTR = 0.39 (D) 40 WBL = 0.74 (D) 36 WBTR = 2.21 (F) 591 NBL = 0.6 (D) 36 NBTR = 3.17 (F) 1013 SBL = 0.2 (C) 30 SBTR = 2.1 (F) 533	EBL = 330 m EBTR = 55 m WBL = 85 m WBTR = 555 m NBL = 35 m NBTR = 1050 m SBL = 10 m SBTR = 580 m
Future Total 2038 (Without GTA West Highway)	Overall: 2.07 (F) 431 EBL = 1.46 (F) 259 EBTR = 1.73 (F) 380 WBL = 2.02 (F) 513 WBTR = 0.32 (D) 38 NBL = 1.13 (F) 144 NBTR = 1.26 (F) 154 SBL = 0.15 (C) 28 SBTR = 2.34 (F) 639	EBL = 265 m EBTR = 345 m WBL = 205 m WBTR = 50 m NBL = 75 m NBTR = 370 m SBL = 10 m SBTR = 825 m	Overall: 2.99 (F) 769 EBL = 3.03 (F) 958 EBTR = 1.03 (F) 98 WBL = 1.07 (F) 106 WBTR = 2.21 (F) 591 NBL = 2.84 (F) 874 NBTR = 3.19 (F) 1021 SBL = 0.2 (C) 30 SBTR = 2.16 (F) 564	EBL = 360 m EBTR = 175 m WBL = 135 m WBTR = 555 m NBL = 320 m NBTR = 1055 m SBL = 10 m SBTR = 600 m
Future Total 2038 with Improvements (Without GTA West Highway)	Overall: 1.54 (F) 198 EBL = 1.55 (F) 307 EBTR = 1.69dr (F) 137 WBL = 1.58 (F) 310 WBTR = 0.17 (D) 37 NBL = 1.13 (F) 148 NBTR = 0.83 (C) 33 SBL = 0.15 (C) 22 SBTR = 1.55 (F) 279	EBL = 255 m EBTR = 145 m WBL = 190 m WBTR = 25 m NBL = 55 m NBTR = 145 m SBL = 5 m SBTR = 495 m	Overall: 2.26 (F) 407 EBL = 2.43 (F) 674 EBTR = 0.58 (D) 41 WBL = 0.94 (E) 64 WBTR = 1.44 (F) 250 NBL = 2.24 (F) 609 NBTR = 2.09 (F) 523 SBL = 0.2 (C) 30 SBTR = 1.53 (F) 279	EBL = 330 m EBTR = 65 m WBL = 120 m WBTR = 255 m NBL = 100 m NBTR = 285 m SBL = 10 m SBTR = 365 m
Future Background 2028 (With GTA West Highway)	Overall: 1.8 (F) 333 EBL = 1.55 (F) 300 EBTR = 0.45 (D) 40 WBL = 1.03 (F) 96 WBTR = 0.45 (D) 43 NBL = 0.27 (C) 30 NBTR = 1.15 (F) 105 SBL = 0.42 (C) 34 SBTR = 2.11 (F) 532	EBL = 210 m EBTR = 65 m WBL = 130 m WBTR = 60 m NBL = 10 m NBTR = 325 m SBL = 15 m SBTR = 740 m	Overall: 2.52 (F) 643 EBL = 2.63 (F) 778 EBTR = 0.3 (D) 39 WBL = 0.75 (D) 38 WBTR = 2.08 (F) 536 NBL = 0.51 (C) 32 NBTR = 2.83 (F) 860 SBL = 1.14 (F) 148 SBTR = 1.97 (F) 474	EBL = 325 m EBTR = 45 m WBL = 95 m WBTR = 475 m NBL = 30 m NBTR = 960 m SBL = 80 m SBTR = 545 m
Future Total 2028 (With GTA West Highway)	Overall: 1.95 (F) 369 EBL = 1.76 (F) 390 EBTR = 1.6 (F) 325 WBL = 1.66 (F) 354 WBTR = 0.48 (D) 44 NBL = 1.1 (F) 133 NBTR = 1.17 (F) 113 SBL = 0.42 (C) 34 SBTR = 2.15 (F) 553	EBL = 245 m EBTR = 305 m WBL = 160 m WBTR = 65 m NBL = 75 m NBTR = 335 m SBL = 15 m SBTR = 755 m	Overall: 2.75 (F) 662 EBL = 2.83 (F) 868 EBTR = 0.97 (F) 82 WBL = 1.17 (F) 140 WBTR = 2.08 (F) 536 NBL = 2.61 (F) 771 NBTR = 2.85 (F) 867 SBL = 1.14 (F) 148 SBTR = 2.03 (F) 503	EBL = 350 m EBTR = 155 m WBL = 145 m WBTR = 475 m NBL = 310 m NBTR = 965 m SBL = 80 m SBTR = 570 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Background 2033 (With GTA West Highway)	Overall: 1.85 (F) 355 EBL = 1.57 (F) 308 EBTR = 0.47 (D) 41 WBL = 1.06 (F) 106 WBTR = 0.47 (D) 44 NBL = 0.28 (C) 30 NBTR = 1.18 (F) 117 SBL = 0.43 (C) 35 SBTR = 2.18 (F) 565	EBL = 210 m EBTR = 65 m WBL = 130 m WBTR = 60 m NBL = 10 m NBTR = 340 m SBL = 15 m SBTR = 770 m	Overall: 2.49 (F) 641 EBL = 2.44 (F) 706 EBTR = 0.31 (D) 48 WBL = 0.74 (D) 45 WBTR = 2.23 (F) 617 NBL = 0.51 (D) 39 NBTR = 2.74 (F) 826 SBL = 1.45 (F) 282 SBTR = 1.99 (F) 496	EBL = 395 m EBTR = 55 m WBL = 115 m WBTR = 615 m NBL = 45 m NBTR = 1210 m SBL = 105 m SBTR = 690 m
Future Total 2033 (With GTA West Highway)	Overall: 2 (F) 390 EBL = 1.78 (F) 397 EBTR = 1.62 (F) 336 WBL = 1.66 (F) 356 WBTR = 0.49 (D) 44 NBL = 1.12 (F) 140 NBTR = 1.19 (F) 125 SBL = 0.43 (C) 35 SBTR = 2.23 (F) 586	EBL = 245 m EBTR = 310 m WBL = 165 m WBTR = 65 m NBL = 75 m NBTR = 345 m SBL = 15 m SBTR = 790 m	Overall: 2.63 (F) 659 EBL = 2.63 (F) 788 EBTR = 0.93 (F) 85 WBL = 1.2 (F) 162 WBTR = 2.23 (F) 617 NBL = 2.51 (F) 741 NBTR = 2.76 (F) 833 SBL = 1.45 (F) 282 SBTR = 2.06 (F) 525	EBL = 425 m EBTR = 180 m WBL = 185 m WBTR = 615 m NBL = 375 m NBTR = 1220 m SBL = 105 m SBTR = 715 m
Future Background 2038 (With GTA West Highway)	Overall: 1.91 (F) 391 EBL = 1.62 (F) 327 EBTR = 0.58 (D) 43 WBL = 1.22 (F) 164 WBTR = 0.49 (D) 42 NBL = 0.3 (C) 31 NBTR = 1.23 (F) 140 SBL = 0.43 (D) 35 SBTR = 2.3 (F) 618	EBL = 210 m EBTR = 85 m WBL = 150 m WBTR = 70 m NBL = 10 m NBTR = 355 m SBL = 15 m SBTR = 805 m	Overall: 2.73 (F) 740 EBL = 2.82 (F) 864 EBTR = 0.35 (D) 39 WBL = 0.78 (D) 39 WBTR = 2.44 (F) 698 NBL = 0.6 (D) 36 NBTR = 3.11 (F) 987 SBL = 1.16 (F) 155 SBTR = 2.1 (F) 533	EBL = 330 m EBTR = 50 m WBL = 95 m WBTR = 620 m NBL = 35 m NBTR = 1030 m SBL = 80 m SBTR = 580 m
Future Total 2038 (With GTA West Highway)	Overall: 2.06 (F) 428 EBL = 1.82 (F) 419 EBTR = 1.7 (F) 370 WBL = 1.72 (F) 377 WBTR = 0.51 (D) 43 NBL = 1.13 (F) 144 NBTR = 1.25 (F) 148 SBL = 0.43 (D) 35 SBTR = 2.34 (F) 639	EBL = 250 m EBTR = 335 m WBL = 170 m WBTR = 70 m NBL = 75 m NBTR = 365 m SBL = 15 m SBTR = 825 m	Overall: 2.98 (F) 760 EBL = 3.03 (F) 958 EBTR = 1.01 (F) 91 WBL = 1.17 (F) 140 WBTR = 2.44 (F) 698 NBL = 2.84 (F) 874 NBTR = 3.13 (F) 996 SBL = 1.16 (F) 155 SBTR = 2.16 (F) 564	EBL = 360 m EBTR = 170 m WBL = 155 m WBTR = 620 m NBL = 320 m NBTR = 1040 m SBL = 80 m SBTR = 600 m
Future Total 2038 with Improvements (With GTA West Highway)	Overall: 1.55 (F) 191 EBL = 1.6 (F) 322 EBTR = 1.55dr (F) 87 WBL = 1.6 (F) 329 WBTR = 0.29 (D) 41 NBL = 1.13 (F) 151 NBTR = 0.82 (C) 32 SBL = 0.43 (C) 30 SBTR = 1.55 (F) 279	EBL = 215 m EBTR = 130 m WBL = 165 m WBTR = 35 m NBL = 60 m NBTR = 140 m SBL = 15 m SBTR = 495 m	Overall: 2.37 (F) 402 EBL = 2.55 (F) 732 EBTR = 0.58 (D) 41 WBL = 1.02 (F) 81 WBTR = 1.54 (F) 293 NBL = 2.37 (F) 664 NBTR = 2.05 (F) 506 SBL = 1.16 (F) 155 SBTR = 1.49 (F) 263	EBL = 335 m EBTR = 65 m WBL = 135 m WBTR = 280 m NBL = 125 m NBTR = 325 m SBL = 80 m SBTR = 365 m

Under existing conditions, the intersection of Old School Road and Hurontario Street is reported to operate with an overall v/c ratio of 0.86 LOS E during the a.m. peak hour and 1.28 LOS F during the p.m. peak hour. The southbound approach during the a.m. peak hour and the westbound and northbound approaches during the p.m. peak hour along with the overall intersection during the p.m. peak hour are all operating at a critical level and over capacity.

With the addition of corridor growth, background traffic and site traffic under both the future background and future total scenarios (2028, 2033, and 2038), most approaches at the intersection are operating over capacity.

Despite the proposed road widening along both Old School Road and Hurontario Street, the intersection continues to operate above capacity, with the overall intersection operating with a reported v/c ratio of 1.54 LOS F and 2.26 LOS F during the a.m. and p.m. peak hours respectively under the scenario without the GTA West highway. With the proposed GTA West Highway, the intersection operates with v/c ratios of 1.55 LOS F and 2.37 LOS F.

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 studies will be required to evaluate the impact of the Highway 413 project along Hurontario Street corridor within the study area.

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

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Existing 2022	Overall: <u>0.72 (C) 27</u> EBTLR = 0.61 (A) 9 WBTLR = 0.75 (C) 34 NBTLR = 0.57 (D) 53 SBTLR = 0.57 (D) 52	EBTLR = 110 m WBTLR = 195 m NBTLR = 60 m SBTLR = 65 m	Overall: <u>1.02 (E) 62</u> EBTLR = 0.5 (A) 7 WBTLR = 0.96 (D) 53 NBTLR = 1.25 (F) 184 SBTLR = 0.23 (D) 44	EBTLR = 80 m WBTLR = 295 m NBTLR = 175 m SBTLR = 30 m
Future Background 2028 (Without GTA West Highway)	Overall: <u>0.48 (C) 30</u> EBL = 0.08 (C) 32 EBTR = 0.66 (D) 40 WBL = 0.32 (D) 42 WBTR = 0.24 (B) 16 NBL = 0.08 (C) 22 NBT = 0.2 (C) 23 NBR = 0.1 (C) 22 SBL = 0.24 (C) 24 SBTR = 0.44 (C) 27	EBL = 10 m EBTR = 90 m WBL = 35 m WBTR = 40 m NBL = 10 m NBT = 40 m NBR = 15 m SBL = 30 m SBTR = 85 m	Overall: <u>0.49 (C) 30</u> EBL = 0.12 (D) 37 EBTR = 0.64 (D) 43 WBL = 0.39 (C) 29 WBTR = 0.37 (C) 29 NBL = 0.12 (B) 19 NBT = 0.46 (C) 23 NBR = 0.15 (B) 19 SBL = 0.09 (B) 18 SBTR = 0.16 (B) 19	EBL = 10 m EBTR = 75 m WBL = 35 m WBTR = 80 m NBL = 20 m NBT = 90 m NBR = 15 m SBL = 10 m SBTR = 30 m
Future Total 2028 (Without GTA West Highway)	Overall: <u>0.59 (C) 31</u> EBL = 0.13 (C) 33 EBTR = 0.66 (D) 40 WBL = 0.54 (D) 46 WBTR = 0.26 (B) 16 NBL = 0.11 (C) 22 NBT = 0.27 (C) 24 NBR = 0.14 (C) 22 SBL = 0.37 (C) 27 SBTR = 0.57 (C) 30	EBL = 15 m EBTR = 90 m WBL = 60 m WBTR = 40 m NBL = 10 m NBT = 50 m NBR = 15 m SBL = 45 m SBTR = 110 m	Overall: <u>0.6 (C) 30</u> EBL = 0.27 (D) 42 EBTR = 0.64 (D) 43 WBL = 0.58 (C) 34 WBTR = 0.42 (C) 26 NBL = 0.15 (B) 19 NBT = 0.59 (C) 27 NBR = 0.26 (C) 20 SBL = 0.39 (C) 26 SBTR = 0.29 (C) 20	EBL = 20 m EBTR = 75 m WBL = 50 m WBTR = 75 m NBL = 20 m NBT = 125 m NBR = 20 m SBL = 30 m SBTR = 55 m
Future Background 2033 (Without GTA West Highway)	Overall: <u>0.52 (C) 30</u> EBL = 0.08 (C) 32 EBTR = 0.71 (D) 41 WBL = 0.38 (D) 45 WBTR = 0.27 (B) 17 NBL = 0.09 (C) 21 NBT = 0.21 (C) 22	EBL = 10 m EBTR = 100 m WBL = 40 m WBTR = 45 m NBL = 10 m NBT = 40 m	Overall: <u>0.53 (C) 31</u> EBL = 0.14 (D) 37 EBTR = 0.68 (D) 44 WBL = 0.45 (C) 30 WBTR = 0.41 (C) 30 NBL = 0.14 (B) 19 NBT = 0.48 (C) 24	EBL = 10 m EBTR = 85 m WBL = 40 m WBTR = 85 m NBL = 20 m NBT = 95 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
	NBR = 0.11 (C) 21 SBL = 0.24 (C) 23 SBTR = 0.45 (C) 26	NBR = 15 m SBL = 30 m SBTR = 85 m	NBR = 0.16 (B) 19 SBL = 0.1 (B) 18 SBTR = 0.17 (B) 19	NBR = 15 m SBL = 10 m SBTR = 35 m
Future Total 2033 (Without GTA West Highway)	<u>Overall: 0.63 (C) 32</u> EBL = 0.13 (C) 33 EBTR = 0.71 (D) 41 WBL = 0.63 (D) 50 WBTR = 0.29 (B) 17 NBL = 0.12 (C) 22 NBT = 0.27 (C) 23 NBR = 0.15 (C) 22 SBL = 0.37 (C) 26 SBTR = 0.58 (C) 30	EBL = 15 m EBTR = 100 m WBL = 65 m WBTR = 45 m NBL = 10 m NBT = 50 m NBR = 15 m SBL = 45 m SBTR = 115 m	<u>Overall: 0.64 (C) 30</u> EBL = 0.29 (D) 43 EBTR = 0.68 (D) 44 WBL = 0.65 (C) 35 WBTR = 0.45 (C) 27 NBL = 0.17 (B) 19 NBT = 0.62 (C) 27 NBR = 0.27 (C) 20 SBL = 0.42 (C) 27 SBTR = 0.3 (C) 21	EBL = 20 m EBTR = 85 m WBL = 50 m WBTR = 80 m NBL = 20 m NBT = 130 m NBR = 20 m SBL = 30 m SBTR = 55 m
Future Background 2038 (Without GTA West Highway)	<u>Overall: 0.57 (C) 31</u> EBL = 0.09 (C) 30 EBTR = 0.75 (D) 41 WBL = 0.41 (D) 45 WBTR = 0.29 (B) 16 NBL = 0.12 (C) 23 NBT = 0.23 (C) 24 NBR = 0.12 (C) 22 SBL = 0.26 (C) 25 SBTR = 0.5 (C) 29	EBL = 10 m EBTR = 110 m WBL = 45 m WBTR = 45 m NBL = 15 m NBT = 45 m NBR = 15 m SBL = 35 m SBTR = 95 m	<u>Overall: 0.57 (C) 31</u> EBL = 0.16 (D) 36 EBTR = 0.7 (D) 43 WBL = 0.51 (C) 30 WBTR = 0.44 (C) 30 NBL = 0.16 (B) 20 NBT = 0.51 (C) 25 NBR = 0.18 (B) 20 SBL = 0.11 (B) 19 SBTR = 0.18 (B) 20	EBL = 10 m EBTR = 90 m WBL = 40 m WBTR = 90 m NBL = 25 m NBT = 105 m NBR = 15 m SBL = 10 m SBTR = 35 m
Future Total 2038 (Without GTA West Highway)	<u>Overall: 0.68 (C) 32</u> EBL = 0.14 (C) 32 EBTR = 0.75 (D) 41 WBL = 0.66 (D) 51 WBTR = 0.31 (B) 16 NBL = 0.17 (C) 24 NBT = 0.29 (C) 25 NBR = 0.16 (C) 23 SBL = 0.4 (C) 28 SBTR = 0.64 (C) 32	EBL = 15 m EBTR = 110 m WBL = 65 m WBTR = 50 m NBL = 15 m NBT = 55 m NBR = 15 m SBL = 50 m SBTR = 125 m	<u>Overall: 0.68 (C) 31</u> EBL = 0.31 (D) 42 EBTR = 0.7 (D) 43 WBL = 0.73 (D) 35 WBTR = 0.49 (C) 28 NBL = 0.2 (C) 20 NBT = 0.65 (C) 29 NBR = 0.31 (C) 22 SBL = 0.47 (C) 30 SBTR = 0.31 (C) 22	EBL = 20 m EBTR = 90 m WBL = 55 m WBTR = 85 m NBL = 25 m NBT = 140 m NBR = 25 m SBL = 35 m SBTR = 60 m
Future Total 2038 with Improvements (Without GTA West Highway)	<u>Overall: 0.68 (C) 31</u> EBL = 0.14 (C) 32 EBTR = 0.75 (D) 41 WBL = 0.66 (D) 51 WBTR = 0.31 (B) 16 NBL = 0.17 (C) 24 NBT = 0.29 (C) 25 NBR = 0.16 (C) 23 SBL = 0.4 (C) 22 SBTR = 0.64 (C) 25	EBL = 15 m EBTR = 110 m WBL = 65 m WBTR = 50 m NBL = 15 m NBT = 55 m NBR = 15 m SBL = 35 m SBTR = 90 m	<u>Overall: 0.68 (C) 32</u> EBL = 0.31 (D) 42 EBTR = 0.7 (D) 43 WBL = 0.73 (D) 54 WBTR = 0.49 (C) 22 NBL = 0.2 (C) 20 NBT = 0.65 (C) 29 NBR = 0.31 (C) 22 SBL = 0.47 (C) 31 SBTR = 0.31 (C) 24	EBL = 20 m EBTR = 90 m WBL = 70 m WBTR = 80 m NBL = 25 m NBT = 140 m NBR = 25 m SBL = 25 m SBTR = 60 m
Future Background 2028 (With GTA West Highway)	<u>Overall: 0.48 (C) 30</u> EBL = 0.08 (C) 32 EBTR = 0.66 (D) 40 WBL = 0.32 (D) 42 WBTR = 0.24 (B) 16 NBL = 0.08 (C) 22 NBT = 0.2 (C) 23	EBL = 10 m EBTR = 90 m WBL = 35 m WBTR = 40 m NBL = 10 m NBT = 40 m	<u>Overall: 0.49 (C) 30</u> EBL = 0.12 (D) 37 EBTR = 0.64 (D) 43 WBL = 0.39 (C) 29 WBTR = 0.37 (C) 29 NBL = 0.12 (B) 19 NBT = 0.46 (C) 23	EBL = 10 m EBTR = 75 m WBL = 35 m WBTR = 80 m NBL = 20 m NBT = 90 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
	NBR = 0.1 (C) 22 SBL = 0.24 (C) 24 SBTR = 0.44 (C) 27	NBR = 15 m SBL = 30 m SBTR = 85 m	NBR = 0.15 (B) 19 SBL = 0.09 (B) 18 SBTR = 0.16 (B) 19	NBR = 15 m SBL = 10 m SBTR = 30 m
Future Total 2028 (With GTA West Highway)	<u>Overall: 0.59 (C) 31</u> EBL = 0.13 (C) 33 EBTR = 0.66 (D) 40 WBL = 0.54 (D) 46 WBTR = 0.26 (B) 16 NBL = 0.11 (C) 22 NBT = 0.27 (C) 24 NBR = 0.14 (C) 22 SBL = 0.37 (C) 27 SBTR = 0.57 (C) 30	EBL = 15 m EBTR = 90 m WBL = 60 m WBTR = 40 m NBL = 10 m NBT = 50 m NBR = 15 m SBL = 45 m SBTR = 110 m	<u>Overall: 0.6 (C) 30</u> EBL = 0.27 (D) 42 EBTR = 0.64 (D) 43 WBL = 0.58 (C) 34 WBTR = 0.42 (C) 26 NBL = 0.15 (B) 19 NBT = 0.59 (C) 27 NBR = 0.26 (C) 20 SBL = 0.39 (C) 26 SBTR = 0.29 (C) 20	EBL = 20 m EBTR = 75 m WBL = 50 m WBTR = 75 m NBL = 20 m NBT = 125 m NBR = 20 m SBL = 30 m SBTR = 55 m
Future Background 2033 (With GTA West Highway)	<u>Overall: 0.52 (C) 30</u> EBL = 0.08 (C) 32 EBTR = 0.71 (D) 41 WBL = 0.38 (D) 45 WBTR = 0.27 (B) 17 NBL = 0.09 (C) 21 NBT = 0.21 (C) 22 NBR = 0.11 (C) 21 SBL = 0.24 (C) 23 SBTR = 0.45 (C) 26	EBL = 10 m EBTR = 100 m WBL = 40 m WBTR = 45 m NBL = 10 m NBT = 40 m NBR = 15 m SBL = 30 m SBTR = 85 m	<u>Overall: 0.53 (C) 31</u> EBL = 0.14 (D) 37 EBTR = 0.68 (D) 44 WBL = 0.45 (C) 30 WBTR = 0.41 (C) 30 NBL = 0.14 (B) 19 NBT = 0.48 (C) 24 NBR = 0.16 (B) 19 SBL = 0.1 (B) 18 SBTR = 0.17 (B) 19	EBL = 10 m EBTR = 85 m WBL = 40 m WBTR = 85 m NBL = 20 m NBT = 95 m NBR = 15 m SBL = 10 m SBTR = 35 m
Future Total 2033 (With GTA West Highway)	<u>Overall: 0.63 (C) 32</u> EBL = 0.13 (C) 33 EBTR = 0.71 (D) 41 WBL = 0.63 (D) 50 WBTR = 0.29 (B) 17 NBL = 0.12 (C) 22 NBT = 0.27 (C) 23 NBR = 0.15 (C) 22 SBL = 0.37 (C) 26 SBTR = 0.58 (C) 30	EBL = 15 m EBTR = 100 m WBL = 65 m WBTR = 45 m NBL = 10 m NBT = 50 m NBR = 15 m SBL = 45 m SBTR = 115 m	<u>Overall: 0.64 (C) 30</u> EBL = 0.29 (D) 43 EBTR = 0.68 (D) 44 WBL = 0.65 (C) 35 WBTR = 0.45 (C) 27 NBL = 0.17 (B) 19 NBT = 0.62 (C) 27 NBR = 0.27 (C) 20 SBL = 0.42 (C) 27 SBTR = 0.3 (C) 21	EBL = 20 m EBTR = 85 m WBL = 50 m WBTR = 80 m NBL = 20 m NBT = 130 m NBR = 20 m SBL = 30 m SBTR = 55 m
Future Background 2038 (With GTA West Highway)	<u>Overall: 0.57 (C) 31</u> EBL = 0.09 (C) 30 EBTR = 0.75 (D) 41 WBL = 0.41 (D) 45 WBTR = 0.29 (B) 16 NBL = 0.12 (C) 23 NBT = 0.23 (C) 24 NBR = 0.12 (C) 22 SBL = 0.26 (C) 25 SBTR = 0.5 (C) 29	EBL = 10 m EBTR = 110 m WBL = 45 m WBTR = 45 m NBL = 15 m NBT = 45 m NBR = 15 m SBL = 35 m SBTR = 95 m	<u>Overall: 0.57 (C) 31</u> EBL = 0.16 (D) 36 EBTR = 0.7 (D) 43 WBL = 0.51 (C) 30 WBTR = 0.44 (C) 30 NBL = 0.16 (B) 20 NBT = 0.51 (C) 25 NBR = 0.18 (B) 20 SBL = 0.11 (B) 19 SBTR = 0.18 (B) 20	EBL = 10 m EBTR = 90 m WBL = 40 m WBTR = 90 m NBL = 25 m NBT = 105 m NBR = 15 m SBL = 10 m SBTR = 35 m
Future Total 2038 (With GTA West Highway)	<u>Overall: 0.68 (C) 32</u> EBL = 0.14 (C) 32 EBTR = 0.75 (D) 41 WBL = 0.66 (D) 51 WBTR = 0.31 (B) 16 NBL = 0.17 (C) 24 NBT = 0.29 (C) 25	EBL = 15 m EBTR = 110 m WBL = 65 m WBTR = 50 m NBL = 15 m NBT = 55 m	<u>Overall: 0.68 (C) 31</u> EBL = 0.31 (D) 42 EBTR = 0.7 (D) 43 WBL = 0.73 (D) 35 WBTR = 0.49 (C) 28 NBL = 0.2 (C) 20 NBT = 0.65 (C) 29	EBL = 20 m EBTR = 90 m WBL = 55 m WBTR = 85 m NBL = 25 m NBT = 140 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
	NBR = 0.16 (C) 23 SBL = 0.4 (C) 28 SBTR = 0.64 (C) 32	NBR = 15 m SBL = 50 m SBTR = 125 m	NBR = 0.31 (C) 22 SBL = 0.47 (C) 30 SBTR = 0.31 (C) 22	NBR = 25 m SBL = 35 m SBTR = 60 m
Future Total 2038 with Improvements (With GTA West Highway)	<u>Overall: 0.68 (C) 31</u> EBL = 0.14 (C) 32 EBTR = 0.75 (D) 41 WBL = 0.66 (D) 51 WBTR = 0.31 (B) 16 NBL = 0.17 (C) 24 NBT = 0.29 (C) 25 NBR = 0.16 (C) 23 SBL = 0.4 (C) 22 SBTR = 0.64 (C) 25	EBL = 15 m EBTR = 110 m WBL = 65 m WBTR = 50 m NBL = 15 m NBT = 55 m NBR = 15 m SBL = 35 m SBTR = 90 m	<u>Overall: 0.68 (C) 32</u> EBL = 0.31 (D) 42 EBTR = 0.7 (D) 43 WBL = 0.73 (D) 54 WBTR = 0.49 (C) 22 NBL = 0.2 (C) 20 NBT = 0.65 (C) 29 NBR = 0.31 (C) 22 SBL = 0.47 (C) 31 SBTR = 0.31 (C) 24	EBL = 20 m EBTR = 90 m WBL = 70 m WBTR = 80 m NBL = 25 m NBT = 140 m NBR = 25 m SBL = 30 m SBTR = 60 m

Under existing conditions, the intersection of Mayfield Road and Chinguacousy Road is reported to operate with an overall v/c ratio of 0.72 LOS C during the a.m. peak hour and 1.02 LOS E during the p.m. peak hour. The westbound approach is reported to operate at a critical level but below capacity during the p.m. peak hour, while the northbound approach is operating at a critical level and over 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 (2028, 2033, and 2038), the intersection is reported to operate satisfactorily with substantial reserve capacity, low levels of delay and negligible queueing under both the scenarios with and without the GTA West Corridor.

With the addition of site generated traffic under the future total scenarios (2028, 2033, and 2038), the intersection continues to operate satisfactorily with substantial reserve capacity, low levels of delay and negligible queueing under both the scenarios with and without the GTA West Corridor.

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

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Existing 2022	<u>Overall: 0.79 (C) 29</u> EBL = 0.01 (B) 16 EBTR = 0.86 (C) 32 WBL = 0.65 (C) 26 WBTR = 0.55 (B) 17 NBTL = 0.26 (D) 38 NBR = 0.09 (C) 35 SBTLR = 0.69 (D) 50	EBL = 5 m EBTR = 210 m WBL = 40 m WBTR = 165 m NBTL = 35 m NBR = 15 m SBTLR = 95 m	<u>Overall: 0.76 (C) 26</u> EBL = 0.06 (B) 13 EBTR = 0.83 (C) 25 WBL = 0.69 (C) 24 WBTR = 0.7 (B) 20 NBTL = 0.6 (D) 46 NBR = 0.18 (D) 36 SBTLR = 0.35 (D) 40	EBL = 5 m EBTR = 165 m WBL = 35 m WBTR = 240 m NBTL = 85 m NBR = 25 m SBTLR = 45 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Background 2028 (Without GTA West Highway)	Overall: 0.68 (D) 45 EBL = 0.07 (D) 36 EBT = 0.92 (E) 64 EBR = 0.09 (D) 42 WBL = 0.88 (E) 69 WBTR = 0.66 (D) 46 NBL = 0.13 (C) 25 NBT = 0.16 (C) 28 NBR = 0.1 (C) 27 SBL = 0.35 (B) 16 SBTR = 0.53 (C) 24	EBL = 10 m EBT = 130 m EBR = 20 m WBL = 85 m WBTR = 95 m NBL = 15 m NBT = 30 m NBR = 15 m SBL = 50 m SBTR = 120 m	Overall: 0.78 (D) 36 EBL = 0.2 (B) 16 EBT = 0.76 (D) 39 EBR = 0.05 (E) 55 WBL = 0.85 (C) 25 WBTR = 0.97 (D) 43 NBL = 0.22 (B) 19 NBT = 0.65 (C) 33 NBR = 0.12 (C) 22 SBL = 0.42 (C) 23 SBTR = 0.36 (C) 25	EBL = 10 m EBT = 110 m EBR = 20 m WBL = 45 m WBTR = 120 m NBL = 25 m NBT = 130 m NBR = 15 m SBL = 30 m SBTR = 65 m
Future Total 2028 (Without GTA West Highway)	Overall: 0.93 (D) 49 EBL = 0.49 (D) 47 EBT = 0.95 (E) 68 EBR = 0.09 (D) 42 WBL = 0.88 (E) 69 WBTR = 0.7 (D) 47 NBL = 0.61 (D) 54 NBT = 0.25 (C) 29 NBR = 0.1 (C) 27 SBL = 0.55 (B) 19 SBTR = 0.94 (D) 48	EBL = 30 m EBT = 140 m EBR = 20 m WBL = 85 m WBTR = 100 m NBL = 20 m NBT = 45 m NBR = 15 m SBL = 70 m SBTR = 310 m	Overall: 1.1 (E) 58 EBL = 1.00 (E) 76 EBT = 0.79 (D) 39 EBR = 0.05 (D) 45 WBL = 0.85 (C) 24 WBTR = 1.07 (E) 74 NBL = 0.67 (D) 38 NBT = 1.01 (E) 70 NBR = 0.17 (C) 23 SBL = 1.09 (F) 123 SBTR = 0.8 (D) 39	EBL = 90 m EBT = 110 m EBR = 15 m WBL = 35 m WBTR = 125 m NBL = 35 m NBT = 265 m NBR = 25 m SBL = 90 m SBTR = 175 m
Future Background 2033 (Without GTA West Highway)	Overall: 0.75 (D) 47 EBL = 0.07 (C) 35 EBT = 0.94 (E) 65 EBR = 0.11 (D) 41 WBL = 0.96 (F) 87 WBTR = 0.68 (D) 46 NBL = 0.16 (C) 27 NBT = 0.18 (C) 30 NBR = 0.11 (C) 29 SBL = 0.37 (B) 17 SBTR = 0.58 (C) 26	EBL = 10 m EBT = 140 m EBR = 20 m WBL = 100 m WBTR = 105 m NBL = 15 m NBT = 35 m NBR = 15 m SBL = 50 m SBTR = 135 m	Overall: 0.82 (D) 42 EBL = 0.2 (B) 16 EBT = 0.86 (D) 44 EBR = 0.05 (F) 147 WBL = 0.84 (C) 26 WBTR = 1.01 (D) 50 NBL = 0.24 (C) 20 NBT = 0.7 (D) 35 NBR = 0.13 (C) 23 SBL = 0.47 (C) 26 SBTR = 0.38 (C) 26	EBL = 10 m EBT = 120 m EBR = 20 m WBL = 45 m WBTR = 125 m NBL = 25 m NBT = 140 m NBR = 15 m SBL = 30 m SBTR = 70 m
Future Total 2033 (Without GTA West Highway)	Overall: 1 (D) 54 EBL = 0.51 (D) 47 EBT = 0.97 (E) 70 EBR = 0.11 (D) 41 WBL = 0.96 (F) 87 WBTR = 0.72 (D) 47 NBL = 0.65 (E) 60 NBT = 0.27 (C) 31 NBR = 0.11 (C) 29 SBL = 0.57 (C) 20 SBTR = 1.00 (E) 62	EBL = 30 m EBT = 150 m EBR = 20 m WBL = 100 m WBTR = 110 m NBL = 20 m NBT = 50 m NBR = 15 m SBL = 75 m SBTR = 335 m	Overall: 1.12 (E) 69 EBL = 1.00 (E) 76 EBT = 0.88 (D) 45 EBR = 0.05 (F) 118 WBL = 0.84 (C) 24 WBTR = 1.11 (F) 91 NBL = 0.76 (D) 47 NBT = 1.06 (F) 86 NBR = 0.19 (C) 24 SBL = 1.1 (F) 128 SBTR = 0.84 (D) 42	EBL = 85 m EBT = 120 m EBR = 15 m WBL = 40 m WBTR = 125 m NBL = 45 m NBT = 280 m NBR = 25 m SBL = 95 m SBTR = 195 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Background 2038 (Without GTA West Highway)	Overall: 0.8 (D) 51 EBL = 0.08 (C) 35 EBT = 0.99 (E) 74 EBR = 0.13 (D) 40 WBL = 1.01 (F) 99 WBTR = 0.7 (D) 45 NBL = 0.19 (C) 30 NBT = 0.2 (C) 32 NBR = 0.12 (C) 32 SBL = 0.4 (B) 18 SBTR = 0.63 (C) 29	EBL = 10 m EBT = 160 m EBR = 25 m WBL = 110 m WBTR = 110 m NBL = 15 m NBT = 35 m NBR = 20 m SBL = 55 m SBTR = 150 m	Overall: 0.87 (D) 46 EBL = 0.24 (B) 19 EBT = 0.88 (D) 45 EBR = 0.05 (F) 129 WBL = 1.03 (D) 48 WBTR = 1.03 (E) 56 NBL = 0.26 (C) 20 NBT = 0.72 (D) 36 NBR = 0.15 (C) 23 SBL = 0.54 (C) 29 SBTR = 0.4 (C) 26	EBL = 10 m EBT = 130 m EBR = 20 m WBL = 45 m WBTR = 125 m NBL = 25 m NBT = 150 m NBR = 15 m SBL = 30 m SBTR = 75 m
Future Total 2038 (Without GTA West Highway)	Overall: 1.05 (E) 62 EBL = 0.53 (D) 48 EBT = 1.02 (F) 81 EBR = 0.13 (D) 40 WBL = 1.01 (F) 99 WBTR = 0.74 (D) 46 NBL = 0.68 (E) 64 NBT = 0.3 (C) 34 NBR = 0.12 (C) 32 SBL = 0.6 (C) 22 SBTR = 1.06 (F) 81	EBL = 30 m EBT = 165 m EBR = 25 m WBL = 110 m WBTR = 120 m NBL = 25 m NBT = 50 m NBR = 20 m SBL = 80 m SBTR = 360 m	Overall: 1.2 (E) 77 EBL = 1.17 (F) 134 EBT = 0.91 (D) 46 EBR = 0.05 (F) 106 WBL = 1.03 (D) 47 WBTR = 1.13 (F) 97 NBL = 0.82 (E) 55 NBT = 1.08 (F) 91 NBR = 0.21 (C) 24 SBL = 1.22 (F) 171 SBTR = 0.85 (D) 44	EBL = 95 m EBT = 135 m EBR = 15 m WBL = 40 m WBTR = 125 m NBL = 50 m NBT = 290 m NBR = 30 m SBL = 100 m SBTR = 200 m
Future Total 2038 with Improvements (Without GTA West Highway)	Overall: 0.78 (D) 42 EBL = 0.38 (C) 34 EBT = 0.83 (D) 49 EBR = 0.12 (C) 34 WBL = 0.68 (D) 44 WBTR = 0.52 (C) 29 NBL = 0.5 (E) 56 NBT = 0.59 (E) 56 NBR = 0.29 (D) 52 SBL = 0.74 (D) 38 SBTR = 0.75 (D) 42	EBL = 20 m EBT = 140 m EBR = 20 m WBL = 80 m WBTR = 95 m NBL = 25 m NBT = 65 m NBR = 40 m SBL = 105 m SBTR = 140 m	Overall: 0.94 (D) 51 EBL = 0.86 (E) 67 EBT = 0.77 (D) 45 EBR = 0.05 (C) 32 WBL = 0.81 (E) 56 WBTR = 0.97 (E) 58 NBL = 0.56 (D) 38 NBT = 0.81 (D) 52 NBR = 0.34 (D) 40 SBL = 0.88 (E) 68 SBTR = 0.58 (D) 42	EBL = 90 m EBT = 135 m EBR = 10 m WBL = 100 m WBTR = 205 m NBL = 45 m NBT = 135 m NBR = 55 m SBL = 90 m SBTR = 90 m
Future Background 2028 (With GTA West Highway)	Overall: 0.68 (D) 45 EBL = 0.07 (D) 36 EBT = 0.92 (E) 64 EBR = 0.09 (D) 42 WBL = 0.88 (E) 69 WBTR = 0.66 (D) 46 NBL = 0.13 (C) 25 NBT = 0.16 (C) 28 NBR = 0.1 (C) 27 SBL = 0.35 (B) 16 SBTR = 0.53 (C) 24	EBL = 10 m EBT = 130 m EBR = 20 m WBL = 85 m WBTR = 95 m NBL = 15 m NBT = 30 m NBR = 15 m SBL = 50 m SBTR = 120 m	Overall: 0.78 (D) 36 EBL = 0.2 (B) 16 EBT = 0.76 (D) 39 EBR = 0.05 (E) 55 WBL = 0.85 (C) 25 WBTR = 0.97 (D) 43 NBL = 0.22 (B) 19 NBT = 0.65 (C) 33 NBR = 0.12 (C) 22 SBL = 0.42 (C) 23 SBTR = 0.36 (C) 25	EBL = 10 m EBT = 110 m EBR = 20 m WBL = 45 m WBTR = 120 m NBL = 25 m NBT = 130 m NBR = 15 m SBL = 30 m SBTR = 65 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2028 (With GTA West Highway)	Overall: 0.93 (D) 49 EBL = 0.49 (D) 47 EBT = 0.95 (E) 68 EBR = 0.09 (D) 42 WBL = 0.88 (E) 69 WBTR = 0.7 (D) 47 NBL = 0.61 (D) 54 NBT = 0.25 (C) 29 NBR = 0.1 (C) 27 SBL = 0.55 (B) 19 SBTR = 0.94 (D) 48	EBL = 30 m EBT = 140 m EBR = 20 m WBL = 85 m WBTR = 100 m NBL = 20 m NBT = 45 m NBR = 15 m SBL = 70 m SBTR = 310 m	Overall: 1.1 (E) 58 EBL = 1.00 (E) 76 EBT = 0.79 (D) 39 EBR = 0.05 (D) 45 WBL = 0.85 (C) 24 WBTR = 1.07 (E) 74 NBL = 0.67 (D) 38 NBT = 1.01 (E) 70 NBR = 0.17 (C) 23 SBL = 1.09 (F) 123 SBTR = 0.8 (D) 39	EBL = 90 m EBT = 110 m EBR = 15 m WBL = 35 m WBTR = 125 m NBL = 35 m NBT = 265 m NBR = 25 m SBL = 90 m SBTR = 175 m
Future Background 2033 (With GTA West Highway)	Overall: 0.75 (D) 47 EBL = 0.07 (C) 35 EBT = 0.94 (E) 65 EBR = 0.11 (D) 41 WBL = 0.96 (F) 87 WBTR = 0.68 (D) 46 NBL = 0.16 (C) 27 NBT = 0.18 (C) 30 NBR = 0.11 (C) 29 SBL = 0.37 (B) 17 SBTR = 0.58 (C) 26	EBL = 10 m EBT = 140 m EBR = 20 m WBL = 100 m WBTR = 105 m NBL = 15 m NBT = 35 m NBR = 15 m SBL = 50 m SBTR = 135 m	Overall: 0.82 (D) 42 EBL = 0.2 (B) 16 EBT = 0.86 (D) 44 EBR = 0.05 (F) 147 WBL = 0.84 (C) 26 WBTR = 1.01 (D) 50 NBL = 0.24 (C) 20 NBT = 0.7 (D) 35 NBR = 0.13 (C) 23 SBL = 0.47 (C) 26 SBTR = 0.38 (C) 26	EBL = 10 m EBT = 120 m EBR = 20 m WBL = 45 m WBTR = 125 m NBL = 25 m NBT = 140 m NBR = 15 m SBL = 30 m SBTR = 70 m
Future Total 2033 (With GTA West Highway)	Overall: 1 (D) 54 EBL = 0.51 (D) 47 EBT = 0.97 (E) 70 EBR = 0.11 (D) 41 WBL = 0.96 (F) 87 WBTR = 0.72 (D) 47 NBL = 0.65 (E) 60 NBT = 0.27 (C) 31 NBR = 0.11 (C) 29 SBL = 0.57 (C) 20 SBTR = 1.00 (E) 62	EBL = 30 m EBT = 150 m EBR = 20 m WBL = 100 m WBTR = 110 m NBL = 20 m NBT = 50 m NBR = 15 m SBL = 75 m SBTR = 335 m	Overall: 1.12 (E) 69 EBL = 1.00 (E) 76 EBT = 0.88 (D) 45 EBR = 0.05 (F) 118 WBL = 0.84 (C) 24 WBTR = 1.11 (F) 91 NBL = 0.76 (D) 47 NBT = 1.06 (F) 86 NBR = 0.19 (C) 24 SBL = 1.1 (F) 128 SBTR = 0.84 (D) 42	EBL = 85 m EBT = 120 m EBR = 15 m WBL = 40 m WBTR = 125 m NBL = 45 m NBT = 280 m NBR = 25 m SBL = 95 m SBTR = 195 m
Future Background 2038 (With GTA West Highway)	Overall: 0.8 (D) 51 EBL = 0.08 (C) 35 EBT = 0.99 (E) 74 EBR = 0.13 (D) 40 WBL = 1.01 (F) 99 WBTR = 0.7 (D) 45 NBL = 0.19 (C) 30 NBT = 0.2 (C) 32 NBR = 0.12 (C) 32 SBL = 0.4 (B) 18 SBTR = 0.63 (C) 29	EBL = 10 m EBT = 160 m EBR = 25 m WBL = 110 m WBTR = 110 m NBL = 15 m NBT = 35 m NBR = 20 m SBL = 55 m SBTR = 150 m	Overall: 0.87 (D) 46 EBL = 0.24 (B) 19 EBT = 0.88 (D) 45 EBR = 0.05 (F) 129 WBL = 1.03 (D) 48 WBTR = 1.03 (E) 56 NBL = 0.26 (C) 20 NBT = 0.72 (D) 36 NBR = 0.15 (C) 23 SBL = 0.54 (C) 29 SBTR = 0.4 (C) 26	EBL = 10 m EBT = 130 m EBR = 20 m WBL = 45 m WBTR = 125 m NBL = 25 m NBT = 150 m NBR = 15 m SBL = 30 m SBTR = 75 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2038 (With GTA West Highway)	Overall: 1.05 (E) 62	EBL = 30 m	Overall: 1.2 (E) 77	EBL = 95 m
	EBL = 0.53 (D) 48	EBT = 165 m	EBL = 1.17 (F) 134	EBT = 135 m
	EBT = 1.02 (F) 81	EBR = 25 m	EBT = 0.91 (D) 46	EBR = 15 m
	EBR = 0.13 (D) 40	WBL = 110 m	EBR = 0.05 (F) 106	WBL = 40 m
	WBL = 1.01 (F) 99	WBTR = 120 m	WBL = 1.03 (D) 47	WBTR = 125 m
	WBTR = 0.74 (D) 46	NBL = 25 m	WBTR = 1.13 (F) 97	NBL = 50 m
	NBL = 0.68 (E) 64	NBT = 50 m	NBL = 0.82 (E) 55	NBT = 290 m
	NBT = 0.3 (C) 34	NBR = 20 m	NBT = 1.08 (F) 91	NBR = 30 m
	NBR = 0.12 (C) 32	SBL = 80 m	NBR = 0.21 (C) 24	SBL = 100 m
	SBL = 0.6 (C) 22	SBTR = 360 m	SBL = 1.22 (F) 171	SBTR = 200 m
SBTR = 1.06 (F) 81		SBTR = 0.85 (D) 44		
Future Total 2038 with Improvements (With GTA West Highway)	Overall: 0.78 (D) 42	EBL = 20 m	Overall: 0.94 (D) 51	EBL = 90 m
	EBL = 0.38 (C) 34	EBT = 140 m	EBL = 0.86 (E) 67	EBT = 135 m
	EBT = 0.83 (D) 49	EBR = 20 m	EBT = 0.77 (D) 45	EBR = 10 m
	EBR = 0.12 (C) 34	WBL = 80 m	EBR = 0.05 (C) 32	WBL = 100 m
	WBL = 0.68 (D) 44	WBTR = 95 m	WBL = 0.81 (E) 56	WBTR = 205 m
	WBTR = 0.52 (C) 29	NBL = 25 m	WBTR = 0.97 (E) 58	NBL = 45 m
	NBL = 0.5 (E) 56	NBT = 65 m	NBL = 0.56 (D) 38	NBT = 135 m
	NBT = 0.59 (E) 56	NBR = 40 m	NBT = 0.81 (D) 52	NBR = 55 m
	NBR = 0.29 (D) 52	SBL = 105 m	NBR = 0.34 (D) 40	SBL = 90 m
	SBL = 0.74 (D) 38	SBTR = 140 m	SBL = 0.88 (E) 68	SBTR = 90 m
SBTR = 0.75 (D) 42		SBTR = 0.58 (D) 42		

Under existing conditions, the intersection of Mayfield Road and McLaughlin Road is reported to operate with an overall v/c ratio of 0.79 LOS C during the a.m. peak hour and 0.76 LOS C during the p.m. peak hour. Only the eastbound through-right movement is reported to operate at a critical level, however it is below the theoretical capacity of 1.0.

With the proposed widening along Mayfield Road, along with the addition of corridor growth and background traffic under future background scenarios (2028, 2033, and 2038), the intersection is reported to operate satisfactorily with substantial reserve capacity, low levels of delay and negligible queueing under both the scenarios with and without the GTA West Corridor. The eastbound through approach during the a.m. peak hour and the westbound through-right approach during the p.m. peak hour are both operating at a critical level; however they are below the theoretical capacity of 1.0.

With the addition of site generated traffic under the future total scenarios (2028, 2033, and 2038), the intersection continues to operate satisfactorily during the a.m. peak hour, while reporting a few approaches above capacity during the p.m. peak hour. During the p.m. peak hour, the eastbound left, westbound through-right, northbound through and the southbound left approaches are all operating at levels over capacity.

With the addition of proposed widening along McLaughlin Road, the overall intersection operating with a reported v/c ratio of 0.78 LOS D and 0.94 LOS D during the a.m. and p.m. peak hours respectively under both the scenarios with and without the GTA West highway. The only movement reported to operate at a critical level is the westbound through-right lane during the p.m. peak hour, however it is reported to operate below capacity.

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

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Existing 2022	<u>Overall: 0.48 (C) 26</u>		<u>Overall: 0.71 (C) 30</u>	
	EBL = 0.47 (D) 42	EBL = 45 m	EBL = 1.07 (F) 135	EBL = 60 m
	EBT = 0.49 (D) 40	EBT = 105 m	EBT = 0.42 (D) 39	EBT = 95 m
	EBR = 0.05 (E) 63	EBR = 10 m	EBR = 0.02 (D) 48	EBR = 5 m
	WBL = 0.47 (C) 30	WBL = 30 m	WBL = 0.53 (C) 31	WBL = 40 m
	WBT = 0.33 (C) 25	WBT = 55 m	WBT = 0.61 (C) 30	WBT = 110 m
	WBR = 0.07 (C) 22	WBR = 10 m	WBR = 0.05 (C) 22	WBR = 10 m
	NBL = 0.3 (B) 19	NBL = 25 m	NBL = 0.43 (C) 21	NBL = 40 m
	NBT = 0.28 (B) 16	NBT = 45 m	NBT = 0.31 (B) 17	NBT = 55 m
	NBR = 0.06 (B) 14	NBR = 10 m	NBR = 0.03 (B) 14	NBR = 5 m
	SBL = 0.48 (C) 22	SBL = 50 m	SBL = 0.29 (B) 18	SBL = 30 m
	SBT = 0.46 (B) 19	SBT = 80 m	SBT = 0.34 (B) 17	SBT = 60 m
	SBR = 0.1 (B) 14	SBR = 10 m	SBR = 0.25 (B) 16	SBR = 40 m
	Future Background 2028 (Without GTA West Highway)	<u>Overall: 0.86 (D) 44</u>		<u>Overall: 0.98 (E) 62</u>
EBL = 0.58 (E) 64		EBL = 35 m	EBL = 1.11 (F) 100	EBL = 115 m
EBT = 0.9 (E) 56		EBT = 125 m	EBT = 0.68 (D) 44	EBT = 85 m
EBR = 0.06 (D) 37		EBR = 10 m	EBR = 0.05 (F) 92	EBR = 20 m
WBL = 0.77 (E) 77		WBL = 45 m	WBL = 0.66 (E) 58	WBL = 50 m
WBT = 0.52 (D) 44		WBT = 65 m	WBT = 1.15 (F) 125	WBT = 150 m
WBR = 0.15 (D) 39		WBR = 20 m	WBR = 0.17 (D) 41	WBR = 25 m
NBL = 0.28 (C) 32		NBL = 20 m	NBL = 0.72 (C) 28	NBL = 55 m
NBT = 0.68 (D) 48		NBT = 95 m	NBT = 0.38 (B) 15	NBT = 65 m
NBR = 0.06 (D) 38		NBR = 15 m	NBR = 0.03 (B) 12	NBR = 5 m
SBL = 0.82 (D) 39		SBL = 150 m	SBL = 0.82 (E) 56	SBL = 90 m
SBT = 0.6 (C) 28		SBT = 115 m	SBT = 0.57 (C) 30	SBT = 100 m
SBR = 0.12 (C) 21		SBR = 15 m	SBR = 0.94 (E) 58	SBR = 205 m
Future Total 2028 (Without GTA West Highway)		<u>Overall: 0.88 (D) 45</u>		<u>Overall: 1.26 (E) 73</u>
	EBL = 0.58 (E) 64	EBL = 35 m	EBL = 1.11 (F) 97	EBL = 105 m
	EBT = 0.9 (E) 56	EBT = 125 m	EBT = 0.68 (D) 41	EBT = 80 m
	EBR = 0.12 (D) 38	EBR = 20 m	EBR = 0.1 (F) 114	EBR = 30 m
	WBL = 0.77 (E) 77	WBL = 45 m	WBL = 0.66 (E) 58	WBL = 50 m
	WBT = 0.52 (D) 44	WBT = 65 m	WBT = 1.15 (F) 125	WBT = 150 m
	WBR = 0.15 (D) 39	WBR = 20 m	WBR = 0.31 (D) 44	WBR = 40 m
	NBL = 0.54 (D) 38	NBL = 30 m	NBL = 1.3 (F) 184	NBL = 170 m
	NBT = 0.76 (D) 51	NBT = 105 m	NBT = 0.47 (B) 17	NBT = 85 m
	NBR = 0.06 (D) 38	NBR = 15 m	NBR = 0.03 (B) 12	NBR = 5 m
	SBL = 0.86 (D) 46	SBL = 165 m	SBL = 0.98 (F) 92	SBL = 105 m
	SBT = 0.72 (C) 31	SBT = 150 m	SBT = 0.69 (C) 33	SBT = 125 m
	SBR = 0.12 (C) 21	SBR = 15 m	SBR = 0.98 (E) 67	SBR = 220 m
	Future Background 2033 (Without GTA West Highway)	<u>Overall: 0.94 (D) 48</u>		<u>Overall: 1.06 (E) 75</u>
EBL = 0.58 (E) 63		EBL = 40 m	EBL = 1.3 (F) 176	EBL = 115 m
EBT = 0.96 (E) 65		EBT = 145 m	EBT = 0.74 (D) 44	EBT = 90 m
EBR = 0.06 (D) 37		EBR = 10 m	EBR = 0.05 (F) 88	EBR = 15 m
WBL = 0.95 (F) 106		WBL = 55 m	WBL = 0.78 (E) 65	WBL = 60 m
WBT = 0.6 (D) 47		WBT = 75 m	WBT = 1.2 (F) 146	WBT = 165 m
WBR = 0.16 (D) 41		WBR = 20 m	WBR = 0.24 (D) 41	WBR = 30 m
NBL = 0.36 (C) 34		NBL = 20 m	NBL = 0.82 (D) 36	NBL = 75 m
NBT = 0.71 (D) 48	NBT = 100 m	NBT = 0.4 (B) 15	NBT = 70 m	
	NBR = 15 m		NBR = 5 m	

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
	NBR = 0.07 (D) 36 SBL = 0.89 (D) 48 SBT = 0.62 (C) 26 SBR = 0.13 (B) 18	SBL = 170 m SBT = 125 m SBR = 15 m	NBR = 0.03 (B) 12 SBL = 0.89 (E) 65 SBT = 0.6 (C) 30 SBR = 0.98 (E) 65	SBL = 100 m SBT = 105 m SBR = 230 m
Future Total 2033 (Without GTA West Highway)	<u>Overall: 0.96 (D) 49</u> EBL = 0.58 (E) 63 EBT = 0.96 (E) 65 EBR = 0.21 (D) 39 WBL = 0.95 (F) 106 WBT = 0.6 (D) 47 WBR = 0.16 (D) 41 NBL = 0.7 (D) 49 NBT = 0.78 (D) 51 NBR = 0.07 (D) 36 SBL = 0.92 (E) 57 SBT = 0.73 (C) 29 SBR = 0.13 (B) 18	EBL = 40 m EBT = 145 m EBR = 30 m WBL = 55 m WBT = 75 m WBR = 20 m NBL = 40 m NBT = 115 m NBR = 15 m SBL = 185 m SBT = 160 m SBR = 15 m	<u>Overall: 1.4 (F) 89</u> EBL = 1.3 (F) 174 EBT = 0.74 (D) 42 EBR = 0.1 (F) 114 WBL = 0.78 (E) 65 WBT = 1.2 (F) 146 WBR = 0.35 (D) 44 NBL = 1.45 (F) 251 NBT = 0.49 (B) 16 NBR = 0.03 (B) 12 SBL = 1.06 (F) 113 SBT = 0.72 (C) 33 SBR = 1.01 (E) 73	EBL = 105 m EBT = 85 m EBR = 25 m WBL = 60 m WBT = 165 m WBR = 45 m NBL = 190 m NBT = 90 m NBR = 5 m SBL = 110 m SBT = 135 m SBR = 240 m
Future Background 2038 (Without GTA West Highway)	<u>Overall: 1.02 (D) 53</u> EBL = 0.59 (E) 62 EBT = 0.97 (E) 65 EBR = 0.07 (D) 36 WBL = 0.95 (F) 102 WBT = 0.61 (D) 45 WBR = 0.17 (D) 39 NBL = 0.45 (D) 37 NBT = 0.81 (D) 53 NBR = 0.08 (D) 37 SBL = 1.02 (F) 81 SBT = 0.73 (C) 32 SBR = 0.14 (C) 21	EBL = 40 m EBT = 155 m EBR = 15 m WBL = 60 m WBT = 80 m WBR = 20 m NBL = 20 m NBT = 115 m NBR = 15 m SBL = 210 m SBT = 150 m SBR = 15 m	<u>Overall: 1.13 (F) 93</u> EBL = 1.45 (F) 239 EBT = 0.84 (D) 49 EBR = 0.06 (F) 92 WBL = 0.86 (E) 73 WBT = 1.31 (F) 193 WBR = 0.3 (D) 42 NBL = 0.94 (E) 59 NBT = 0.44 (B) 15 NBR = 0.04 (B) 11 SBL = 0.97 (F) 84 SBT = 0.63 (C) 29 SBR = 1.00 (E) 69	EBL = 125 m EBT = 95 m EBR = 15 m WBL = 70 m WBT = 185 m WBR = 40 m NBL = 100 m NBT = 75 m NBR = 5 m SBL = 110 m SBT = 115 m SBR = 240 m
Future Total 2038 (Without GTA West Highway)	<u>Overall: 1.02 (D) 54</u> EBL = 0.59 (E) 62 EBT = 0.97 (E) 65 EBR = 0.22 (D) 38 WBL = 0.95 (F) 102 WBT = 0.61 (D) 45 WBR = 0.17 (D) 39 NBL = 0.8 (E) 62 NBT = 0.88 (E) 59 NBR = 0.08 (D) 37 SBL = 1.02 (F) 81 SBT = 0.85 (D) 37 SBR = 0.14 (C) 21	EBL = 40 m EBT = 155 m EBR = 30 m WBL = 60 m WBT = 80 m WBR = 20 m NBL = 60 m NBT = 135 m NBR = 15 m SBL = 210 m SBT = 190 m SBR = 15 m	<u>Overall: 1.58 (F) 111</u> EBL = 1.45 (F) 238 EBT = 0.84 (D) 46 EBR = 0.1 (F) 117 WBL = 0.86 (E) 73 WBT = 1.31 (F) 193 WBR = 0.38 (D) 44 NBL = 1.64 (F) 339 NBT = 0.52 (B) 16 NBR = 0.04 (B) 11 SBL = 1.2 (F) 161 SBT = 0.74 (C) 32 SBR = 1.02 (E) 74	EBL = 110 m EBT = 90 m EBR = 25 m WBL = 70 m WBT = 185 m WBR = 45 m NBL = 210 m NBT = 95 m NBR = 5 m SBL = 120 m SBT = 145 m SBR = 250 m
Future Total 2038 with Improvements (Without GTA West Highway)	<u>Overall: 0.93 (D) 50</u> EBL = 0.59 (E) 62 EBT = 0.92 (E) 56 EBR = 0.21 (D) 36 WBL = 0.86 (F) 84 WBT = 0.56 (D) 42 WBR = 0.17 (D) 37	EBL = 40 m EBT = 145 m EBR = 30 m WBL = 60 m WBT = 75 m WBR = 20 m NBL = 60 m	<u>Overall: 1.29 (F) 100</u> EBL = 1.27 (F) 193 EBT = 0.75 (D) 50 EBR = 0.1 (D) 39 WBL = 0.8 (E) 69 WBT = 1.2 (F) 149 WBR = 0.21 (D) 42	EBL = 135 m EBT = 95 m EBR = 20 m WBL = 65 m WBT = 190 m WBR = 30 m NBL = 210 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
	NBL = 0.8 (E) 67 NBT = 0.82 (E) 58 NBR = 0.08 (D) 43 SBL = 0.91 (D) 52 SBT = 0.89 (D) 42 SBR = 0.15 (C) 23	NBT = 90 m NBR = 20 m SBL = 190 m SBT = 200 m SBR = 15 m	NBL = 1.36 (F) 218 NBT = 0.61 (D) 36 NBR = 0.04 (C) 28 SBL = 0.62 (C) 27 SBT = 0.9 (D) 50 SBR = 1.21 (F) 154	NBT = 100 m NBR = 5 m SBL = 60 m SBT = 180 m SBR = 290 m
Future Background 2028 (With GTA West Highway)	<u>Overall: 0.86 (D) 44</u> EBL = 0.58 (E) 64 EBT = 0.9 (E) 56 EBR = 0.06 (D) 37 WBL = 0.77 (E) 77 WBT = 0.52 (D) 44 WBR = 0.15 (D) 39 NBL = 0.28 (C) 32 NBT = 0.68 (D) 48 NBR = 0.06 (D) 38 SBL = 0.82 (D) 39 SBT = 0.6 (C) 28 SBR = 0.12 (C) 21	EBL = 35 m EBT = 125 m EBR = 10 m WBL = 45 m WBT = 65 m WBR = 20 m NBL = 20 m NBT = 95 m NBR = 15 m SBL = 150 m SBT = 115 m SBR = 15 m	<u>Overall: 0.98 (E) 62</u> EBL = 1.11 (F) 100 EBT = 0.68 (D) 44 EBR = 0.05 (F) 92 WBL = 0.66 (E) 58 WBT = 1.15 (F) 125 WBR = 0.17 (D) 41 NBL = 0.72 (C) 28 NBT = 0.38 (B) 15 NBR = 0.03 (B) 12 SBL = 0.82 (E) 56 SBT = 0.57 (C) 30 SBR = 0.94 (E) 58	EBL = 115 m EBT = 85 m EBR = 20 m WBL = 50 m WBT = 150 m WBR = 25 m NBL = 55 m NBT = 65 m NBR = 5 m SBL = 90 m SBT = 100 m SBR = 205 m
Future Total 2028 (With GTA West Highway)	<u>Overall: 0.88 (D) 45</u> EBL = 0.58 (E) 64 EBT = 0.9 (E) 56 EBR = 0.12 (D) 38 WBL = 0.77 (E) 77 WBT = 0.52 (D) 44 WBR = 0.15 (D) 39 NBL = 0.54 (D) 38 NBT = 0.76 (D) 51 NBR = 0.06 (D) 38 SBL = 0.86 (D) 46 SBT = 0.72 (C) 31 SBR = 0.12 (C) 21	EBL = 35 m EBT = 125 m EBR = 20 m WBL = 45 m WBT = 65 m WBR = 20 m NBL = 30 m NBT = 105 m NBR = 15 m SBL = 165 m SBT = 150 m SBR = 15 m	<u>Overall: 1.26 (E) 73</u> EBL = 1.11 (F) 97 EBT = 0.68 (D) 41 EBR = 0.1 (F) 114 WBL = 0.66 (E) 58 WBT = 1.15 (F) 125 WBR = 0.31 (D) 44 NBL = 1.3 (F) 184 NBT = 0.47 (B) 17 NBR = 0.03 (B) 12 SBL = 0.98 (F) 92 SBT = 0.69 (C) 33 SBR = 0.98 (E) 67	EBL = 105 m EBT = 80 m EBR = 30 m WBL = 50 m WBT = 150 m WBR = 40 m NBL = 170 m NBT = 85 m NBR = 5 m SBL = 105 m SBT = 125 m SBR = 220 m
Future Background 2033 (With GTA West Highway)	<u>Overall: 0.94 (D) 48</u> EBL = 0.58 (E) 63 EBT = 0.96 (E) 65 EBR = 0.06 (D) 37 WBL = 0.95 (F) 106 WBT = 0.6 (D) 47 WBR = 0.16 (D) 41 NBL = 0.36 (C) 34 NBT = 0.71 (D) 48 NBR = 0.07 (D) 36 SBL = 0.89 (D) 48 SBT = 0.62 (C) 26 SBR = 0.13 (B) 18	EBL = 40 m EBT = 145 m EBR = 10 m WBL = 55 m WBT = 75 m WBR = 20 m NBL = 20 m NBT = 100 m NBR = 15 m SBL = 170 m SBT = 125 m SBR = 15 m	<u>Overall: 1.06 (E) 75</u> EBL = 1.3 (F) 176 EBT = 0.74 (D) 44 EBR = 0.05 (F) 88 WBL = 0.78 (E) 65 WBT = 1.2 (F) 146 WBR = 0.24 (D) 41 NBL = 0.82 (D) 36 NBT = 0.4 (B) 15 NBR = 0.03 (B) 12 SBL = 0.89 (E) 65 SBT = 0.6 (C) 30 SBR = 0.98 (E) 65	EBL = 115 m EBT = 90 m EBR = 15 m WBL = 60 m WBT = 165 m WBR = 30 m NBL = 75 m NBT = 70 m NBR = 5 m SBL = 100 m SBT = 105 m SBR = 230 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2033 (With GTA West Highway)	Overall: 0.96 (D) 49 EBL = 0.58 (E) 63 EBT = 0.96 (E) 65 EBR = 0.21 (D) 39 WBL = 0.95 (F) 106 WBT = 0.6 (D) 47 WBR = 0.16 (D) 41 NBL = 0.7 (D) 49 NBT = 0.78 (D) 51 NBR = 0.07 (D) 36 SBL = 0.92 (E) 57 SBT = 0.73 (C) 29 SBR = 0.13 (B) 18	EBL = 40 m EBT = 145 m EBR = 30 m WBL = 55 m WBT = 75 m WBR = 20 m NBL = 40 m NBT = 115 m NBR = 15 m SBL = 185 m SBT = 160 m SBR = 15 m	Overall: 1.4 (F) 89 EBL = 1.3 (F) 174 EBT = 0.74 (D) 42 EBR = 0.1 (F) 114 WBL = 0.78 (E) 65 WBT = 1.2 (F) 146 WBR = 0.35 (D) 44 NBL = 1.45 (F) 251 NBT = 0.49 (B) 16 NBR = 0.03 (B) 12 SBL = 1.06 (F) 113 SBT = 0.72 (C) 33 SBR = 1.01 (E) 73	EBL = 105 m EBT = 85 m EBR = 25 m WBL = 60 m WBT = 165 m WBR = 45 m NBL = 190 m NBT = 90 m NBR = 5 m SBL = 110 m SBT = 135 m SBR = 240 m
Future Background 2038 (With GTA West Highway)	Overall: 1.02 (D) 53 EBL = 0.59 (E) 62 EBT = 0.97 (E) 65 EBR = 0.07 (D) 36 WBL = 0.95 (F) 102 WBT = 0.61 (D) 45 WBR = 0.17 (D) 39 NBL = 0.45 (D) 37 NBT = 0.81 (D) 53 NBR = 0.08 (D) 37 SBL = 1.02 (F) 81 SBT = 0.73 (C) 32 SBR = 0.14 (C) 21	EBL = 40 m EBT = 155 m EBR = 15 m WBL = 60 m WBT = 80 m WBR = 20 m NBL = 20 m NBT = 115 m NBR = 15 m SBL = 210 m SBT = 150 m SBR = 15 m	Overall: 1.13 (F) 93 EBL = 1.45 (F) 239 EBT = 0.84 (D) 49 EBR = 0.06 (F) 92 WBL = 0.86 (E) 73 WBT = 1.31 (F) 193 WBR = 0.3 (D) 42 NBL = 0.94 (E) 59 NBT = 0.44 (B) 15 NBR = 0.04 (B) 11 SBL = 0.97 (F) 84 SBT = 0.63 (C) 29 SBR = 1.00 (E) 69	EBL = 125 m EBT = 95 m EBR = 15 m WBL = 70 m WBT = 185 m WBR = 40 m NBL = 100 m NBT = 75 m NBR = 5 m SBL = 110 m SBT = 115 m SBR = 240 m
Future Total 2038 (With GTA West Highway)	Overall: 1.02 (D) 54 EBL = 0.59 (E) 62 EBT = 0.97 (E) 65 EBR = 0.22 (D) 38 WBL = 0.95 (F) 102 WBT = 0.61 (D) 45 WBR = 0.17 (D) 39 NBL = 0.8 (E) 62 NBT = 0.88 (E) 59 NBR = 0.08 (D) 37 SBL = 1.02 (F) 81 SBT = 0.85 (D) 37 SBR = 0.14 (C) 21	EBL = 40 m EBT = 155 m EBR = 30 m WBL = 60 m WBT = 80 m WBR = 20 m NBL = 60 m NBT = 135 m NBR = 15 m SBL = 210 m SBT = 190 m SBR = 15 m	Overall: 1.58 (F) 111 EBL = 1.45 (F) 238 EBT = 0.84 (D) 46 EBR = 0.1 (F) 117 WBL = 0.86 (E) 73 WBT = 1.31 (F) 193 WBR = 0.38 (D) 44 NBL = 1.64 (F) 339 NBT = 0.52 (B) 16 NBR = 0.04 (B) 11 SBL = 1.2 (F) 161 SBT = 0.74 (C) 32 SBR = 1.02 (E) 74	EBL = 110 m EBT = 90 m EBR = 25 m WBL = 70 m WBT = 185 m WBR = 45 m NBL = 210 m NBT = 95 m NBR = 5 m SBL = 120 m SBT = 145 m SBR = 250 m
Future Total 2038 with Improvements (With GTA West Highway)	Overall: 0.93 (D) 50 EBL = 0.59 (E) 62 EBT = 0.92 (E) 56 EBR = 0.21 (D) 36 WBL = 0.86 (F) 84 WBT = 0.56 (D) 42 WBR = 0.17 (D) 37 NBL = 0.8 (E) 67 NBT = 0.82 (E) 58 NBR = 0.08 (D) 43 SBL = 0.91 (D) 52	EBL = 40 m EBT = 145 m EBR = 30 m WBL = 60 m WBT = 75 m WBR = 20 m NBL = 60 m NBT = 90 m NBR = 20 m SBL = 190 m	Overall: 1.29 (F) 100 EBL = 1.27 (F) 193 EBT = 0.75 (D) 50 EBR = 0.1 (D) 39 WBL = 0.8 (E) 69 WBT = 1.2 (F) 149 WBR = 0.21 (D) 42 NBL = 1.36 (F) 218 NBT = 0.61 (D) 36 NBR = 0.04 (C) 28 SBL = 0.62 (C) 27	EBL = 135 m EBT = 95 m EBR = 20 m WBL = 65 m WBT = 190 m WBR = 30 m NBL = 210 m NBT = 100 m NBR = 5 m SBL = 60 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
	SBT = 0.89 (D) 42 SBR = 0.15 (C) 23	SBT = 200 m SBR = 15 m	SBT = 0.9 (D) 50 SBR = 1.21 (F) 154	SBT = 180 m SBR = 290 m

Under existing conditions, the intersection of Mayfield Road and Hurontario Street is reported to operate with an overall v/c ratio of 0.48 LOS C during the a.m. peak hour and 0.71 LOS C during the p.m. peak hour. Only the eastbound left movement is reported to operate at a critical level and above capacity.

With the proposed widening along Mayfield Road, along with the addition of corridor growth and background traffic under future background scenarios (2028, 2033, and 2038), the intersection is reported to operate satisfactorily with substantial reserve capacity, low levels of delay and negligible queueing under both the scenarios with and without the GTA West Corridor. The eastbound through approach during the a.m. peak hour and the westbound through-right approach during the p.m. peak hour are both operating at a critical level; however, they are below the theoretical capacity of 1.0.

With the addition of site generated traffic under the future total scenarios (2028, 2033, and 2038), the intersection continues to operate satisfactorily during the a.m. peak hour, while reporting a few approaches above capacity during the p.m. peak hour. During the p.m. peak hour, the eastbound left, westbound through-right, northbound through and the southbound left approaches are all operating at levels over capacity.

7.7 Chinguacousy Road and Street A (North)

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 12 Capacity analysis of Chinguacousy Road and Street A (North)

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2028 (Without GTA West Highway)	WBLR = 0.5 (D) 28 NBTR = 0.42 (A) 0 SBTL = 0.04 (A) 1	WBLR = 20 m NBTR = 0 m SBTL = 5 m	WBLR = 0.9 (F) 121 NBTR = 0.65 (A) 0 SBTL = 0.17 (A) 5	WBLR = 45 m NBTR = 0 m SBTL = 5 m
Future Total 2033 (Without GTA West Highway)	WBLR = 0.52 (D) 30 NBTR = 0.42 (A) 0 SBTL = 0.04 (A) 1	WBLR = 25 m NBTR = 0 m SBTL = 5 m	WBLR = 0.95 (F) 135 NBTR = 0.66 (A) 0 SBTL = 0.17 (A) 5	WBLR = 50 m NBTR = 0 m SBTL = 5 m
Future Total 2038 (Without GTA West Highway)	WBLR = 0.54 (D) 32 NBTR = 0.43 (A) 0 SBTL = 0.04 (A) 1	WBLR = 25 m NBTR = 0 m SBTL = 5 m	WBLR = 0.99 (F) 153 NBTR = 0.67 (A) 0 SBTL = 0.18 (A) 5	WBLR = 50 m NBTR = 0 m SBTL = 5 m
Future Total 2038 with Improvements (Without GTA West Highway)	WBL = 0.1 (C) 15 WBR = 0.18 (B) 12 NBT = 0.28 (A) 0 NBTR = 0.15 (A) 0 SBL = 0.04 (A) 9 SBT = 0.19 (A) 0 SBT = 0.19 (A) 0	WBL = 5 m WBR = 5 m NBT = 0 m NBTR = 0 m SBL = 5 m SBT = 0 m SBT = 0 m	WBL = 0.14 (C) 23 WBR = 0.18 (B) 14 NBT = 0.42 (A) 0 NBTR = 0.25 (A) 0 SBL = 0.18 (B) 12 SBT = 0.22 (A) 0 SBT = 0.22 (A) 0	WBL = 5 m WBR = 5 m NBT = 0 m NBTR = 0 m SBL = 5 m SBT = 0 m SBT = 0 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2028 (With GTA West Highway)	WBLR = 0.5 (D) 28 NBTR = 0.42 (A) 0 SBTL = 0.04 (A) 1	WBLR = 20 m NBTR = 0 m SBTL = 5 m	WBLR = 0.9 (F) 121 NBTR = 0.65 (A) 0 SBTL = 0.17 (A) 5	WBLR = 45 m NBTR = 0 m SBTL = 5 m
Future Total 2033 (With GTA West Highway)	WBLR = 0.52 (D) 30 NBTR = 0.42 (A) 0 SBTL = 0.04 (A) 1	WBLR = 25 m NBTR = 0 m SBTL = 5 m	WBLR = 0.95 (F) 135 NBTR = 0.66 (A) 0 SBTL = 0.17 (A) 5	WBLR = 50 m NBTR = 0 m SBTL = 5 m
Future Total 2038 (With GTA West Highway)	WBLR = 0.54 (D) 32 NBTR = 0.43 (A) 0 SBTL = 0.04 (A) 1	WBLR = 25 m NBTR = 0 m SBTL = 5 m	WBLR = 0.99 (F) 153 NBTR = 0.67 (A) 0 SBTL = 0.18 (A) 5	WBLR = 50 m NBTR = 0 m SBTL = 5 m
Future Total 2038 with Improvements (With GTA West Highway)	WBL = 0.1 (C) 15 WBR = 0.18 (B) 12 NBT = 0.28 (A) 0 NBTR = 0.15 (A) 0 SBL = 0.04 (A) 9 SBT = 0.19 (A) 0 SBT = 0.19 (A) 0	WBL = 5 m WBR = 5 m NBT = 0 m NBTR = 0 m SBL = 5 m SBT = 0 m SBT = 0 m	WBL = 0.14 (C) 23 WBR = 0.18 (B) 14 NBT = 0.42 (A) 0 NBTR = 0.25 (A) 0 SBL = 0.18 (B) 12 SBT = 0.22 (A) 0 SBT = 0.22 (A) 0	WBL = 5 m WBR = 5 m NBT = 0 m NBTR = 0 m SBL = 5 m SBT = 0 m SBT = 0 m

Under all future total traffic conditions (2028, 2033, and 2038), the intersection of Chinguacousy Road and Street A (North) 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 approach from Street A is reporting delays of 121, 135 and 153 seconds in 2028, 2033 and 2038 respectively.

With the widening of Chinguacousy Road to four lanes and the addition of an auxiliary left-turn lane along Street A, the intersection operates satisfactorily during the a.m. peak hour, with the delay being reduced to 23 seconds during the p.m. peak hour during the 2038 future total scenario.

7.8 Chinguacousy Road and Street A (South)

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 13 Capacity analysis of Chinguacousy Road and Street A (South)

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2028 (Without GTA West Highway)	WBLR = 0.43 (C) 24 NBTR = 0.37 (A) 0 SBTL = 0.03 (A) 1	WBLR = 20 m NBTR = 0 m SBTL = 5 m	WBLR = 0.75 (F) 88 NBTR = 0.65 (A) 0 SBTL = 0.14 (A) 4	WBLR = 35 m NBTR = 0 m SBTL = 5 m
Future Total 2033 (Without GTA West Highway)	WBLR = 0.45 (C) 25 NBTR = 0.38 (A) 0 SBTL = 0.03 (A) 1	WBLR = 20 m NBTR = 0 m SBTL = 5 m	WBLR = 0.79 (F) 97 NBTR = 0.66 (A) 0 SBTL = 0.14 (A) 4	WBLR = 35 m NBTR = 0 m SBTL = 5 m
Future Total 2038 (Without GTA West Highway)	WBLR = 0.46 (D) 26 NBTR = 0.38 (A) 0 SBTL = 0.03 (A) 1	WBLR = 20 m NBTR = 0 m SBTL = 5 m	WBLR = 0.83 (F) 109 NBTR = 0.67 (A) 0 SBTL = 0.15 (A) 4	WBLR = 40 m NBTR = 0 m SBTL = 5 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2038 with Improvements (Without GTA West Highway)	WBL = 0.09 (B) 14 WBR = 0.16 (B) 11 NBT = 0.25 (A) 0 NBTR = 0.14 (A) 0 SBL = 0.03 (A) 9 SBT = 0.19 (A) 0 SBT = 0.19 (A) 0	WBL = 5 m WBR = 5 m NBT = 0 m NBTR = 0 m SBL = 5 m SBT = 0 m SBT = 0 m	WBL = 0.13 (C) 22 WBR = 0.14 (B) 14 NBT = 0.42 (A) 0 NBTR = 0.25 (A) 0 SBL = 0.15 (B) 12 SBT = 0.21 (A) 0 SBT = 0.21 (A) 0	WBL = 5 m WBR = 5 m NBT = 0 m NBTR = 0 m SBL = 5 m SBT = 0 m SBT = 0 m
Future Total 2028 (With GTA West Highway)	WBLR = 0.43 (C) 24 NBTR = 0.37 (A) 0 SBTL = 0.03 (A) 1	WBLR = 20 m NBTR = 0 m SBTL = 5 m	WBLR = 0.75 (F) 88 NBTR = 0.65 (A) 0 SBTL = 0.14 (A) 4	WBLR = 35 m NBTR = 0 m SBTL = 5 m
Future Total 2033 (With GTA West Highway)	WBLR = 0.45 (C) 25 NBTR = 0.38 (A) 0 SBTL = 0.03 (A) 1	WBLR = 20 m NBTR = 0 m SBTL = 5 m	WBLR = 0.79 (F) 97 NBTR = 0.66 (A) 0 SBTL = 0.14 (A) 4	WBLR = 35 m NBTR = 0 m SBTL = 5 m
Future Total 2038 (With GTA West Highway)	WBLR = 0.46 (D) 26 NBTR = 0.38 (A) 0 SBTL = 0.03 (A) 1	WBLR = 20 m NBTR = 0 m SBTL = 5 m	WBLR = 0.83 (F) 109 NBTR = 0.67 (A) 0 SBTL = 0.15 (A) 4	WBLR = 40 m NBTR = 0 m SBTL = 5 m
Future Total 2038 with Improvements (With GTA West Highway)	WBL = 0.09 (B) 14 WBR = 0.16 (B) 11 NBT = 0.25 (A) 0 NBTR = 0.14 (A) 0 SBL = 0.03 (A) 9 SBT = 0.19 (A) 0 SBT = 0.19 (A) 0	WBL = 5 m WBR = 5 m NBT = 0 m NBTR = 0 m SBL = 5 m SBT = 0 m SBT = 0 m	WBL = 0.13 (C) 22 WBR = 0.14 (B) 14 NBT = 0.42 (A) 0 NBTR = 0.25 (A) 0 SBL = 0.15 (B) 12 SBT = 0.21 (A) 0 SBT = 0.21 (A) 0	WBL = 5 m WBR = 5 m NBT = 0 m NBTR = 0 m SBL = 5 m SBT = 0 m SBT = 0 m

Under all future total traffic conditions (2028, 2033, and 2038), the intersection of Chinguacousy Road and Street A (South) 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 approach from Street A is reporting delays of 88, 97 and 109 seconds in 2028, 2033 and 2038 respectively.

With the widening of Chinguacousy Road to four lanes and the addition of an auxiliary left-turn lane along Street A, the intersection operates satisfactorily during the a.m. peak hour, and with the delays reduced to 22 seconds during the p.m. peak hour during the 2038 future total scenario.

7.9 Old School Road and Street B

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 14 Capacity analysis of Old School Road and Street B

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2028 (Without GTA West Highway)	EBTR = 0.46 (A) 0 WBTL = 0.04 (A) 1 NBLR = 0.39 (D) 29	EBTR = 0 m WBTL = 5 m NBLR = 15 m	EBTR = 0.49 (A) 0 WBTL = 0.12 (A) 3 NBLR = 0.85 (F) 133	EBTR = 0 m WBTL = 5 m NBLR = 35 m
Future Total 2033 (Without GTA West Highway)	EBTR = 0.47 (A) 0 WBTL = 0.04 (A) 1 NBLR = 0.41 (D) 31	EBTR = 0 m WBTL = 5 m NBLR = 15 m	EBTR = 0.49 (A) 0 WBTL = 0.12 (A) 3 NBLR = 0.9 (F) 153	EBTR = 0 m WBTL = 5 m NBLR = 40 m
Future Total 2038 (Without GTA West Highway)	EBTR = 0.49 (A) 0 WBTL = 0.04 (A) 1 NBLR = 0.43 (D) 33	EBTR = 0 m WBTL = 5 m NBLR = 15 m	EBTR = 0.5 (A) 0 WBTL = 0.12 (A) 4 NBLR = 0.97 (F) 179	EBTR = 0 m WBTL = 5 m NBLR = 40 m
Future Total 2038 with Improvements (Without GTA West Highway)	EBT = 0.31 (A) 0 EBTR = 0.17 (A) 0 WBL = 0.04 (A) 10 WBT = 0.14 (A) 0 WBT = 0.14 (A) 0 NBL = 0.13 (C) 16 NBR = 0.08 (B) 12	EBT = 0 m EBTR = 0 m WBL = 5 m WBT = 0 m WBT = 0 m NBL = 5 m NBR = 5 m	EBT = 0.31 (A) 0 EBTR = 0.19 (A) 0 WBL = 0.13 (B) 10 WBT = 0.28 (A) 0 WBT = 0.28 (A) 0 NBL = 0.18 (C) 20 NBR = 0.05 (B) 12	EBT = 0 m EBTR = 0 m WBL = 5 m WBT = 0 m WBT = 0 m NBL = 5 m NBR = 5 m
Future Total 2028 (With GTA West Highway)	EBTR = 0.45 (A) 0 WBTL = 0.04 (A) 1 NBLR = 0.38 (D) 28	EBTR = 0 m WBTL = 5 m NBLR = 15 m	EBTR = 0.48 (A) 0 WBTL = 0.12 (A) 3 NBLR = 0.83 (F) 126	EBTR = 0 m WBTL = 5 m NBLR = 35 m
Future Total 2033 (With GTA West Highway)	EBTR = 0.46 (A) 0 WBTL = 0.04 (A) 1 NBLR = 0.4 (D) 30	EBTR = 0 m WBTL = 5 m NBLR = 15 m	EBTR = 0.48 (A) 0 WBTL = 0.12 (A) 3 NBLR = 0.88 (F) 145	EBTR = 0 m WBTL = 5 m NBLR = 40 m
Future Total 2038 (With GTA West Highway)	EBTR = 0.48 (A) 0 WBTL = 0.04 (A) 1 NBLR = 0.42 (D) 32	EBTR = 0 m WBTL = 5 m NBLR = 15 m	EBTR = 0.49 (A) 0 WBTL = 0.12 (A) 4 NBLR = 0.95 (F) 170	EBTR = 0 m WBTL = 5 m NBLR = 40 m
Future Total 2038 with Improvements (With GTA West Highway)	EBT = 0.31 (A) 0 EBTR = 0.17 (A) 0 WBL = 0.04 (A) 10 WBT = 0.14 (A) 0 WBT = 0.14 (A) 0 NBL = 0.13 (C) 16 NBR = 0.08 (B) 12	EBT = 0 m EBTR = 0 m WBL = 5 m WBT = 0 m WBT = 0 m NBL = 5 m NBR = 5 m	EBT = 0.3 (A) 0 EBTR = 0.19 (A) 0 WBL = 0.12 (B) 10 WBT = 0.28 (A) 0 WBT = 0.28 (A) 0 NBL = 0.18 (C) 20 NBR = 0.05 (B) 12	EBT = 0 m EBTR = 0 m WBL = 5 m WBT = 0 m WBT = 0 m NBL = 5 m NBR = 5 m

Under all future total traffic conditions (2028, 2033, and 2038), 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. As corridor growth is added to the study area road network throughout the horizon years, the delays begin to increase on the north approach to the intersection, with the approach reaching a critical level in the 2038 horizon year.

Under the 2038 Future Total scenario, including the widening of Old School Road, the northbound approach's delay has been reduced from 170 seconds (before widening) to 20 seconds (post-widening) in the p.m. peak hour.

7.10 McLaughlin Road and Street C

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 15 Capacity analysis of McLaughlin Road and Street C

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2028 (Without GTA West Highway)	EBLR = 1.00 (F) 113 NBTL = 0.04 (A) 1 SBTR = 0.42 (A) 0	EBLR = 65 m NBTL = 5 m SBTR = 0 m	EBLR = 1.37 (F) 291 NBTL = 0.13 (A) 4 SBTR = 0.48 (A) 0	EBLR = 80 m NBTL = 5 m SBTR = 0 m
Future Total 2033 (Without GTA West Highway)	EBLR = 1.07 (F) 139 NBTL = 0.05 (A) 1 SBTR = 0.45 (A) 0	EBLR = 75 m NBTL = 5 m SBTR = 0 m	EBLR = 1.48 (F) 338 NBTL = 0.13 (A) 4 SBTR = 0.49 (A) 0	EBLR = 85 m NBTL = 5 m SBTR = 0 m
Future Total 2038 (Without GTA West Highway)	EBLR = 1.17 (F) 175 NBTL = 0.05 (A) 1 SBTR = 0.48 (A) 0	EBLR = 80 m NBTL = 5 m SBTR = 0 m	EBLR = 1.6 (F) 396 NBTL = 0.14 (A) 4 SBTR = 0.5 (A) 0	EBLR = 90 m NBTL = 5 m SBTR = 0 m
Future Total 2038 with Improvements (Without GTA West Highway)	EBL = 0.28 (C) 18 EBR = 0.16 (B) 12 NBL = 0.05 (A) 10 NBT = 0.21 (A) 0 NBT = 0.21 (A) 0 SBT = 0.31 (A) 0 SBTR = 0.16 (A) 0	EBL = 10 m EBR = 5 m NBL = 5 m NBT = 0 m NBT = 0 m SBT = 0 m SBTR = 0 m	EBL = 0.21 (C) 19 EBR = 0.13 (B) 12 NBL = 0.14 (B) 10 NBT = 0.3 (A) 0 NBT = 0.3 (A) 0 SBT = 0.32 (A) 0 SBTR = 0.18 (A) 0	EBL = 10 m EBR = 5 m NBL = 5 m NBT = 0 m NBT = 0 m SBT = 0 m SBTR = 0 m
Future Total 2028 (With GTA West Highway)	EBLR = 1.00 (F) 113 NBTL = 0.04 (A) 1 SBTR = 0.42 (A) 0	EBLR = 65 m NBTL = 5 m SBTR = 0 m	EBLR = 1.37 (F) 291 NBTL = 0.13 (A) 4 SBTR = 0.48 (A) 0	EBLR = 80 m NBTL = 5 m SBTR = 0 m
Future Total 2033 (With GTA West Highway)	EBLR = 1.07 (F) 139 NBTL = 0.05 (A) 1 SBTR = 0.45 (A) 0	EBLR = 75 m NBTL = 5 m SBTR = 0 m	EBLR = 1.48 (F) 338 NBTL = 0.13 (A) 4 SBTR = 0.49 (A) 0	EBLR = 85 m NBTL = 5 m SBTR = 0 m
Future Total 2038 (With GTA West Highway)	EBLR = 1.17 (F) 175 NBTL = 0.05 (A) 1 SBTR = 0.48 (A) 0	EBLR = 80 m NBTL = 5 m SBTR = 0 m	EBLR = 1.6 (F) 396 NBTL = 0.14 (A) 4 SBTR = 0.5 (A) 0	EBLR = 90 m NBTL = 5 m SBTR = 0 m
Future Total 2038 with Improvements (With GTA West Highway)	EBL = 0.28 (C) 18 EBR = 0.16 (B) 12 NBL = 0.05 (A) 10 NBT = 0.21 (A) 0 NBT = 0.21 (A) 0 SBT = 0.31 (A) 0 SBTR = 0.16 (A) 0	EBL = 10 m EBR = 5 m NBL = 5 m NBT = 0 m NBT = 0 m SBT = 0 m SBTR = 0 m	EBL = 0.21 (C) 19 EBR = 0.13 (B) 12 NBL = 0.14 (B) 10 NBT = 0.3 (A) 0 NBT = 0.3 (A) 0 SBT = 0.32 (A) 0 SBTR = 0.18 (A) 0	EBL = 10 m EBR = 5 m NBL = 5 m NBT = 0 m NBT = 0 m SBT = 0 m SBTR = 0 m

Under all future total traffic conditions (2028, 2033, and 2038), the intersection of McLaughlin Road and Street C is reported to operate over capacity along the Street C approach, reporting delays of 175 seconds and 396 seconds during the a.m. and p.m. peak hour respectively under the future total 2038 scenario

With the widening of McLaughlin Road, the intersection is reported to operate satisfactorily during the a.m. peak hour, with the delay being reduced to 39 seconds and 61 seconds during the a.m. and p.m. peak hour respectively under the 2038 future total scenario.

7.11 Old School Road and Street D

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 16 Capacity analysis of Old School Road and Street D

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2028 (Without GTA West Highway)	EBTR = 0.47 (A) 0 WBTL = 0.06 (A) 2 NBLR = 0.67 (E) 41	EBTR = 0 m WBTL = 5 m NBLR = 35 m	EBTR = 0.45 (A) 0 WBTL = 0.22 (A) 6 NBLR = 1.23 (F) 241	EBTR = 0 m WBTL = 10 m NBLR = 65 m
Future Total 2033 (Without GTA West Highway)	EBTR = 0.48 (A) 0 WBTL = 0.06 (A) 2 NBLR = 0.7 (E) 45	EBTR = 0 m WBTL = 5 m NBLR = 40 m	EBTR = 0.46 (A) 0 WBTL = 0.22 (A) 6 NBLR = 1.31 (F) 277	EBTR = 0 m WBTL = 10 m NBLR = 70 m
Future Total 2038 (Without GTA West Highway)	EBTR = 0.5 (A) 0 WBTL = 0.07 (A) 2 NBLR = 0.73 (E) 50	EBTR = 0 m WBTL = 5 m NBLR = 40 m	EBTR = 0.47 (A) 0 WBTL = 0.22 (A) 6 NBLR = 1.41 (F) 321	EBTR = 0 m WBTL = 10 m NBLR = 75 m
Future Total 2038 with Improvements (Without GTA West Highway)	EBT = 0.32 (A) 0 EBTR = 0.17 (A) 0 WBL = 0.07 (A) 10 WBT = 0.14 (A) 0 WBT = 0.14 (A) 0 NBL = 0.15 (C) 17 NBR = 0.23 (B) 13	EBT = 0 m EBTR = 0 m WBL = 5 m WBT = 0 m WBT = 0 m NBL = 5 m NBR = 10 m	EBT = 0.29 (A) 0 EBTR = 0.18 (A) 0 WBL = 0.22 (B) 11 WBT = 0.29 (A) 0 WBT = 0.29 (A) 0 NBL = 0.18 (C) 20 NBR = 0.13 (B) 12	EBT = 0 m EBTR = 0 m WBL = 10 m WBT = 0 m WBT = 0 m NBL = 5 m NBR = 5 m
Future Total 2028 (With GTA West Highway)	EBTR = 0.46 (A) 0 WBTL = 0.06 (A) 2 NBLR = 0.65 (E) 38	EBTR = 0 m WBTL = 5 m NBLR = 35 m	EBTR = 0.44 (A) 0 WBTL = 0.21 (A) 6 NBLR = 1.2 (F) 227	EBTR = 0 m WBTL = 10 m NBLR = 70 m
Future Total 2033 (With GTA West Highway)	EBTR = 0.48 (A) 0 WBTL = 0.06 (A) 2 NBLR = 0.68 (E) 42	EBTR = 0 m WBTL = 5 m NBLR = 35 m	EBTR = 0.45 (A) 0 WBTL = 0.22 (A) 6 NBLR = 1.28 (F) 261	EBTR = 0 m WBTL = 10 m NBLR = 75 m
Future Total 2038 (With GTA West Highway)	EBTR = 0.49 (A) 0 WBTL = 0.07 (A) 2 NBLR = 0.71 (E) 47	EBTR = 0 m WBTL = 5 m NBLR = 40 m	EBTR = 0.46 (A) 0 WBTL = 0.22 (A) 6 NBLR = 1.37 (F) 304	EBTR = 0 m WBTL = 5 m NBLR = 10 m
Future Total 2038 with Improvements (With GTA West Highway)	EBT = 0.32 (A) 0 EBTR = 0.17 (A) 0 WBL = 0.07 (A) 10 WBT = 0.13 (A) 0 WBT = 0.13 (A) 0 NBL = 0.15 (C) 17 NBR = 0.23 (B) 13	EBT = 0 m EBTR = 0 m WBL = 5 m WBT = 0 m WBT = 0 m NBL = 5 m NBR = 10 m	EBT = 0.29 (A) 0 EBTR = 0.17 (A) 0 WBL = 0.22 (B) 10 WBT = 0.29 (A) 0 WBT = 0.29 (A) 0 NBL = 0.18 (C) 20 NBR = 0.12 (B) 12	EBT = 0 m EBTR = 0 m WBL = 10 m WBT = 0 m WBT = 0 m NBL = 5 m NBR = 5 m

Under all future total traffic conditions (2028, 2033, and 2038), 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 at levels above capacity through all three horizon years.

Under the 2038 Future Total scenario, including the widening of Old School Road to four lanes, the northbound approach's delay has been reduced from 304 seconds (before widening) to 20 seconds (post-widening) in the p.m. peak hour.

7.12 McLaughlin Road and Street E

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 17 Capacity analysis of McLaughlin Road and Street E

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2028 (Without GTA West Highway)	EBTLR = 1.00 (F) 141 WBTLR = 3.58 (F) 9999 NBTLR = 0.04 (A) 1 SBTLR = 0.03 (A) 1	EBTLR = 55 m WBTLR = Err NBTLR = 5 m SBTLR = 5 m	EBTLR = 1.9 (F) 588 WBTLR = 7.87 (F) 9999 NBTLR = 0.1 (A) 4 SBTLR = 0.07 (A) 2	EBLR = Err NBTL = Err NBT = 0 m SBT = 0 m SBTR = 0 m
Future Total 2033 (Without GTA West Highway)	EBTLR = 1.08 (F) 175 WBTLR = 3.96 (F) 9999 NBTLR = 0.04 (A) 1 SBTLR = 0.03 (A) 1	EBTLR = 60 m WBTLR = Err NBTLR = 5 m SBTLR = 5 m	EBTLR = 2.09 (F) 683 WBTLR = 8.67 (F) 9999 NBTLR = 0.1 (A) 4 SBTLR = 0.07 (A) 2	EBLR = Err NBTL = Err NBT = 0 m SBT = 0 m SBTR = 0 m
Future Total 2038 (Without GTA West Highway)	EBTLR = 1.19 (F) 219 WBTLR = 4.42 (F) 9999 NBTLR = 0.04 (A) 1 SBTLR = 0.03 (A) 1	EBTLR = 65 m WBTLR = Err NBTLR = 5 m SBTLR = 5 m	EBTLR = 2.32 (F) 796 WBTLR = 9.61 (F) 9999 NBTLR = 0.1 (A) 5 SBTLR = 0.07 (A) 2	EBLR = Err NBTL = Err NBT = 0 m SBT = 0 m SBTR = 0 m
Future Total 2038 with Improvements (Without GTA West Highway)	<u>Overall: 0.44 (B) 18</u> EBL = 0.11 (C) 22 EBTR = 0.04 (C) 21 WBL = 0.4 (C) 24 WBTR = 0.03 (C) 21 NBL = 0.13 (B) 16 NBTR = 0.4 (B) 18 SBL = 0.09 (B) 13 SBTR = 0.47 (B) 16	EBL = 20 m EBTR = 5 m WBL = 35 m WBTR = 0 m NBL = 10 m NBTR = 70 m SBL = 5 m SBTR = 65 m	<u>Overall: 0.55 (B) 16</u> EBL = 0.11 (C) 32 EBTR = 0.04 (C) 31 WBL = 0.47 (B) 17 WBTR = 0.02 (C) 30 NBL = 0.23 (B) 11 NBTR = 0.59 (B) 14 SBL = 0.21 (B) 17 SBTR = 0.38 (B) 17	EBL = 20 m EBTR = 0 m WBL = 25 m WBTR = 0 m NBL = 15 m NBTR = 105 m SBL = 10 m SBTR = 75 m
Future Total 2028 (With GTA West Highway)	EBTLR = 1.00 (F) 141 WBTLR = 3.58 (F) 9999 NBTLR = 0.04 (A) 1 SBTLR = 0.03 (A) 1	EBTLR = 55 m WBTLR = Err NBTLR = 5 m SBTLR = 5 m	EBTLR = 1.9 (F) 588 WBTLR = 7.87 (F) 9999 NBTLR = 0.1 (A) 4 SBTLR = 0.07 (A) 2	EBLR = Err NBTL = Err NBT = 0 m SBT = 0 m SBTR = 0 m
Future Total 2033 (With GTA West Highway)	EBTLR = 1.08 (F) 175 WBTLR = 3.96 (F) 9999 NBTLR = 0.04 (A) 1 SBTLR = 0.03 (A) 1	EBTLR = 60 m WBTLR = Err NBTLR = 5 m SBTLR = 5 m	EBTLR = 2.09 (F) 683 WBTLR = 8.67 (F) 9999 NBTLR = 0.1 (A) 4 SBTLR = 0.07 (A) 2	EBLR = Err NBTL = Err NBT = 0 m SBT = 0 m SBTR = 0 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2038 (With GTA West Highway)	EBTLR = 1.19 (F) 219 WBTLR = 4.42 (F) 9999 NBTLR = 0.04 (A) 1 SBTLR = 0.03 (A) 1	EBTLR = 65 m WBTLR = Err NBTLR = 5 m SBTLR = 5 m	EBTLR = 2.32 (F) 796 WBTLR = 9.61 (F) 9999 NBTLR = 0.1 (A) 5 SBTLR = 0.07 (A) 2	EBLR = Err NBTL = Err NBT = 0 m SBT = 0 m SBTR = 0 m
Future Total 2038 with Improvements (With GTA West Highway)	<u>Overall: 0.44 (B) 18</u> EBL = 0.11 (C) 22 EBTR = 0.04 (C) 21 WBL = 0.4 (C) 24 WBTR = 0.03 (C) 21 NBL = 0.13 (B) 16 NBTR = 0.4 (B) 18 SBL = 0.09 (B) 13 SBTR = 0.47 (B) 16	EBL = 20 m EBTR = 5 m WBL = 35 m WBTR = 0 m NBL = 10 m NBTR = 70 m SBL = 5 m SBTR = 65 m	<u>Overall: 0.55 (B) 16</u> EBL = 0.11 (C) 32 EBTR = 0.04 (C) 31 WBL = 0.47 (B) 17 WBTR = 0.02 (C) 30 NBL = 0.23 (B) 11 NBTR = 0.59 (B) 14 SBL = 0.21 (B) 17 SBTR = 0.38 (B) 17	EBL = 20 m EBTR = 0 m WBL = 25 m WBTR = 0 m NBL = 15 m NBTR = 105 m SBL = 10 m SBTR = 80 m

Under all future total traffic conditions (2028, 2033, and 2038), the intersection of McLaughlin Road and Street E is reported to operate over capacity along the Street E approach, with high delays in both the eastbound and westbound approaches.

With the signalization at the intersection, widening of McLaughlin Road to four lanes, and the addition of auxiliary left-turn lanes, the intersection is reported to operate with v/c ratios of 0.44 LOS B and 0.55 LOS B during the a.m. and p.m. peak hours, and greatly reducing the delays along Street E (for example, from 219 to 22 seconds in the eastbound approach and from 9999 to 24 seconds in the westbound approach during the a.m. peak hour).

7.13 Hurontario Street and Street E

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 18 Capacity analysis of Hurontario Street and Street E

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2028 (Without GTA West Highway)	EBLR = Err (F) 9999 NBTL = 5.86 (F) 2505 SBTR = 0.91 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m	EBLR = Err (F) 9999 NBTL = 3.85 (F) 1347 SBTR = 0.55 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m
Future Total 2033 (Without GTA West Highway)	EBLR = Err (F) 9999 NBTL = 7.81 (F) 3479 SBTR = 0.97 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m	EBLR = Err (F) 9999 NBTL = 4.89 (F) 418 SBTR = 0.6 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m
Future Total 2038 (Without GTA West Highway)	EBLR = Err (F) 9999 NBTL = 5.88 (F) 2514 SBTR = 0.91 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m	EBLR = Err (F) 9999 NBTL = 4.32 (F) 372 SBTR = 0.57 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2038 with Improvements (Without GTA West Highway)	Overall: 1.37 (F) 136 EBL = 0.08 (D) 43 EBR = 1.43 (F) 260 NBL = 1.17 (F) 174 NBT = 0.6 (A) 9 SBTR = 1.36 (F) 184	EBL = 15 m EBR = 215 m NBL = 50 m NBT = 95 m SBTR = 160 m	Overall: 1.18 (F) 123 EBL = 0.1 (E) 57 EBR = 0.19 (F) 205 NBL = 1.13 (F) 121 NBT = 1.3 (F) 150 SBTR = 1.06 (E) 64	EBL = 15 m EBR = 55 m NBL = 205 m NBT = 605 m SBTR = 135 m
Future Total 2028 (With GTA West Highway)	EBLR = Err (F) 9999 NBTL = 5.5 (F) 2327 SBTR = 0.9 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m	EBLR = Err (F) 9999 NBTL = 3.97 (F) 1401 SBTR = 0.55 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m
Future Total 2033 (With GTA West Highway)	EBLR = Err (F) 9999 NBTL = 7.33 (F) 3235 SBTR = 0.96 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m	EBLR = Err (F) 9999 NBTL = 5.05 (F) 454 SBTR = 0.6 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m
Future Total 2038 (With GTA West Highway)	EBLR = Err (F) 9999 NBTL = 5.52 (F) 2335 SBTR = 0.9 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m	EBLR = Err (F) 9999 NBTL = 4.45 (F) 1622 SBTR = 0.58 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m
Future Total 2038 with Improvements (With GTA West Highway)	Overall: 1.36 (F) 140 EBL = 0.07 (D) 42 EBR = 1.32 (F) 213 NBL = 1.17 (F) 173 NBT = 0.59 (A) 9 SBTR = 1.38 (F) 192	EBL = 15 m EBR = 210 m NBL = 50 m NBT = 95 m SBTR = 170 m	Overall: 1.11 (F) 103 EBL = 0.1 (E) 56 EBR = 0.19 (F) 206 NBL = 1.13 (F) 121 NBT = 1.22 (F) 114 SBTR = 1.07 (E) 69	EBL = 15 m EBR = 55 m NBL = 225 m NBTL = 685 m SBTR = 145 m

Under all future total traffic conditions (2028, 2033, and 2038), the intersection of Hurontario and Street E is reported to operate over capacity along the Street E approach, and the northbound approach as a result of the high volume of through traffic along Hurontario Street.

With the proposed widening along Hurontario Street, the delays along the two critical approaches continue to operate with high levels of delay.

7.14 McLaughlin Road and Street F

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 19 Capacity analysis of McLaughlin Road and Street F

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2028 (Without GTA West Highway)	EBLR = 0.9 (F) 109 NBTL = 0.04 (A) 1 SBTR = 0.59 (A) 0	EBLR = 50 m NBTL = 5 m SBTR = 0 m	EBLR = 1.61 (F) 443 NBTL = 0.12 (A) 5 SBTR = 0.59 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m
Future Total 2033 (Without GTA West Highway)	EBLR = 1.05 (F) 162 NBTL = 0.05 (A) 1 SBTR = 0.65 (A) 0	EBLR = 60 m NBTL = 5 m SBTR = 0 m	EBLR = 1.74 (F) 504 NBTL = 0.12 (A) 6 SBTR = 0.6 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m
Future Total 2038 (Without GTA West Highway)	EBLR = 1.14 (F) 198 NBTL = 0.05 (A) 1 SBTR = 0.67 (A) 0	EBLR = 65 m NBTL = 5 m SBTR = 0 m	EBLR = 1.88 (F) 579 NBTL = 0.12 (A) 7 SBTR = 0.61 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m
Future Total 2038 with Improvements (Without GTA West Highway)	EBL = 0.2 (C) 20 EBR = 0.1 (B) 10 NBL = 0.04 (B) 10 NBT = 0.21 (A) 0 NBT = 0.21 (A) 0 SBT = 0.44 (A) 0 SBTR = 0.23 (A) 0	EBL = 5 m EBR = 5 m NBL = 5 m NBT = 0 m NBT = 0 m SBT = 0 m SBTR = 0 m	EBL = 0.18 (C) 22 EBR = 0.08 (B) 11 NBL = 0.11 (B) 10 NBT = 0.4 (A) 0 NBT = 0.4 (A) 0 SBT = 0.38 (A) 0 SBTR = 0.23 (A) 0	EBL = 5 m EBR = 5 m NBL = 5 m NBT = 0 m NBT = 0 m SBT = 0 m SBTR = 0 m
Future Total 2028 (With GTA West Highway)	EBLR = 0.9 (F) 109 NBTL = 0.04 (A) 1 SBTR = 0.59 (A) 0	EBLR = 50 m NBTL = 5 m SBTR = 0 m	EBLR = 1.61 (F) 443 NBTL = 0.12 (A) 5 SBTR = 0.59 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m
Future Total 2033 (With GTA West Highway)	EBLR = 1.05 (F) 162 NBTL = 0.05 (A) 1 SBTR = 0.65 (A) 0	EBLR = 60 m NBTL = 5 m SBTR = 0 m	EBLR = 1.74 (F) 504 NBTL = 0.12 (A) 6 SBTR = 0.6 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m
Future Total 2038 (With GTA West Highway)	EBLR = 1.14 (F) 198 NBTL = 0.05 (A) 1 SBTR = 0.67 (A) 0	EBLR = 65 m NBTL = 5 m SBTR = 0 m	EBLR = 1.88 (F) 579 NBTL = 0.12 (A) 7 SBTR = 0.61 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m
Future Total 2038 with Improvements (With GTA West Highway)	EBL = 0.2 (C) 20 EBR = 0.1 (B) 10 NBL = 0.04 (B) 10 NBT = 0.21 (A) 0 NBT = 0.21 (A) 0 SBT = 0.44 (A) 0 SBTR = 0.23 (A) 0	EBL = 5 m EBR = 5 m NBL = 5 m NBT = 0 m NBT = 0 m SBT = 0 m SBTR = 0 m	EBL = 0.18 (C) 22 EBR = 0.08 (B) 11 NBL = 0.11 (B) 10 NBT = 0.4 (A) 0 NBT = 0.4 (A) 0 SBT = 0.38 (A) 0 SBTR = 0.23 (A) 0	EBL = 5 m EBR = 5 m NBL = 5 m NBT = 0 m NBT = 0 m SBT = 0 m SBTR = 0 m

Under all future total traffic conditions (2028, 2033, and 2038), the intersection of McLaughlin Road and Street F is reported to operate over capacity along the Street C approach, reporting delays of 109, 162 and 198 seconds during

the a.m. peak hour and 442, 504, and 579 seconds during the p.m. peak hour under the 2028, 2033, and 2038 horizon years respectively.

With the widening of McLaughlin Road to four lanes, the intersection is reported to operate satisfactorily during the a.m. peak hour, with the delay being reduced to 39 seconds and 126 seconds during the a.m. and p.m. peak hours under the 2038 horizon year.

7.15 Old School Road and Street G

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 20 Capacity analysis of Old School Road and Street G

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2028 (Without GTA West Highway)	EBTR = 0.78 (A) 0 WBTL = 0.03 (A) 1 NBLR = 0.78 (F) 146	EBTR = 0 m WBTL = 5 m NBLR = 30 m	EBTR = 0.77 (A) 0 WBTL = 0.02 (A) 3 NBLR = 2.56 (F) 1047	EBTR = 0 m WBTL = 5 m NBLR = 60 m
Future Total 2033 (Without GTA West Highway)	EBTR = 0.79 (A) 0 WBTL = 0.03 (A) 1 NBLR = 0.82 (F) 160	EBTR = 0 m WBTL = 5 m NBLR = 30 m	EBTR = 0.77 (A) 0 WBTL = 0.02 (A) 4 NBLR = 2.74 (F) 1146	EBTR = 0 m WBTL = 5 m NBLR = 60 m
Future Total 2038 (Without GTA West Highway)	EBTR = 0.8 (A) 0 WBTL = 0.03 (A) 1 NBLR = 0.86 (F) 176	EBTR = 0 m WBTL = 5 m NBLR = 35 m	EBTR = 0.78 (A) 0 WBTL = 0.02 (A) 7 NBLR = 2.95 (F) 1262	EBTR = 0 m WBTL = 5 m NBLR = 60 m
Future Total 2038 with Improvements (Without GTA West Highway)	EBT = 0.53 (A) 0 EBTR = 0.27 (A) 0 WBL = 0.02 (B) 12 WBT = 0.21 (A) 0 WBT = 0.21 (A) 0 NBL = 0.2 (D) 26 NBR = 0.03 (B) 12	EBT = 0 m EBTR = 0 m WBL = 5 m WBT = 0 m WBT = 0 m NBL = 5 m NBR = 5 m	EBT = 0.5 (A) 0 EBTR = 0.28 (A) 0 WBL = 0.02 (B) 11 WBT = 0.48 (A) 0 WBT = 0.48 (A) 0 NBL = 0.2 (C) 25 NBR = 0.02 (A) 10	EBT = 0 m EBTR = 0 m WBL = 5 m WBT = 0 m WBT = 0 m NBL = 5 m NBR = 5 m
Future Total 2028 (With GTA West Highway)	EBTR = 0.78 (A) 0 WBTL = 0.02 (A) 1 NBLR = 0.75 (F) 136	EBTR = 0 m WBTL = 5 m NBLR = 30 m	EBTR = 0.76 (A) 0 WBTL = 0.02 (A) 3 NBLR = 2.5 (F) 1013	EBTR = 0 m WBTL = 5 m NBLR = 60 m
Future Total 2033 (With GTA West Highway)	EBTR = 0.78 (A) 0 WBTL = 0.03 (A) 1 NBLR = 0.79 (F) 148	EBTR = 0 m WBTL = 5 m NBLR = 30 m	EBTR = 0.76 (A) 0 WBTL = 0.02 (A) 4 NBLR = 2.67 (F) 1110	EBTR = 0 m WBTL = 5 m NBLR = 60 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2038 (With GTA West Highway)	EBTR = 0.79 (A) 0 WBTL = 0.03 (A) 1 NBLR = 0.83 (F) 164	EBTR = 0 m WBTL = 5 m NBLR = 30 m	EBTR = 0.77 (A) 0 WBTL = 0.02 (A) 7 NBLR = 2.88 (F) 1222	EBTR = 0 m WBTL = 5 m NBLR = 60 m
Future Total 2038 with Improvements (With GTA West Highway)	EBT = 0.52 (A) 0 EBTR = 0.27 (A) 0 WBL = 0.02 (B) 12 WBT = 0.21 (A) 0 WBT = 0.21 (A) 0 NBL = 0.2 (D) 25 NBR = 0.03 (B) 12	EBT = 0 m EBTR = 0 m WBL = 5 m WBT = 0 m WBT = 0 m NBL = 5 m NBR = 5 m	EBT = 0.49 (A) 0 EBTR = 0.28 (A) 0 WBL = 0.02 (B) 11 WBT = 0.48 (A) 0 WBT = 0.48 (A) 0 NBL = 0.2 (C) 25 NBR = 0.02 (A) 10	EBT = 0 m EBTR = 0 m WBL = 5 m WBT = 0 m WBT = 0 m NBL = 5 m NBR = 5 m

Under all future total traffic conditions (2028, 2033, and 2038), the intersection of Old School Road and Street G 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 reporting delays of 1047, 1146 and 1262 seconds during the 2028, 2033 and 2038 horizon years, respectively under the scenario without the GTA West Highway.

With the widening of Old School Road to four lanes, the northbound approach continues to report to be over capacity, however the delay has been reduced to 25 seconds under the 2038 horizon year with the addition of an auxiliary left-turn lane in the northbound direction

7.16 Old School Road and Street H

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 21 Capacity analysis of Old School Road and Street H

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2028 (Without GTA West Highway)	EBTR = 0.82 (A) 0 WBTL = 0 (A) 0 NBLR = 0.63 (F) 147	EBTR = 0 m WBTL = 0 m NBLR = 20 m	EBTR = 0.74 (A) 0 WBTL = 0 (A) 0 NBLR = 1373.12 (F) 9999	EBTR = 0 m WBTL = 0 m NBLR = Err
Future Total 2033 (Without GTA West Highway)	EBTR = 0.84 (A) 0 WBTL = 0 (A) 0 NBLR = 0.67 (F) 164	EBTR = 0 m WBTL = 0 m NBLR = 20 m	EBTR = 0.74 (A) 0 WBTL = 0 (A) 0 NBLR = 5048.07 (F) 9999	EBTR = 0 m WBTL = 0 m NBLR = Err
Future Total 2038 (Without GTA West Highway)	EBTR = 0.85 (A) 0 WBTL = 0 (A) 0 NBLR = 0.73 (F) 192	EBTR = 0 m WBTL = 0 m NBLR = 25 m	EBTR = 0.75 (A) 0 WBTL = 0 (A) 0 NBLR = Err (F) 9999	EBTR = 0 m WBTL = 0 m NBLR = Err

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2038 with Improvements (Without GTA West Highway)	EBT = 0.56 (A) 0 EBTR = 0.29 (A) 0 WBL = 0 (A) 0 WBT = 0.19 (A) 0 WBT = 0.19 (A) 0 NBL = 0.19 (D) 30 NBR = 0 (A) 0	EBT = 0 m EBTR = 0 m WBL = 0 m WBT = 0 m WBT = 0 m NBL = 5 m NBR = 0 m	EBT = 0.48 (A) 0 EBTR = 0.27 (A) 0 WBL = 0 (A) 0 WBT = 0.75 (A) 0 WBT = 0.75 (A) 0 NBL = 0.2 (D) 30 NBR = 0 (A) 0	EBT = 0 m EBTR = 0 m WBL = 0 m WBT = 0 m WBT = 0 m NBL = 5 m NBR = 0 m
Future Total 2028 (With GTA West Highway)	EBTR = 0.82 (A) 0 WBTL = 0 (A) 0 NBLR = 0.55 (F) 121	EBTR = 0 m WBTL = 0 m NBLR = 20 m	EBTR = 0.73 (A) 0 WBTL = 0 (A) 0 NBLR = 1254.82 (F) 9999	EBTR = 0 m WBTL = 0 m NBLR = Err
Future Total 2033 (With GTA West Highway)	EBTR = 0.83 (A) 0 WBTL = 0 (A) 0 NBLR = 0.59 (F) 133	EBTR = 0 m WBTL = 0 m NBLR = 20 m	EBTR = 0.73 (A) 0 WBTL = 0 (A) 0 NBLR = 1389.06 (F) 9999	EBTR = 0 m WBTL = 0 m NBLR = Err
Future Total 2038 (With GTA West Highway)	EBTR = 0.85 (A) 0 WBTL = 0 (A) 0 NBLR = 0.63 (F) 150	EBTR = 0 m WBTL = 0 m NBLR = 20 m	EBTR = 0.74 (A) 0 WBTL = 0 (A) 0 NBLR = Err (F) 9999	EBTR = 0 m WBTL = 0 m NBLR = Err
Future Total 2038 with Improvements (With GTA West Highway)	EBT = 0.56 (A) 0 EBTR = 0.29 (A) 0 WBL = 0 (A) 0 WBT = 0.19 (A) 0 WBT = 0.19 (A) 0 NBL = 0.19 (D) 30 NBR = 0 (A) 0	EBT = 0 m EBTR = 0 m WBL = 0 m WBT = 0 m WBT = 0 m NBL = 5 m NBR = 0 m	EBT = 0.48 (A) 0 EBTR = 0.27 (A) 0 WBL = 0 (A) 0 WBT = 0.75 (A) 0 WBT = 0.75 (A) 0 NBL = 0.2 (D) 29 NBR = 0 (A) 0	EBT = 0 m EBTR = 0 m WBL = 0 m WBT = 0 m WBT = 0 m NBL = 5 m NBR = 0 m

Under all future total traffic conditions (2028, 2033, and 2038), the intersection of Old School Road and Street H is reported to operate similarly to the intersection of Old School Road and Street G, with high levels of delay during the p.m. peak hour. With the proposed widening along Old School Road and the addition of an auxiliary left-turn lane along Street H, the northbound approach operates with a delay of 30 seconds or less during both peak periods.

7.17 Hurontario Street and Street H

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 Hurontario Street and Street H

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2028 (Without GTA West Highway)	EBLR = Err (F) 9999 NBTL = 3.45 (F) 2969 SBTR = 0.9 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m	EBLR = 456.76 (F) 9999 NBTL = 0.43 (F) 62 SBTR = 0.53 (A) 0	EBLR = Err NBTL = 15 m SBTR = 0 m

Scenario	Am Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95 th % Que.	V/C (LOS) seconds	95 th % Que
Future Total 2033 (Without GTA West Highway)	EBLR = Err (F) 9999 NBTL = 6.95 (F) 6309 SBTR = 0.95 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m	EBLR = 2750.97 (F) 9999 NBTL = 0.63 (A) 3 SBTR = 0.58 (A) 0	EBLR = Err NBTL = 25 m SBTR = 0 m
Future Total 2038 (Without GTA West Highway)	EBLR = Err (F) 9999 NBTL = 3.94 (F) 3444 SBTR = 0.9 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m	EBLR = 1105.24 (F) 9999 NBTL = 0.52 (A) 2 SBTR = 0.56 (A) 0	EBLR = Err NBTL = 20 m SBTR = 0 m
Future Total 2038 with Improvements (Without GTA West Highway)	EBL = 4723.24 (F) 9999 EBR = 0.08 (B) 12 NBL = 0.98 (F) 652 SBTR = 0.54 (A) 0	EBL = Err EBR = 5 m NBL = 20 m SBTR = 0 m	EBL = 11.91 (F) 9999 EBR = 0.04 (B) 10 NBL = 0.24 (D) 29 SBTR = 0.34 (A) 0	EBL = Err EBR = 5 m NBL = 10 m SBTR = 0 m
Future Total 2028 (With GTA West Highway)	EBLR = Err (F) 9999 NBTL = 3.05 (F) 2593 SBTR = 0.88 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m	EBLR = 466.42 (F) 9999 NBTL = 0.46 (F) 66 SBTR = 0.54 (A) 0	EBLR = Err NBTL = 15 m SBTR = 0 m
Future Total 2033 (With GTA West Highway)	EBLR = Err (F) 9999 NBTL = 5.31 (F) 4747 SBTR = 0.94 (A) 0	EBLR = Err NBTL = Err SBTR = 0 m	EBLR = 3756.99 (F) 9999 NBTL = 0.67 (A) 3 SBTR = 0.59 (A) 0	EBLR = Err NBTL = 25 m SBTR = 0 m
Future Total 2038 (With GTA West Highway)	EBLR = Err (F) 9999 NBTL = 2.89 (F) 2444 SBTR = 0.88 (A) 0	EBLR = Err NBTL = 20 m SBTR = 0 m	EBLR = 1014.44 (F) 9999 NBTL = 0.54 (A) 2 SBTR = 0.56 (A) 0	EBLR = Err NBTL = 20 m SBTR = 0 m
Future Total 2038 with Improvements (With GTA West Highway)	EBL = 620.82 (F) 9999 EBR = 0.08 (B) 12 NBL = 0.86 (F) 552 SBTR = 0.53 (A) 0	EBL = Err EBR = 5 m NBL = 15 m SBTR = 0 m	EBL = 12.47 (F) 9999 EBR = 0.04 (B) 10 NBL = 0.25 (D) 30 SBTR = 0.34 (A) 0	EBL = Err EBR = 5 m NBL = 10 m SBTR = 0 m

Under all future total traffic conditions (2028, 2033, and 2038), the intersection of Hurontario Street and Street H is reported to operate similarly to other intersections in the surrounding area as a result of the low volume of left-turning vehicles. Despite the proposed road widening along Hurontario, the eastbound approach continues to operate with high levels of delay. Due to the low volume in the eastbound left-turn approach, the intersection should be reviewed to determine if it can operate as a right-in/right-out only.

8. 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.

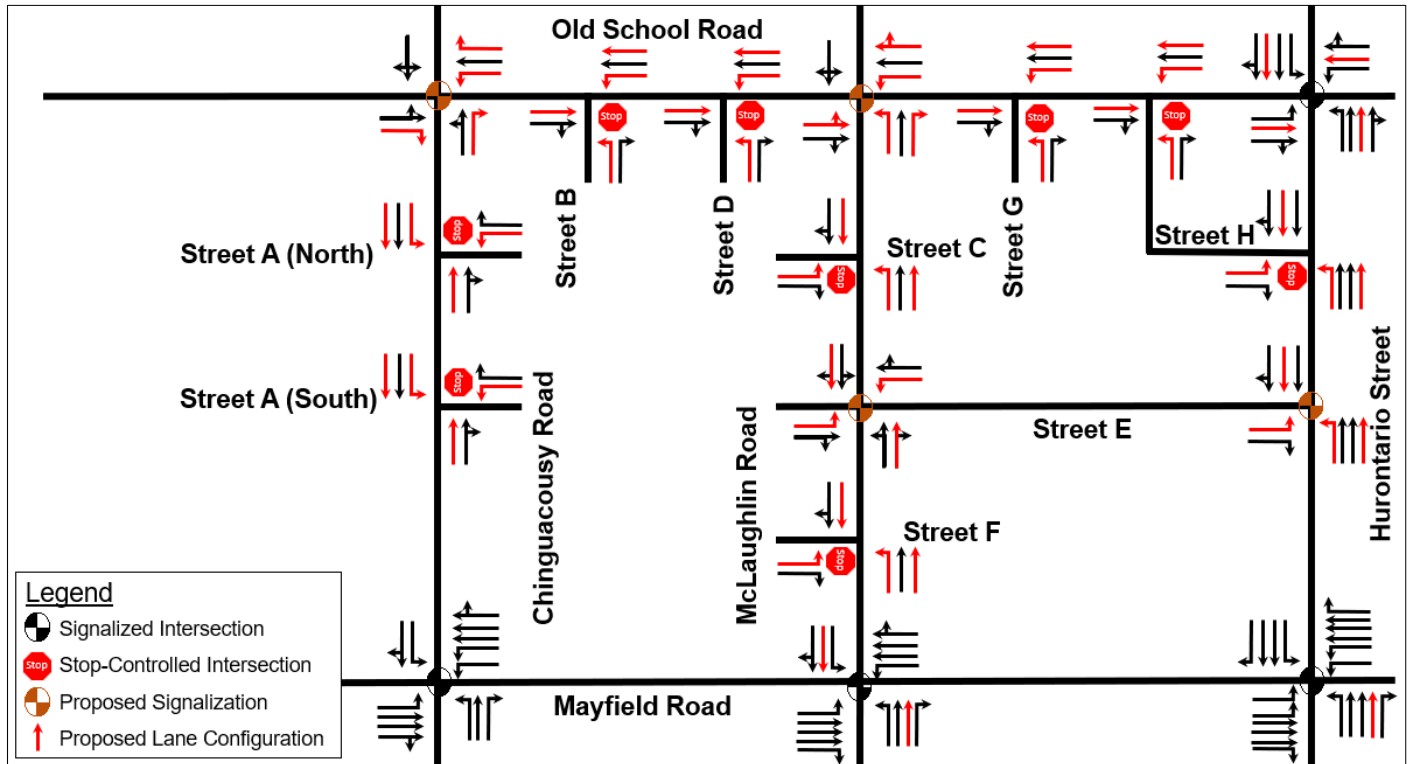


Figure 24 Proposed Lane Configuration

9. Conclusion

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

- 1,883 Single/Semi-Detached
- 1,412 Street/Rear-Lane Townhouse
- 1,255 Back-to-Back/Stacked Townhouse
- 20,800 m² of commercial GFA

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 a total of 2,675 new two-way trips consisting of 809 inbound and 1,866 outbound trips during weekday a.m. peak hour and 3,694 new two-way trips consisting of 2,182 inbound and 1,512 outbound trips during the weekday p.m. peak hour.

Under the Baseline 2022 scenario, the intersection of Hurontario Street & Old School Road and Chinguacousy Road & Mayfield Road are reported to operate over capacity during the p.m. peak hour.

Under the Future Background and Future Total 2028, 2033 and 2038 horizon years, with the addition of corridor growth, background traffic, site generated traffic and the proposed widening along Mayfield Road, a majority of the study intersections are expected to operate above capacity.

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 Old School Road from 2 to 4 lanes (McLaughlin Road to Hurontario Street)
- Widening of Chinguacousy Road from 2 to 4 lanes (from Mayfield Road to Old School Road)
- Widening of McLaughlin from 2 to 4 lanes (north of Tim Manley Boulevard to Old School Road)
- Widening of Hurontario from 4 to 6 lanes (north of Highway 410).
- Signalization of the intersection of Old School Road & Chinguacousy Road, Old School Road & McLaughlin Road, McLaughlin & Street E, Hurontario Street & Street E.
- The addition of auxiliary turning lanes at study intersections that have been widened, including
 - Left-turn lanes in the eastbound and westbound directions and a right-turn lane in the northbound direction at Old School Road and Chinguacousy Road
 - Left-turn lanes in the westbound and northbound directions at Old School Road and McLaughlin Road
 - Left-turn lanes at all study intersections where the proposed collector roads intersect existing roads.

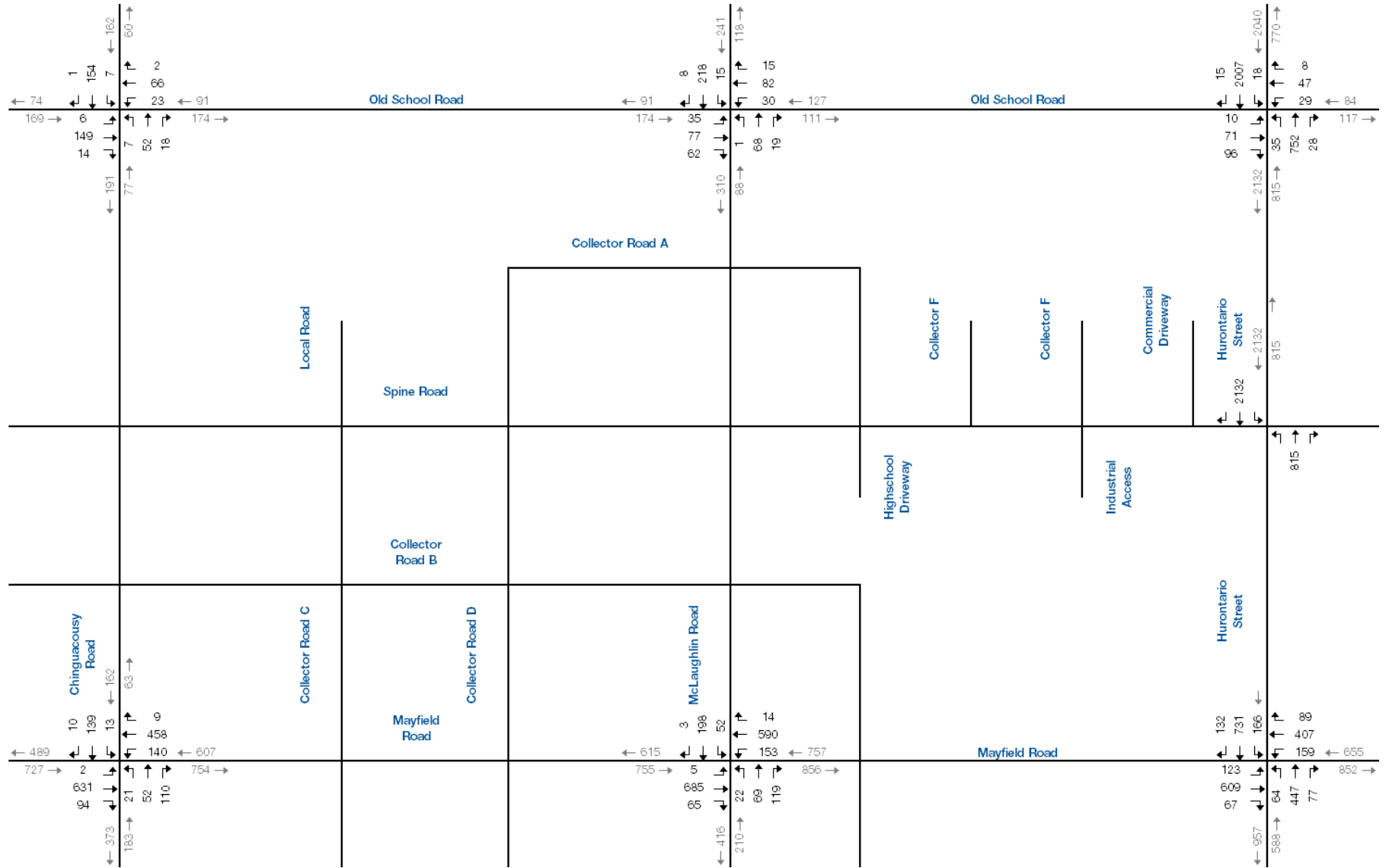
Despite the recommended road widening along Hurontario Street, capacity issues are still prevalent at study intersections along Hurontario Street due to the high through volumes. The GTA West Corridor project proposes to extend Highway 410 to the proposed Highway 413 and would result in less through 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.

Also, the planned modification to the interchange to connect Tim Manley Avenue to the existing Hurontario Street/Highway 410 interchange is expected to provide alternative routing for traffic heading to the Hurontario Street and Highway 410 interchange that does not require traffic to use Hurontario Street. While not included in the analysis contained within this report, the modifications should improve capacity at intersections along the Hurontario Street corridor in proximity to the interchange.

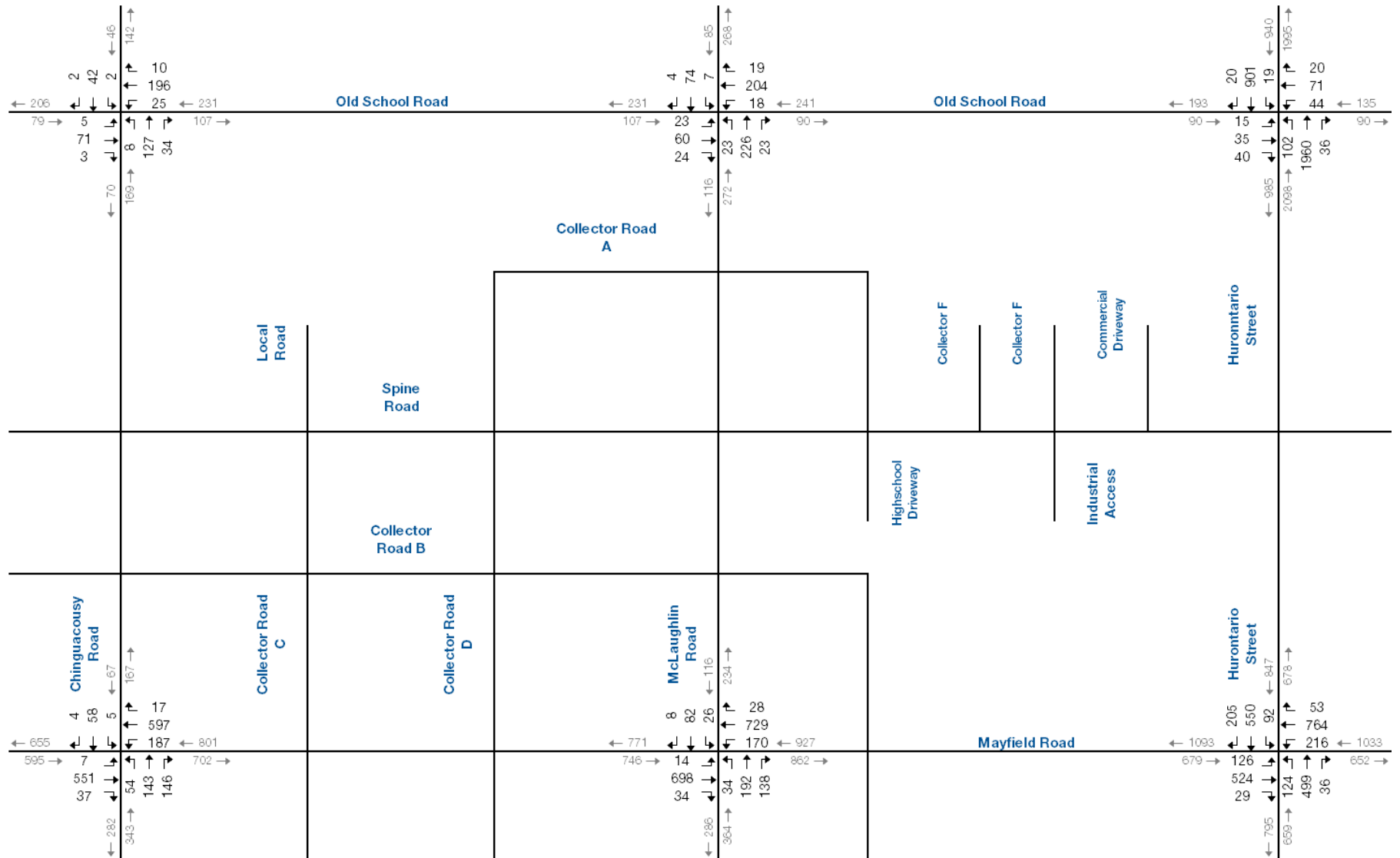
Appendices

Appendix A

Traffic Data



Existing Traffic – AM Peak Hour



















Existing Traffic – PM Peak Hour

Appendix B

Synchro Outputs

















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

Existing 2022
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	161	15	24	71	2	7	56	19	7	166	1
Future Volume (vph)	6	161	15	24	71	2	7	56	19	7	166	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989			0.997			0.968			0.999	
Flt Protected		0.998			0.988			0.996			0.998	
Satd. Flow (prot)	0	1859	0	0	1855	0	0	1816	0	0	1878	0
Flt Permitted		0.998			0.988			0.996			0.998	
Satd. Flow (perm)	0	1859	0	0	1855	0	0	1816	0	0	1878	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	0.92	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)	7	175	16	26	77	2	8	61	21	8	180	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	198	0	0	105	0	0	90	0	0	189	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	32.7%						ICU Level of Service A					
Analysis Period (min)	15											

















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

Existing 2022
 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	161	15	24	71	2	7	56	19	7	166	1
Future Volume (vph)	6	161	15	24	71	2	7	56	19	7	166	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
Hourly flow rate (vph)	7	175	16	26	77	2	8	61	21	8	180	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	198	105	90	189								
Volume Left (vph)	7	26	8	8								
Volume Right (vph)	16	2	21	1								
Hadj (s)	-0.01	0.07	-0.09	0.04								
Departure Headway (s)	4.7	4.9	4.8	4.8								
Degree Utilization, x	0.26	0.14	0.12	0.25								
Capacity (veh/h)	712	676	687	699								
Control Delay (s)	9.4	8.8	8.5	9.4								
Approach Delay (s)	9.4	8.8	8.5	9.4								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			9.2									
Level of Service			A									
Intersection Capacity Utilization			32.7%	ICU Level of Service	A							
Analysis Period (min)			15									

















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

Existing 2022
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	83	67	32	88	16	1	73	20	16	235	8
Future Volume (vph)	37	83	67	32	88	16	1	73	20	16	235	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
Fr _t		0.951			0.984			0.971			0.996	
Fl _t Protected		0.990			0.988						0.997	
Satd. Flow (prot)	0	1773	0	0	1831	0	0	1829	0	0	1870	0
Fl _t Permitted		0.990			0.988						0.997	
Satd. Flow (perm)	0	1773	0	0	1831	0	0	1829	0	0	1870	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	40	90	73	35	96	17	1	79	22	17	255	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	203	0	0	148	0	0	102	0	0	281	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	40.4%					ICU Level of Service A						
Analysis Period (min)	15											

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

Existing 2022
 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)	37	83	67	32	88	16	1	73	20	16	235	8
Future Volume (vph)	37	83	67	32	88	16	1	73	20	16	235	8
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)	40	90	73	35	96	17	1	79	22	17	255	9
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	203	148	102	281								
Volume Left (vph)	40	35	1	17								
Volume Right (vph)	73	17	22	9								
Hadj (s)	-0.14	0.01	-0.09	0.03								
Departure Headway (s)	5.0	5.2	5.1	5.0								
Degree Utilization, x	0.28	0.21	0.15	0.39								
Capacity (veh/h)	665	630	634	677								
Control Delay (s)	9.9	9.6	9.0	11.1								
Approach Delay (s)	9.9	9.6	9.0	11.1								
Approach LOS	A	A	A	B								
Intersection Summary												
Delay			10.2									
Level of Service			B									
Intersection Capacity Utilization			40.4%	ICU Level of Service	A							
Analysis Period (min)			15									

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

Existing 2022
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	73	99	30	48	8	36	782	29	18	2088	15
Future Volume (vph)	10	73	99	30	48	8	36	782	29	18	2088	15
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		0.913			0.978			0.995			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1720	0	1789	1842	0	1789	3561	0	1789	3575	0
Flt Permitted	0.717			0.445			0.060			0.253		
Satd. Flow (perm)	1350	1720	0	838	1842	0	113	3561	0	477	3575	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		52			7			5			1	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	79	108	33	52	9	39	850	32	20	2270	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	187	0	33	61	0	39	882	0	20	2286	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	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		
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		10.0	71.0		10.0	71.0	
Total Split (%)	8.3%	24.2%		8.3%	24.2%		8.3%	59.2%		8.3%	59.2%	
Maximum Green (s)	6.0	23.0		6.0	23.0		4.0	65.0		4.0	65.0	
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	
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)	31.0	25.0		31.0	25.0		73.0	67.0		73.0	67.0	
Actuated g/C Ratio	0.26	0.21		0.26	0.21		0.61	0.56		0.61	0.56	
v/c Ratio	0.03	0.47		0.12	0.16		0.26	0.44		0.06	1.15	

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

Existing 2022
AM Peak Hour

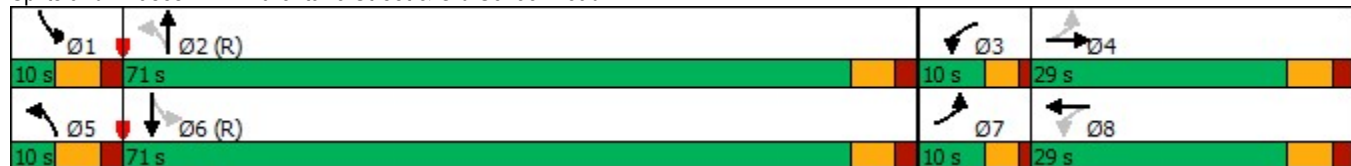


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	30.7	34.1		32.1	35.8		12.2	16.3		8.2	98.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	30.7	34.1		32.1	35.8		12.2	16.3		8.2	98.7	
LOS	C	C		C	D		B	B		A	F	
Approach Delay		33.9			34.5			16.2			97.9	
Approach LOS		C			C			B			F	

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:	140
Control Type:	Pretimed
Maximum v/c Ratio:	1.15
Intersection Signal Delay:	71.2
Intersection LOS:	E
Intersection Capacity Utilization	81.4%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Existing 2022
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	187	33	61	39	882	20	2286
v/c Ratio	0.03	0.47	0.12	0.16	0.26	0.44	0.06	1.15
Control Delay	30.7	34.1	32.1	35.8	12.2	16.3	8.2	98.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.7	34.1	32.1	35.8	12.2	16.3	8.2	98.7
Queue Length 50th (m)	1.9	27.7	5.6	10.4	3.1	60.7	1.6	~333.3
Queue Length 95th (m)	6.3	50.2	13.4	22.2	7.1	75.8	4.4	#375.0
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	370	399	264	389	152	1990	355	1996
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	0.47	0.13	0.16	0.26	0.44	0.06	1.15

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
7: Hurontario Street & Old School Road

Existing 2022
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	73	99	30	48	8	36	782	29	18	2088	15
Future Volume (vph)	10	73	99	30	48	8	36	782	29	18	2088	15
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		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	0.91		1.00	0.98		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)	1789	1720		1789	1842		1789	3559		1789	3575	
Flt Permitted	0.72	1.00		0.44	1.00		0.06	1.00		0.25	1.00	
Satd. Flow (perm)	1351	1720		837	1842		112	3559		476	3575	
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)	11	79	108	33	52	9	39	850	32	20	2270	16
RTOR Reduction (vph)	0	41	0	0	6	0	0	2	0	0	0	0
Lane Group Flow (vph)	11	146	0	33	55	0	39	880	0	20	2286	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	29.0	23.0		29.0	23.0		69.0	65.0		69.0	65.0	
Effective Green, g (s)	29.0	25.0		29.0	25.0		73.0	67.0		73.0	67.0	
Actuated g/C Ratio	0.24	0.21		0.24	0.21		0.61	0.56		0.61	0.56	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	348	358		249	383		151	1987		355	1996	
v/s Ratio Prot	0.00	c0.08		c0.01	0.03		c0.01	0.25		0.00	c0.64	
v/s Ratio Perm	0.01			0.03			0.14			0.03		
v/c Ratio	0.03	0.41		0.13	0.14		0.26	0.44		0.06	1.15	
Uniform Delay, d1	34.7	41.1		35.4	38.8		26.3	15.5		10.2	26.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	3.4		1.1	0.8		4.1	0.7		0.3	71.8	
Delay (s)	34.9	44.5		36.5	39.6		30.4	16.3		10.5	98.3	
Level of Service	C	D		D	D		C	B		B	F	
Approach Delay (s)		44.0			38.5			16.9			97.5	
Approach LOS		D			D			B			F	

Intersection Summary

HCM 2000 Control Delay	71.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

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

Existing 2022
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	2	683	101	151	495	9	22	56	119	14	150	10
Future Volume (vph)	2	683	101	151	495	9	22	56	119	14	150	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 _t		0.983			0.998			0.919			0.992	
Fl _t Protected					0.989			0.994			0.996	
Satd. Flow (prot)	0	1851	0	0	1859	0	0	1720	0	0	1861	0
Fl _t Permitted		0.999			0.669			0.927			0.957	
Satd. Flow (perm)	0	1850	0	0	1258	0	0	1605	0	0	1788	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			2			56			2	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		274.5			1419.4			345.5			2383.0	
Travel Time (s)		14.1			73.0			15.5			107.2	
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)	2	742	110	164	538	10	24	61	129	15	163	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	854	0	0	712	0	0	214	0	0	189	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		0.61			0.75			0.63			0.57	
Control Delay		9.1			36.7			42.4			52.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		9.1			36.7			42.4			52.1	

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

Existing 2022
 AM Peak Hour

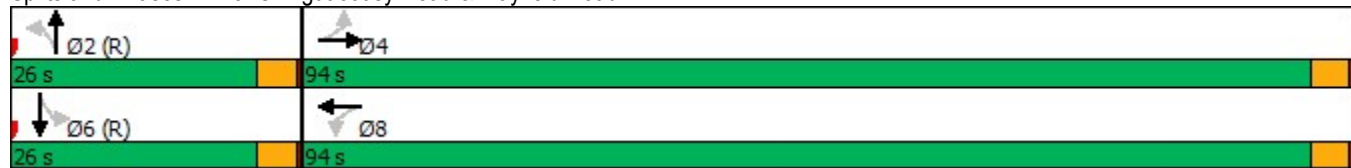


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		A			D			D			D	
Approach Delay		9.1			36.7			42.4			52.1	
Approach LOS		A			D			D			D	

Intersection Summary

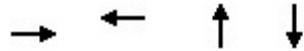
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	26.8
Intersection LOS:	C
Intersection Capacity Utilization	103.7%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues
 15: Chinguacousy Road & Mayfield Road

Existing 2022
 AM Peak Hour



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	854	712	214	189
v/c Ratio	0.61	0.75	0.63	0.57
Control Delay	9.1	36.7	42.4	52.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	9.1	36.7	42.4	52.1
Queue Length 50th (m)	78.3	153.9	34.6	40.6
Queue Length 95th (m)	109.1	192.8	60.6	64.6
Internal Link Dist (m)	250.5	1395.4	321.5	2359.0
Turn Bay Length (m)				
Base Capacity (vph)	1392	944	339	329
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	0.61	0.75	0.63	0.57
Intersection Summary				

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

Existing 2022
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	2	683	101	151	495	9	22	56	119	14	150	10
Future Volume (vph)	2	683	101	151	495	9	22	56	119	14	150	10
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		0.98			1.00			0.92			0.99	
Flt Protected		1.00			0.99			0.99			1.00	
Satd. Flow (prot)		1850			1858			1721			1861	
Flt Permitted		1.00			0.67			0.93			0.96	
Satd. Flow (perm)		1849			1258			1603			1788	
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)	2	742	110	164	538	10	24	61	129	15	163	11
RTOR Reduction (vph)	0	5	0	0	1	0	0	46	0	0	2	0
Lane Group Flow (vph)	0	850	0	0	712	0	0	168	0	0	187	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)		1386			943			293			327	
v/s Ratio Prot												
v/s Ratio Perm		0.46			0.57			0.10			0.10	
v/c Ratio		0.61			0.75			0.57			0.57	
Uniform Delay, d1		6.9			8.6			44.7			44.7	
Progression Factor		1.00			3.35			1.00			1.00	
Incremental Delay, d2		2.0			4.8			8.0			7.1	
Delay (s)		9.0			33.7			52.7			51.8	
Level of Service		A			C			D			D	
Approach Delay (s)		9.0			33.7			52.7			51.8	
Approach LOS		A			C			D			D	

Intersection Summary

HCM 2000 Control Delay	26.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	103.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

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

Existing 2022
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	741	70	165	638	15	23	74	128	56	214	3
Future Volume (vph)	5	741	70	165	638	15	23	74	128	56	214	3
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	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		0.987			0.997				0.850		0.999	
Flt Protected	0.950			0.950				0.988			0.990	
Satd. Flow (prot)	1789	1859	0	1789	1878	0	0	1861	1601	0	1863	0
Flt Permitted	0.367			0.088				0.858			0.913	
Satd. Flow (perm)	691	1859	0	166	1878	0	0	1616	1601	0	1718	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			2				139			
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			341.6			2104.9	
Travel Time (s)		73.0			65.0			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	805	76	179	693	16	25	80	139	61	233	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	881	0	179	709	0	0	105	139	0	297	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		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0	20.0	
Total Split (s)	70.0	70.0		16.0	86.0		34.0	34.0	34.0	34.0	34.0	
Total Split (%)	58.3%	58.3%		13.3%	71.7%		28.3%	28.3%	28.3%	28.3%	28.3%	
Maximum Green (s)	66.0	66.0		12.0	82.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	3.5	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	0.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	66.0	66.0		82.0	82.0			30.0	30.0		30.0	
Actuated g/C Ratio	0.55	0.55		0.68	0.68			0.25	0.25		0.25	
v/c Ratio	0.01	0.86		0.65	0.55			0.26	0.28		0.69	

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

Existing 2022
 AM Peak Hour

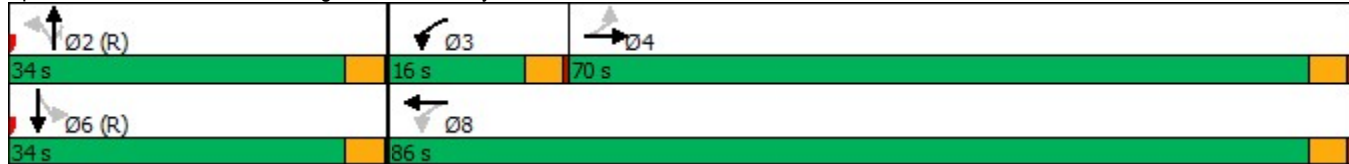


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	16.4	32.3		21.2	17.2			38.2	7.3		50.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	16.4	32.3		21.2	17.2			38.2	7.3		50.5	
LOS	B	C		C	B			D	A		D	
Approach Delay		32.2			18.0			20.6			50.5	
Approach LOS		C			B			C			D	

Intersection Summary

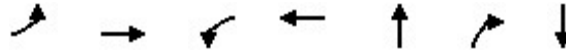
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.86
Intersection Signal Delay:	27.9
Intersection LOS:	C
Intersection Capacity Utilization	83.6%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Existing 2022
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	5	881	179	709	105	139	297
v/c Ratio	0.01	0.86	0.65	0.55	0.26	0.28	0.69
Control Delay	16.4	32.3	21.2	17.2	38.2	7.3	50.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.4	32.3	21.2	17.2	38.2	7.3	50.5
Queue Length 50th (m)	0.5	160.3	23.5	129.4	19.9	0.0	63.7
Queue Length 95th (m)	m1.0	#207.4	40.4	163.0	35.3	15.3	94.7
Internal Link Dist (m)		1395.4		1239.7	317.6		2080.9
Turn Bay Length (m)	30.0		30.0			30.0	
Base Capacity (vph)	380	1025	275	1283	404	504	429
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.86	0.65	0.55	0.26	0.28	0.69

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
 16: McLaughlin Road & Mayfield Road

Existing 2022
 AM Peak Hour



























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	741	70	165	638	15	23	74	128	56	214	3
Future Volume (vph)	5	741	70	165	638	15	23	74	128	56	214	3
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		4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	1.00			1.00	0.85		1.00	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	
Satd. Flow (prot)	1789	1859		1789	1877			1861	1601		1862	
Flt Permitted	0.37	1.00		0.09	1.00			0.86	1.00		0.91	
Satd. Flow (perm)	692	1859		165	1877			1616	1601		1718	
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)	5	805	76	179	693	16	25	80	139	61	233	3
RTOR Reduction (vph)	0	3	0	0	1	0	0	0	104	0	0	0
Lane Group Flow (vph)	5	878	0	179	708	0	0	105	35	0	297	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)	66.0	66.0		82.0	82.0			30.0	30.0		30.0	
Effective Green, g (s)	66.0	66.0		82.0	82.0			30.0	30.0		30.0	
Actuated g/C Ratio	0.55	0.55		0.68	0.68			0.25	0.25		0.25	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Grp Cap (vph)	380	1022		275	1282			404	400		429	
v/s Ratio Prot		c0.47		c0.07	0.38							
v/s Ratio Perm	0.01			0.38				0.06	0.02		c0.17	
v/c Ratio	0.01	0.86		0.65	0.55			0.26	0.09		0.69	
Uniform Delay, d1	12.2	23.0		24.1	9.7			36.1	34.5		40.8	
Progression Factor	1.31	1.04		0.63	1.56			1.00	1.00		1.00	
Incremental Delay, d2	0.0	7.6		11.2	1.7			1.6	0.4		8.9	
Delay (s)	16.1	31.5		26.4	16.8			37.7	34.9		49.7	
Level of Service	B	C		C	B			D	C		D	
Approach Delay (s)		31.4			18.7			36.1			49.7	
Approach LOS		C			B			D			D	

Intersection Summary

HCM 2000 Control Delay	29.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

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

Existing 2022
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	659	72	172	440	96	69	483	83	179	791	142
Future Volume (vph)	133	659	72	172	440	96	69	483	83	179	791	142
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
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	3579	1601	3471	3579	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.405			0.265			0.250			0.411		
Satd. Flow (perm)	763	3579	1601	968	3579	1601	471	3579	1601	774	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			78			104			90			154
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	
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)	145	716	78	187	478	104	75	525	90	195	860	154
Shared Lane Traffic (%)												
Lane Group Flow (vph)	145	716	78	187	478	104	75	525	90	195	860	154
Enter Blocked Intersection	No	No	No	No	No	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	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	53.0	53.0	53.0	53.0	53.0	53.0	67.0	67.0	67.0	67.0	67.0	67.0
Total Split (%)	44.2%	44.2%	44.2%	44.2%	44.2%	44.2%	55.8%	55.8%	55.8%	55.8%	55.8%	55.8%
Maximum Green (s)	49.0	49.0	49.0	49.0	49.0	49.0	63.0	63.0	63.0	63.0	63.0	63.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	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	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	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	49.0	49.0	49.0	49.0	49.0	49.0	63.0	63.0	63.0	63.0	63.0	63.0
Actuated g/C Ratio	0.41	0.41	0.41	0.41	0.41	0.41	0.52	0.52	0.52	0.52	0.52	0.52
v/c Ratio	0.47	0.49	0.11	0.47	0.33	0.15	0.30	0.28	0.10	0.48	0.46	0.17

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

Existing 2022
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	43.3	40.5	14.4	31.0	25.0	4.7	20.4	16.4	3.2	23.1	18.8	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	43.3	40.5	14.4	31.0	25.0	4.7	20.4	16.4	3.2	23.1	18.8	2.7
LOS	D	D	B	C	C	A	C	B	A	C	B	A
Approach Delay	38.7			23.7			15.1			17.4		
Approach LOS	D			C			B			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:	0.49
Intersection Signal Delay:	23.9
Intersection LOS:	C
Intersection Capacity Utilization	62.1%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues
17: Hurontario Street & Mayfield Road

Existing 2022
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	145	716	78	187	478	104	75	525	90	195	860	154
v/c Ratio	0.47	0.49	0.11	0.47	0.33	0.15	0.30	0.28	0.10	0.48	0.46	0.17
Control Delay	43.3	40.5	14.4	31.0	25.0	4.7	20.4	16.4	3.2	23.1	18.8	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	43.3	40.5	14.4	31.0	25.0	4.7	20.4	16.4	3.2	23.1	18.8	2.7
Queue Length 50th (m)	34.1	89.0	5.1	16.3	39.8	0.0	9.6	34.8	0.0	28.1	64.1	0.0
Queue Length 95th (m)	m43.2	m105.6	m9.9	27.7	52.9	10.4	21.0	45.7	7.7	49.7	80.0	9.7
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)	311	1461	699	395	1461	715	247	1878	883	406	1878	913
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	0.47	0.49	0.11	0.47	0.33	0.15	0.30	0.28	0.10	0.48	0.46	0.17

Intersection Summary

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

















HCM Signalized Intersection Capacity Analysis
17: Hurontario Street & Mayfield Road

Existing 2022
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	659	72	172	440	96	69	483	83	179	791	142
Future Volume (vph)	133	659	72	172	440	96	69	483	83	179	791	142
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	4.0	4.0	4.0	4.0	4.0	4.0
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
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)	1789	3579	1601	3471	3579	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.41	1.00	1.00	0.26	1.00	1.00	0.25	1.00	1.00	0.41	1.00	1.00
Satd. Flow (perm)	763	3579	1601	968	3579	1601	471	3579	1601	775	3579	1601
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)	145	716	78	187	478	104	75	525	90	195	860	154
RTOR Reduction (vph)	0	0	46	0	0	62	0	0	43	0	0	73
Lane Group Flow (vph)	145	716	32	187	478	42	75	525	47	195	860	81
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	49.0	49.0	49.0	49.0	49.0	49.0	63.0	63.0	63.0	63.0	63.0	63.0
Effective Green, g (s)	49.0	49.0	49.0	49.0	49.0	49.0	63.0	63.0	63.0	63.0	63.0	63.0
Actuated g/C Ratio	0.41	0.41	0.41	0.41	0.41	0.41	0.52	0.52	0.52	0.52	0.52	0.52
Clearance Time (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
Lane Grp Cap (vph)	311	1461	653	395	1461	653	247	1878	840	406	1878	840
v/s Ratio Prot		c0.20			0.13			0.15			0.24	
v/s Ratio Perm	0.19		0.02	0.19		0.03	0.16		0.03	c0.25		0.05
v/c Ratio	0.47	0.49	0.05	0.47	0.33	0.07	0.30	0.28	0.06	0.48	0.46	0.10
Uniform Delay, d1	25.9	26.3	21.4	26.0	24.2	21.6	16.1	15.9	13.9	18.1	17.8	14.3
Progression Factor	1.48	1.50	2.93	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	0.7	0.1	4.0	0.6	0.2	3.1	0.4	0.1	4.0	0.8	0.2
Delay (s)	41.6	40.1	62.8	30.1	24.8	21.8	19.3	16.2	14.1	22.1	18.6	14.5
Level of Service	D	D	E	C	C	C	B	B	B	C	B	B
Approach Delay (s)		42.2			25.7			16.3			18.7	
Approach LOS		D			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			25.8									C
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			120.0							8.0		
Intersection Capacity Utilization			62.1%									B
Analysis Period (min)			15									
c Critical Lane Group												

















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

Existing 2022
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	76	3	27	212	10	8	137	36	2	45	2
Future Volume (vph)	5	76	3	27	212	10	8	137	36	2	45	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.994			0.973			0.995	
Flt Protected		0.997			0.995			0.998			0.998	
Satd. Flow (prot)	0	1870	0	0	1863	0	0	1829	0	0	1870	0
Flt Permitted		0.997			0.995			0.998			0.998	
Satd. Flow (perm)	0	1870	0	0	1863	0	0	1829	0	0	1870	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	0.92	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)	5	83	3	29	230	11	9	149	39	2	49	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	91	0	0	270	0	0	197	0	0	53	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	39.1%					ICU Level of Service A						
Analysis Period (min)	15											

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

Existing 2022
 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)	5	76	3	27	212	10	8	137	36	2	45	2
Future Volume (vph)	5	76	3	27	212	10	8	137	36	2	45	2
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)	5	83	3	29	230	11	9	149	39	2	49	2
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	91	270	197	53								
Volume Left (vph)	5	29	9	2								
Volume Right (vph)	3	11	39	2								
Hadj (s)	0.03	0.03	-0.08	0.02								
Departure Headway (s)	4.9	4.7	4.8	5.1								
Degree Utilization, x	0.12	0.35	0.26	0.07								
Capacity (veh/h)	676	728	704	640								
Control Delay (s)	8.6	10.2	9.5	8.5								
Approach Delay (s)	8.6	10.2	9.5	8.5								
Approach LOS	A	B	A	A								
Intersection Summary												
Delay			9.6									
Level of Service			A									
Intersection Capacity Utilization			39.1%	ICU Level of Service	A							
Analysis Period (min)			15									

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

Existing 2022
PM Peak Hour



















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	24	64	25	19	220	20	24	244	24	7	80	4
Future Volume (vph)	24	64	25	19	220	20	24	244	24	7	80	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		0.970			0.989			0.989			0.995	
Flt Protected		0.990			0.996			0.996			0.996	
Satd. Flow (prot)	0	1809	0	0	1855	0	0	1855	0	0	1867	0
Flt Permitted		0.990			0.996			0.996			0.996	
Satd. Flow (perm)	0	1809	0	0	1855	0	0	1855	0	0	1867	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	26	70	27	21	239	22	26	265	26	8	87	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	123	0	0	282	0	0	317	0	0	99	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	42.5%
ICU Level of Service	A
Analysis Period (min)	15

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

Existing 2022
 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)	24	64	25	19	220	20	24	244	24	7	80	4
Future Volume (vph)	24	64	25	19	220	20	24	244	24	7	80	4
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)	26	70	27	21	239	22	26	265	26	8	87	4
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	123	282	317	99								
Volume Left (vph)	26	21	26	8								
Volume Right (vph)	27	22	26	4								
Hadj (s)	-0.06	0.00	0.00	0.03								
Departure Headway (s)	5.4	5.2	5.2	5.6								
Degree Utilization, x	0.19	0.41	0.46	0.15								
Capacity (veh/h)	594	642	649	578								
Control Delay (s)	9.7	11.9	12.4	9.6								
Approach Delay (s)	9.7	11.9	12.4	9.6								
Approach LOS	A	B	B	A								
Intersection Summary												
Delay			11.5									
Level of Service			B									
Intersection Capacity Utilization			42.5%		ICU Level of Service				A			
Analysis Period (min)			15									

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

Existing 2022
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	36	41	45	739	20	106	2039	37	19	937	20
Future Volume (vph)	15	36	41	45	739	20	106	2039	37	19	937	20
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		0.920			0.996			0.997			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1733	0	1789	1876	0	1789	3568	0	1789	3568	0
Flt Permitted	0.174			0.683			0.197			0.060		
Satd. Flow (perm)	328	1733	0	1286	1876	0	371	3568	0	113	3568	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		44			1			2				3
Link Speed (k/h)		70			70			80				80
Link Distance (m)		213.2			440.4			215.3				282.2
Travel Time (s)		11.0			22.6			9.7				12.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	39	45	49	803	22	115	2216	40	21	1018	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	84	0	49	825	0	115	2256	0	21	1040	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	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		
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		10.0	71.0		10.0	71.0	
Total Split (%)	8.3%	24.2%		8.3%	24.2%		8.3%	59.2%		8.3%	59.2%	
Maximum Green (s)	6.0	23.0		6.0	23.0		4.0	65.0		4.0	65.0	
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	
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)	31.0	25.0		31.0	25.0		73.0	67.0		73.0	67.0	
Actuated g/C Ratio	0.26	0.21		0.26	0.21		0.61	0.56		0.61	0.56	
v/c Ratio	0.10	0.21		0.14	2.11		0.39	1.13		0.14	0.52	

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

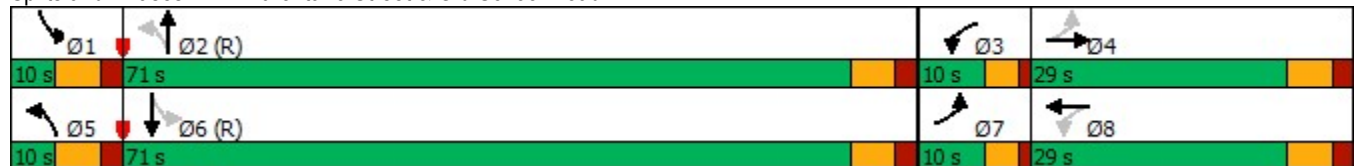
Existing 2022
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	32.0	22.2		32.2	533.7		12.3	93.2		9.8	17.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	32.0	22.2		32.2	533.7		12.3	93.2		9.8	17.6	
LOS	C	C		C	F		B	F		A	B	
Approach Delay		23.8			505.6			89.2			17.5	
Approach LOS		C			F			F			B	

Intersection Summary

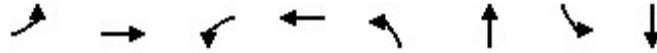
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.11
Intersection Signal Delay:	153.1
Intersection LOS:	F
Intersection Capacity Utilization	111.0%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Existing 2022
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	16	84	49	825	115	2256	21	1040
v/c Ratio	0.10	0.21	0.14	2.11	0.39	1.13	0.14	0.52
Control Delay	32.0	22.2	32.2	533.7	12.3	93.2	9.8	17.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.0	22.2	32.2	533.7	12.3	93.2	9.8	17.6
Queue Length 50th (m)	2.7	7.7	8.4	~311.7	9.6	~325.8	1.7	76.4
Queue Length 95th (m)	8.1	21.2	17.8	#387.0	16.7	#367.7	4.5	94.0
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	157	395	357	391	296	1993	152	1993
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	0.21	0.14	2.11	0.39	1.13	0.14	0.52

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
7: Hurontario Street & Old School Road

Existing 2022
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (vph)	15	36	41	45	739	20	106	2039	37	19	937	20
Future Volume (vph)	15	36	41	45	739	20	106	2039	37	19	937	20
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		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	0.92		1.00	1.00		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	1732		1789	1876		1789	3569		1789	3567	
Flt Permitted	0.17	1.00		0.68	1.00		0.20	1.00		0.06	1.00	
Satd. Flow (perm)	328	1732		1286	1876		370	3569		112	3567	
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)	16	39	45	49	803	22	115	2216	40	21	1018	22
RTOR Reduction (vph)	0	35	0	0	1	0	0	1	0	0	1	0
Lane Group Flow (vph)	16	49	0	49	824	0	115	2255	0	21	1039	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	29.0	23.0		29.0	23.0		69.0	65.0		69.0	65.0	
Effective Green, g (s)	29.0	25.0		29.0	25.0		73.0	67.0		73.0	67.0	
Actuated g/C Ratio	0.24	0.21		0.24	0.21		0.61	0.56		0.61	0.56	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	152	360		335	390		296	1992		151	1991	
v/s Ratio Prot	0.01	0.03		c0.01	c0.44		c0.02	c0.63		0.01	0.29	
v/s Ratio Perm	0.02			0.03			0.22			0.08		
v/c Ratio	0.11	0.14		0.15	2.11		0.39	1.13		0.14	0.52	
Uniform Delay, d1	36.3	38.7		35.5	47.5		11.8	26.5		26.0	16.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	0.8		0.9	509.6		3.8	66.4		1.9	1.0	
Delay (s)	37.7	39.5		36.4	557.1		15.6	92.9		28.0	17.5	
Level of Service	D	D		D	F		B	F		C	B	
Approach Delay (s)		39.2			527.9			89.1			17.7	
Approach LOS		D			F			F			B	

Intersection Summary

HCM 2000 Control Delay	157.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	111.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

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

Existing 2022
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	7	596	40	202	646	18	58	154	158	5	62	4
Future Volume (vph)	7	596	40	202	646	18	58	154	158	5	62	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 _t		0.992			0.997			0.942			0.993	
Fl _t Protected		0.999			0.988			0.992			0.997	
Satd. Flow (prot)	0	1867	0	0	1855	0	0	1760	0	0	1865	0
Fl _t Permitted		0.990			0.696			0.938			0.940	
Satd. Flow (perm)	0	1850	0	0	1307	0	0	1664	0	0	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			3			27			2	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		274.5			1419.4			345.5			2383.0	
Travel Time (s)		14.1			73.0			15.5			107.2	
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)	8	648	43	220	702	20	63	167	172	5	67	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	699	0	0	942	0	0	402	0	0	76	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		0.50			0.96			1.23			0.24	
Control Delay		7.4			52.3			166.1			43.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		7.4			52.3			166.1			43.0	

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

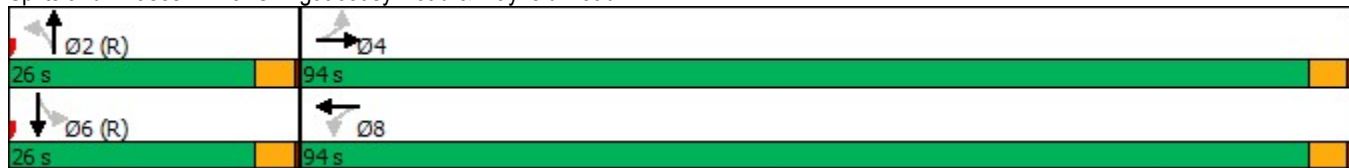
Existing 2022
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		A			D			F			D	
Approach Delay		7.4			52.3			166.1			43.0	
Approach LOS		A			D			F			D	

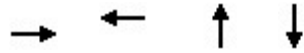
Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	75
Control Type:	Pretimed
Maximum v/c Ratio:	1.23
Intersection Signal Delay:	58.8
Intersection LOS:	E
Intersection Capacity Utilization	118.1%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues
15: Chinguacousy Road & Mayfield Road

Existing 2022
PM Peak Hour



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	699	942	402	76
v/c Ratio	0.50	0.96	1.23	0.24
Control Delay	7.4	52.3	166.1	43.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	7.4	52.3	166.1	43.0
Queue Length 50th (m)	56.2	212.4	~111.9	15.0
Queue Length 95th (m)	77.5	#292.1	#173.2	29.1
Internal Link Dist (m)	250.5	1395.4	321.5	2359.0
Turn Bay Length (m)				
Base Capacity (vph)	1389	981	327	323
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	0.50	0.96	1.23	0.24

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
 15: Chinguacousy Road & Mayfield Road

Existing 2022
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	7	596	40	202	646	18	58	154	158	5	62	4
Future Volume (vph)	7	596	40	202	646	18	58	154	158	5	62	4
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			0.94			0.99	
Flt Protected		1.00			0.99			0.99			1.00	
Satd. Flow (prot)		1867			1856			1761			1864	
Flt Permitted		0.99			0.70			0.94			0.94	
Satd. Flow (perm)		1849			1307			1664			1758	
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)	8	648	43	220	702	20	63	167	172	5	67	4
RTOR Reduction (vph)	0	2	0	0	1	0	0	22	0	0	2	0
Lane Group Flow (vph)	0	697	0	0	941	0	0	380	0	0	74	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)		1386			980			305			322	
v/s Ratio Prot												
v/s Ratio Perm		0.38			c0.72			c0.23			0.04	
v/c Ratio		0.50			0.96			1.25			0.23	
Uniform Delay, d1		6.0			13.4			49.0			41.8	
Progression Factor		1.00			2.67			1.00			1.00	
Incremental Delay, d2		1.3			17.0			135.1			1.7	
Delay (s)		7.3			52.9			184.1			43.5	
Level of Service		A			D			F			D	
Approach Delay (s)		7.3			52.9			184.1			43.5	
Approach LOS		A			D			F			D	

Intersection Summary			
HCM 2000 Control Delay	62.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	118.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

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

Existing 2022
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	755	36	184	789	30	36	207	149	28	88	8
Future Volume (vph)	15	755	36	184	789	30	36	207	149	28	88	8
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	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			0.994				0.850		0.991	
Flt Protected	0.950			0.950				0.993			0.989	
Satd. Flow (prot)	1789	1870	0	1789	1872	0	0	1870	1601	0	1846	0
Flt Permitted	0.247			0.101				0.942			0.813	
Satd. Flow (perm)	465	1870	0	190	1872	0	0	1774	1601	0	1517	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			4				121		3	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1263.7			341.6			2104.9	
Travel Time (s)		73.0			65.0			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	821	39	200	858	33	39	225	162	30	96	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	860	0	200	891	0	0	264	162	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
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		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0	20.0	
Total Split (s)	70.0	70.0		16.0	86.0		34.0	34.0	34.0	34.0	34.0	
Total Split (%)	58.3%	58.3%		13.3%	71.7%		28.3%	28.3%	28.3%	28.3%	28.3%	
Maximum Green (s)	66.0	66.0		12.0	82.0		30.0	30.0	30.0	30.0	30.0	
Yellow Time (s)	3.5	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	0.5	
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)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	66.0	66.0		82.0	82.0		30.0	30.0	30.0	30.0	30.0	
Actuated g/C Ratio	0.55	0.55		0.68	0.68		0.25	0.25	0.25	0.25	0.25	
v/c Ratio	0.06	0.84		0.69	0.70		0.60	0.33	0.33	0.33	0.35	

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

Existing 2022
 PM Peak Hour

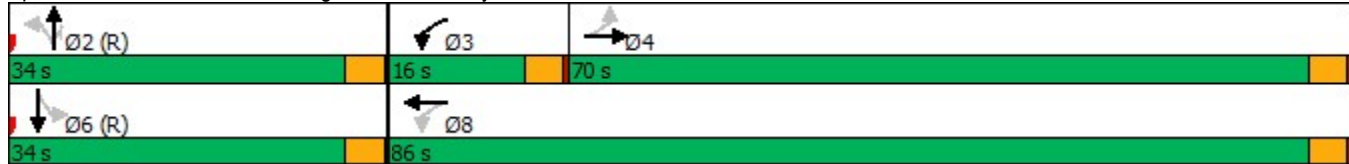


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	13.8	25.5		20.0	20.2			46.2	13.1		39.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	
Total Delay	13.8	25.5		20.0	20.2			46.2	13.1		39.4	
LOS	B	C		B	C			D	B		D	
Approach Delay		25.3			20.2			33.6			39.4	
Approach LOS		C			C			C			D	

Intersection Summary

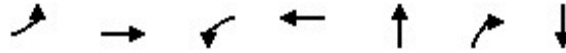
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	25.2
Intersection LOS:	C
Intersection Capacity Utilization	85.0%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Existing 2022
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT
Lane Group Flow (vph)	16	860	200	891	264	162	135
v/c Ratio	0.06	0.84	0.69	0.70	0.60	0.33	0.35
Control Delay	13.8	25.5	20.0	20.2	46.2	13.1	39.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.8	25.5	20.0	20.2	46.2	13.1	39.4
Queue Length 50th (m)	1.4	111.2	19.1	173.3	55.0	7.5	25.6
Queue Length 95th (m)	m3.1	m164.4	#35.5	239.2	82.7	25.1	44.0
Internal Link Dist (m)		1395.4		1239.7	317.6		2080.9
Turn Bay Length (m)	30.0		30.0			30.0	
Base Capacity (vph)	255	1029	289	1280	443	491	381
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.84	0.69	0.70	0.60	0.33	0.35

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
 16: McLaughlin Road & Mayfield Road

Existing 2022
 PM Peak Hour



























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	755	36	184	789	30	36	207	149	28	88	8
Future Volume (vph)	15	755	36	184	789	30	36	207	149	28	88	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	4.0		4.0	
Lane Util. Factor	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		0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	
Satd. Flow (prot)	1789	1871		1789	1873			1870	1601		1846	
Flt Permitted	0.25	1.00		0.10	1.00			0.94	1.00		0.81	
Satd. Flow (perm)	464	1871		190	1873			1775	1601		1517	
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)	16	821	39	200	858	33	39	225	162	30	96	9
RTOR Reduction (vph)	0	1	0	0	1	0	0	0	91	0	2	0
Lane Group Flow (vph)	16	859	0	200	890	0	0	264	71	0	133	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)	66.0	66.0		82.0	82.0			30.0	30.0		30.0	
Effective Green, g (s)	66.0	66.0		82.0	82.0			30.0	30.0		30.0	
Actuated g/C Ratio	0.55	0.55		0.68	0.68			0.25	0.25		0.25	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Grp Cap (vph)	255	1029		289	1279			443	400		379	
v/s Ratio Prot		c0.46		0.07	c0.48							
v/s Ratio Perm	0.03			0.40				c0.15	0.04		0.09	
v/c Ratio	0.06	0.83		0.69	0.70			0.60	0.18		0.35	
Uniform Delay, d1	12.6	22.5		22.7	11.5			39.7	35.3		37.0	
Progression Factor	1.03	0.81		0.58	1.47			1.00	1.00		1.00	
Incremental Delay, d2	0.4	6.4		11.1	2.7			5.8	1.0		2.5	
Delay (s)	13.3	24.7		24.2	19.5			45.5	36.3		39.5	
Level of Service	B	C		C	B			D	D		D	
Approach Delay (s)		24.5			20.4			42.0			39.5	
Approach LOS		C			C			D			D	

Intersection Summary

HCM 2000 Control Delay	26.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

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

Existing 2022
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	567	31	233	826	57	134	540	38	99	595	221
Future Volume (vph)	136	567	31	233	826	57	134	540	38	99	595	221
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
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	3579	1601	3471	3579	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.179			0.319			0.346			0.377		
Satd. Flow (perm)	337	3579	1601	1166	3579	1601	652	3579	1601	710	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			34			55			41			57
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	
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)	148	616	34	253	898	62	146	587	41	108	647	240
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	616	34	253	898	62	146	587	41	108	647	240
Enter Blocked Intersection	No	No	No	No	No	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	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	53.0	53.0	53.0	53.0	53.0	53.0	67.0	67.0	67.0	67.0	67.0	67.0
Total Split (%)	44.2%	44.2%	44.2%	44.2%	44.2%	44.2%	55.8%	55.8%	55.8%	55.8%	55.8%	55.8%
Maximum Green (s)	49.0	49.0	49.0	49.0	49.0	49.0	63.0	63.0	63.0	63.0	63.0	63.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	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	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	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	49.0	49.0	49.0	49.0	49.0	49.0	63.0	63.0	63.0	63.0	63.0	63.0
Actuated g/C Ratio	0.41	0.41	0.41	0.41	0.41	0.41	0.52	0.52	0.52	0.52	0.52	0.52
v/c Ratio	1.08	0.42	0.05	0.53	0.61	0.09	0.43	0.31	0.05	0.29	0.34	0.28

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

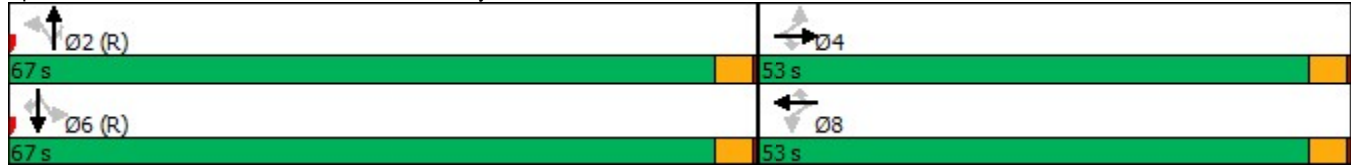
Existing 2022
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	133.4	39.4	16.2	31.9	30.3	7.2	22.4	16.8	4.3	18.7	17.2	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	133.4	39.4	16.2	31.9	30.3	7.2	22.4	16.8	4.3	18.7	17.2	12.8
LOS	F	D	B	C	C	A	C	B	A	B	B	B
Approach Delay	55.8			29.4			17.2			16.3		
Approach LOS	E			C			B			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:	1.08
Intersection Signal Delay:	29.0
Intersection LOS:	C
Intersection Capacity Utilization	67.6%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues
17: Hurontario Street & Mayfield Road

Existing 2022
PM Peak Hour



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	148	616	34	253	898	62	146	587	41	108	647	240
v/c Ratio	1.08	0.42	0.05	0.53	0.61	0.09	0.43	0.31	0.05	0.29	0.34	0.28
Control Delay	133.4	39.4	16.2	31.9	30.3	7.2	22.4	16.8	4.3	18.7	17.2	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	133.4	39.4	16.2	31.9	30.3	7.2	22.4	16.8	4.3	18.7	17.2	12.8
Queue Length 50th (m)	~40.0	78.1	2.1	22.8	86.5	1.0	20.3	39.7	0.0	13.7	44.7	22.4
Queue Length 95th (m)	m#60.5	m94.7	m5.0	36.2	107.4	9.3	38.3	51.5	5.4	26.4	57.2	38.2
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)	137	1461	673	476	1461	686	342	1878	860	372	1878	867
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	1.08	0.42	0.05	0.53	0.61	0.09	0.43	0.31	0.05	0.29	0.34	0.28

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

















HCM Signalized Intersection Capacity Analysis
17: Hurontario Street & Mayfield Road

Existing 2022
PM Peak Hour

















													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	136	567	31	233	826	57	134	540	38	99	595	221	
Future Volume (vph)	136	567	31	233	826	57	134	540	38	99	595	221	
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	4.0	4.0	4.0	4.0	4.0	4.0	
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	
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)	1789	3579	1601	3471	3579	1601	1789	3579	1601	1789	3579	1601	
Flt Permitted	0.18	1.00	1.00	0.32	1.00	1.00	0.35	1.00	1.00	0.38	1.00	1.00	
Satd. Flow (perm)	338	3579	1601	1167	3579	1601	652	3579	1601	710	3579	1601	
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)	148	616	34	253	898	62	146	587	41	108	647	240	
RTOR Reduction (vph)	0	0	20	0	0	33	0	0	19	0	0	27	
Lane Group Flow (vph)	148	616	14	253	898	29	146	587	22	108	647	213	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	
Protected Phases		4			8			2			6		
Permitted Phases	4		4	8		8	2		2	6		6	
Actuated Green, G (s)	49.0	49.0	49.0	49.0	49.0	49.0	63.0	63.0	63.0	63.0	63.0	63.0	
Effective Green, g (s)	49.0	49.0	49.0	49.0	49.0	49.0	63.0	63.0	63.0	63.0	63.0	63.0	
Actuated g/C Ratio	0.41	0.41	0.41	0.41	0.41	0.41	0.52	0.52	0.52	0.52	0.52	0.52	
Clearance Time (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	
Lane Grp Cap (vph)	138	1461	653	476	1461	653	342	1878	840	372	1878	840	
v/s Ratio Prot		0.17			0.25			0.16			0.18		
v/s Ratio Perm	c0.44		0.01	0.22		0.02	c0.22		0.01	0.15		0.13	
v/c Ratio	1.07	0.42	0.02	0.53	0.61	0.05	0.43	0.31	0.03	0.29	0.34	0.25	
Uniform Delay, d1	35.5	25.4	21.2	26.8	28.0	21.4	17.4	16.2	13.7	16.0	16.5	15.6	
Progression Factor	1.49	1.52	2.29	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	82.5	0.6	0.0	4.2	1.9	0.1	3.9	0.4	0.1	2.0	0.5	0.7	
Delay (s)	135.3	39.1	48.5	31.0	30.0	21.5	21.3	16.6	13.8	17.9	17.0	16.3	
Level of Service	F	D	D	C	C	C	C	B	B	B	B	B	
Approach Delay (s)		57.3			29.8			17.4			17.0		
Approach LOS		E			C			B			B		
Intersection Summary													
HCM 2000 Control Delay			29.7									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)	8.0
Intersection Capacity Utilization			67.6%									ICU Level of Service	C
Analysis Period (min)			15										
c Critical Lane Group													

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

Future Background 2028 - No GTA West Highway
AM Peak Hour

















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	201	17	125	120	40	8	240	229	34	309	1
Future Volume (vph)	7	201	17	125	120	40	8	240	229	34	309	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.990			0.981			0.935				
Fl _t Protected		0.998			0.978			0.999			0.995	
Satd. Flow (prot)	0	1861	0	0	1807	0	0	1759	0	0	1874	0
Fl _t Permitted		0.998			0.978			0.999			0.995	
Satd. Flow (perm)	0	1861	0	0	1807	0	0	1759	0	0	1874	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	0.92	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)	8	218	18	136	130	43	9	261	249	37	336	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	244	0	0	309	0	0	519	0	0	374	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	73.5%						ICU Level of Service D					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis - Future Background 2028 - No GTA West Highway
 1: Chinguacousy Road & Old School Road 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)	7	201	17	125	120	40	8	240	229	34	309	1
Future Volume (vph)	7	201	17	125	120	40	8	240	229	34	309	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
Hourly flow rate (vph)	8	218	18	136	130	43	9	261	249	37	336	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	244	309	519	374								
Volume Left (vph)	8	136	9	37								
Volume Right (vph)	18	43	249	1								
Hadj (s)	0.00	0.04	-0.25	0.05								
Departure Headway (s)	8.3	8.1	7.2	7.8								
Degree Utilization, x	0.57	0.69	1.04	0.81								
Capacity (veh/h)	398	418	503	451								
Control Delay (s)	21.7	27.5	78.9	35.8								
Approach Delay (s)	21.7	27.5	78.9	35.8								
Approach LOS	C	D	F	E								
Intersection Summary												
Delay			47.1									
Level of Service			E									
Intersection Capacity Utilization			73.5%	ICU Level of Service	D							
Analysis Period (min)			15									

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

Future Background 2028 - No GTA West Highway
AM Peak Hour























												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	321	101	199	236	18	39	82	334	18	265	9
Future Volume (vph)	42	321	101	199	236	18	39	82	334	18	265	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 _t		0.971			0.995			0.901			0.996	
Fl _t Protected		0.995			0.979			0.996			0.997	
Satd. Flow (prot)	0	1820	0	0	1835	0	0	1690	0	0	1870	0
Fl _t Permitted		0.995			0.979			0.996			0.997	
Satd. Flow (perm)	0	1820	0	0	1835	0	0	1690	0	0	1870	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	46	349	110	216	257	20	42	89	363	20	288	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	505	0	0	493	0	0	494	0	0	318	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	98.0%						ICU Level of Service F					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis - Future Background 2028 - No GTA West Highway
 4: McLaughlin Road & Old School Road 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)	42	321	101	199	236	18	39	82	334	18	265	9
Future Volume (vph)	42	321	101	199	236	18	39	82	334	18	265	9
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)	46	349	110	216	257	20	42	89	363	20	288	10
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	505	493	494	318								
Volume Left (vph)	46	216	42	20								
Volume Right (vph)	110	20	363	10								
Hadj (s)	-0.08	0.10	-0.39	0.03								
Departure Headway (s)	9.1	9.3	8.8	9.6								
Degree Utilization, x	1.28	1.27	1.21	0.85								
Capacity (veh/h)	400	395	415	372								
Control Delay (s)	169.4	167.6	141.1	47.8								
Approach Delay (s)	169.4	167.6	141.1	47.8								
Approach LOS	F	F	F	E								
Intersection Summary												
Delay			139.8									
Level of Service			F									
Intersection Capacity Utilization			98.0%	ICU Level of Service	F							
Analysis Period (min)			15									

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

Future Background 2028 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	511	117	106	382	99	13	38	1646	151	19	2991	268
Future Volume (vph)	511	117	106	382	99	13	38	1646	151	19	2991	268
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		0.929			0.983			0.987			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1750	0	1789	1851	0	1789	3532	0	1789	3536	0
Flt Permitted	0.546			0.449			0.070			0.070		
Satd. Flow (perm)	1028	1750	0	846	1851	0	132	3532	0	132	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			5			11			11	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	555	127	115	415	108	14	41	1789	164	21	3251	291
Shared Lane Traffic (%)												
Lane Group Flow (vph)	555	242	0	415	122	0	41	1953	0	21	3542	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	17.0	35.0		14.0	32.0		10.0	61.0		10.0	61.0	
Total Split (%)	14.2%	29.2%		11.7%	26.7%		8.3%	50.8%		8.3%	50.8%	
Maximum Green (s)	13.0	29.0		10.0	26.0		4.0	55.0		4.0	55.0	
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	
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)	44.0	31.0		38.0	28.0		63.0	57.0		63.0	57.0	
Actuated g/C Ratio	0.37	0.26		0.32	0.23		0.52	0.48		0.52	0.48	
v/c Ratio	1.21	0.51		1.20	0.28		0.27	1.16		0.14	2.10	

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

Future Background 2028 - No GTA West Highway

AM Peak Hour

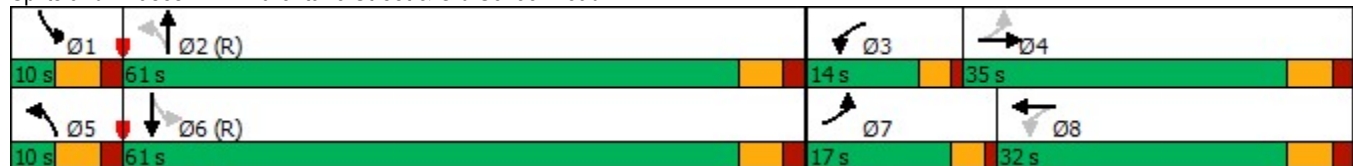


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	145.5	36.2		147.0	38.2		16.6	109.6		13.9	520.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	145.5	36.2		147.0	38.2		16.6	109.6		13.9	520.0	
LOS	F	D		F	D		B	F		B	F	
Approach Delay		112.3			122.3			107.7			517.0	
Approach LOS		F			F			F			F	

Intersection Summary

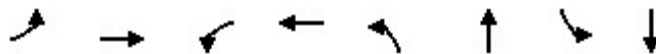
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.10
Intersection Signal Delay:	321.0
Intersection LOS:	F
Intersection Capacity Utilization	135.5%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Background 2028 - No GTA West Highway
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	555	242	415	122	41	1953	21	3542
v/c Ratio	1.21	0.51	1.20	0.28	0.27	1.16	0.14	2.10
Control Delay	145.5	36.2	147.0	38.2	16.6	109.6	13.9	520.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	145.5	36.2	147.0	38.2	16.6	109.6	13.9	520.0
Queue Length 50th (m)	~149.6	41.2	~99.5	22.7	4.2	~287.0	2.1	~703.5
Queue Length 95th (m)	#225.6	66.4	#179.2	39.6	9.3	#329.7	5.7	#737.1
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	459	479	346	435	152	1683	152	1685
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	1.21	0.51	1.20	0.28	0.27	1.16	0.14	2.10

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 Future Background 2028 - No GTA West Highway
 7: Hurontario Street & Old School Road AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	511	117	106	382	99	13	38	1646	151	19	2991	268
Future Volume (vph)	511	117	106	382	99	13	38	1646	151	19	2991	268
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		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	0.93		1.00	0.98		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)	1789	1749		1789	1851		1789	3533		1789	3534	
Flt Permitted	0.55	1.00		0.45	1.00		0.07	1.00		0.07	1.00	
Satd. Flow (perm)	1027	1749		845	1851		132	3533		132	3534	
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)	555	127	115	415	108	14	41	1789	164	21	3251	291
RTOR Reduction (vph)	0	27	0	0	4	0	0	6	0	0	6	0
Lane Group Flow (vph)	555	215	0	415	118	0	41	1947	0	21	3536	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.0	29.0		36.0	26.0		59.0	55.0		59.0	55.0	
Effective Green, g (s)	42.0	31.0		36.0	28.0		63.0	57.0		63.0	57.0	
Actuated g/C Ratio	0.35	0.26		0.30	0.23		0.52	0.48		0.52	0.48	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	442	451		332	431		152	1678		152	1678	
v/s Ratio Prot	c0.14	0.12		0.10	0.06		c0.01	0.55		0.01	c1.00	
v/s Ratio Perm	c0.30			0.27			0.13			0.07		
v/c Ratio	1.26	0.48		1.25	0.27		0.27	1.16		0.14	2.11	
Uniform Delay, d1	37.9	37.6		40.8	37.7		25.8	31.5		25.5	31.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	132.4	3.6		135.1	1.6		4.3	79.3		1.9	500.4	
Delay (s)	170.3	41.2		175.9	39.2		30.1	110.8		27.4	531.9	
Level of Service	F	D		F	D		C	F		C	F	
Approach Delay (s)		131.1			144.8			109.1			528.9	
Approach LOS		F			F			F			F	
Intersection Summary												
HCM 2000 Control Delay			331.5	HCM 2000 Level of Service				F				
HCM 2000 Volume to Capacity ratio			1.67									
Actuated Cycle Length (s)			120.0	Sum of lost time (s)				16.0				
Intersection Capacity Utilization			135.5%	ICU Level of Service				H				
Analysis Period (min)			15									
c Critical Lane Group												

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

Future Background 2028 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	774	114	203	558	32	25	147	143	105	296	18
Future Volume (vph)	16	774	114	203	558	32	25	147	143	105	296	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.992				0.850		0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5044	0	3471	5101	0	1789	1883	1601	1789	1866	0
Flt Permitted	0.397			0.950			0.417			0.619		
Satd. Flow (perm)	748	5044	0	3471	5101	0	785	1883	1601	1166	1866	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			11				155			3
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		274.5			1419.4			345.5			2383.0	
Travel Time (s)		14.1			73.0			15.5			107.2	
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)	17	841	124	221	607	35	27	160	155	114	322	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	965	0	221	642	0	27	160	155	114	342	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0	20.0	
Total Split (s)	38.0	38.0		28.0	66.0		54.0	54.0	54.0	54.0	54.0	
Total Split (%)	31.7%	31.7%		23.3%	55.0%		45.0%	45.0%	45.0%	45.0%	45.0%	
Maximum Green (s)	34.0	34.0		24.0	62.0		50.0	50.0	50.0	50.0	50.0	
Yellow Time (s)	3.5	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	0.5	
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)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	34.0	34.0		24.0	62.0		50.0	50.0	50.0	50.0	50.0	
Actuated g/C Ratio	0.28	0.28		0.20	0.52		0.42	0.42	0.42	0.42	0.42	
v/c Ratio	0.08	0.67		0.32	0.24		0.08	0.20	0.20	0.24	0.44	

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

Future Background 2028 - No GTA West Highway

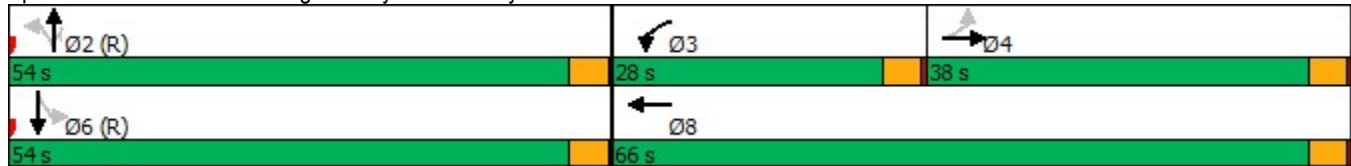
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	33.0	39.7		42.5	16.0		22.2	23.2	4.0	24.3	27.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	33.0	39.7		42.5	16.0		22.2	23.2	4.0	24.3	27.0	
LOS	C	D		D	B		C	C	A	C	C	
Approach Delay		39.6			22.8			14.4			26.3	
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:	0.67
Intersection Signal Delay:	28.6
Intersection LOS:	C
Intersection Capacity Utilization	56.6%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

Future Background 2028 - No GTA West Highway

15: Chinguacousy Road & Mayfield Road
























AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	17	965	221	642	27	160	155	114	342
v/c Ratio	0.08	0.67	0.32	0.24	0.08	0.20	0.20	0.24	0.44
Control Delay	33.0	39.7	42.5	16.0	22.2	23.2	4.0	24.3	27.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	39.7	42.5	16.0	22.2	23.2	4.0	24.3	27.0
Queue Length 50th (m)	2.9	71.9	23.1	28.9	3.8	23.6	0.0	17.1	56.1
Queue Length 95th (m)	8.9	87.2	34.5	36.5	9.9	38.4	12.1	30.5	81.5
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	211	1445	694	2640	327	784	757	485	779
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.67	0.32	0.24	0.08	0.20	0.20	0.24	0.44





























Intersection Summary

HCM Signalized Intersection Capacity Analysis Future Background 2028 - No GTA West Highway
 15: Chinguacousy Road & Mayfield Road AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	774	114	203	558	32	25	147	143	105	296	18
Future Volume (vph)	16	774	114	203	558	32	25	147	143	105	296	18
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	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5043		3471	5100		1789	1883	1601	1789	1867	
Flt Permitted	0.40	1.00		0.95	1.00		0.42	1.00	1.00	0.62	1.00	
Satd. Flow (perm)	748	5043		3471	5100		786	1883	1601	1165	1867	
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)	17	841	124	221	607	35	27	160	155	114	322	20
RTOR Reduction (vph)	0	16	0	0	5	0	0	0	90	0	2	0
Lane Group Flow (vph)	17	949	0	221	637	0	27	160	65	114	340	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2		6		6
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	34.0	34.0		24.0	62.0		50.0	50.0	50.0	50.0	50.0	
Effective Green, g (s)	34.0	34.0		24.0	62.0		50.0	50.0	50.0	50.0	50.0	
Actuated g/C Ratio	0.28	0.28		0.20	0.52		0.42	0.42	0.42	0.42	0.42	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	211	1428		694	2635		327	784	667	485	777	
v/s Ratio Prot		c0.19		c0.06	0.12			0.08			c0.18	
v/s Ratio Perm	0.02						0.03		0.04	0.10		
v/c Ratio	0.08	0.66		0.32	0.24		0.08	0.20	0.10	0.24	0.44	
Uniform Delay, d1	31.5	38.0		41.0	16.0		21.1	22.3	21.3	22.6	25.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	2.5		1.2	0.2		0.5	0.6	0.3	1.1	1.8	
Delay (s)	32.3	40.4		42.2	16.2		21.6	22.9	21.6	23.8	26.8	
Level of Service	C	D		D	B		C	C	C	C	C	
Approach Delay (s)		40.3			22.9			22.2			26.0	
Approach LOS		D			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			29.8			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			56.6%			ICU Level of Service			B			
Analysis Period (min)			15									
c	Critical Lane Group											

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

Future Background 2028 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (vph)	11	989	125	193	766	74	45	206	149	236	409	65
Future Volume (vph)	11	989	125	193	766	74	45	206	149	236	409	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.987				0.850		0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	5075	0	1789	3579	1601	1789	1844	0
Flt Permitted	0.178			0.114			0.445			0.548		
Satd. Flow (perm)	335	5142	1601	215	5075	0	838	3579	1601	1032	1844	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		11				162		9	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	1075	136	210	833	80	49	224	162	257	445	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	1075	136	210	913	0	49	224	162	257	516	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	12.0	35.0	35.0	18.0	41.0		8.0	56.0	56.0	27.0	75.0	
Total Split (%)	8.8%	25.7%	25.7%	13.2%	30.1%		5.9%	41.2%	41.2%	19.9%	55.1%	
Maximum Green (s)	8.0	31.0	31.0	14.0	37.0		4.0	52.0	52.0	23.0	71.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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)	39.0	31.0	31.0	49.0	37.0		56.0	52.0	52.0	79.0	71.0	
Actuated g/C Ratio	0.29	0.23	0.23	0.36	0.27		0.41	0.38	0.38	0.58	0.52	
v/c Ratio	0.07	0.92	0.29	0.88	0.66		0.13	0.16	0.23	0.35	0.53	

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

Future Background 2028 - No GTA West Highway

AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Control Delay	29.3	64.0	8.3	68.7	46.0		15.3	28.1	4.7	15.5	23.7		
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay	29.3	64.0	8.3	68.7	46.0		15.3	28.1	4.7	15.5	23.7		
LOS	C	E	A	E	D		B	C	A	B	C		
Approach Delay		57.5				50.2				17.9			20.9
Approach LOS		E				D				B			C

Intersection Summary

Area Type:	Other
Cycle Length:	136
Actuated Cycle Length:	136
Offset:	120 (88%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.92
Intersection Signal Delay:	42.4
Intersection LOS:	D
Intersection Capacity Utilization	71.9%
ICU Level of Service	C
Analysis Period (min)	15

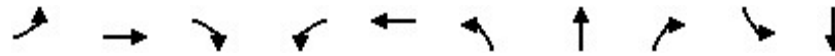
Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Background 2028 - No GTA West Highway

AM Peak Hour































Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	12	1075	136	210	913	49	224	162	257	516
v/c Ratio	0.07	0.92	0.29	0.88	0.66	0.13	0.16	0.23	0.35	0.53
Control Delay	29.3	64.0	8.3	68.7	46.0	15.3	28.1	4.7	15.5	23.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.3	64.0	8.3	68.7	46.0	15.3	28.1	4.7	15.5	23.7
Queue Length 50th (m)	2.1	104.0	0.0	40.7	79.0	5.4	20.7	0.0	32.3	87.6
Queue Length 95th (m)	6.5	#128.8	16.7	#85.1	94.4	11.1	30.0	14.1	47.5	119.5
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	181	1172	469	239	1388	373	1368	712	727	966
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	0.07	0.92	0.29	0.88	0.66	0.13	0.16	0.23	0.35	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 Future Background 2028 - No GTA West Highway
 16: McLaughlin Road & Mayfield Road AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (vph)	11	989	125	193	766	74	45	206	149	236	409	65
Future Volume (vph)	11	989	125	193	766	74	45	206	149	236	409	65
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	5074		1789	3579	1601	1789	1845	
Flt Permitted	0.18	1.00	1.00	0.11	1.00		0.44	1.00	1.00	0.55	1.00	
Satd. Flow (perm)	336	5142	1601	215	5074		838	3579	1601	1031	1845	
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)	12	1075	136	210	833	80	49	224	162	257	445	71
RTOR Reduction (vph)	0	0	105	0	8	0	0	0	100	0	4	0
Lane Group Flow (vph)	12	1075	31	210	905	0	49	224	62	257	512	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	39.0	31.0	31.0	49.0	37.0		56.0	52.0	52.0	79.0	71.0	
Effective Green, g (s)	39.0	31.0	31.0	49.0	37.0		56.0	52.0	52.0	79.0	71.0	
Actuated g/C Ratio	0.29	0.23	0.23	0.36	0.27		0.41	0.38	0.38	0.58	0.52	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	181	1172	364	239	1380		373	1368	612	727	963	
v/s Ratio Prot	0.00	0.21		c0.09	0.18		0.00	0.06		c0.06	c0.28	
v/s Ratio Perm	0.02		0.02	c0.23			0.05		0.04	0.15		
v/c Ratio	0.07	0.92	0.09	0.88	0.66		0.13	0.16	0.10	0.35	0.53	
Uniform Delay, d1	35.4	51.2	41.3	35.3	43.9		24.2	27.7	27.0	14.1	21.5	
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	0.7	12.7	0.5	33.7	2.4		0.7	0.3	0.3	1.3	2.1	
Delay (s)	36.1	63.9	41.8	69.0	46.3		25.0	27.9	27.3	15.5	23.6	
Level of Service	D	E	D	E	D		C	C	C	B	C	
Approach Delay (s)		61.2			50.6			27.4			20.9	
Approach LOS		E			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			44.9			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			136.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			71.9%			ICU Level of Service				C		
Analysis Period (min)			15									
c	Critical Lane Group											

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

Future Background 2028 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 			 	
Traffic Volume (vph)	159	1061	81	193	595	219	78	544	93	483	891	177
Future Volume (vph)	159	1061	81	193	595	219	78	544	93	483	891	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.296			0.181		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	557	3579	1601	341	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			111			238			111			192
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	173	1153	88	210	647	238	85	591	101	525	968	192
Shared Lane Traffic (%)												
Lane Group Flow (vph)	173	1153	88	210	647	238	85	591	101	525	968	192
Enter Blocked Intersection	No	No	No	No	No	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	Prot	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			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	15.0	36.0	36.0	14.0	35.0	35.0	16.0	35.0	35.0	43.0	62.0	62.0
Total Split (%)	11.7%	28.1%	28.1%	10.9%	27.3%	27.3%	12.5%	27.3%	27.3%	33.6%	48.4%	48.4%
Maximum Green (s)	11.0	32.0	32.0	10.0	31.0	31.0	12.0	31.0	31.0	39.0	58.0	58.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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
Act Effct Green (s)	11.0	32.0	32.0	10.0	31.0	31.0	43.0	31.0	31.0	74.0	58.0	58.0
Actuated g/C Ratio	0.09	0.25	0.25	0.08	0.24	0.24	0.34	0.24	0.24	0.58	0.45	0.45
v/c Ratio	0.58	0.90	0.18	0.77	0.52	0.42	0.28	0.68	0.21	0.82	0.60	0.23

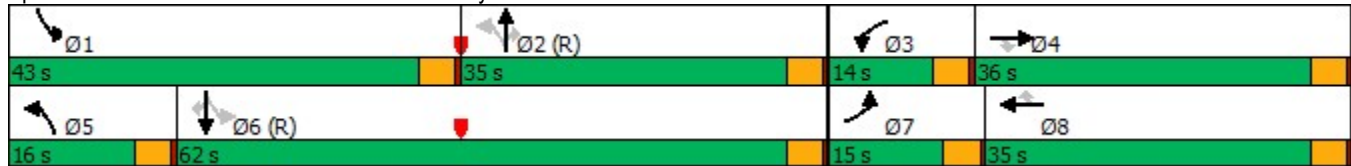
Lanes, Volumes, Timings
 17: Hurontario Street & Mayfield Road

Future Background 2028 - No GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	64.7	56.7	4.5	77.3	43.8	7.1	19.1	48.7	6.8	37.6	28.2	3.5
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	64.7	56.7	4.5	77.3	43.8	7.1	19.1	48.7	6.8	37.6	28.2	3.5
LOS	E	E	A	E	D	A	B	D	A	D	C	A
Approach Delay	54.4			42.3			40.0			28.3		
Approach LOS	D			D			D			C		

Intersection Summary	
Area Type:	Other
Cycle Length:	128
Actuated Cycle Length:	128
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	75
Control Type:	Pretimed
Maximum v/c Ratio:	0.90
Intersection Signal Delay:	40.6
Intersection LOS:	D
Intersection Capacity Utilization	81.1%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues
17: Hurontario Street & Mayfield Road

Future Background 2028 - No GTA West Highway

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	173	1153	88	210	647	238	85	591	101	525	968	192
v/c Ratio	0.58	0.90	0.18	0.77	0.52	0.42	0.28	0.68	0.21	0.82	0.60	0.23
Control Delay	64.7	56.7	4.5	77.3	43.8	7.1	19.1	48.7	6.8	37.6	28.2	3.5
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	64.7	56.7	4.5	77.3	43.8	7.1	19.1	48.7	6.8	37.6	28.2	3.5
Queue Length 50th (m)	22.0	103.4	0.0	27.2	52.0	0.0	9.0	71.5	0.0	94.6	94.3	0.0
Queue Length 95th (m)	33.8	#123.9	8.2	#44.9	64.8	20.1	16.5	91.6	11.8	#149.8	115.1	12.9
Internal Link Dist (m)		1381.8			725.9			357.1			585.4	
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	298	1285	483	271	1245	568	302	866	471	638	1621	830
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	0.90	0.18	0.77	0.52	0.42	0.28	0.68	0.21	0.82	0.60	0.23

Intersection Summary

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

















HCM Signalized Intersection Capacity Analysis Future Background 2028 - No GTA West Highway
 17: Hurontario Street & Mayfield Road AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	159	1061	81	193	595	219	78	544	93	483	891	177	
Future Volume (vph)	159	1061	81	193	595	219	78	544	93	483	891	177	
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	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.30	1.00	1.00	0.18	1.00	1.00	
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	557	3579	1601	340	3579	1601	
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)	173	1153	88	210	647	238	85	591	101	525	968	192	
RTOR Reduction (vph)	0	0	66	0	0	180	0	0	77	0	0	105	
Lane Group Flow (vph)	173	1153	22	210	647	58	85	591	24	525	968	87	
Turn Type	Prot	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			8	2		2	6		6	
Actuated Green, G (s)	11.0	32.0	32.0	10.0	31.0	31.0	43.0	31.0	31.0	74.0	58.0	58.0	
Effective Green, g (s)	11.0	32.0	32.0	10.0	31.0	31.0	43.0	31.0	31.0	74.0	58.0	58.0	
Actuated g/C Ratio	0.09	0.25	0.25	0.08	0.24	0.24	0.34	0.24	0.24	0.58	0.45	0.45	
Clearance Time (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	
Lane Grp Cap (vph)	298	1285	400	271	1245	387	302	866	387	638	1621	725	
v/s Ratio Prot	0.05	c0.22		c0.06	0.13		0.03	0.17		c0.25	0.27		
v/s Ratio Perm			0.01			0.04	0.07		0.02	c0.22		0.05	
v/c Ratio	0.58	0.90	0.06	0.77	0.52	0.15	0.28	0.68	0.06	0.82	0.60	0.12	
Uniform Delay, d1	56.3	46.4	36.5	57.9	42.0	38.1	29.6	44.0	37.3	27.2	26.2	20.2	
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	8.0	10.1	0.3	19.2	1.6	0.8	2.3	4.3	0.3	11.5	1.6	0.3	
Delay (s)	64.3	56.5	36.8	77.1	43.6	38.9	31.9	48.4	37.6	38.7	27.9	20.6	
Level of Service	E	E	D	E	D	D	C	D	D	D	C	C	
Approach Delay (s)		56.2			49.0			45.2			30.4		
Approach LOS		E			D			D			C		
Intersection Summary													
HCM 2000 Control Delay			44.1									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.86										
Actuated Cycle Length (s)			128.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			81.1%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													

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

Future Background 2028 - No GTA West Highway

















PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	136	3	260	263	56	9	457	303	34	228	2
Future Volume (vph)	6	136	3	260	263	56	9	457	303	34	228	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.997			0.987			0.947			0.999	
Fl _t Protected		0.998			0.978			0.999			0.994	
Satd. Flow (prot)	0	1874	0	0	1818	0	0	1782	0	0	1870	0
Fl _t Permitted		0.998			0.978			0.999			0.994	
Satd. Flow (perm)	0	1874	0	0	1818	0	0	1782	0	0	1870	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	0.92	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)	7	148	3	283	286	61	10	497	329	37	248	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	158	0	0	630	0	0	836	0	0	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)		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	93.4%
ICU Level of Service	F
Analysis Period (min)	15

















HCM Unsignalized Intersection Capacity Analysis Background 2028 - No GTA West Highway
 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)	6	136	3	260	263	56	9	457	303	34	228	2
Future Volume (vph)	6	136	3	260	263	56	9	457	303	34	228	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	148	3	283	286	61	10	497	329	37	248	2
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	158	630	836	287								
Volume Left (vph)	7	283	10	37								
Volume Right (vph)	3	61	329	2								
Hadj (s)	0.03	0.07	-0.20	0.06								
Departure Headway (s)	8.7	7.4	7.1	8.0								
Degree Utilization, x	0.38	1.29	1.66	0.64								
Capacity (veh/h)	397	481	510	436								
Control Delay (s)	16.9	170.1	322.7	24.2								
Approach Delay (s)	16.9	170.1	322.7	24.2								
Approach LOS	C	F	F	C								
Intersection Summary												
Delay			202.3									
Level of Service			F									
Intersection Capacity Utilization			93.4%		ICU Level of Service				F			
Analysis Period (min)			15									

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

Future Background 2028 - No GTA West Highway

















PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	385	61	370	503	23	72	275	383	8	90	4
Future Volume (vph)	28	385	61	370	503	23	72	275	383	8	90	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 _t		0.983			0.997			0.929			0.995	
Fl _t Protected		0.997			0.980			0.995			0.996	
Satd. Flow (prot)	0	1846	0	0	1840	0	0	1741	0	0	1867	0
Fl _t Permitted		0.997			0.980			0.995			0.996	
Satd. Flow (perm)	0	1846	0	0	1840	0	0	1741	0	0	1867	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	30	418	66	402	547	25	78	299	416	9	98	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	514	0	0	974	0	0	793	0	0	111	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	132.4%
ICU Level of Service	H
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis - Future Background 2028 - No GTA West Highway
 4: 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)	28	385	61	370	503	23	72	275	383	8	90	4
Future Volume (vph)	28	385	61	370	503	23	72	275	383	8	90	4
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)	30	418	66	402	547	25	78	299	416	9	98	4
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	514	974	793	111								
Volume Left (vph)	30	402	78	9								
Volume Right (vph)	66	25	416	4								
Hadj (s)	-0.03	0.10	-0.26	0.03								
Departure Headway (s)	7.7	7.8	7.5	9.6								
Degree Utilization, x	1.10	2.12	1.65	0.30								
Capacity (veh/h)	454	467	486	371								
Control Delay (s)	99.6	530.9	320.6	16.6								
Approach Delay (s)	99.6	530.9	320.6	16.6								
Approach LOS	F	F	F	C								
Intersection Summary												
Delay			344.7									
Level of Service			F									
Intersection Capacity Utilization			132.4%		ICU Level of Service				H			
Analysis Period (min)			15									

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

Future Background 2028 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	619	102	44	310	837	27	112	3666	396	25	1840	574
Future Volume (vph)	619	102	44	310	837	27	112	3666	396	25	1840	574
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		0.955			0.995			0.985			0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1799	0	1789	1874	0	1789	3525	0	1789	3450	0
Flt Permitted	0.148			0.470			0.080			0.087		
Satd. Flow (perm)	279	1799	0	885	1874	0	151	3525	0	164	3450	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			1			12			40	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	673	111	48	337	910	29	122	3985	430	27	2000	624
Shared Lane Traffic (%)												
Lane Group Flow (vph)	673	159	0	337	939	0	122	4415	0	27	2624	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	17.0	33.0		21.0	37.0		16.0	56.0		10.0	50.0	
Total Split (%)	14.2%	27.5%		17.5%	30.8%		13.3%	46.7%		8.3%	41.7%	
Maximum Green (s)	13.0	27.0		17.0	31.0		10.0	50.0		4.0	44.0	
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	
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)	42.0	29.0		50.0	33.0		62.0	52.0		52.0	46.0	
Actuated g/C Ratio	0.35	0.24		0.42	0.28		0.52	0.43		0.43	0.38	
v/c Ratio	2.58	0.36		0.68	1.82		0.51	2.88		0.18	1.95	

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

Future Background 2028 - No GTA West Highway

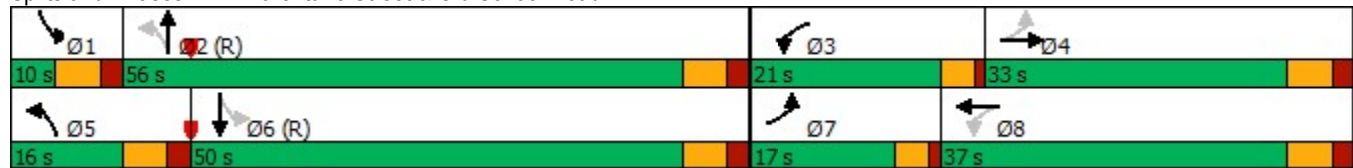
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	740.2	36.2		33.4	404.4		25.9	864.6		17.5	453.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	740.2	36.2		33.4	404.4		25.9	864.6		17.5	453.8	
LOS	F	D		C	F		C	F		B	F	
Approach Delay		605.7			306.4			842.1			449.3	
Approach LOS		F			F			F			F	

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:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.88
Intersection Signal Delay:	635.4
Intersection LOS:	F
Intersection Capacity Utilization	203.9%
ICU Level of Service	H
Analysis Period (min)	15

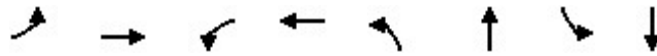
Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Background 2028 - No GTA West Highway

PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	673	159	337	939	122	4415	27	2624
v/c Ratio	2.58	0.36	0.68	1.82	0.51	2.88	0.18	1.95
Control Delay	740.2	36.2	33.4	404.4	25.9	864.6	17.5	453.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	740.2	36.2	33.4	404.4	25.9	864.6	17.5	453.8
Queue Length 50th (m)	~252.1	27.7	56.1	~337.0	14.4	~952.4	3.0	~505.3
Queue Length 95th (m)	#323.4	47.4	81.7	#414.3	30.5	#978.2	7.6	#545.4
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	261	447	496	516	241	1534	152	1347
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	2.58	0.36	0.68	1.82	0.51	2.88	0.18	1.95

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 Future Background 2028 - No GTA West Highway
 7: 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)	619	102	44	310	837	27	112	3666	396	25	1840	574
Future Volume (vph)	619	102	44	310	837	27	112	3666	396	25	1840	574
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		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	0.95		1.00	1.00		1.00	0.99		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)	1789	1798		1789	1875		1789	3526		1789	3451	
Flt Permitted	0.15	1.00		0.47	1.00		0.08	1.00		0.09	1.00	
Satd. Flow (perm)	279	1798		884	1875		151	3526		164	3451	
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)	673	111	48	337	910	29	122	3985	430	27	2000	624
RTOR Reduction (vph)	0	13	0	0	1	0	0	7	0	0	25	0
Lane Group Flow (vph)	673	146	0	337	938	0	122	4408	0	27	2599	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	40.0	27.0		48.0	31.0		60.0	50.0		48.0	44.0	
Effective Green, g (s)	40.0	29.0		48.0	33.0		62.0	52.0		52.0	46.0	
Actuated g/C Ratio	0.33	0.24		0.40	0.28		0.52	0.43		0.43	0.38	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	256	434		481	515		241	1527		152	1322	
v/s Ratio Prot	c0.28	0.08		0.10	c0.50		c0.05	c1.25		0.01	0.75	
v/s Ratio Perm	c0.59			0.18			0.21			0.07		
v/c Ratio	2.63	0.34		0.70	1.82		0.51	2.89		0.18	1.97	
Uniform Delay, d1	34.1	37.6		27.1	43.5		24.5	34.0		27.0	37.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	744.2	2.1		8.3	377.4		7.4	850.9		2.5	437.5	
Delay (s)	778.3	39.7		35.3	420.9		31.9	884.9		29.6	474.5	
Level of Service	F	D		D	F		C	F		C	F	
Approach Delay (s)		637.2			319.1			861.9			470.0	
Approach LOS		F			F			F			F	
Intersection Summary												
HCM 2000 Control Delay			655.5			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			2.51									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			203.9%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												

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

Future Background 2028 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	683	45	237	729	88	65	368	219	29	120	9
Future Volume (vph)	16	683	45	237	729	88	65	368	219	29	120	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.984				0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5096	0	3471	5060	0	1789	1883	1601	1789	1863	0
Flt Permitted	0.308			0.950			0.651			0.392		
Satd. Flow (perm)	580	5096	0	3471	5060	0	1226	1883	1601	738	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			24				238			4
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	17	742	49	258	792	96	71	400	238	32	130	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	791	0	258	888	0	71	400	238	32	140	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	33.0	33.0		27.0	60.0		60.0	60.0	60.0	60.0		60.0
Total Split (%)	27.5%	27.5%		22.5%	50.0%		50.0%	50.0%	50.0%	50.0%		50.0%
Maximum Green (s)	29.0	29.0		23.0	56.0		56.0	56.0	56.0	56.0		56.0
Yellow Time (s)	3.5	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		0.5
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)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	29.0	29.0		23.0	56.0		56.0	56.0	56.0	56.0		56.0
Actuated g/C Ratio	0.24	0.24		0.19	0.47		0.47	0.47	0.47	0.47		0.47
v/c Ratio	0.12	0.64		0.39	0.37		0.12	0.46	0.27	0.09		0.16

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

Future Background 2028 - No GTA West Highway

PM Peak Hour

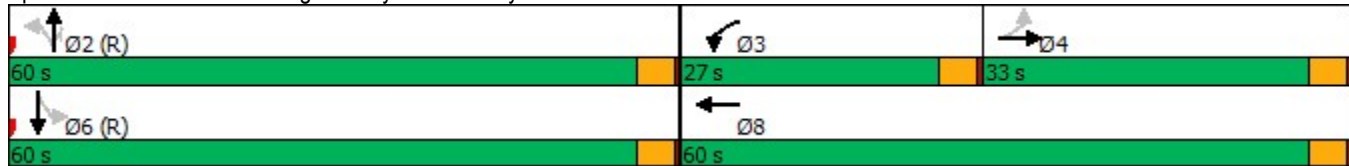


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	38.4	43.2		28.9	28.1		18.9	23.8	3.1	18.9	18.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	38.4	43.2		28.9	28.1		18.9	23.8	3.1	18.9	18.5	
LOS	D	D		C	C		B	C	A	B	B	
Approach Delay		43.1			28.3			16.4				18.6
Approach LOS		D			C			B				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:	50
Control Type:	Pretimed
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	28.9
Intersection LOS:	C
Intersection Capacity Utilization	57.0%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

15: Chinguacousy Road & Mayfield Road

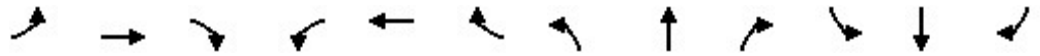


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	17	791	258	888	71	400	238	32	140
v/c Ratio	0.12	0.64	0.39	0.37	0.12	0.46	0.27	0.09	0.16
Control Delay	38.4	43.2	28.9	28.1	18.9	23.8	3.1	18.9	18.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.4	43.2	28.9	28.1	18.9	23.8	3.1	18.9	18.5
Queue Length 50th (m)	3.1	60.8	31.2	73.8	9.2	62.2	0.0	4.1	18.0
Queue Length 95th (m)	9.6	75.1	m34.2	m78.2	18.1	88.4	13.2	10.2	30.3
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	140	1237	665	2374	572	878	874	344	871
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.64	0.39	0.37	0.12	0.46	0.27	0.09	0.16

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis Future Background 2028 - No GTA West Highway
 15: 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)	16	683	45	237	729	88	65	368	219	29	120	9
Future Volume (vph)	16	683	45	237	729	88	65	368	219	29	120	9
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	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5094		3471	5058		1789	1883	1601	1789	1863	
Flt Permitted	0.31	1.00		0.95	1.00		0.65	1.00	1.00	0.39	1.00	
Satd. Flow (perm)	580	5094		3471	5058		1226	1883	1601	739	1863	
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)	17	742	49	258	792	96	71	400	238	32	130	10
RTOR Reduction (vph)	0	6	0	0	13	0	0	0	127	0	2	0
Lane Group Flow (vph)	17	785	0	258	875	0	71	400	111	32	138	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	29.0	29.0		23.0	56.0		56.0	56.0	56.0	56.0	56.0	
Effective Green, g (s)	29.0	29.0		23.0	56.0		56.0	56.0	56.0	56.0	56.0	
Actuated g/C Ratio	0.24	0.24		0.19	0.47		0.47	0.47	0.47	0.47	0.47	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	140	1231		665	2360		572	878	747	344	869	
v/s Ratio Prot		c0.15		0.07	c0.17			c0.21			0.07	
v/s Ratio Perm	0.03						0.06		0.07	0.04		
v/c Ratio	0.12	0.64		0.39	0.37		0.12	0.46	0.15	0.09	0.16	
Uniform Delay, d1	35.5	40.8		42.4	20.6		18.1	21.7	18.3	17.8	18.4	
Progression Factor	1.00	1.00		0.66	1.38		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.8	2.5		0.8	0.2		0.4	1.7	0.4	0.5	0.4	
Delay (s)	37.3	43.3		28.7	28.7		18.6	23.4	18.8	18.4	18.8	
Level of Service	D	D		C	C		B	C	B	B	B	
Approach Delay (s)		43.2			28.7			21.3			18.7	
Approach LOS		D			C			C			B	

Intersection Summary		
HCM 2000 Control Delay	30.4	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.49	C
Actuated Cycle Length (s)	120.0	Sum of lost time (s)
Intersection Capacity Utilization	57.0%	12.0
Analysis Period (min)	15	ICU Level of Service
		B
c Critical Lane Group		

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

Future Background 2028 - No GTA West Highway
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	963	71	211	1072	251	100	458	176	128	188	74
Future Volume (vph)	41	963	71	211	1072	251	100	458	176	128	188	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.972				0.850		0.958	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	4998	0	1789	1883	1601	1789	1804	0
Flt Permitted	0.125			0.114			0.503			0.244		
Satd. Flow (perm)	235	5142	1601	215	4998	0	947	1883	1601	460	1804	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82		46				191		20	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	1047	77	229	1165	273	109	498	191	139	204	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	1047	77	229	1438	0	109	498	191	139	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	15.0	36.0	36.0	18.0	39.0		11.0	53.0	53.0	13.0	55.0	
Total Split (%)	12.5%	30.0%	30.0%	15.0%	32.5%		9.2%	44.2%	44.2%	10.8%	45.8%	
Maximum Green (s)	11.0	32.0	32.0	14.0	35.0		7.0	49.0	49.0	9.0	51.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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	32.0	32.0	49.0	35.0		56.0	49.0	49.0	60.0	51.0	
Actuated g/C Ratio	0.36	0.27	0.27	0.41	0.29		0.47	0.41	0.41	0.50	0.42	
v/c Ratio	0.20	0.76	0.16	0.85	0.97		0.22	0.65	0.25	0.42	0.37	

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

Future Background 2028 - No GTA West Highway

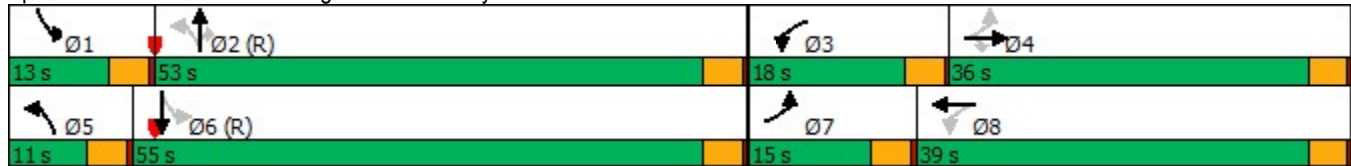
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Control Delay	12.5	39.1	11.8	26.1	41.8		16.3	33.4	4.0	19.4	23.4		
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay	12.5	39.1	11.8	26.1	41.8		16.3	33.4	4.0	19.4	23.4		
LOS	B	D	B	C	D		B	C	A	B	C		
Approach Delay		36.3				39.7				24.0			
Approach LOS		D				D				C			

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.97
Intersection Signal Delay:	33.8
Intersection LOS:	C
Intersection Capacity Utilization	74.8%
ICU Level of Service	D
Analysis Period (min)	15

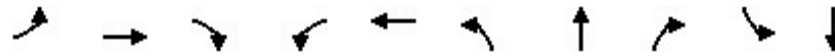
Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Background 2028 - No GTA West Highway

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	45	1047	77	229	1438	109	498	191	139	284
v/c Ratio	0.20	0.76	0.16	0.85	0.97	0.22	0.65	0.25	0.42	0.37
Control Delay	12.5	39.1	11.8	26.1	41.8	16.3	33.4	4.0	19.4	23.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	39.1	11.8	26.1	41.8	16.3	33.4	4.0	19.4	23.4
Queue Length 50th (m)	5.4	92.8	6.9	42.5	121.6	12.7	93.0	0.0	16.5	41.4
Queue Length 95th (m)	m8.6	108.2	m17.5	m42.3	m116.8	22.4	129.7	13.6	27.7	62.9
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	226	1371	487	271	1490	491	768	766	329	778
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	0.20	0.76	0.16	0.85	0.97	0.22	0.65	0.25	0.42	0.37

Intersection Summary

































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

HCM Signalized Intersection Capacity Analysis Future Background 2028 - No GTA West Highway
 16: 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)	41	963	71	211	1072	251	100	458	176	128	188	74
Future Volume (vph)	41	963	71	211	1072	251	100	458	176	128	188	74
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	4995		1789	1883	1601	1789	1804	
Flt Permitted	0.12	1.00	1.00	0.11	1.00		0.50	1.00	1.00	0.24	1.00	
Satd. Flow (perm)	235	5142	1601	215	4995		947	1883	1601	459	1804	
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)	45	1047	77	229	1165	273	109	498	191	139	204	80
RTOR Reduction (vph)	0	0	56	0	33	0	0	0	113	0	12	0
Lane Group Flow (vph)	45	1047	21	229	1405	0	109	498	78	139	273	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	43.0	32.0	32.0	49.0	35.0		56.0	49.0	49.0	60.0	51.0	
Effective Green, g (s)	43.0	32.0	32.0	49.0	35.0		56.0	49.0	49.0	60.0	51.0	
Actuated g/C Ratio	0.36	0.27	0.27	0.41	0.29		0.47	0.41	0.41	0.50	0.42	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	226	1371	426	271	1456		491	768	653	329	766	
v/s Ratio Prot	0.02	0.20		c0.10	c0.28		0.01	c0.26		c0.03	0.15	
v/s Ratio Perm	0.05		0.01	0.25			0.09		0.05	0.18		
v/c Ratio	0.20	0.76	0.05	0.85	0.97		0.22	0.65	0.12	0.42	0.36	
Uniform Delay, d1	28.7	40.5	32.7	29.0	41.9		18.4	28.6	22.1	19.4	23.4	
Progression Factor	0.50	0.87	1.68	0.75	0.96		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.8	3.7	0.2	3.1	2.6		1.0	4.2	0.4	3.9	1.3	
Delay (s)	16.2	38.9	55.2	24.9	42.9		19.4	32.8	22.5	23.3	24.7	
Level of Service	B	D	E	C	D		B	C	C	C	C	
Approach Delay (s)		39.1			40.4			28.5			24.2	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			36.0			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)			16.0			
Intersection Capacity Utilization			74.8%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

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

Future Background 2028 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 			 	
Traffic Volume (vph)	503	692	73	263	1084	164	260	690	43	203	741	739
Future Volume (vph)	503	692	73	263	1084	164	260	690	43	203	741	739
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.194			0.367		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	365	3579	1601	691	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82			153			47			356
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	547	752	79	286	1178	178	283	750	47	221	805	803
Shared Lane Traffic (%)												
Lane Group Flow (vph)	547	752	79	286	1178	178	283	750	47	221	805	803
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2				6
Permitted Phases			4			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	21.0	30.0	30.0	19.0	28.0	28.0	20.0	71.0	71.0	51.0	51.0	51.0
Total Split (%)	17.5%	25.0%	25.0%	15.8%	23.3%	23.3%	16.7%	59.2%	59.2%	42.5%	42.5%	42.5%
Maximum Green (s)	17.0	26.0	26.0	15.0	24.0	24.0	16.0	67.0	67.0	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	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	Lag
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
Act Effct Green (s)	17.0	26.0	26.0	15.0	24.0	24.0	67.0	67.0	67.0	47.0	47.0	47.0
Actuated g/C Ratio	0.14	0.22	0.22	0.12	0.20	0.20	0.56	0.56	0.56	0.39	0.39	0.39
v/c Ratio	1.11	0.68	0.19	0.66	1.15	0.40	0.72	0.38	0.05	0.82	0.57	0.95

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

Future Background 2028 - No GTA West Highway

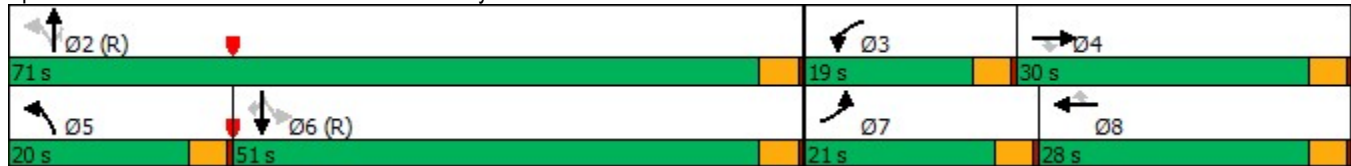
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	101.0	43.7	20.3	58.1	120.5	12.2	26.0	15.5	3.6	58.0	30.7	41.7
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	101.0	43.7	20.3	58.1	120.5	12.2	26.0	15.5	3.6	58.0	30.7	41.7
LOS	F	D	C	E	F	B	C	B	A	E	C	D
Approach Delay	65.1			97.9			17.7			38.8		
Approach LOS	E			F			B			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:	90
Control Type:	Pretimed
Maximum v/c Ratio:	1.15
Intersection Signal Delay:	57.5
Intersection LOS:	E
Intersection Capacity Utilization	91.1%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues
17: Hurontario Street & Mayfield Road

Future Background 2028 - No GTA West Highway

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	547	752	79	286	1178	178	283	750	47	221	805	803
v/c Ratio	1.11	0.68	0.19	0.66	1.15	0.40	0.72	0.38	0.05	0.82	0.57	0.95
Control Delay	101.0	43.7	20.3	58.1	120.5	12.2	26.0	15.5	3.6	58.0	30.7	41.7
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	101.0	43.7	20.3	58.1	120.5	12.2	26.0	15.5	3.6	58.0	30.7	41.7
Queue Length 50th (m)	~78.0	67.7	9.8	33.6	~119.1	4.8	33.4	49.5	0.0	46.0	77.3	117.8
Queue Length 95th (m)	#111.5	81.7	m16.5	47.8	#147.8	23.9	53.6	62.5	5.2	#90.5	97.0	#205.8
Internal Link Dist (m)	1381.8			725.9			357.1			585.4		
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	491	1114	411	433	1028	442	393	1998	914	270	1401	843
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	1.11	0.68	0.19	0.66	1.15	0.40	0.72	0.38	0.05	0.82	0.57	0.95

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.

















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

HCM Signalized Intersection Capacity Analysis Future Background 2028 - No GTA West Highway
 17: 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)	503	692	73	263	1084	164	260	690	43	203	741	739	
Future Volume (vph)	503	692	73	263	1084	164	260	690	43	203	741	739	
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	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.19	1.00	1.00	0.37	1.00	1.00	
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	366	3579	1601	691	3579	1601	
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)	547	752	79	286	1178	178	283	750	47	221	805	803	
RTOR Reduction (vph)	0	0	62	0	0	122	0	0	21	0	0	217	
Lane Group Flow (vph)	547	752	17	286	1178	56	283	750	26	221	805	586	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	
Protected Phases	7	4		3	8		5	2		6		6	
Permitted Phases			4			8	2		2	6		6	
Actuated Green, G (s)	17.0	26.0	26.0	15.0	24.0	24.0	67.0	67.0	67.0	47.0	47.0	47.0	
Effective Green, g (s)	17.0	26.0	26.0	15.0	24.0	24.0	67.0	67.0	67.0	47.0	47.0	47.0	
Actuated g/C Ratio	0.14	0.22	0.22	0.12	0.20	0.20	0.56	0.56	0.56	0.39	0.39	0.39	
Clearance Time (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	
Lane Grp Cap (vph)	491	1114	346	433	1028	320	394	1998	893	270	1401	627	
v/s Ratio Prot	c0.16	0.15		0.08	c0.23		c0.10	0.21			0.22		
v/s Ratio Perm			0.01			0.03	0.30		0.02	0.32		c0.37	
v/c Ratio	1.11	0.68	0.05	0.66	1.15	0.17	0.72	0.38	0.03	0.82	0.57	0.94	
Uniform Delay, d1	51.5	43.1	37.2	50.1	48.0	39.8	17.6	14.8	11.9	32.7	28.7	35.0	
Progression Factor	0.57	0.95	2.47	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	70.7	2.5	0.2	7.7	77.3	1.2	10.7	0.5	0.1	23.4	1.7	23.1	
Delay (s)	100.2	43.5	92.1	57.8	125.3	41.0	28.3	15.3	12.0	56.1	30.4	58.2	
Level of Service	F	D	F	E	F	D	C	B	B	E	C	E	
Approach Delay (s)		68.8			104.4			18.6			45.7		
Approach LOS		E			F			B			D		
Intersection Summary													
HCM 2000 Control Delay			62.4									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			0.98										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			91.1%									ICU Level of Service	F
Analysis Period (min)			15										
c Critical Lane Group													

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

Future Total 2028 - No GTA West Highway
AM Peak Hour

















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	224	29	224	181	40	13	256	440	34	317	1
Future Volume (vph)	7	224	29	224	181	40	13	256	440	34	317	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.985			0.988			0.916				
Fl _t Protected		0.999			0.975			0.999			0.995	
Satd. Flow (prot)	0	1853	0	0	1814	0	0	1724	0	0	1874	0
Fl _t Permitted		0.999			0.975			0.999			0.995	
Satd. Flow (perm)	0	1853	0	0	1814	0	0	1724	0	0	1874	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	0.92	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)	8	243	32	243	197	43	14	278	478	37	345	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	283	0	0	483	0	0	770	0	0	383	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	91.7%					ICU Level of Service F						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - No GTA West Highway
 1: Chinguacousy Road & Old School Road 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)	7	224	29	224	181	40	13	256	440	34	317	1
Future Volume (vph)	7	224	29	224	181	40	13	256	440	34	317	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
Hourly flow rate (vph)	8	243	32	243	197	43	14	278	478	37	345	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	283	483	770	383								
Volume Left (vph)	8	243	14	37								
Volume Right (vph)	32	43	478	1								
Hadj (s)	-0.03	0.08	-0.33	0.05								
Departure Headway (s)	9.4	8.9	8.4	8.9								
Degree Utilization, x	0.74	1.19	1.81	0.95								
Capacity (veh/h)	372	402	432	398								
Control Delay (s)	34.7	135.1	392.0	63.6								
Approach Delay (s)	34.7	135.1	392.0	63.6								
Approach LOS	D	F	F	F								
Intersection Summary												
Delay			209.1									
Level of Service			F									
Intersection Capacity Utilization			91.7%	ICU Level of Service	F							
Analysis Period (min)			15									

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

Future Total 2028 - No GTA West Highway
AM Peak Hour























												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	672	101	256	392	26	39	146	537	28	303	22
Future Volume (vph)	63	672	101	256	392	26	39	146	537	28	303	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
Fr _t		0.984			0.995			0.900			0.992	
Fl _t Protected		0.996			0.981			0.997			0.996	
Satd. Flow (prot)	0	1846	0	0	1838	0	0	1690	0	0	1861	0
Fl _t Permitted		0.996			0.981			0.997			0.996	
Satd. Flow (perm)	0	1846	0	0	1838	0	0	1690	0	0	1861	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	68	730	110	278	426	28	42	159	584	30	329	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	908	0	0	732	0	0	785	0	0	383	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	142.9%					ICU Level of Service H						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - No GTA West Highway
 4: McLaughlin Road & Old School Road 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)	63	672	101	256	392	26	39	146	537	28	303	22
Future Volume (vph)	63	672	101	256	392	26	39	146	537	28	303	22
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)	68	730	110	278	426	28	42	159	584	30	329	24
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	908	732	785	383								
Volume Left (vph)	68	278	42	30								
Volume Right (vph)	110	28	584	24								
Hadj (s)	-0.02	0.09	-0.40	0.01								
Departure Headway (s)	9.5	9.7	9.2	9.6								
Degree Utilization, x	2.41	1.96	2.00	1.02								
Capacity (veh/h)	386	379	399	383								
Control Delay (s)	661.3	464.6	479.1	83.2								
Approach Delay (s)	661.3	464.6	479.1	83.2								
Approach LOS	F	F	F	F								
Intersection Summary												
Delay			480.2									
Level of Service			F									
Intersection Capacity Utilization			142.9%		ICU Level of Service		H					
Analysis Period (min)			15									

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

Future Total 2028 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	569	117	564	382	105	13	154	1676	151	19	3014	311
Future Volume (vph)	569	117	564	382	105	13	154	1676	151	19	3014	311
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		0.876			0.984			0.988			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1650	0	1789	1853	0	1789	3536	0	1789	3528	0
Flt Permitted	0.534			0.154			0.070			0.070		
Satd. Flow (perm)	1006	1650	0	290	1853	0	132	3536	0	132	3528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		65			5			11			12	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	618	127	613	415	114	14	167	1822	164	21	3276	338
Shared Lane Traffic (%)												
Lane Group Flow (vph)	618	740	0	415	128	0	167	1986	0	21	3614	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	17.0	35.0		14.0	32.0		10.0	61.0		10.0	61.0	
Total Split (%)	14.2%	29.2%		11.7%	26.7%		8.3%	50.8%		8.3%	50.8%	
Maximum Green (s)	13.0	29.0		10.0	26.0		4.0	55.0		4.0	55.0	
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	
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)	44.0	31.0		38.0	28.0		63.0	57.0		63.0	57.0	
Actuated g/C Ratio	0.37	0.26		0.32	0.23		0.52	0.48		0.52	0.48	
v/c Ratio	1.36	1.56		1.92	0.29		1.10	1.18		0.14	2.15	

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

Future Total 2028 - No GTA West Highway
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	208.0	292.2		453.9	38.5		127.5	117.1		13.9	540.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	208.0	292.2		453.9	38.5		127.5	117.1		13.9	540.6	
LOS	F	F		F	D		F	F		B	F	
Approach Delay		253.9			355.9			117.9			537.5	
Approach LOS		F			F			F			F	

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:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.15
Intersection Signal Delay:	357.1
Intersection LOS:	F
Intersection Capacity Utilization	177.2%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Total 2028 - No GTA West Highway
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	618	740	415	128	167	1986	21	3614
v/c Ratio	1.36	1.56	1.92	0.29	1.10	1.18	0.14	2.15
Control Delay	208.0	292.2	453.9	38.5	127.5	117.1	13.9	540.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	208.0	292.2	453.9	38.5	127.5	117.1	13.9	540.6
Queue Length 50th (m)	~191.7	~236.4	~134.8	23.9	~28.8	~295.4	2.1	~722.7
Queue Length 95th (m)	#260.3	#309.6	#196.6	41.2	#72.7	#338.1	5.7	#755.7
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	453	474	216	436	152	1685	152	1682
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	1.36	1.56	1.92	0.29	1.10	1.18	0.14	2.15

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
7: Hurontario Street & Old School Road

Future Total 2028 - No GTA West Highway
AM Peak Hour




























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (vph)	569	117	564	382	105	13	154	1676	151	19	3014	311
Future Volume (vph)	569	117	564	382	105	13	154	1676	151	19	3014	311
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		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	0.88		1.00	0.98		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)	1789	1649		1789	1853		1789	3534		1789	3528	
Flt Permitted	0.53	1.00		0.15	1.00		0.07	1.00		0.07	1.00	
Satd. Flow (perm)	1006	1649		290	1853		132	3534		132	3528	
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)	618	127	613	415	114	14	167	1822	164	21	3276	338
RTOR Reduction (vph)	0	48	0	0	4	0	0	6	0	0	6	0
Lane Group Flow (vph)	618	692	0	415	124	0	167	1980	0	21	3608	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.0	29.0		36.0	26.0		59.0	55.0		59.0	55.0	
Effective Green, g (s)	42.0	31.0		36.0	28.0		63.0	57.0		63.0	57.0	
Actuated g/C Ratio	0.35	0.26		0.30	0.23		0.52	0.48		0.52	0.48	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	436	425		211	432		152	1678		152	1675	
v/s Ratio Prot	c0.15	0.42		c0.16	0.07		c0.05	0.56		0.01	c1.02	
v/s Ratio Perm	0.34			c0.42			0.52			0.07		
v/c Ratio	1.42	1.63		1.97	0.29		1.10	1.18		0.14	2.15	
Uniform Delay, d1	37.8	44.5		37.5	37.8		31.4	31.5		25.5	31.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	200.9	293.1		451.8	1.7		101.9	87.6		1.9	521.2	
Delay (s)	238.8	337.6		489.3	39.5		133.3	119.1		27.4	552.7	
Level of Service	F	F		F	D		F	F		C	F	
Approach Delay (s)		292.6			383.2			120.2			549.7	
Approach LOS		F			F			F			F	

Intersection Summary

HCM 2000 Control Delay	372.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.95		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	177.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Total 2028 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		 	 							
Traffic Volume (vph)	24	774	114	348	558	79	25	194	209	150	386	23
Future Volume (vph)	24	774	114	348	558	79	25	194	209	150	386	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.981				0.850		0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5044	0	3471	5044	0	1789	1883	1601	1789	1868	0
Flt Permitted	0.377			0.950			0.313			0.560		
Satd. Flow (perm)	710	5044	0	3471	5044	0	590	1883	1601	1055	1868	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			32				227			3
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	26	841	124	378	607	86	27	211	227	163	420	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	965	0	378	693	0	27	211	227	163	445	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	38.0	38.0		28.0	66.0		54.0	54.0	54.0	54.0		54.0
Total Split (%)	31.7%	31.7%		23.3%	55.0%		45.0%	45.0%	45.0%	45.0%		45.0%
Maximum Green (s)	34.0	34.0		24.0	62.0		50.0	50.0	50.0	50.0		50.0
Yellow Time (s)	3.5	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		0.5
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)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	34.0	34.0		24.0	62.0		50.0	50.0	50.0	50.0		50.0
Actuated g/C Ratio	0.28	0.28		0.20	0.52		0.42	0.42	0.42	0.42		0.42
v/c Ratio	0.13	0.67		0.54	0.26		0.11	0.27	0.28	0.37		0.57

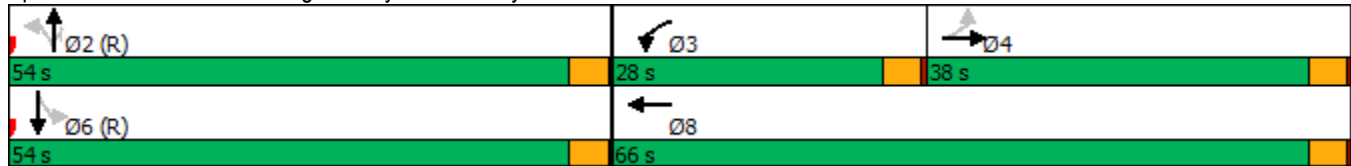
Lanes, Volumes, Timings
 15: Chinguacousy Road & Mayfield Road

Future Total 2028 - No GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	34.2	39.7		46.5	15.7		23.0	24.2	3.8	27.3	30.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	34.2	39.7		46.5	15.7		23.0	24.2	3.8	27.3	30.1	
LOS	C	D		D	B		C	C	A	C	C	
Approach Delay		39.6			26.6			14.1			29.4	
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:	55
Control Type:	Pretimed
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	29.4
Intersection LOS:	C
Intersection Capacity Utilization	65.8%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

Future Total 2028 - No GTA West Highway

15: Chinguacousy Road & Mayfield Road

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	26	965	378	693	27	211	227	163	445
v/c Ratio	0.13	0.67	0.54	0.26	0.11	0.27	0.28	0.37	0.57
Control Delay	34.2	39.7	46.5	15.7	23.0	24.2	3.8	27.3	30.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.2	39.7	46.5	15.7	23.0	24.2	3.8	27.3	30.1
Queue Length 50th (m)	4.6	71.9	41.5	30.6	3.8	32.1	0.0	26.1	78.4
Queue Length 95th (m)	12.1	87.2	56.9	38.6	10.2	49.7	14.4	44.3	110.8
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	201	1445	694	2621	245	784	799	439	780
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.67	0.54	0.26	0.11	0.27	0.28	0.37	0.57

Intersection Summary

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

Future Total 2028 - No GTA West Highway
 AM Peak Hour































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↘↗	↑↑↑		↗	↑	↗	↘	↓	↘
Traffic Volume (vph)	24	774	114	348	558	79	25	194	209	150	386	23
Future Volume (vph)	24	774	114	348	558	79	25	194	209	150	386	23
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	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5043		3471	5046		1789	1883	1601	1789	1868	
Flt Permitted	0.38	1.00		0.95	1.00		0.31	1.00	1.00	0.56	1.00	
Satd. Flow (perm)	709	5043		3471	5046		590	1883	1601	1054	1868	
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)	26	841	124	378	607	86	27	211	227	163	420	25
RTOR Reduction (vph)	0	16	0	0	15	0	0	0	132	0	2	0
Lane Group Flow (vph)	26	949	0	378	678	0	27	211	95	163	443	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	34.0	34.0		24.0	62.0		50.0	50.0	50.0	50.0	50.0	
Effective Green, g (s)	34.0	34.0		24.0	62.0		50.0	50.0	50.0	50.0	50.0	
Actuated g/C Ratio	0.28	0.28		0.20	0.52		0.42	0.42	0.42	0.42	0.42	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	200	1428		694	2607		245	784	667	439	778	
v/s Ratio Prot		c0.19		c0.11	0.13			0.11			c0.24	
v/s Ratio Perm	0.04						0.05		0.06	0.15		
v/c Ratio	0.13	0.66		0.54	0.26		0.11	0.27	0.14	0.37	0.57	
Uniform Delay, d1	32.0	38.0		43.1	16.2		21.4	23.0	21.7	24.2	26.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.3	2.5		3.1	0.2		0.9	0.8	0.4	2.4	3.0	
Delay (s)	33.3	40.4		46.2	16.4		22.3	23.8	22.1	26.6	29.8	
Level of Service	C	D		D	B		C	C	C	C	C	
Approach Delay (s)		40.2			26.9			22.9			28.9	
Approach LOS		D			C			C			C	

Intersection Summary

HCM 2000 Control Delay	30.9	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)	12.0
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Total 2028 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (vph)	77	1024	125	193	781	110	61	311	149	332	614	210
Future Volume (vph)	77	1024	125	193	781	110	61	311	149	332	614	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.981				0.850		0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	5044	0	1789	3579	1601	1789	1812	0
Flt Permitted	0.152			0.114			0.077			0.458		
Satd. Flow (perm)	286	5142	1601	215	5044	0	145	3579	1601	863	1812	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		19				162		19	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	1113	136	210	849	120	66	338	162	361	667	228
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	1113	136	210	969	0	66	338	162	361	895	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	12.0	35.0	35.0	18.0	41.0		8.0	56.0	56.0	27.0	75.0	
Total Split (%)	8.8%	25.7%	25.7%	13.2%	30.1%		5.9%	41.2%	41.2%	19.9%	55.1%	
Maximum Green (s)	8.0	31.0	31.0	14.0	37.0		4.0	52.0	52.0	23.0	71.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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)	39.0	31.0	31.0	49.0	37.0		56.0	52.0	52.0	79.0	71.0	
Actuated g/C Ratio	0.29	0.23	0.23	0.36	0.27		0.41	0.38	0.38	0.58	0.52	
v/c Ratio	0.49	0.95	0.29	0.88	0.70		0.61	0.25	0.23	0.55	0.94	

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

Future Total 2028 - No GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	40.1	68.4	8.3	68.7	46.8		43.0	29.3	4.7	18.5	47.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	40.1	68.4	8.3	68.7	46.8		43.0	29.3	4.7	18.5	47.8	
LOS	D	E	A	E	D		D	C	A	B	D	
Approach Delay		60.4			50.7			23.8			39.4	
Approach LOS		E			D			C			D	

Intersection Summary

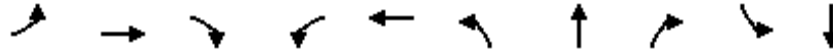
Area Type:	Other
Cycle Length:	136
Actuated Cycle Length:	136
Offset:	120 (88%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	90
Control Type:	Pretimed
Maximum v/c Ratio:	0.95
Intersection Signal Delay:	46.9
Intersection LOS:	D
Intersection Capacity Utilization	92.3%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Total 2028 - No GTA West Highway
AM Peak Hour



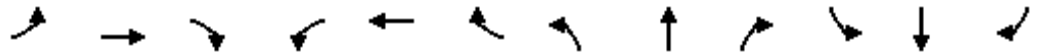
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	84	1113	136	210	969	66	338	162	361	895
v/c Ratio	0.49	0.95	0.29	0.88	0.70	0.61	0.25	0.23	0.55	0.94
Control Delay	40.1	68.4	8.3	68.7	46.8	43.0	29.3	4.7	18.5	47.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.1	68.4	8.3	68.7	46.8	43.0	29.3	4.7	18.5	47.8
Queue Length 50th (m)	15.1	108.8	0.0	40.7	84.4	7.4	32.3	0.0	48.8	215.2
Queue Length 95th (m)	27.2	#136.8	16.7	#85.1	100.4	#18.0	44.1	14.1	68.7	#307.7
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	170	1172	469	239	1386	108	1368	712	657	955
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	0.49	0.95	0.29	0.88	0.70	0.61	0.25	0.23	0.55	0.94

Intersection Summary

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

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

Future Total 2028 - No GTA West Highway
 AM Peak Hour




































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑	↗	↘	↗	
Traffic Volume (vph)	77	1024	125	193	781	110	61	311	149	332	614	210
Future Volume (vph)	77	1024	125	193	781	110	61	311	149	332	614	210
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	5046		1789	3579	1601	1789	1811	
Flt Permitted	0.15	1.00	1.00	0.11	1.00		0.08	1.00	1.00	0.46	1.00	
Satd. Flow (perm)	287	5142	1601	215	5046		145	3579	1601	863	1811	
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)	84	1113	136	210	849	120	66	338	162	361	667	228
RTOR Reduction (vph)	0	0	105	0	14	0	0	0	100	0	9	0
Lane Group Flow (vph)	84	1113	31	210	955	0	66	338	62	361	886	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	39.0	31.0	31.0	49.0	37.0		56.0	52.0	52.0	79.0	71.0	
Effective Green, g (s)	39.0	31.0	31.0	49.0	37.0		56.0	52.0	52.0	79.0	71.0	
Actuated g/C Ratio	0.29	0.23	0.23	0.36	0.27		0.41	0.38	0.38	0.58	0.52	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	170	1172	364	239	1372		108	1368	612	657	945	
v/s Ratio Prot	0.03	c0.22		c0.09	0.19		0.02	0.09		c0.09	c0.49	
v/s Ratio Perm	0.11		0.02	0.23			0.23		0.04	0.23		
v/c Ratio	0.49	0.95	0.09	0.88	0.70		0.61	0.25	0.10	0.55	0.94	
Uniform Delay, d1	37.2	51.7	41.3	35.5	44.5		31.3	28.6	27.0	15.4	30.4	
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	9.9	16.7	0.5	33.7	2.9		23.1	0.4	0.3	3.3	17.6	
Delay (s)	47.1	68.4	41.8	69.2	47.4		54.5	29.1	27.3	18.7	48.0	
Level of Service	D	E	D	E	D		D	C	C	B	D	
Approach Delay (s)		64.4			51.3			31.5			39.6	
Approach LOS		E			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	49.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Total 2028 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 		 	 	
Traffic Volume (vph)	159	1061	177	193	595	219	129	608	93	483	1070	177
Future Volume (vph)	159	1061	177	193	595	219	129	608	93	483	1070	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.204			0.135		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	384	3579	1601	254	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			192			238			111			192
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	173	1153	192	210	647	238	140	661	101	525	1163	192
Shared Lane Traffic (%)												
Lane Group Flow (vph)	173	1153	192	210	647	238	140	661	101	525	1163	192
Enter Blocked Intersection	No	No	No	No	No	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	Prot	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			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	15.0	36.0	36.0	14.0	35.0	35.0	16.0	35.0	35.0	43.0	62.0	62.0
Total Split (%)	11.7%	28.1%	28.1%	10.9%	27.3%	27.3%	12.5%	27.3%	27.3%	33.6%	48.4%	48.4%
Maximum Green (s)	11.0	32.0	32.0	10.0	31.0	31.0	12.0	31.0	31.0	39.0	58.0	58.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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
Act Effct Green (s)	11.0	32.0	32.0	10.0	31.0	31.0	43.0	31.0	31.0	74.0	58.0	58.0
Actuated g/C Ratio	0.09	0.25	0.25	0.08	0.24	0.24	0.34	0.24	0.24	0.58	0.45	0.45
v/c Ratio	0.58	0.90	0.35	0.77	0.52	0.42	0.54	0.76	0.21	0.86	0.72	0.23

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

Future Total 2028 - No GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	64.7	56.7	7.1	77.3	43.8	7.1	28.2	51.8	6.8	44.9	31.5	3.5
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	64.7	56.7	7.1	77.3	43.8	7.1	28.2	51.8	6.8	44.9	31.5	3.5
LOS	E	E	A	E	D	A	C	D	A	D	C	A
Approach Delay	51.3			42.3			43.1			32.4		
Approach LOS	D			D			D			C		

Intersection Summary	
Area Type:	Other
Cycle Length:	128
Actuated Cycle Length:	128
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	75
Control Type:	Pretimed
Maximum v/c Ratio:	0.90
Intersection Signal Delay:	41.5
Intersection LOS:	D
Intersection Capacity Utilization	82.9%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues

Future Total 2028 - No GTA West Highway

17: Hurontario Street & Mayfield Road

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	173	1153	192	210	647	238	140	661	101	525	1163	192
v/c Ratio	0.58	0.90	0.35	0.77	0.52	0.42	0.54	0.76	0.21	0.86	0.72	0.23
Control Delay	64.7	56.7	7.1	77.3	43.8	7.1	28.2	51.8	6.8	44.9	31.5	3.5
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	64.7	56.7	7.1	77.3	43.8	7.1	28.2	51.8	6.8	44.9	31.5	3.5
Queue Length 50th (m)	22.0	103.4	0.0	27.2	52.0	0.0	15.4	82.0	0.0	103.7	122.5	0.0
Queue Length 95th (m)	33.8	#123.9	18.1	#44.9	64.8	20.1	28.9	103.6	11.8	#162.7	147.7	12.9
Internal Link Dist (m)		1381.8			725.9			357.1			585.4	
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	298	1285	544	271	1245	568	260	866	471	614	1621	830
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	0.90	0.35	0.77	0.52	0.42	0.54	0.76	0.21	0.86	0.72	0.23

































Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
 17: Hurontario Street & Mayfield Road

















Future Total 2028 - No GTA West Highway
 AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 			 	
Traffic Volume (vph)	159	1061	177	193	595	219	129	608	93	483	1070	177
Future Volume (vph)	159	1061	177	193	595	219	129	608	93	483	1070	177
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	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.20	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	384	3579	1601	253	3579	1601
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)	173	1153	192	210	647	238	140	661	101	525	1163	192
RTOR Reduction (vph)	0	0	144	0	0	180	0	0	77	0	0	105
Lane Group Flow (vph)	173	1153	48	210	647	58	140	661	24	525	1163	87
Turn Type	Prot	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			8	2		2	6		6
Actuated Green, G (s)	11.0	32.0	32.0	10.0	31.0	31.0	43.0	31.0	31.0	74.0	58.0	58.0
Effective Green, g (s)	11.0	32.0	32.0	10.0	31.0	31.0	43.0	31.0	31.0	74.0	58.0	58.0
Actuated g/C Ratio	0.09	0.25	0.25	0.08	0.24	0.24	0.34	0.24	0.24	0.58	0.45	0.45
Clearance Time (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
Lane Grp Cap (vph)	298	1285	400	271	1245	387	260	866	387	614	1621	725
v/s Ratio Prot	0.05	c0.22		c0.06	0.13		0.05	0.18		c0.26	0.32	
v/s Ratio Perm			0.03			0.04	0.13		0.02	c0.23		0.05
v/c Ratio	0.58	0.90	0.12	0.77	0.52	0.15	0.54	0.76	0.06	0.86	0.72	0.12
Uniform Delay, d1	56.3	46.4	37.1	57.9	42.0	38.1	30.8	45.1	37.3	31.5	28.4	20.2
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	8.0	10.1	0.6	19.2	1.6	0.8	7.8	6.3	0.3	14.2	2.8	0.3
Delay (s)	64.3	56.5	37.7	77.1	43.6	38.9	38.5	51.4	37.6	45.7	31.1	20.6
Level of Service	E	E	D	E	D	D	D	D	D	D	C	C
Approach Delay (s)		55.0			49.0			47.9			34.1	
Approach LOS		D			D			D			C	

















Intersection Summary		
HCM 2000 Control Delay	45.3	HCM 2000 Level of Service D
HCM 2000 Volume to Capacity ratio	0.88	
Actuated Cycle Length (s)	128.0	Sum of lost time (s) 16.0
Intersection Capacity Utilization	82.9%	ICU Level of Service E
Analysis Period (min)	15	
c Critical Lane Group		

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

Future Total 2028 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	201	29	454	314	56	25	482	475	34	242	2
Future Volume (vph)	6	201	29	454	314	56	25	482	475	34	242	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.983			0.991			0.935			0.999	
Fl _t Protected		0.999			0.973			0.999			0.994	
Satd. Flow (prot)	0	1850	0	0	1816	0	0	1759	0	0	1870	0
Fl _t Permitted		0.999			0.973			0.999			0.994	
Satd. Flow (perm)	0	1850	0	0	1816	0	0	1759	0	0	1870	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	0.92	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)	7	218	32	493	341	61	27	524	516	37	263	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	257	0	0	895	0	0	1067	0	0	302	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	126.8%						ICU Level of Service H					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - No GTA West Highway
 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)	6	201	29	454	314	56	25	482	475	34	242	2
Future Volume (vph)	6	201	29	454	314	56	25	482	475	34	242	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	218	32	493	341	61	27	524	516	37	263	2
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	257	895	1067	302								
Volume Left (vph)	7	493	27	37								
Volume Right (vph)	32	61	516	2								
Hadj (s)	-0.04	0.10	-0.25	0.05								
Departure Headway (s)	8.8	8.1	7.8	8.7								
Degree Utilization, x	0.63	2.02	2.31	0.73								
Capacity (veh/h)	389	447	472	405								
Control Delay (s)	25.6	486.9	612.2	31.4								
Approach Delay (s)	25.6	486.9	612.2	31.4								
Approach LOS	D	F	F	D								
Intersection Summary												
Delay			438.3									
Level of Service			F									
Intersection Capacity Utilization			126.8%	ICU Level of Service	H							
Analysis Period (min)			15									

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

Future Total 2028 - No GTA West Highway
PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	696	63	90	816	50	25
Future Volume (vph)	696	63	90	816	50	25
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.989			0.955		
Flt Protected				0.995	0.968	
Satd. Flow (prot)	1863	0	0	1874	1741	0
Flt Permitted				0.995	0.968	
Satd. Flow (perm)	1863	0	0	1874	1741	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			521.8	121.9	
Travel Time (s)	25.2			26.8	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	757	68	98	887	54	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	825	0	0	985	81	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	102.7%
ICU Level of Service	G
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - No GTA West Highway
 2: Street B & Old School Road PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↔	
Traffic Volume (veh/h)	696	63	90	816	50	25
Future Volume (Veh/h)	696	63	90	816	50	25
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)	757	68	98	887	54	27
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			825		1874	791
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			825		1874	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 %			88		22	93
cM capacity (veh/h)			805		69	390
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	825	985	81			
Volume Left	0	98	54			
Volume Right	68	0	27			
cSH	1700	805	95			
Volume to Capacity	0.49	0.12	0.85			
Queue Length 95th (m)	0.0	3.1	35.6			
Control Delay (s)	0.0	3.3	133.3			
Lane LOS		A	F			
Approach Delay (s)	0.0	3.3	133.3			
Approach LOS			F			
Intersection Summary						
Average Delay			7.4			
Intersection Capacity Utilization			102.7%	ICU Level of Service	G	
Analysis Period (min)			15			

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

Future Total 2028 - No GTA West Highway
PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	660	45	168	859	47	70
Future Volume (vph)	660	45	168	859	47	70
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.991			0.919		
Flt Protected				0.992	0.980	
Satd. Flow (prot)	1866	0	0	1868	1696	0
Flt Permitted				0.992	0.980	
Satd. Flow (perm)	1866	0	0	1868	1696	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	521.8			371.6	309.0	
Travel Time (s)	26.8			19.1	23.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	717	49	183	934	51	76
Shared Lane Traffic (%)						
Lane Group Flow (vph)	766	0	0	1117	127	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	108.9%
Analysis Period (min)	15
	ICU Level of Service G

















HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - No GTA West Highway
 3: Street D & Old School Road PM Peak Hour



















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↘	↙
Traffic Volume (veh/h)	660	45	168	859	47	70
Future Volume (Veh/h)	660	45	168	859	47	70
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)	717	49	183	934	51	76
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			766	2042		742
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			766	2042		742
tC, single (s)			4.1	6.4		6.2
tC, 2 stage (s)						
tF (s)			2.2	3.5		3.3
p0 queue free %			78	0		82
cM capacity (veh/h)			847	49		416
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	766	1117	127			
Volume Left	0	183	51			
Volume Right	49	0	76			
cSH	1700	847	103			
Volume to Capacity	0.45	0.22	1.23			
Queue Length 95th (m)	0.0	6.2	65.0			
Control Delay (s)	0.0	5.9	240.8			
Lane LOS	A		F			
Approach Delay (s)	0.0	5.9	240.8			
Approach LOS	A		F			
Intersection Summary						
Average Delay			18.5			
Intersection Capacity Utilization			108.9%		ICU Level of Service G	
Analysis Period (min)			15			

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

Future Total 2028 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	627	61	541	931	41	72	318	554	25	145	23
Future Volume (vph)	42	627	61	541	931	41	72	318	554	25	145	23
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 _t		0.989			0.996			0.921			0.984	
Fl _t Protected		0.997			0.982			0.996			0.994	
Satd. Flow (prot)	0	1857	0	0	1842	0	0	1728	0	0	1842	0
Fl _t Permitted		0.997			0.982			0.996			0.994	
Satd. Flow (perm)	0	1857	0	0	1842	0	0	1728	0	0	1842	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	46	682	66	588	1012	45	78	346	602	27	158	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	794	0	0	1645	0	0	1026	0	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)		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	195.1%					ICU Level of Service H						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - No GTA West Highway
 4: 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)	42	627	61	541	931	41	72	318	554	25	145	23			
Future Volume (vph)	42	627	61	541	931	41	72	318	554	25	145	23			
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)	46	682	66	588	1012	45	78	346	602	27	158	25			
Direction, Lane #	EB 1	WB 1	NB 1	SB 1											
Volume Total (vph)	794	1645	1026	210											
Volume Left (vph)	46	588	78	27											
Volume Right (vph)	66	45	602	25											
Hadj (s)	0.00	0.09	-0.30	-0.01											
Departure Headway (s)	8.4	8.5	8.1	9.6											
Degree Utilization, x	1.86	3.89	2.31	0.56											
Capacity (veh/h)	431	428	452	366											
Control Delay (s)	414.5	1323.2	616.7	23.9											
Approach Delay (s)	414.5	1323.2	616.7	23.9											
Approach LOS	F	F	F	C											
Intersection Summary															
Delay			855.4												
Level of Service			F												
Intersection Capacity Utilization			195.1%				ICU Level of Service				H				
Analysis Period (min)			15												

Lanes, Volumes, Timings
5: Street G & Old School Road

Future Total 2028 - No GTA West Highway
PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1148	50	11	1435	41	16
Future Volume (vph)	1148	50	11	1435	41	16
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994			0.963		
Flt Protected				0.965		
Satd. Flow (prot)	1872	0	0	1883	1750	0
Flt Permitted				0.965		
Satd. Flow (perm)	1872	0	0	1883	1750	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			794.6	134.3	
Travel Time (s)	18.0			40.9	10.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1248	54	12	1560	45	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1302	0	0	1572	62	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	94.3%
Analysis Period (min)	15
	ICU Level of Service F

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - No GTA West Highway
 5: Street G & Old School Road PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↘	↙
Traffic Volume (veh/h)	1148	50	11	1435	41	16
Future Volume (Veh/h)	1148	50	11	1435	41	16
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)	1248	54	12	1560	45	17
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			1302		2859	1275
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1302		2859	1275
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		0	92
cM capacity (veh/h)			532		18	204
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	1302	1572	62			
Volume Left	0	12	45			
Volume Right	54	0	17			
cSH	1700	532	24			
Volume to Capacity	0.77	0.02	2.56			
Queue Length 95th (m)	0.0	0.5	58.7			
Control Delay (s)	0.0	3.3	1047.0			
Lane LOS		A	F			
Approach Delay (s)	0.0	3.3	1047.0			
Approach LOS			F			
Intersection Summary						
Average Delay			23.9			
Intersection Capacity Utilization			94.3%	ICU Level of Service	F	
Analysis Period (min)			15			

Lanes, Volumes, Timings
6: Street H & Old School Road

Future Total 2028 - No GTA West Highway
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↗	
Traffic Volume (vph)	1110	42	0	2135	33	0
Future Volume (vph)	1110	42	0	2135	33	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 _t	0.995					
Fl _t Protected					0.950	
Satd. Flow (prot)	1874	0	0	1883	1789	0
Fl _t Permitted					0.950	
Satd. Flow (perm)	1874	0	0	1883	1789	0
Link Speed (k/h)	70		70		48	
Link Distance (m)	794.6		213.2		410.2	
Travel Time (s)	40.9		11.0		30.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1207	46	0	2321	36	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1253	0	0	2321	36	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	
Sign Control	Free		Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	122.4%			ICU Level of Service H		
Analysis Period (min)	15					























HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - No GTA West Highway
 6: Street H & Old School Road PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩			↩	↩	
Traffic Volume (veh/h)	1110	42	0	2135	33	0
Future Volume (Veh/h)	1110	42	0	2135	33	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)	1207	46	0	2321	36	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)	213					
pX, platoon unblocked					0.41	
vC, conflicting volume			1253		3551	1230
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1253		6467	1230
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		0	100
cM capacity (veh/h)			555		0	217
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	1253	2321	36			
Volume Left	0	0	36			
Volume Right	46	0	0			
cSH	1700	555	0			
Volume to Capacity	0.74	0.00	1373.12			
Queue Length 95th (m)	0.0	0.0	Err			
Control Delay (s)	0.0	0.0	Err			
Lane LOS			F			
Approach Delay (s)	0.0	0.0	Err			
Approach LOS			F			
Intersection Summary						
Average Delay			99.7			
Intersection Capacity Utilization			122.4%	ICU Level of Service	H	
Analysis Period (min)			15			

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

Future Total 2028 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	666	114	319	310	837	27	578	3691	396	25	1866	625
Future Volume (vph)	666	114	319	310	837	27	578	3691	396	25	1866	625
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		0.889			0.995			0.985			0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1674	0	1789	1874	0	1789	3525	0	1789	3443	0
Flt Permitted	0.148			0.129			0.080			0.087		
Satd. Flow (perm)	279	1674	0	243	1874	0	151	3525	0	164	3443	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		91			1			12			44	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	724	124	347	337	910	29	628	4012	430	27	2028	679
Shared Lane Traffic (%)												
Lane Group Flow (vph)	724	471	0	337	939	0	628	4442	0	27	2707	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	17.0	33.0		21.0	37.0		16.0	56.0		10.0	50.0	
Total Split (%)	14.2%	27.5%		17.5%	30.8%		13.3%	46.7%		8.3%	41.7%	
Maximum Green (s)	13.0	27.0		17.0	31.0		10.0	50.0		4.0	44.0	
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	
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)	42.0	29.0		50.0	33.0		62.0	52.0		52.0	46.0	
Actuated g/C Ratio	0.35	0.24		0.42	0.28		0.52	0.43		0.43	0.38	
v/c Ratio	2.77	1.00		1.05	1.82		2.61	2.90		0.18	2.01	

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

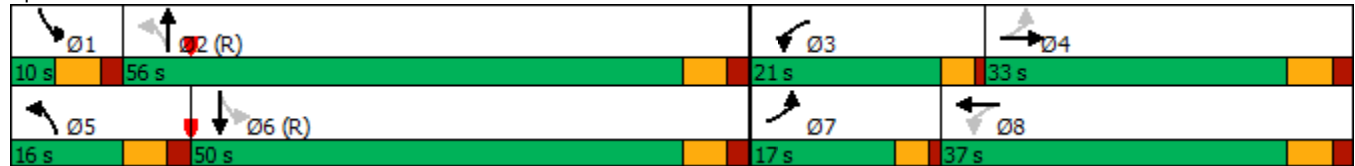
Future Total 2028 - No GTA West Highway
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	826.6	77.5		97.2	404.4		753.3	872.4		17.5	481.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	826.6	77.5		97.2	404.4		753.3	872.4		17.5	481.5	
LOS	F	E		F	F		F	F		B	F	
Approach Delay		531.4			323.3			857.7			476.9	
Approach LOS		F			F			F			F	

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:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.90
Intersection Signal Delay:	652.0
Intersection LOS:	F
Intersection Capacity Utilization	213.9%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Total 2028 - No GTA West Highway
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	724	471	337	939	628	4442	27	2707
v/c Ratio	2.77	1.00	1.05	1.82	2.61	2.90	0.18	2.01
Control Delay	826.6	77.5	97.2	404.4	753.3	872.4	17.5	481.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	826.6	77.5	97.2	404.4	753.3	872.4	17.5	481.5
Queue Length 50th (m)	~277.5	93.3	~69.9	~337.0	~235.8	~959.5	3.0	~526.7
Queue Length 95th (m)	#349.8	#161.5	#127.2	#414.3	#306.0	#985.0	7.6	#566.3
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	261	473	320	516	241	1534	152	1346
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	2.77	1.00	1.05	1.82	2.61	2.90	0.18	2.01

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
7: Hurontario Street & Old School Road

Future Total 2028 - No GTA West Highway
PM Peak Hour










Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	666	114	319	310	837	27	578	3691	396	25	1866	625
Future Volume (vph)	666	114	319	310	837	27	578	3691	396	25	1866	625
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		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	0.89		1.00	1.00		1.00	0.99		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)	1789	1675		1789	1875		1789	3527		1789	3444	
Flt Permitted	0.15	1.00		0.13	1.00		0.08	1.00		0.09	1.00	
Satd. Flow (perm)	279	1675		243	1875		151	3527		164	3444	
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)	724	124	347	337	910	29	628	4012	430	27	2028	679
RTOR Reduction (vph)	0	69	0	0	1	0	0	7	0	0	27	0
Lane Group Flow (vph)	724	402	0	337	938	0	628	4435	0	27	2680	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	40.0	27.0		48.0	31.0		60.0	50.0		48.0	44.0	
Effective Green, g (s)	40.0	29.0		48.0	33.0		62.0	52.0		52.0	46.0	
Actuated g/C Ratio	0.33	0.24		0.40	0.28		0.52	0.43		0.43	0.38	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	256	404		316	515		241	1528		152	1320	
v/s Ratio Prot	c0.31	0.24		c0.15	0.50		c0.26	c1.26		0.01	0.78	
v/s Ratio Perm	c0.63			0.28			1.08			0.07		
v/c Ratio	2.83	1.00		1.07	1.82		2.61	2.90		0.18	2.03	
Uniform Delay, d1	34.1	45.4		35.1	43.5		36.8	34.0		27.0	37.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	833.4	43.6		69.3	377.4		734.5	858.0		2.5	466.3	
Delay (s)	867.5	89.0		104.4	420.9		771.3	892.0		29.6	503.3	
Level of Service	F	F		F	F		F	F		C	F	
Approach Delay (s)		560.7			337.4			877.0			498.6	
Approach LOS		F			F			F			F	

Intersection Summary

HCM 2000 Control Delay	672.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.77		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	213.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
8: Chinguacousy Road & Street A (North)

Future Total 2028 - No GTA West Highway
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	76	948	62	98	679
Future Volume (vph)	29	76	948	62	98	679
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.903		0.992			
Flt Protected	0.986					0.994
Satd. Flow (prot)	1677	0	1868	0	0	1872
Flt Permitted	0.986					0.994
Satd. Flow (perm)	1677	0	1868	0	0	1872
Link Speed (k/h)	48		80			80
Link Distance (m)	81.3		401.8			298.8
Travel Time (s)	6.1		18.1			13.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	83	1030	67	107	738
Shared Lane Traffic (%)						
Lane Group Flow (vph)	115	0	1097	0	0	845
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	111.1%		ICU Level of Service H			
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - No GTA West Highway
 8: Chinguacousy Road & Street A (North) PM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	76	948	62	98	679
Future Volume (Veh/h)	29	76	948	62	98	679
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)	32	83	1030	67	107	738
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	2016	1064			1097	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2016	1064			1097	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	40	69			83	
cM capacity (veh/h)	54	271			636	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	115	1097	845			
Volume Left	32	0	107			
Volume Right	83	67	0			
cSH	127	1700	636			
Volume to Capacity	0.90	0.65	0.17			
Queue Length 95th (m)	44.4	0.0	4.6			
Control Delay (s)	121.1	0.0	4.6			
Lane LOS	F		A			
Approach Delay (s)	121.1	0.0	4.6			
Approach LOS	F					
Intersection Summary						
Average Delay			8.6			
Intersection Capacity Utilization			111.1%	ICU Level of Service	H	
Analysis Period (min)			15			

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

Future Total 2028 - No GTA West Highway
 PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	64	68	99	880	725	23
Future Volume (vph)	64	68	99	880	725	23
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.931			0.996		
Flt Protected	0.976			0.995		
Satd. Flow (prot)	1711	0	0	1874	1876	0
Flt Permitted	0.976			0.995		
Satd. Flow (perm)	1711	0	0	1874	1876	0
Link Speed (k/h)	48			80	80	
Link Distance (m)	150.6			276.3	311.8	
Travel Time (s)	11.3			12.4	14.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	70	74	108	957	788	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	0	1065	813	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	109.1%
ICU Level of Service	H
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - No GTA West Highway
 9: McLaughlin Road & Street C PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	64	68	99	880	725	23
Future Volume (Veh/h)	64	68	99	880	725	23
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)	70	74	108	957	788	25
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	1974	800	813			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1974	800	813			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	81	87			
cM capacity (veh/h)	59	385	814			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	144	1065	813			
Volume Left	70	108	0			
Volume Right	74	0	25			
cSH	105	814	1700			
Volume to Capacity	1.37	0.13	0.48			
Queue Length 95th (m)	77.4	3.5	0.0			
Control Delay (s)	291.1	3.8	0.0			
Lane LOS	F	A				
Approach Delay (s)	291.1	3.8	0.0			
Approach LOS	F					
Intersection Summary						
Average Delay			22.7			
Intersection Capacity Utilization			109.1%	ICU Level of Service	H	
Analysis Period (min)			15			

Lanes, Volumes, Timings
10: Hurontario Street & Street H

Future Total 2028 - No GTA West Highway
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	23	43	4663	2493	3
Future Volume (vph)	3	23	43	4663	2493	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Fr _t	0.879					
Fl _t Protected	0.995					
Satd. Flow (prot)	1647	0	0	3579	3579	0
Fl _t Permitted	0.995					
Satd. Flow (perm)	1647	0	0	3579	3579	0
Link Speed (k/h)	48			70	70	
Link Distance (m)	410.2			640.1	215.3	
Travel Time (s)	30.8			32.9	11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	25	47	5068	2710	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	28	0	0	5115	2713	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)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	169.1%
ICU Level of Service	H
Analysis Period (min)	15










HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - No GTA West Highway
 10: Hurontario Street & Street H PM Peak Hour












Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	23	43	4663	2493	3
Future Volume (Veh/h)	3	23	43	4663	2493	3
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)	3	25	47	5068	2710	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					215	
pX, platoon unblocked	0.63	0.63	0.63			
vC, conflicting volume	5340	1356	2713			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	6738	374	2541			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	94	57			
cM capacity (veh/h)	0	390	108			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	28	1736	3379	1807	906	
Volume Left	3	47	0	0	0	
Volume Right	25	0	0	0	3	
cSH	0	108	1700	1700	1700	
Volume to Capacity	456.76	0.43	1.99	1.06	0.53	
Queue Length 95th (m)	Err	14.1	0.0	0.0	0.0	
Control Delay (s)	Err	61.8	0.0	0.0	0.0	
Lane LOS	F	F				
Approach Delay (s)	Err	21.0		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay	49.3					
Intersection Capacity Utilization	169.1%			ICU Level of Service	H	
Analysis Period (min)	15					

Lanes, Volumes, Timings
 11: Chinguacousy Road & Street A (South)

Future Total 2028 - No GTA West Highway
 PM Peak Hour

















						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	62	948	62	82	626
Future Volume (vph)	29	62	948	62	82	626
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.909		0.992			
Flt Protected	0.984					0.994
Satd. Flow (prot)	1685	0	1868	0	0	1872
Flt Permitted	0.984					0.994
Satd. Flow (perm)	1685	0	1868	0	0	1872
Link Speed (k/h)	48		80			80
Link Distance (m)	156.3		2383.0			401.8
Travel Time (s)	11.7		107.2			18.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	67	1030	67	89	680
Shared Lane Traffic (%)						
Lane Group Flow (vph)	99	0	1097	0	0	769
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	106.6%			ICU Level of Service G		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - No GTA West Highway
 11: Chinguacousy Road & Street A (South) PM Peak Hour

















						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	62	948	62	82	626
Future Volume (Veh/h)	29	62	948	62	82	626
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)	32	67	1030	67	89	680
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	1922	1064			1097	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1922	1064			1097	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	50	75			86	
cM capacity (veh/h)	63	271			636	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	99	1097	769			
Volume Left	32	0	89			
Volume Right	67	67	0			
cSH	132	1700	636			
Volume to Capacity	0.75	0.65	0.14			
Queue Length 95th (m)	33.3	0.0	3.7			
Control Delay (s)	87.7	0.0	3.7			
Lane LOS	F		A			
Approach Delay (s)	87.7	0.0	3.7			
Approach LOS	F					
Intersection Summary						
Average Delay			5.9			
Intersection Capacity Utilization			106.6%		ICU Level of Service	G
Analysis Period (min)			15			

Lanes, Volumes, Timings
12: McLaughlin Road & Street E

Future Total 2028 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	0	52	172	0	27	74	909	239	34	694	65
Future Volume (vph)	42	0	52	172	0	27	74	909	239	34	694	65
Ideal Flow (vphp)	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 _t		0.925			0.982			0.974			0.989	
Fl _t Protected		0.978			0.959			0.997			0.998	
Satd. Flow (prot)	0	1704	0	0	1774	0	0	1829	0	0	1859	0
Fl _t Permitted		0.978			0.959			0.997			0.998	
Satd. Flow (perm)	0	1704	0	0	1774	0	0	1829	0	0	1859	0
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			1359.2			391.4			276.3	
Travel Time (s)		15.4			101.9			17.6			12.4	
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)	46	0	57	187	0	29	80	988	260	37	754	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	0	0	216	0	0	1328	0	0	862	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	115.1%						ICU Level of Service H					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - No GTA West Highway
 12: McLaughlin Road & Street E PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	0	52	172	0	27	74	909	239	34	694	65
Future Volume (Veh/h)	42	0	52	172	0	27	74	909	239	34	694	65
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)	46	0	57	187	0	29	80	988	260	37	754	71
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	2170	2272	790	2198	2177	1118	825			1248		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2170	2272	790	2198	2177	1118	825			1248		
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 %	0	100	85	0	100	88	90			93		
cM capacity (veh/h)	26	34	390	24	39	252	805			558		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	103	216	1328	862								
Volume Left	46	187	80	37								
Volume Right	57	29	260	71								
cSH	54	27	805	558								
Volume to Capacity	1.90	7.87	0.10	0.07								
Queue Length 95th (m)	75.8	Err	2.5	1.6								
Control Delay (s)	588.1	Err	4.1	2.0								
Lane LOS	F	F	A	A								
Approach Delay (s)	588.1	Err	4.1	2.0								
Approach LOS	F	F										
Intersection Summary												
Average Delay			887.8									
Intersection Capacity Utilization			115.1%		ICU Level of Service					H		
Analysis Period (min)			15									

Lanes, Volumes, Timings
13: Hurontario Street & Street E

Future Total 2028 - No GTA West Highway
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	273	512	4684	2493	23
Future Volume (vph)	22	273	512	4684	2493	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.875				0.999	
Flt Protected	0.996			0.995		
Satd. Flow (prot)	1641	0	0	3561	3575	0
Flt Permitted	0.996			0.995		
Satd. Flow (perm)	1641	0	0	3561	3575	0
Link Speed (k/h)	48			70	70	
Link Distance (m)	1359.2			928.0	640.1	
Travel Time (s)	101.9			47.7	32.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	297	557	5091	2710	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	321	0	0	5648	2735	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	242.1%
ICU Level of Service	H
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - No GTA West Highway
 13: Hurontario Street & Street E PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	273	512	4684	2493	23
Future Volume (Veh/h)	22	273	512	4684	2493	23
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)	24	297	557	5091	2710	25
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	6382	1368	2735			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	6382	1368	2735			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	0	0			
cM capacity (veh/h)	0	137	145			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	321	2254	3394	1807	928	
Volume Left	24	557	0	0	0	
Volume Right	297	0	0	0	25	
cSH	0	145	1700	1700	1700	
Volume to Capacity	Err	3.85	2.00	1.06	0.55	
Queue Length 95th (m)	Err	Err	0.0	0.0	0.0	
Control Delay (s)	Err	1347.1	0.0	0.0	0.0	
Lane LOS	F	F				
Approach Delay (s)	Err	537.6		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay				Err		
Intersection Capacity Utilization				242.1%	ICU Level of Service	H
Analysis Period (min)				15		

Lanes, Volumes, Timings
 14: McLaughlin Road & Street F

Future Total 2028 - No GTA West Highway
 PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	42	52	74	1180	853	65
Future Volume (vph)	42	52	74	1180	853	65
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.925				0.990	
Flt Protected	0.978			0.997		
Satd. Flow (prot)	1704	0	0	1878	1865	0
Flt Permitted	0.978			0.997		
Satd. Flow (perm)	1704	0	0	1878	1865	0
Link Speed (k/h)	48			80	80	
Link Distance (m)	171.6			2104.9	391.4	
Travel Time (s)	12.9			94.7	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	57	80	1283	927	71
Shared Lane Traffic (%)						
Lane Group Flow (vph)	103	0	0	1363	998	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)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	130.5%
ICU Level of Service	H
Analysis Period (min)	15























HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - No GTA West Highway
 14: McLaughlin Road & Street F PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	42	52	74	1180	853	65
Future Volume (Veh/h)	42	52	74	1180	853	65
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)	46	57	80	1283	927	71
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	2406	962	998			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2406	962	998			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	82	88			
cM capacity (veh/h)	32	310	693			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	103	1363	998			
Volume Left	46	80	0			
Volume Right	57	0	71			
cSH	64	693	1700			
Volume to Capacity	1.61	0.12	0.59			
Queue Length 95th (m)	69.3	3.0	0.0			
Control Delay (s)	442.9	5.4	0.0			
Lane LOS	F	A				
Approach Delay (s)	442.9	5.4	0.0			
Approach LOS	F					
Intersection Summary						
Average Delay			21.5			
Intersection Capacity Utilization			130.5%	ICU Level of Service	H	
Analysis Period (min)			15			

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

Future Total 2028 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	683	45	357	729	200	65	480	386	90	206	25
Future Volume (vph)	30	683	45	357	729	200	65	480	386	90	206	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.968				0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5096	0	3471	4977	0	1789	1883	1601	1789	1853	0
Flt Permitted	0.272			0.950			0.535			0.284		
Satd. Flow (perm)	512	5096	0	3471	4977	0	1008	1883	1601	535	1853	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			77				420			7
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	33	742	49	388	792	217	71	522	420	98	224	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	791	0	388	1009	0	71	522	420	98	251	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	33.0	33.0		27.0	60.0		60.0	60.0	60.0	60.0		60.0
Total Split (%)	27.5%	27.5%		22.5%	50.0%		50.0%	50.0%	50.0%	50.0%		50.0%
Maximum Green (s)	29.0	29.0		23.0	56.0		56.0	56.0	56.0	56.0		56.0
Yellow Time (s)	3.5	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		0.5
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)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	29.0	29.0		23.0	56.0		56.0	56.0	56.0	56.0		56.0
Actuated g/C Ratio	0.24	0.24		0.19	0.47		0.47	0.47	0.47	0.47		0.47
v/c Ratio	0.27	0.64		0.58	0.43		0.15	0.59	0.43	0.39		0.29

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

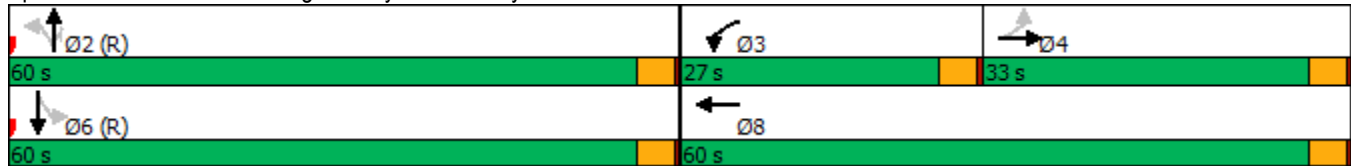
Future Total 2028 - No GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	43.9	43.2		34.7	24.1		19.5	27.1	3.2	26.9	20.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	43.9	43.2		34.7	24.1		19.5	27.1	3.2	26.9	20.3	
LOS	D	D		C	C		B	C	A	C	C	
Approach Delay		43.2			27.1			16.7			22.1	
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:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	27.4
Intersection LOS:	C
Intersection Capacity Utilization	68.0%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

Future Total 2028 - No GTA West Highway

15: Chinguacousy Road & Mayfield Road

PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	33	791	388	1009	71	522	420	98	251
v/c Ratio	0.27	0.64	0.58	0.43	0.15	0.59	0.43	0.39	0.29
Control Delay	43.9	43.2	34.7	24.1	19.5	27.1	3.2	26.9	20.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.9	43.2	34.7	24.1	19.5	27.1	3.2	26.9	20.3
Queue Length 50th (m)	6.3	60.8	47.7	73.5	9.4	88.4	0.0	14.7	34.5
Queue Length 95th (m)	16.3	75.1	m48.8	m72.6	18.6	123.0	16.6	30.0	52.6
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	123	1237	665	2363	470	878	971	249	868
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.64	0.58	0.43	0.15	0.59	0.43	0.39	0.29

Intersection Summary

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

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

Future Total 2028 - No GTA West Highway
 PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑		↘↘	↑↑↑		↘	↑	↘	↘	↑	↘
Traffic Volume (vph)	30	683	45	357	729	200	65	480	386	90	206	25
Future Volume (vph)	30	683	45	357	729	200	65	480	386	90	206	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		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5094		3471	4976		1789	1883	1601	1789	1853	
Flt Permitted	0.27	1.00		0.95	1.00		0.53	1.00	1.00	0.28	1.00	
Satd. Flow (perm)	512	5094		3471	4976		1007	1883	1601	536	1853	
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)	33	742	49	388	792	217	71	522	420	98	224	27
RTOR Reduction (vph)	0	6	0	0	41	0	0	0	224	0	4	0
Lane Group Flow (vph)	33	785	0	388	968	0	71	522	196	98	247	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	29.0	29.0		23.0	56.0		56.0	56.0	56.0	56.0	56.0	
Effective Green, g (s)	29.0	29.0		23.0	56.0		56.0	56.0	56.0	56.0	56.0	
Actuated g/C Ratio	0.24	0.24		0.19	0.47		0.47	0.47	0.47	0.47	0.47	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	123	1231		665	2322		469	878	747	250	864	
v/s Ratio Prot		c0.15		c0.11	0.19			c0.28			0.13	
v/s Ratio Perm	0.06						0.07		0.12	0.18		
v/c Ratio	0.27	0.64		0.58	0.42		0.15	0.59	0.26	0.39	0.29	
Uniform Delay, d1	36.9	40.8		44.1	21.2		18.4	23.6	19.4	20.9	19.7	
Progression Factor	1.00	1.00		0.76	1.22		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.3	2.5		0.9	0.1		0.7	3.0	0.9	4.6	0.8	
Delay (s)	42.2	43.3		34.5	26.0		19.0	26.6	20.3	25.5	20.5	
Level of Service	D	D		C	C		B	C	C	C	C	
Approach Delay (s)		43.3			28.4			23.4			21.9	
Approach LOS		D			C			C			C	

Intersection Summary

HCM 2000 Control Delay	29.8	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)	12.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Total 2028 - No GTA West Highway
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	208	992	71	211	1115	354	140	711	176	197	381	194
Future Volume (vph)	208	992	71	211	1115	354	140	711	176	197	381	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.964				0.850		0.949	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	4957	0	1789	1883	1601	1789	1787	0
Flt Permitted	0.125			0.114			0.160			0.078		
Satd. Flow (perm)	235	5142	1601	215	4957	0	301	1883	1601	147	1787	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82		67				138		27	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	226	1078	77	229	1212	385	152	773	191	214	414	211
Shared Lane Traffic (%)												
Lane Group Flow (vph)	226	1078	77	229	1597	0	152	773	191	214	625	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	15.0	36.0	36.0	18.0	39.0		11.0	53.0	53.0	13.0	55.0	
Total Split (%)	12.5%	30.0%	30.0%	15.0%	32.5%		9.2%	44.2%	44.2%	10.8%	45.8%	
Maximum Green (s)	11.0	32.0	32.0	14.0	35.0		7.0	49.0	49.0	9.0	51.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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	32.0	32.0	49.0	35.0		56.0	49.0	49.0	60.0	51.0	
Actuated g/C Ratio	0.36	0.27	0.27	0.41	0.29		0.47	0.41	0.41	0.50	0.42	
v/c Ratio	1.00	0.79	0.16	0.85	1.07		0.67	1.01	0.26	1.09	0.81	

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

Future Total 2028 - No GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	78.2	39.3	9.8	25.1	69.8		32.2	70.0	8.2	119.8	38.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	78.2	39.3	9.8	25.1	69.8		32.2	70.0	8.2	119.8	38.4	
LOS	E	D	A	C	E		C	E	A	F	D	
Approach Delay		44.0				64.2		54.3			59.2	
Approach LOS		D				E		D			E	

Intersection Summary

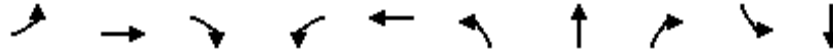
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Pretimed
Maximum v/c Ratio:	1.09
Intersection Signal Delay:	55.8
Intersection LOS:	E
Intersection Capacity Utilization	102.6%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 16: McLaughlin Road & Mayfield Road

Ø1	Ø2 (R)	Ø3	Ø4
13 s	53 s	18 s	36 s
Ø5	Ø6 (R)	Ø7	Ø8
11 s	55 s	15 s	39 s

Queues
16: McLaughlin Road & Mayfield Road

Future Total 2028 - No GTA West Highway
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	226	1078	77	229	1597	152	773	191	214	625
v/c Ratio	1.00	0.79	0.16	0.85	1.07	0.67	1.01	0.26	1.09	0.81
Control Delay	78.2	39.3	9.8	25.1	69.8	32.2	70.0	8.2	119.8	38.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.2	39.3	9.8	25.1	69.8	32.2	70.0	8.2	119.8	38.4
Queue Length 50th (m)	43.0	94.5	5.5	40.3	~150.0	18.2	~181.7	7.5	~41.0	121.9
Queue Length 95th (m)	#86.4	108.6	m15.0	m35.9	m121.5	#32.6	#263.4	22.2	#89.4	171.2
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	226	1371	487	271	1493	227	768	735	196	775
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	1.00	0.79	0.16	0.85	1.07	0.67	1.01	0.26	1.09	0.81

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.

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

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

Future Total 2028 - No GTA West Highway
 PM Peak Hour




































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑	↗	↘	↗	↘
Traffic Volume (vph)	208	992	71	211	1115	354	140	711	176	197	381	194
Future Volume (vph)	208	992	71	211	1115	354	140	711	176	197	381	194
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	4956		1789	1883	1601	1789	1788	
Flt Permitted	0.12	1.00	1.00	0.11	1.00		0.16	1.00	1.00	0.08	1.00	
Satd. Flow (perm)	235	5142	1601	215	4956		301	1883	1601	148	1788	
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)	226	1078	77	229	1212	385	152	773	191	214	414	211
RTOR Reduction (vph)	0	0	56	0	47	0	0	0	82	0	16	0
Lane Group Flow (vph)	226	1078	21	229	1550	0	152	773	109	214	609	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	43.0	32.0	32.0	49.0	35.0		56.0	49.0	49.0	60.0	51.0	
Effective Green, g (s)	43.0	32.0	32.0	49.0	35.0		56.0	49.0	49.0	60.0	51.0	
Actuated g/C Ratio	0.36	0.27	0.27	0.41	0.29		0.47	0.41	0.41	0.50	0.42	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	226	1371	426	271	1445		227	768	653	197	759	
v/s Ratio Prot	c0.09	0.21		c0.10	c0.31		0.04	0.41		c0.08	0.34	
v/s Ratio Perm	0.27		0.01	0.25			0.27		0.07	c0.46		
v/c Ratio	1.00	0.79	0.05	0.85	1.07		0.67	1.01	0.17	1.09	0.80	
Uniform Delay, d1	32.2	40.8	32.7	29.1	42.5		23.5	35.5	22.5	34.3	30.1	
Progression Factor	0.60	0.86	1.37	0.71	0.93		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	56.1	4.1	0.2	3.1	34.1		14.6	34.1	0.6	89.0	8.8	
Delay (s)	75.5	39.0	45.1	23.8	73.8		38.1	69.6	23.1	123.3	38.9	
Level of Service	E	D	D	C	E		D	E	C	F	D	
Approach Delay (s)		45.3			67.5			57.3			60.4	
Approach LOS		D			E			E			E	

Intersection Summary

HCM 2000 Control Delay	58.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	102.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Total 2028 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 		 	 	
Traffic Volume (vph)	503	692	142	263	1084	164	406	857	43	203	894	739
Future Volume (vph)	503	692	142	263	1084	164	406	857	43	203	894	739
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.127			0.307		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	239	3579	1601	578	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			154			98			47			312
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	547	752	154	286	1178	178	441	932	47	221	972	803
Shared Lane Traffic (%)												
Lane Group Flow (vph)	547	752	154	286	1178	178	441	932	47	221	972	803
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2				6
Permitted Phases			4			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	21.0	30.0	30.0	19.0	28.0	28.0	20.0	71.0	71.0	51.0	51.0	51.0
Total Split (%)	17.5%	25.0%	25.0%	15.8%	23.3%	23.3%	16.7%	59.2%	59.2%	42.5%	42.5%	42.5%
Maximum Green (s)	17.0	26.0	26.0	15.0	24.0	24.0	16.0	67.0	67.0	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	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	Lag
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
Act Effct Green (s)	17.0	26.0	26.0	15.0	24.0	24.0	67.0	67.0	67.0	47.0	47.0	47.0
Actuated g/C Ratio	0.14	0.22	0.22	0.12	0.20	0.20	0.56	0.56	0.56	0.39	0.39	0.39
v/c Ratio	1.11	0.68	0.33	0.66	1.15	0.45	1.30	0.47	0.05	0.98	0.69	0.98

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

Future Total 2028 - No GTA West Highway
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	98.2	41.5	19.8	58.1	120.5	23.1	179.9	16.8	3.6	92.1	33.7	50.6
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	98.2	41.5	19.8	58.1	120.5	23.1	179.9	16.8	3.6	92.1	33.7	50.6
LOS	F	D	B	E	F	C	F	B	A	F	C	D
Approach Delay	60.6			99.1			67.0			47.0		
Approach LOS	E			F			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:	140
Control Type:	Pretimed
Maximum v/c Ratio:	1.30
Intersection Signal Delay:	67.5
Intersection LOS:	E
Intersection Capacity Utilization	99.2%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues
17: Hurontario Street & Mayfield Road

Future Total 2028 - No GTA West Highway
PM Peak Hour



























Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	547	752	154	286	1178	178	441	932	47	221	972	803
v/c Ratio	1.11	0.68	0.33	0.66	1.15	0.45	1.30	0.47	0.05	0.98	0.69	0.98
Control Delay	98.2	41.5	19.8	58.1	120.5	23.1	179.9	16.8	3.6	92.1	33.7	50.6
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	98.2	41.5	19.8	58.1	120.5	23.1	179.9	16.8	3.6	92.1	33.7	50.6
Queue Length 50th (m)	~75.4	67.7	20.3	33.6	~119.1	16.0	~107.9	65.7	0.0	50.6	99.4	131.5
Queue Length 95th (m)	m#103.7	m78.7	m27.0	47.8	#147.8	37.3	#170.7	81.4	5.2	#101.3	122.6	#219.4
Internal Link Dist (m)		1381.8			725.9			357.1				585.4
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	491	1114	467	433	1028	398	340	1998	914	226	1401	816
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	1.11	0.68	0.33	0.66	1.15	0.45	1.30	0.47	0.05	0.98	0.69	0.98

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

















HCM Signalized Intersection Capacity Analysis
 17: Hurontario Street & Mayfield Road

Future Total 2028 - No GTA West Highway
 PM Peak Hour

















													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	503	692	142	263	1084	164	406	857	43	203	894	739	
Future Volume (vph)	503	692	142	263	1084	164	406	857	43	203	894	739	
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	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.13	1.00	1.00	0.31	1.00	1.00	
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	240	3579	1601	577	3579	1601	
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)	547	752	154	286	1178	178	441	932	47	221	972	803	
RTOR Reduction (vph)	0	0	121	0	0	78	0	0	21	0	0	190	
Lane Group Flow (vph)	547	752	33	286	1178	100	441	932	26	221	972	613	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	
Protected Phases	7	4		3	8		5	2				6	
Permitted Phases			4			8	2		2	6		6	
Actuated Green, G (s)	17.0	26.0	26.0	15.0	24.0	24.0	67.0	67.0	67.0	47.0	47.0	47.0	
Effective Green, g (s)	17.0	26.0	26.0	15.0	24.0	24.0	67.0	67.0	67.0	47.0	47.0	47.0	
Actuated g/C Ratio	0.14	0.22	0.22	0.12	0.20	0.20	0.56	0.56	0.56	0.39	0.39	0.39	
Clearance Time (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	
Lane Grp Cap (vph)	491	1114	346	433	1028	320	340	1998	893	225	1401	627	
v/s Ratio Prot	c0.16	0.15		0.08	c0.23		c0.17	0.26				0.27	
v/s Ratio Perm			0.02			0.06	c0.55		0.02	0.38		0.38	
v/c Ratio	1.11	0.68	0.10	0.66	1.15	0.31	1.30	0.47	0.03	0.98	0.69	0.98	
Uniform Delay, d1	51.5	43.1	37.6	50.1	48.0	40.9	30.4	15.8	11.9	36.1	30.5	36.0	
Progression Factor	0.57	0.91	3.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	68.2	2.1	0.3	7.7	77.3	2.5	153.8	0.8	0.1	55.6	2.9	30.9	
Delay (s)	97.4	41.3	113.5	57.8	125.3	43.5	184.2	16.6	12.0	91.7	33.3	66.9	
Level of Service	F	D	F	E	F	D	F	B	B	F	C	E	
Approach Delay (s)		70.0			104.7			68.5			53.3		
Approach LOS		E			F			E			D		
Intersection Summary													
HCM 2000 Control Delay			73.3									HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio			1.26										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			99.2%									ICU Level of Service	F
Analysis Period (min)			15										
c Critical Lane Group													

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

Future Background 2033 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	220	18	127	128	40	9	246	232	35	329	1
Future Volume (vph)	8	220	18	127	128	40	9	246	232	35	329	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.982			0.936				
Flt Protected		0.998			0.979			0.999			0.995	
Satd. Flow (prot)	0	1861	0	0	1811	0	0	1761	0	0	1874	0
Flt Permitted		0.998			0.979			0.999			0.995	
Satd. Flow (perm)	0	1861	0	0	1811	0	0	1761	0	0	1874	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	0.92	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)	9	239	20	138	139	43	10	267	252	38	358	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	268	0	0	320	0	0	529	0	0	397	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	76.1%						ICU Level of Service D					
Analysis Period (min)	15											

















HCM Unsignalized Intersection Capacity Analysis - Future Background 2033 - No GTA West Highway
 1: Chinguacousy Road & Old School Road 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)	8	220	18	127	128	40	9	246	232	35	329	1
Future Volume (vph)	8	220	18	127	128	40	9	246	232	35	329	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
Hourly flow rate (vph)	9	239	20	138	139	43	10	267	252	38	358	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	268	320	529	397								
Volume Left (vph)	9	138	10	38								
Volume Right (vph)	20	43	252	1								
Hadj (s)	0.00	0.04	-0.25	0.05								
Departure Headway (s)	8.7	8.4	7.7	8.1								
Degree Utilization, x	0.64	0.75	1.13	0.89								
Capacity (veh/h)	388	404	468	430								
Control Delay (s)	26.1	32.8	109.8	48.7								
Approach Delay (s)	26.1	32.8	109.8	48.7								
Approach LOS	D	D	F	E								
Intersection Summary												
Delay			62.7									
Level of Service			F									
Intersection Capacity Utilization			76.1%	ICU Level of Service	D							
Analysis Period (min)			15									

















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

Future Background 2033 - No GTA West Highway

AM Peak Hour























												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	331	109	203	247	20	39	91	336	20	293	10
Future Volume (vph)	47	331	109	203	247	20	39	91	336	20	293	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
Frt		0.970			0.994			0.903			0.996	
Flt Protected		0.995			0.979			0.996			0.997	
Satd. Flow (prot)	0	1818	0	0	1833	0	0	1694	0	0	1870	0
Flt Permitted		0.995			0.979			0.996			0.997	
Satd. Flow (perm)	0	1818	0	0	1833	0	0	1694	0	0	1870	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	51	360	118	221	268	22	42	99	365	22	318	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	529	0	0	511	0	0	506	0	0	351	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	100.7%						ICU Level of Service G					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis - Future Background 2033 - No GTA West Highway
 4: McLaughlin Road & Old School Road 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)	47	331	109	203	247	20	39	91	336	20	293	10
Future Volume (vph)	47	331	109	203	247	20	39	91	336	20	293	10
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)	51	360	118	221	268	22	42	99	365	22	318	11
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	529	511	506	351								
Volume Left (vph)	51	221	42	22								
Volume Right (vph)	118	22	365	11								
Hadj (s)	-0.08	0.09	-0.38	0.03								
Departure Headway (s)	9.3	9.5	9.0	9.6								
Degree Utilization, x	1.37	1.35	1.27	0.94								
Capacity (veh/h)	394	387	406	369								
Control Delay (s)	207.9	199.7	165.9	63.2								
Approach Delay (s)	207.9	199.7	165.9	63.2								
Approach LOS	F	F	F	F								
Intersection Summary												
Delay			167.7									
Level of Service			F									
Intersection Capacity Utilization			100.7%	ICU Level of Service	G							
Analysis Period (min)			15									

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

Future Background 2033 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	511	121	111	383	102	14	40	1689	153	20	3105	269
Future Volume (vph)	511	121	111	383	102	14	40	1689	153	20	3105	269
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			0.982			0.988			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1748	0	1789	1850	0	1789	3536	0	1789	3536	0
Flt Permitted	0.538			0.427			0.070			0.070		
Satd. Flow (perm)	1013	1748	0	804	1850	0	132	3536	0	132	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			5			11			10	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	555	132	121	416	111	15	43	1836	166	22	3375	292
Shared Lane Traffic (%)												
Lane Group Flow (vph)	555	253	0	416	126	0	43	2002	0	22	3667	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	17.0	35.0		14.0	32.0		10.0	61.0		10.0	61.0	
Total Split (%)	14.2%	29.2%		11.7%	26.7%		8.3%	50.8%		8.3%	50.8%	
Maximum Green (s)	13.0	29.0		10.0	26.0		4.0	55.0		4.0	55.0	
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	
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)	44.0	31.0		38.0	28.0		63.0	57.0		63.0	57.0	
Actuated g/C Ratio	0.37	0.26		0.32	0.23		0.52	0.48		0.52	0.48	
v/c Ratio	1.22	0.53		1.24	0.29		0.28	1.19		0.14	2.18	

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

Future Background 2033 - No GTA West Highway

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	149.7	37.0		162.0	38.4		16.9	121.1		14.1	553.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	149.7	37.0		162.0	38.4		16.9	121.1		14.1	553.4	
LOS	F	D		F	D		B	F		B	F	
Approach Delay		114.4			133.3			118.9			550.2	
Approach LOS		F			F			F			F	

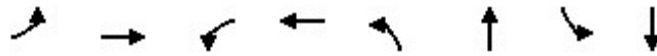
Intersection Summary

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:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.18
Intersection Signal Delay:	344.1
Intersection LOS:	F
Intersection Capacity Utilization	138.9%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	555	253	416	126	43	2002	22	3667
v/c Ratio	1.22	0.53	1.24	0.29	0.28	1.19	0.14	2.18
Control Delay	149.7	37.0	162.0	38.4	16.9	121.1	14.1	553.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	149.7	37.0	162.0	38.4	16.9	121.1	14.1	553.4
Queue Length 50th (m)	~151.0	43.7	~103.1	23.5	4.4	~299.5	2.2	~736.4
Queue Length 95th (m)	#226.5	69.6	#182.1	40.6	9.6	#342.3	6.0	#769.2
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	455	479	336	435	152	1685	152	1684
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	1.22	0.53	1.24	0.29	0.28	1.19	0.14	2.18

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 Future Background 2033 - No GTA West Highway
 7: Hurontario Street & Old School Road AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	511	121	111	383	102	14	40	1689	153	20	3105	269
Future Volume (vph)	511	121	111	383	102	14	40	1689	153	20	3105	269
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		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	0.93		1.00	0.98		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)	1789	1748		1789	1850		1789	3534		1789	3536	
Flt Permitted	0.54	1.00		0.43	1.00		0.07	1.00		0.07	1.00	
Satd. Flow (perm)	1013	1748		805	1850		132	3534		132	3536	
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)	555	132	121	416	111	15	43	1836	166	22	3375	292
RTOR Reduction (vph)	0	27	0	0	4	0	0	6	0	0	5	0
Lane Group Flow (vph)	555	226	0	416	122	0	43	1996	0	22	3662	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.0	29.0		36.0	26.0		59.0	55.0		59.0	55.0	
Effective Green, g (s)	42.0	31.0		36.0	28.0		63.0	57.0		63.0	57.0	
Actuated g/C Ratio	0.35	0.26		0.30	0.23		0.52	0.48		0.52	0.48	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	438	451		323	431		152	1678		152	1679	
v/s Ratio Prot	c0.14	0.13		0.11	0.07		c0.01	0.56		0.01	c1.04	
v/s Ratio Perm	c0.31			0.28			0.13			0.07		
v/c Ratio	1.27	0.50		1.29	0.28		0.28	1.19		0.14	2.18	
Uniform Delay, d1	37.8	37.9		40.7	37.8		25.8	31.5		25.5	31.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	137.3	3.9		151.0	1.6		4.6	91.6		2.0	533.4	
Delay (s)	175.1	41.8		191.7	39.4		30.5	123.1		27.5	564.9	
Level of Service	F	D		F	D		C	F		C	F	
Approach Delay (s)		133.4			156.3			121.2			561.7	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	354.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	138.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Background 2033 - No GTA West Highway
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	854	126	221	616	34	28	153	157	107	314	19
Future Volume (vph)	16	854	126	221	616	34	28	153	157	107	314	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.992				0.850		0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5044	0	3471	5101	0	1789	1883	1601	1789	1866	0
Flt Permitted	0.371			0.950			0.402			0.614		
Satd. Flow (perm)	699	5044	0	3471	5101	0	757	1883	1601	1156	1866	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			10				171			3
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5			2383.0	
Travel Time (s)		14.1			73.0			15.5			107.2	
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)	17	928	137	240	670	37	30	166	171	116	341	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	1065	0	240	707	0	30	166	171	116	362	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0	20.0	
Total Split (s)	39.0	39.0		26.0	65.0		55.0	55.0	55.0	55.0	55.0	
Total Split (%)	32.5%	32.5%		21.7%	54.2%		45.8%	45.8%	45.8%	45.8%	45.8%	
Maximum Green (s)	35.0	35.0		22.0	61.0		51.0	51.0	51.0	51.0	51.0	
Yellow Time (s)	3.5	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	0.5	
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)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	35.0	35.0		22.0	61.0		51.0	51.0	51.0	51.0	51.0	
Actuated g/C Ratio	0.29	0.29		0.18	0.51		0.42	0.42	0.42	0.42	0.42	
v/c Ratio	0.08	0.72		0.38	0.27		0.09	0.21	0.22	0.24	0.46	

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

Future Background 2033 - No GTA West Highway

AM Peak Hour

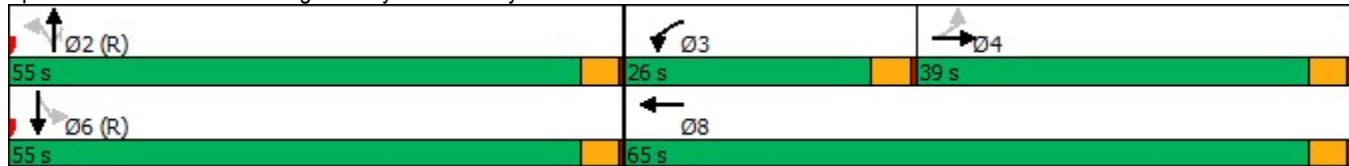


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	32.4	40.4		45.0	16.9		21.8	22.6	3.8	23.7	26.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	32.4	40.4		45.0	16.9		21.8	22.6	3.8	23.7	26.7	
LOS	C	D		D	B		C	C	A	C	C	
Approach Delay		40.3			24.0			13.8			26.0	
Approach 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:	0.72
Intersection Signal Delay:	29.2
Intersection LOS:	C
Intersection Capacity Utilization	60.0%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

Future Background 2033 - No GTA West Highway

15: Chinguacousy Road & Mayfield Road

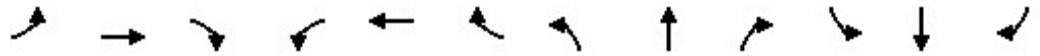
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	17	1065	240	707	30	166	171	116	362
v/c Ratio	0.08	0.72	0.38	0.27	0.09	0.21	0.22	0.24	0.46
Control Delay	32.4	40.4	45.0	16.9	21.8	22.6	3.8	23.7	26.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.4	40.4	45.0	16.9	21.8	22.6	3.8	23.7	26.7
Queue Length 50th (m)	2.9	80.5	25.8	33.1	4.2	24.2	0.0	17.1	59.2
Queue Length 95th (m)	8.8	96.5	38.0	41.3	10.4	39.1	12.5	30.6	85.4
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	203	1487	636	2597	321	800	778	491	794
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.72	0.38	0.27	0.09	0.21	0.22	0.24	0.46

Intersection Summary

HCM Signalized Intersection Capacity Analysis Future Background 2033 - No GTA West Highway
 15: Chinguacousy Road & Mayfield Road AM Peak Hour































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖↗	↑↑↑		↖	↑	↗	↖	↑	↗
Traffic Volume (vph)	16	854	126	221	616	34	28	153	157	107	314	19
Future Volume (vph)	16	854	126	221	616	34	28	153	157	107	314	19
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	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5043		3471	5101		1789	1883	1601	1789	1867	
Flt Permitted	0.37	1.00		0.95	1.00		0.40	1.00	1.00	0.61	1.00	
Satd. Flow (perm)	699	5043		3471	5101		758	1883	1601	1156	1867	
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)	17	928	137	240	670	37	30	166	171	116	341	21
RTOR Reduction (vph)	0	16	0	0	5	0	0	0	98	0	2	0
Lane Group Flow (vph)	17	1049	0	240	702	0	30	166	73	116	360	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	35.0	35.0		22.0	61.0		51.0	51.0	51.0	51.0	51.0	
Effective Green, g (s)	35.0	35.0		22.0	61.0		51.0	51.0	51.0	51.0	51.0	
Actuated g/C Ratio	0.29	0.29		0.18	0.51		0.42	0.42	0.42	0.42	0.42	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	203	1470		636	2593		322	800	680	491	793	
v/s Ratio Prot		c0.21		c0.07	0.14			0.09			c0.19	
v/s Ratio Perm	0.02						0.04		0.05	0.10		
v/c Ratio	0.08	0.71		0.38	0.27		0.09	0.21	0.11	0.24	0.45	
Uniform Delay, d1	30.9	38.0		43.0	16.8		20.7	21.8	20.8	22.1	24.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	3.0		1.7	0.3		0.6	0.6	0.3	1.1	1.9	
Delay (s)	31.7	41.0		44.7	17.1		21.2	22.3	21.1	23.2	26.5	
Level of Service	C	D		D	B		C	C	C	C	C	
Approach Delay (s)		40.8			24.1			21.7			25.7	
Approach LOS		D			C			C			C	

Intersection Summary		
HCM 2000 Control Delay	30.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.52	C
Actuated Cycle Length (s)	120.0	Sum of lost time (s)
Intersection Capacity Utilization	60.0%	12.0
Analysis Period (min)	15	ICU Level of Service
		B
c Critical Lane Group		

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

Future Background 2033 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (vph)	11	1075	133	212	841	75	48	214	164	242	434	66
Future Volume (vph)	11	1075	133	212	841	75	48	214	164	242	434	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.988				0.850		0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	5080	0	1789	3579	1601	1789	1846	0
Flt Permitted	0.153			0.108			0.414			0.534		
Satd. Flow (perm)	288	5142	1601	203	5080	0	780	3579	1601	1006	1846	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		11				178			8
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	1168	145	230	914	82	52	233	178	263	472	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	1168	145	230	996	0	52	233	178	263	544	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	12.0	37.0	37.0	18.0	43.0		8.0	53.0	53.0	28.0	73.0	
Total Split (%)	8.8%	27.2%	27.2%	13.2%	31.6%		5.9%	39.0%	39.0%	20.6%	53.7%	
Maximum Green (s)	8.0	33.0	33.0	14.0	39.0		4.0	49.0	49.0	24.0	69.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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	33.0	33.0	51.0	39.0		53.0	49.0	49.0	77.0	69.0	
Actuated g/C Ratio	0.30	0.24	0.24	0.38	0.29		0.39	0.36	0.36	0.57	0.51	
v/c Ratio	0.07	0.94	0.30	0.96	0.68		0.16	0.18	0.26	0.37	0.58	

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

Future Background 2033 - No GTA West Highway
 AM Peak Hour

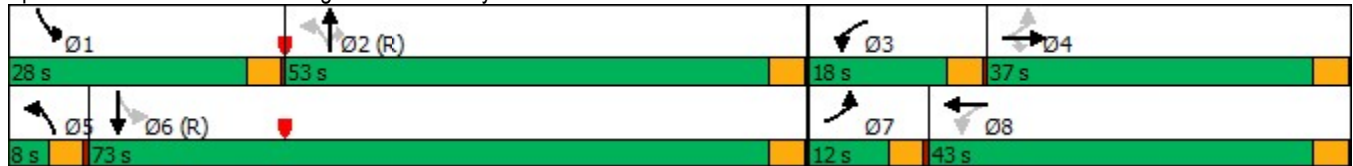


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	28.1	64.7	9.4	85.4	45.3		16.7	30.3	5.0	16.7	26.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	28.1	64.7	9.4	85.4	45.3		16.7	30.3	5.0	16.7	26.1	
LOS	C	E	A	F	D		B	C	A	B	C	
Approach Delay		58.3			52.8			19.0			23.0	
Approach LOS		E			D			B			C	

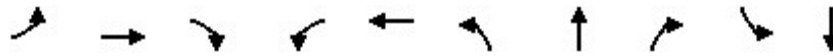
Intersection Summary

Area Type:	Other
Cycle Length:	136
Actuated Cycle Length:	136
Offset:	120 (88%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.96
Intersection Signal Delay:	44.3
Intersection LOS:	D
Intersection Capacity Utilization	76.0%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road































Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	12	1168	145	230	996	52	233	178	263	544
v/c Ratio	0.07	0.94	0.30	0.96	0.68	0.16	0.18	0.26	0.37	0.58
Control Delay	28.1	64.7	9.4	85.4	45.3	16.7	30.3	5.0	16.7	26.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.1	64.7	9.4	85.4	45.3	16.7	30.3	5.0	16.7	26.1
Queue Length 50th (m)	2.0	113.4	1.9	46.4	86.1	6.0	22.4	0.0	34.5	97.7
Queue Length 95th (m)	6.3	#140.3	18.6	#97.6	102.0	12.1	32.3	15.2	50.4	132.7
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	175	1247	491	239	1464	333	1289	690	707	940
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	0.07	0.94	0.30	0.96	0.68	0.16	0.18	0.26	0.37	0.58

Intersection Summary

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


































HCM Signalized Intersection Capacity Analysis Future Background 2033 - No GTA West Highway
 16: McLaughlin Road & Mayfield Road AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (vph)	11	1075	133	212	841	75	48	214	164	242	434	66
Future Volume (vph)	11	1075	133	212	841	75	48	214	164	242	434	66
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	5078		1789	3579	1601	1789	1846	
Flt Permitted	0.15	1.00	1.00	0.11	1.00		0.41	1.00	1.00	0.53	1.00	
Satd. Flow (perm)	288	5142	1601	204	5078		779	3579	1601	1005	1846	
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)	12	1168	145	230	914	82	52	233	178	263	472	72
RTOR Reduction (vph)	0	0	103	0	8	0	0	0	114	0	4	0
Lane Group Flow (vph)	12	1168	42	230	988	0	52	233	64	263	540	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	41.0	33.0	33.0	51.0	39.0		53.0	49.0	49.0	77.0	69.0	
Effective Green, g (s)	41.0	33.0	33.0	51.0	39.0		53.0	49.0	49.0	77.0	69.0	
Actuated g/C Ratio	0.30	0.24	0.24	0.38	0.29		0.39	0.36	0.36	0.57	0.51	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	175	1247	388	239	1456		333	1289	576	707	936	
v/s Ratio Prot	0.00	0.23		c0.10	0.19		0.00	0.07		c0.07	c0.29	
v/s Ratio Perm	0.02		0.03	c0.26			0.06		0.04	0.14		
v/c Ratio	0.07	0.94	0.11	0.96	0.68		0.16	0.18	0.11	0.37	0.58	
Uniform Delay, d1	34.2	50.5	40.1	38.0	43.0		26.2	29.8	29.0	15.2	23.3	
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	0.8	14.2	0.6	49.3	2.6		1.0	0.3	0.4	1.5	2.6	
Delay (s)	35.0	64.7	40.6	87.2	45.5		27.2	30.1	29.4	16.7	25.9	
Level of Service	C	E	D	F	D		C	C	C	B	C	
Approach Delay (s)		61.8			53.3			29.5			22.9	
Approach LOS		E			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			47.0			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			136.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			76.0%			ICU Level of Service				D		
Analysis Period (min)			15									
c	Critical Lane Group											

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

Future Background 2033 - No GTA West Highway

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 		 	 	
Traffic Volume (vph)	175	1138	90	213	646	230	86	601	103	504	983	194
Future Volume (vph)	175	1138	90	213	646	230	86	601	103	504	983	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.268			0.159		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	505	3579	1601	299	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			111			250			112			211
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	190	1237	98	232	702	250	93	653	112	548	1068	211
Shared Lane Traffic (%)												
Lane Group Flow (vph)	190	1237	98	232	702	250	93	653	112	548	1068	211
Enter Blocked Intersection	No	No	No	No	No	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	Prot	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			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	16.0	36.0	36.0	13.0	33.0	33.0	13.0	37.0	37.0	42.0	66.0	66.0
Total Split (%)	12.5%	28.1%	28.1%	10.2%	25.8%	25.8%	10.2%	28.9%	28.9%	32.8%	51.6%	51.6%
Maximum Green (s)	12.0	32.0	32.0	9.0	29.0	29.0	9.0	33.0	33.0	38.0	62.0	62.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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
Act Effct Green (s)	12.0	32.0	32.0	9.0	29.0	29.0	42.0	33.0	33.0	75.0	62.0	62.0
Actuated g/C Ratio	0.09	0.25	0.25	0.07	0.23	0.23	0.33	0.26	0.26	0.59	0.48	0.48
v/c Ratio	0.58	0.96	0.20	0.95	0.60	0.45	0.36	0.71	0.23	0.89	0.62	0.24

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

Future Background 2033 - No GTA West Highway

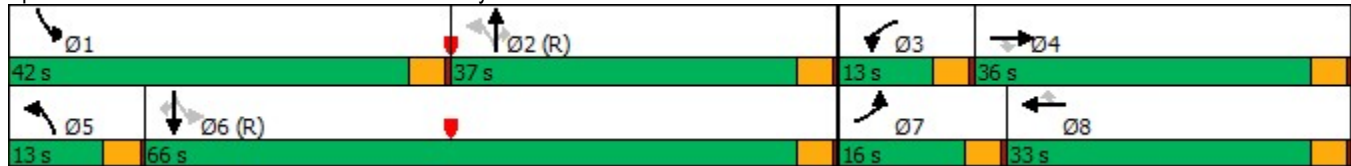
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	63.5	65.1	6.2	105.3	46.9	7.6	21.3	48.1	7.7	46.7	26.2	3.0
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	63.5	65.1	6.2	105.3	46.9	7.6	21.3	48.1	7.7	46.7	26.2	3.0
LOS	E	E	A	F	D	A	C	D	A	D	C	A
Approach Delay	61.1			50.0			39.9			29.7		
Approach LOS	E			D			D			C		

Intersection Summary

Area Type:	Other
Cycle Length:	128
Actuated Cycle Length:	128
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	75
Control Type:	Pretimed
Maximum v/c Ratio:	0.96
Intersection Signal Delay:	44.7
Intersection LOS:	D
Intersection Capacity Utilization	85.9%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues

Future Background 2033 - No GTA West Highway

17: Hurontario Street & Mayfield Road

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	190	1237	98	232	702	250	93	653	112	548	1068	211
v/c Ratio	0.58	0.96	0.20	0.95	0.60	0.45	0.36	0.71	0.23	0.89	0.62	0.24
Control Delay	63.5	65.1	6.2	105.3	46.9	7.6	21.3	48.1	7.7	46.7	26.2	3.0
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	63.5	65.1	6.2	105.3	46.9	7.6	21.3	48.1	7.7	46.7	26.2	3.0
Queue Length 50th (m)	24.0	113.4	0.0	30.5	58.4	0.0	9.7	79.0	0.0	106.5	101.5	0.0
Queue Length 95th (m)	36.3	#143.3	10.8	#55.8	72.1	20.8	17.3	99.9	14.2	#170.0	123.1	12.5
Internal Link Dist (m)		1381.8			725.9			357.1			585.4	
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	325	1285	483	244	1164	556	255	922	495	617	1733	884
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	0.96	0.20	0.95	0.60	0.45	0.36	0.71	0.23	0.89	0.62	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 Future Background 2033 - No GTA West Highway
 17: Hurontario Street & Mayfield Road AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	175	1138	90	213	646	230	86	601	103	504	983	194	
Future Volume (vph)	175	1138	90	213	646	230	86	601	103	504	983	194	
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	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.27	1.00	1.00	0.16	1.00	1.00	
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	504	3579	1601	300	3579	1601	
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)	190	1237	98	232	702	250	93	653	112	548	1068	211	
RTOR Reduction (vph)	0	0	74	0	0	193	0	0	83	0	0	109	
Lane Group Flow (vph)	190	1237	25	232	702	57	93	653	29	548	1068	102	
Turn Type	Prot	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			8	2		2	6		6	
Actuated Green, G (s)	12.0	32.0	32.0	9.0	29.0	29.0	42.0	33.0	33.0	75.0	62.0	62.0	
Effective Green, g (s)	12.0	32.0	32.0	9.0	29.0	29.0	42.0	33.0	33.0	75.0	62.0	62.0	
Actuated g/C Ratio	0.09	0.25	0.25	0.07	0.23	0.23	0.33	0.26	0.26	0.59	0.48	0.48	
Clearance Time (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	
Lane Grp Cap (vph)	325	1285	400	244	1164	362	255	922	412	617	1733	775	
v/s Ratio Prot	0.05	c0.24		c0.07	0.14		0.03	0.18		c0.26	0.30		
v/s Ratio Perm			0.02			0.04	0.09		0.02	c0.26		0.06	
v/c Ratio	0.58	0.96	0.06	0.95	0.60	0.16	0.36	0.71	0.07	0.89	0.62	0.13	
Uniform Delay, d1	55.6	47.4	36.6	59.3	44.3	39.7	30.5	43.1	35.9	30.5	24.3	18.2	
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	7.5	17.6	0.3	46.2	2.3	0.9	4.0	4.6	0.3	17.3	1.7	0.4	
Delay (s)	63.1	65.0	36.9	105.5	46.7	40.6	34.5	47.7	36.2	47.8	25.9	18.5	
Level of Service	E	E	D	F	D	D	C	D	D	D	C	B	
Approach Delay (s)		63.0			56.9			44.8			31.6		
Approach LOS		E			E			D			C		
Intersection Summary													
HCM 2000 Control Delay			48.1									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.94										
Actuated Cycle Length (s)			128.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			85.9%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

















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

Future Background 2033 - No GTA West Highway

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	145	4	263	288	57	10	473	307	34	233	2
Future Volume (vph)	6	145	4	263	288	57	10	473	307	34	233	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.997			0.987			0.948			0.999	
Fl _t Protected		0.998			0.979			0.999			0.994	
Satd. Flow (prot)	0	1874	0	0	1820	0	0	1784	0	0	1870	0
Fl _t Permitted		0.998			0.979			0.999			0.994	
Satd. Flow (perm)	0	1874	0	0	1820	0	0	1784	0	0	1870	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	0.92	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)	7	158	4	286	313	62	11	514	334	37	253	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	169	0	0	661	0	0	859	0	0	292	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	96.8%						ICU Level of Service F					
Analysis Period (min)	15											

















HCM Unsignalized Intersection Capacity Analysis - Background 2033 - No GTA West Highway
 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)	6	145	4	263	288	57	10	473	307	34	233	2
Future Volume (vph)	6	145	4	263	288	57	10	473	307	34	233	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	158	4	286	313	62	11	514	334	37	253	2
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	169	661	859	292								
Volume Left (vph)	7	286	11	37								
Volume Right (vph)	4	62	334	2								
Hadj (s)	0.03	0.06	-0.20	0.06								
Departure Headway (s)	8.7	7.5	7.2	8.1								
Degree Utilization, x	0.41	1.37	1.72	0.66								
Capacity (veh/h)	396	478	503	432								
Control Delay (s)	17.6	203.1	352.5	25.2								
Approach Delay (s)	17.6	203.1	352.5	25.2								
Approach LOS	C	F	F	D								
Intersection Summary												
Delay			225.8									
Level of Service			F									
Intersection Capacity Utilization			96.8%	ICU Level of Service	F							
Analysis Period (min)			15									

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

Future Background 2033 - No GTA West Highway

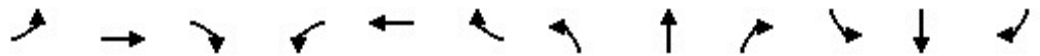
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	392	64	373	529	25	74	304	385	9	99	5
Future Volume (vph)	30	392	64	373	529	25	74	304	385	9	99	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
Frt		0.982			0.996			0.932			0.995	
Flt Protected		0.997			0.980			0.995			0.996	
Satd. Flow (prot)	0	1844	0	0	1838	0	0	1747	0	0	1867	0
Flt Permitted		0.997			0.980			0.995			0.996	
Satd. Flow (perm)	0	1844	0	0	1838	0	0	1747	0	0	1867	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	33	426	70	405	575	27	80	330	418	10	108	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	529	0	0	1007	0	0	828	0	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)		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	136.5%
ICU Level of Service	H
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis - Future Background 2033 - No GTA West Highway
 4: 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)	30	392	64	373	529	25	74	304	385	9	99	5
Future Volume (vph)	30	392	64	373	529	25	74	304	385	9	99	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
Hourly flow rate (vph)	33	426	70	405	575	27	80	330	418	10	108	5

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	529	1007	828	123
Volume Left (vph)	33	405	80	10
Volume Right (vph)	70	27	418	5
Hadj (s)	-0.03	0.10	-0.25	0.03
Departure Headway (s)	7.8	7.9	7.6	9.6
Degree Utilization, x	1.15	2.22	1.74	0.33
Capacity (veh/h)	452	463	480	371
Control Delay (s)	115.0	573.0	362.2	17.2
Approach Delay (s)	115.0	573.0	362.2	17.2
Approach LOS	F	F	F	C

Intersection Summary			
Delay		377.9	
Level of Service		F	
Intersection Capacity Utilization	136.5%	ICU Level of Service	H
Analysis Period (min)		15	

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

Future Background 2033 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	620	104	46	313	877	28	118	3776	398	27	1891	575
Future Volume (vph)	620	104	46	313	877	28	118	3776	398	27	1891	575
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		0.954			0.995			0.986			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1797	0	1789	1874	0	1789	3528	0	1789	3453	0
Flt Permitted	0.114			0.477			0.065			0.069		
Satd. Flow (perm)	215	1797	0	898	1874	0	122	3528	0	130	3453	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			1			10			31	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	674	113	50	340	953	30	128	4104	433	29	2055	625
Shared Lane Traffic (%)												
Lane Group Flow (vph)	674	163	0	340	983	0	128	4537	0	29	2680	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	23.0	41.0		26.0	44.0		21.0	73.0		10.0	62.0	
Total Split (%)	15.3%	27.3%		17.3%	29.3%		14.0%	48.7%		6.7%	41.3%	
Maximum Green (s)	19.0	35.0		22.0	38.0		15.0	67.0		4.0	56.0	
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	
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)	56.0	37.0		62.0	40.0		79.0	69.0		64.0	58.0	
Actuated g/C Ratio	0.37	0.25		0.41	0.27		0.53	0.46		0.43	0.39	
v/c Ratio	2.42	0.36		0.68	1.97		0.51	2.79		0.24	1.98	

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

Future Background 2033 - No GTA West Highway

PM Peak Hour

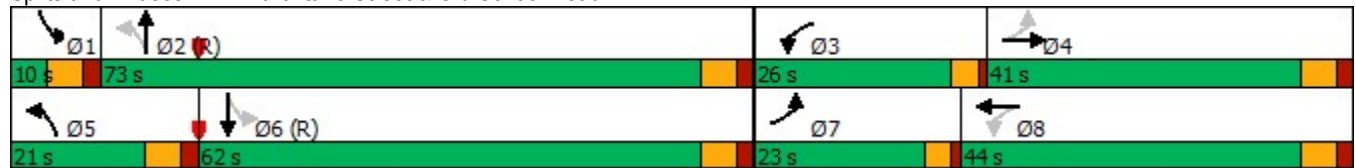


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	669.9	45.2		39.3	471.1		33.8	824.8		23.1	469.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	669.9	45.2		39.3	471.1		33.8	824.8		23.1	469.8	
LOS	F	D		D	F		C	F		C	F	
Approach Delay		548.3			360.1			803.1			465.0	
Approach LOS		F			F			F			F	

Intersection Summary

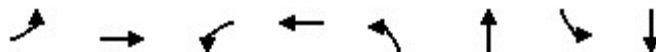
Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.79
Intersection Signal Delay:	623.2
Intersection LOS:	F
Intersection Capacity Utilization	209.3%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Background 2033 - No GTA West Highway
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	674	163	340	983	128	4537	29	2680
v/c Ratio	2.42	0.36	0.68	1.97	0.51	2.79	0.24	1.98
Control Delay	669.9	45.2	39.3	471.1	33.8	824.8	23.1	469.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	669.9	45.2	39.3	471.1	33.8	824.8	23.1	469.8
Queue Length 50th (m)	~315.9	36.8	71.8	~455.7	19.8	~1220.1	4.1	~652.7
Queue Length 95th (m)	#391.5	58.5	99.8	#536.3	41.5	#1231.6	9.3	#687.8
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	279	453	501	500	253	1628	121	1354
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	2.42	0.36	0.68	1.97	0.51	2.79	0.24	1.98

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 - Future Background 2033 - No GTA West Highway
 7: 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)	620	104	46	313	877	28	118	3776	398	27	1891	575
Future Volume (vph)	620	104	46	313	877	28	118	3776	398	27	1891	575
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		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	0.95		1.00	1.00		1.00	0.99		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)	1789	1797		1789	1875		1789	3527		1789	3453	
Flt Permitted	0.11	1.00		0.48	1.00		0.06	1.00		0.07	1.00	
Satd. Flow (perm)	215	1797		899	1875		122	3527		130	3453	
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)	674	113	50	340	953	30	128	4104	433	29	2055	625
RTOR Reduction (vph)	0	11	0	0	1	0	0	5	0	0	19	0
Lane Group Flow (vph)	674	152	0	340	982	0	128	4532	0	29	2661	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	54.0	35.0		60.0	38.0		77.0	67.0		60.0	56.0	
Effective Green, g (s)	54.0	37.0		60.0	40.0		79.0	69.0		64.0	58.0	
Actuated g/C Ratio	0.36	0.25		0.40	0.27		0.53	0.46		0.43	0.39	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	276	443		490	500		253	1622		121	1335	
v/s Ratio Prot	c0.31	0.08		c0.10	0.52		c0.06	c1.28		0.01	0.77	
v/s Ratio Perm	c0.57			0.18			0.21			0.09		
v/c Ratio	2.44	0.34		0.69	1.96		0.51	2.79		0.24	1.99	
Uniform Delay, d1	45.9	46.5		33.8	55.0		31.7	40.5		34.9	46.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	659.8	2.1		7.9	441.3		7.1	809.0		4.6	449.7	
Delay (s)	705.7	48.6		41.7	496.3		38.8	849.5		39.6	495.7	
Level of Service	F	D		D	F		D	F		D	F	
Approach Delay (s)		577.7			379.4			827.2			490.8	
Approach LOS		F			F			F			F	

Intersection Summary

HCM 2000 Control Delay	647.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.46		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	209.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Background 2033 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	753	49	261	805	90	72	386	238	29	128	10
Future Volume (vph)	17	753	49	261	805	90	72	386	238	29	128	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.985				0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5096	0	3471	5065	0	1789	1883	1601	1789	1863	0
Flt Permitted	0.282			0.950			0.640			0.374		
Satd. Flow (perm)	531	5096	0	3471	5065	0	1205	1883	1601	704	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			21				259			4
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	18	818	53	284	875	98	78	420	259	32	139	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	871	0	284	973	0	78	420	259	32	150	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	34.0	34.0		26.0	60.0		60.0	60.0	60.0	60.0		60.0
Total Split (%)	28.3%	28.3%		21.7%	50.0%		50.0%	50.0%	50.0%	50.0%		50.0%
Maximum Green (s)	30.0	30.0		22.0	56.0		56.0	56.0	56.0	56.0		56.0
Yellow Time (s)	3.5	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		0.5
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)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	30.0	30.0		22.0	56.0		56.0	56.0	56.0	56.0		56.0
Actuated g/C Ratio	0.25	0.25		0.18	0.47		0.47	0.47	0.47	0.47		0.47
v/c Ratio	0.14	0.68		0.45	0.41		0.14	0.48	0.29	0.10		0.17

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

Future Background 2033 - No GTA West Highway

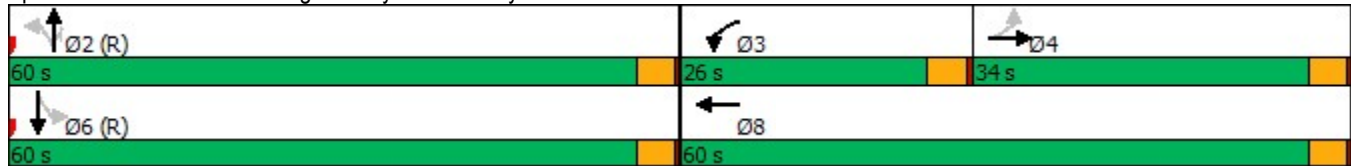
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	38.3	43.5		29.9	29.4		19.2	24.3	3.1	19.0	18.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	38.3	43.5		29.9	29.4		19.2	24.3	3.1	19.0	18.7	
LOS	D	D		C	C		B	C	A	B	B	
Approach Delay		43.3			29.5			16.5			18.8	
Approach LOS		D			C			B			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:	50
Control Type:	Pretimed
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	29.7
Intersection LOS:	C
Intersection Capacity Utilization	60.1%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

15: Chinguacousy Road & Mayfield Road

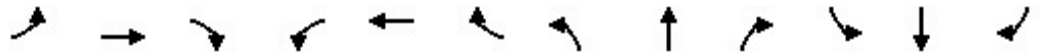


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	18	871	284	973	78	420	259	32	150
v/c Ratio	0.14	0.68	0.45	0.41	0.14	0.48	0.29	0.10	0.17
Control Delay	38.3	43.5	29.9	29.4	19.2	24.3	3.1	19.0	18.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.3	43.5	29.9	29.4	19.2	24.3	3.1	19.0	18.7
Queue Length 50th (m)	3.3	67.5	35.2	82.5	10.2	66.2	0.0	4.1	19.4
Queue Length 95th (m)	9.8	82.4	m36.5	m83.4	19.7	93.9	13.8	10.3	32.1
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	132	1280	636	2374	562	878	885	328	871
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.68	0.45	0.41	0.14	0.48	0.29	0.10	0.17

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis Future Background 2033 - No GTA West Highway
 15: 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)	17	753	49	261	805	90	72	386	238	29	128	10
Future Volume (vph)	17	753	49	261	805	90	72	386	238	29	128	10
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	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5095		3471	5064		1789	1883	1601	1789	1863	
Flt Permitted	0.28	1.00		0.95	1.00		0.64	1.00	1.00	0.37	1.00	
Satd. Flow (perm)	531	5095		3471	5064		1206	1883	1601	704	1863	
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)	18	818	53	284	875	98	78	420	259	32	139	11
RTOR Reduction (vph)	0	6	0	0	11	0	0	0	138	0	2	0
Lane Group Flow (vph)	18	865	0	284	962	0	78	420	121	32	148	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	30.0	30.0		22.0	56.0		56.0	56.0	56.0	56.0	56.0	
Effective Green, g (s)	30.0	30.0		22.0	56.0		56.0	56.0	56.0	56.0	56.0	
Actuated g/C Ratio	0.25	0.25		0.18	0.47		0.47	0.47	0.47	0.47	0.47	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	132	1273		636	2363		562	878	747	328	869	
v/s Ratio Prot		c0.17		c0.08	0.19			c0.22			0.08	
v/s Ratio Perm	0.03						0.06		0.08	0.05		
v/c Ratio	0.14	0.68		0.45	0.41		0.14	0.48	0.16	0.10	0.17	
Uniform Delay, d1	34.9	40.7		43.6	21.1		18.2	22.0	18.5	17.9	18.5	
Progression Factor	1.00	1.00		0.66	1.41		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.1	2.9		0.9	0.2		0.5	1.9	0.5	0.6	0.4	
Delay (s)	37.1	43.6		29.6	29.9		18.8	23.8	18.9	18.5	19.0	
Level of Service	D	D		C	C		B	C	B	B	B	
Approach Delay (s)		43.5			29.8			21.6			18.9	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	31.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		
c	Critical Lane Group		

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

Future Background 2033 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	42	1052	75	232	1165	254	104	482	193	131	199	75
Future Volume (vph)	42	1052	75	232	1165	254	104	482	193	131	199	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.973				0.850		0.959	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	5003	0	1789	1883	1601	1789	1806	0
Flt Permitted	0.129			0.114			0.483			0.211		
Satd. Flow (perm)	243	5142	1601	215	5003	0	910	1883	1601	397	1806	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118		41				210			20
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	1143	82	252	1266	276	113	524	210	142	216	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	1143	82	252	1542	0	113	524	210	142	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	15.0	35.0	35.0	20.0	40.0		11.0	52.0	52.0	13.0	54.0	
Total Split (%)	12.5%	29.2%	29.2%	16.7%	33.3%		9.2%	43.3%	43.3%	10.8%	45.0%	
Maximum Green (s)	11.0	31.0	31.0	16.0	36.0		7.0	48.0	48.0	9.0	50.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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)	42.0	31.0	31.0	51.0	36.0		55.0	48.0	48.0	59.0	50.0	
Actuated g/C Ratio	0.35	0.26	0.26	0.42	0.30		0.46	0.40	0.40	0.49	0.42	
v/c Ratio	0.20	0.86	0.16	0.84	1.01		0.24	0.70	0.27	0.47	0.39	

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

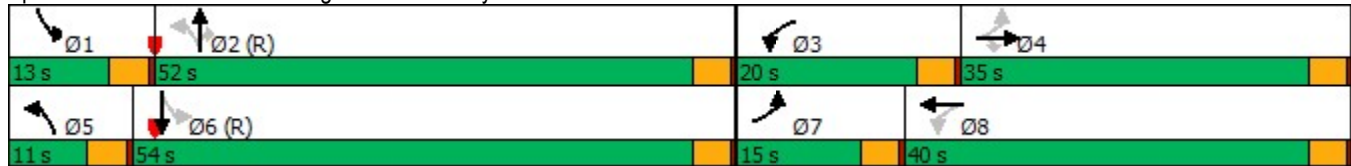
Future Background 2033 - No GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Control Delay	12.0	44.2	10.7	25.9	48.8		17.1	35.9	4.0	21.3	24.5		
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay	12.0	44.2	10.7	25.9	48.8		17.1	35.9	4.0	21.3	24.5		
LOS	B	D	B	C	D		B	D	A	C	C		
Approach Delay		40.9				45.5				25.5			23.5
Approach LOS		D				D				C			C

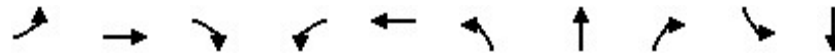
Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Pretimed
Maximum v/c Ratio:	1.01
Intersection Signal Delay:	38.0
Intersection LOS:	D
Intersection Capacity Utilization	79.1%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	46	1143	82	252	1542	113	524	210	142	298
v/c Ratio	0.20	0.86	0.16	0.84	1.01	0.24	0.70	0.27	0.47	0.39
Control Delay	12.0	44.2	10.7	25.9	48.8	17.1	35.9	4.0	21.3	24.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	44.2	10.7	25.9	48.8	17.1	35.9	4.0	21.3	24.5
Queue Length 50th (m)	5.2	102.6	6.6	47.4	~135.3	13.5	101.2	0.0	17.3	44.7
Queue Length 95th (m)	m7.8	118.4	m16.1	m44.2	m121.7	23.5	140.6	14.4	28.7	67.6
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	226	1328	501	301	1529	468	753	766	299	764
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	0.20	0.86	0.16	0.84	1.01	0.24	0.70	0.27	0.47	0.39




























Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

































HCM Signalized Intersection Capacity Analysis Future Background 2033 - No GTA West Highway
 16: 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)	42	1052	75	232	1165	254	104	482	193	131	199	75
Future Volume (vph)	42	1052	75	232	1165	254	104	482	193	131	199	75
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	5004		1789	1883	1601	1789	1806	
Flt Permitted	0.13	1.00	1.00	0.11	1.00		0.48	1.00	1.00	0.21	1.00	
Satd. Flow (perm)	243	5142	1601	215	5004		910	1883	1601	397	1806	
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)	46	1143	82	252	1266	276	113	524	210	142	216	82
RTOR Reduction (vph)	0	0	61	0	29	0	0	0	126	0	12	0
Lane Group Flow (vph)	46	1143	21	252	1513	0	113	524	84	142	286	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	42.0	31.0	31.0	51.0	36.0		55.0	48.0	48.0	59.0	50.0	
Effective Green, g (s)	42.0	31.0	31.0	51.0	36.0		55.0	48.0	48.0	59.0	50.0	
Actuated g/C Ratio	0.35	0.26	0.26	0.42	0.30		0.46	0.40	0.40	0.49	0.42	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	226	1328	413	301	1501		468	753	640	299	752	
v/s Ratio Prot	0.02	0.22		c0.11	c0.30		0.01	c0.28		c0.04	0.16	
v/s Ratio Perm	0.05		0.01	0.24			0.10		0.05	0.20		
v/c Ratio	0.20	0.86	0.05	0.84	1.01		0.24	0.70	0.13	0.47	0.38	
Uniform Delay, d1	29.1	42.4	33.4	30.6	42.0		19.1	29.9	22.8	20.6	24.3	
Progression Factor	0.48	0.88	4.39	0.76	0.97		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.8	6.7	0.2	2.7	9.1		1.2	5.3	0.4	5.3	1.5	
Delay (s)	15.8	43.9	146.9	25.8	49.8		20.3	35.2	23.2	25.9	25.7	
Level of Service	B	D	F	C	D		C	D	C	C	C	
Approach Delay (s)		49.5			46.4			30.2			25.8	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			42.1			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			79.1%			ICU Level of Service				D		
Analysis Period (min)			15									
c	Critical Lane Group											

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

Future Background 2033 - No GTA West Highway

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 			 	
Traffic Volume (vph)	519	759	77	290	1181	171	275	753	48	214	811	765
Future Volume (vph)	519	759	77	290	1181	171	275	753	48	214	811	765
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.172			0.343		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	324	3579	1601	646	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			84			135			52			327
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	564	825	84	315	1284	186	299	818	52	233	882	832
Shared Lane Traffic (%)												
Lane Group Flow (vph)	564	825	84	315	1284	186	299	818	52	233	882	832
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2				6
Permitted Phases			4			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	19.0	30.0	30.0	18.0	29.0	29.0	19.0	72.0	72.0	53.0	53.0	53.0
Total Split (%)	15.8%	25.0%	25.0%	15.0%	24.2%	24.2%	15.8%	60.0%	60.0%	44.2%	44.2%	44.2%
Maximum Green (s)	15.0	26.0	26.0	14.0	25.0	25.0	15.0	68.0	68.0	49.0	49.0	49.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	Lag
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
Act Effct Green (s)	15.0	26.0	26.0	14.0	25.0	25.0	68.0	68.0	68.0	49.0	49.0	49.0
Actuated g/C Ratio	0.12	0.22	0.22	0.12	0.21	0.21	0.57	0.57	0.57	0.41	0.41	0.41
v/c Ratio	1.30	0.74	0.20	0.78	1.20	0.42	0.82	0.40	0.06	0.89	0.60	0.98

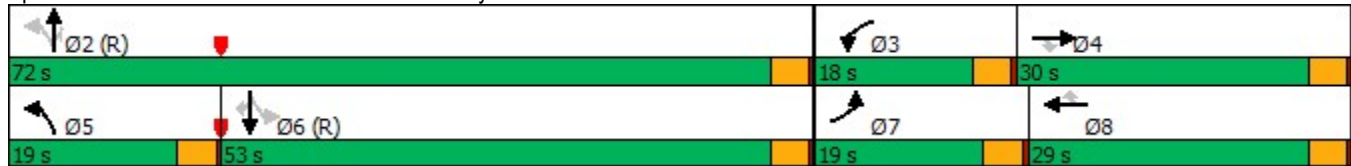
Lanes, Volumes, Timings
 17: Hurontario Street & Mayfield Road

Future Background 2033 - No GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	175.0	44.4	19.9	65.7	140.0	16.1	35.1	15.3	3.3	67.4	30.0	48.9
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	175.0	44.4	19.9	65.7	140.0	16.1	35.1	15.3	3.3	67.4	30.0	48.9
LOS	F	D	B	E	F	B	D	B	A	E	C	D
Approach Delay	93.0			114.0			19.9			42.6		
Approach LOS	F			F			B			D		

Intersection Summary	
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	110
Control Type:	Pretimed
Maximum v/c Ratio:	1.30
Intersection Signal Delay:	70.1
Intersection LOS:	E
Intersection Capacity Utilization	95.4%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues
17: Hurontario Street & Mayfield Road

Future Background 2033 - No GTA West Highway

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	564	825	84	315	1284	186	299	818	52	233	882	832
v/c Ratio	1.30	0.74	0.20	0.78	1.20	0.42	0.82	0.40	0.06	0.89	0.60	0.98
Control Delay	175.0	44.4	19.9	65.7	140.0	16.1	35.1	15.3	3.3	67.4	30.0	48.9
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	175.0	44.4	19.9	65.7	140.0	16.1	35.1	15.3	3.3	67.4	30.0	48.9
Queue Length 50th (m)	~89.8	74.6	10.8	37.6	~134.3	9.9	34.9	54.2	0.0	50.1	84.5	135.9
Queue Length 95th (m)	m#115.0	m87.7	m15.8	#56.9	#163.4	30.5	#75.2	67.8	5.3	#99.0	105.1	#226.2
Internal Link Dist (m)		1381.8			725.9			357.1			585.4	
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	433	1114	412	404	1071	440	366	2028	929	263	1461	847
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	1.30	0.74	0.20	0.78	1.20	0.42	0.82	0.40	0.06	0.89	0.60	0.98

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.

















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

HCM Signalized Intersection Capacity Analysis Future Background 2033 - No GTA West Highway
 17: 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)	519	759	77	290	1181	171	275	753	48	214	811	765
Future Volume (vph)	519	759	77	290	1181	171	275	753	48	214	811	765
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	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.17	1.00	1.00	0.34	1.00	1.00
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	324	3579	1601	646	3579	1601
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)	564	825	84	315	1284	186	299	818	52	233	882	832
RTOR Reduction (vph)	0	0	66	0	0	107	0	0	23	0	0	193
Lane Group Flow (vph)	564	825	18	315	1284	79	299	818	29	233	882	639
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases			4			8	2		2	6		6
Actuated Green, G (s)	15.0	26.0	26.0	14.0	25.0	25.0	68.0	68.0	68.0	49.0	49.0	49.0
Effective Green, g (s)	15.0	26.0	26.0	14.0	25.0	25.0	68.0	68.0	68.0	49.0	49.0	49.0
Actuated g/C Ratio	0.12	0.22	0.22	0.12	0.21	0.21	0.57	0.57	0.57	0.41	0.41	0.41
Clearance Time (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
Lane Grp Cap (vph)	433	1114	346	404	1071	333	366	2028	907	263	1461	653
v/s Ratio Prot	c0.16	0.16		0.09	c0.25		c0.10	0.23			0.25	
v/s Ratio Perm			0.01			0.05	0.36		0.02	0.36		c0.40
v/c Ratio	1.30	0.74	0.05	0.78	1.20	0.24	0.82	0.40	0.03	0.89	0.60	0.98
Uniform Delay, d1	52.5	43.9	37.2	51.5	47.5	39.6	18.5	14.6	11.5	32.9	27.9	35.0
Progression Factor	0.55	0.94	2.35	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	146.9	2.9	0.2	13.8	98.7	1.7	18.0	0.6	0.1	32.5	1.9	30.2
Delay (s)	175.9	44.1	87.5	65.3	146.2	41.2	36.5	15.2	11.5	65.4	29.7	65.2
Level of Service	F	D	F	E	F	D	D	B	B	E	C	E
Approach Delay (s)		97.1			121.0			20.5			49.1	
Approach LOS		F			F			C			D	
Intersection Summary												
HCM 2000 Control Delay			75.1			HCM 2000 Level of Service		E				
HCM 2000 Volume to Capacity ratio			1.06									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)		16.0				
Intersection Capacity Utilization			95.4%			ICU Level of Service		F				
Analysis Period (min)			15									
c Critical Lane Group												

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

Future Total 2033 - No GTA West Highway
AM Peak Hour

















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	243	30	226	189	40	14	262	443	35	337	1
Future Volume (vph)	8	243	30	226	189	40	14	262	443	35	337	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.985			0.988			0.917				
Fl _t Protected		0.999			0.976			0.999			0.995	
Satd. Flow (prot)	0	1853	0	0	1816	0	0	1725	0	0	1874	0
Fl _t Permitted		0.999			0.976			0.999			0.995	
Satd. Flow (perm)	0	1853	0	0	1816	0	0	1725	0	0	1874	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	0.92	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)	9	264	33	246	205	43	15	285	482	38	366	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	306	0	0	494	0	0	782	0	0	405	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	94.1%					ICU Level of Service F						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - No GTA West Highway
 1: Chinguacousy Road & Old School Road 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)	8	243	30	226	189	40	14	262	443	35	337	1
Future Volume (vph)	8	243	30	226	189	40	14	262	443	35	337	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
Hourly flow rate (vph)	9	264	33	246	205	43	15	285	482	38	366	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	306	494	782	405								
Volume Left (vph)	9	246	15	38								
Volume Right (vph)	33	43	482	1								
Hadj (s)	-0.02	0.08	-0.33	0.05								
Departure Headway (s)	9.5	9.2	8.7	9.1								
Degree Utilization, x	0.81	1.26	1.90	1.03								
Capacity (veh/h)	373	404	417	405								
Control Delay (s)	42.7	162.3	434.5	83.5								
Approach Delay (s)	42.7	162.3	434.5	83.5								
Approach LOS	E	F	F	F								
Intersection Summary												
Delay			235.0									
Level of Service			F									
Intersection Capacity Utilization			94.1%		ICU Level of Service				F			
Analysis Period (min)			15									

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

Future Total 2033 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	682	109	260	403	28	39	155	539	30	331	23
Future Volume (vph)	68	682	109	260	403	28	39	155	539	30	331	23
Ideal Flow (vphp)	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 _t		0.983			0.995			0.901			0.992	
Fl _t Protected		0.996			0.982			0.997			0.996	
Satd. Flow (prot)	0	1844	0	0	1840	0	0	1692	0	0	1861	0
Fl _t Permitted		0.996			0.982			0.997			0.996	
Satd. Flow (perm)	0	1844	0	0	1840	0	0	1692	0	0	1861	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	74	741	118	283	438	30	42	168	586	33	360	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	933	0	0	751	0	0	796	0	0	418	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	145.8%					ICU Level of Service H						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - No GTA West Highway
 4: McLaughlin Road & Old School Road 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)	68	682	109	260	403	28	39	155	539	30	331	23
Future Volume (vph)	68	682	109	260	403	28	39	155	539	30	331	23
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)	74	741	118	283	438	30	42	168	586	33	360	25
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	933	751	796	418								
Volume Left (vph)	74	283	42	33								
Volume Right (vph)	118	30	586	25								
Hadj (s)	-0.03	0.09	-0.40	0.01								
Departure Headway (s)	9.5	9.6	9.2	9.6								
Degree Utilization, x	2.47	2.01	2.03	1.11								
Capacity (veh/h)	386	379	399	386								
Control Delay (s)	690.6	486.9	491.9	111.5								
Approach Delay (s)	690.6	486.9	491.9	111.5								
Approach LOS	F	F	F	F								
Intersection Summary												
Delay			499.7									
Level of Service			F									
Intersection Capacity Utilization			145.8%	ICU Level of Service								H
Analysis Period (min)			15									

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

Future Total 2033 - No GTA West Highway
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	569	121	569	383	108	14	156	1719	153	20	3128	312
Future Volume (vph)	569	121	569	383	108	14	156	1719	153	20	3128	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		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		0.876			0.983			0.988			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1650	0	1789	1851	0	1789	3536	0	1789	3528	0
Flt Permitted	0.527			0.154			0.070			0.070		
Satd. Flow (perm)	993	1650	0	290	1851	0	132	3536	0	132	3528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		65			5			10			12	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	618	132	618	416	117	15	170	1868	166	22	3400	339
Shared Lane Traffic (%)												
Lane Group Flow (vph)	618	750	0	416	132	0	170	2034	0	22	3739	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	17.0	35.0		14.0	32.0		10.0	61.0		10.0	61.0	
Total Split (%)	14.2%	29.2%		11.7%	26.7%		8.3%	50.8%		8.3%	50.8%	
Maximum Green (s)	13.0	29.0		10.0	26.0		4.0	55.0		4.0	55.0	
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	
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)	44.0	31.0		38.0	28.0		63.0	57.0		63.0	57.0	
Actuated g/C Ratio	0.37	0.26		0.32	0.23		0.52	0.48		0.52	0.48	
v/c Ratio	1.37	1.58		1.93	0.30		1.12	1.21		0.14	2.22	

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

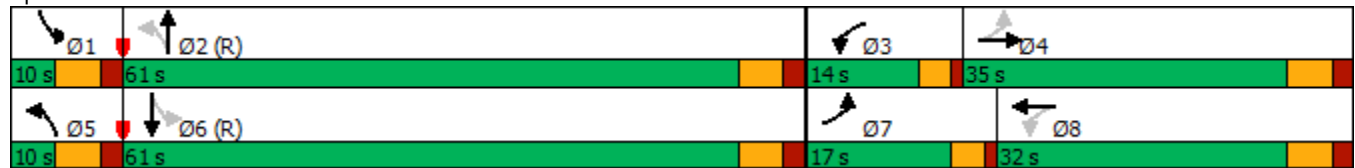
Future Total 2033 - No GTA West Highway
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	211.8	301.2		455.9	38.8		133.8	129.4		14.1	573.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	211.8	301.2		455.9	38.8		133.8	129.4		14.1	573.4	
LOS	F	F		F	D		F	F		B	F	
Approach Delay		260.8			355.4			129.7			570.2	
Approach LOS		F			F			F			F	

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:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.22
Intersection Signal Delay:	378.4
Intersection LOS:	F
Intersection Capacity Utilization	181.0%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Total 2033 - No GTA West Highway
AM Peak Hour


























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	618	750	416	132	170	2034	22	3739
v/c Ratio	1.37	1.58	1.93	0.30	1.12	1.21	0.14	2.22
Control Delay	211.8	301.2	455.9	38.8	133.8	129.4	14.1	573.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	211.8	301.2	455.9	38.8	133.8	129.4	14.1	573.4
Queue Length 50th (m)	~192.5	~241.3	~135.3	24.7	~30.3	~308.1	2.2	~755.5
Queue Length 95th (m)	#261.1	#314.6	#197.1	42.4	#74.2	#350.6	6.0	#787.5
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	450	474	216	435	152	1684	152	1682
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	1.37	1.58	1.93	0.30	1.12	1.21	0.14	2.22

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
7: Hurontario Street & Old School Road

Future Total 2033 - No GTA West Highway
AM Peak Hour























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (vph)	569	121	569	383	108	14	156	1719	153	20	3128	312
Future Volume (vph)	569	121	569	383	108	14	156	1719	153	20	3128	312
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		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	0.88		1.00	0.98		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)	1789	1651		1789	1851		1789	3535		1789	3530	
Flt Permitted	0.53	1.00		0.15	1.00		0.07	1.00		0.07	1.00	
Satd. Flow (perm)	992	1651		290	1851		132	3535		132	3530	
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)	618	132	618	416	117	15	170	1868	166	22	3400	339
RTOR Reduction (vph)	0	48	0	0	4	0	0	5	0	0	6	0
Lane Group Flow (vph)	618	702	0	416	128	0	170	2029	0	22	3733	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.0	29.0		36.0	26.0		59.0	55.0		59.0	55.0	
Effective Green, g (s)	42.0	31.0		36.0	28.0		63.0	57.0		63.0	57.0	
Actuated g/C Ratio	0.35	0.26		0.30	0.23		0.52	0.48		0.52	0.48	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	433	426		211	431		152	1679		152	1676	
v/s Ratio Prot	c0.15	0.43		c0.16	0.07		c0.06	0.57		0.01	c1.06	
v/s Ratio Perm	0.34			c0.43			0.53			0.07		
v/c Ratio	1.43	1.65		1.97	0.30		1.12	1.21		0.14	2.23	
Uniform Delay, d1	37.8	44.5		37.5	37.9		31.4	31.5		25.5	31.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	205.3	301.7		453.9	1.8		108.3	99.6		2.0	554.2	
Delay (s)	243.1	346.2		491.4	39.7		139.7	131.1		27.5	585.7	
Level of Service	F	F		F	D		F	F		C	F	
Approach Delay (s)		299.6			382.6			131.8			582.4	
Approach LOS		F			F			F			F	

Intersection Summary

HCM 2000 Control Delay	393.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	181.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Total 2033 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	854	126	366	616	81	28	200	223	152	404	24
Future Volume (vph)	24	854	126	366	616	81	28	200	223	152	404	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.983				0.850		0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5044	0	3471	5054	0	1789	1883	1601	1789	1868	0
Flt Permitted	0.352			0.950			0.301			0.556		
Satd. Flow (perm)	663	5044	0	3471	5054	0	567	1883	1601	1047	1868	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			28				242			3
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	26	928	137	398	670	88	30	217	242	165	439	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	1065	0	398	758	0	30	217	242	165	465	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	39.0	39.0		26.0	65.0		55.0	55.0	55.0	55.0		55.0
Total Split (%)	32.5%	32.5%		21.7%	54.2%		45.8%	45.8%	45.8%	45.8%		45.8%
Maximum Green (s)	35.0	35.0		22.0	61.0		51.0	51.0	51.0	51.0		51.0
Yellow Time (s)	3.5	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		0.5
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)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	35.0	35.0		22.0	61.0		51.0	51.0	51.0	51.0		51.0
Actuated g/C Ratio	0.29	0.29		0.18	0.51		0.42	0.42	0.42	0.42		0.42
v/c Ratio	0.13	0.72		0.63	0.29		0.12	0.27	0.30	0.37		0.58

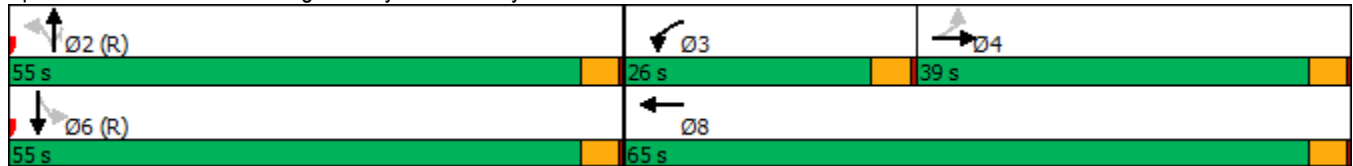
Lanes, Volumes, Timings
 15: Chinguacousy Road & Mayfield Road

Future Total 2033 - No GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	33.8	40.4		50.2	16.7		22.8	23.6	3.6	26.7	29.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	33.8	40.4		50.2	16.7		22.8	23.6	3.6	26.7	29.9	
LOS	C	D		D	B		C	C	A	C	C	
Approach Delay		40.3			28.2			13.7			29.1	
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:	55
Control Type:	Pretimed
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	30.2
Intersection LOS:	C
Intersection Capacity Utilization	69.1%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

Future Total 2033 - No GTA West Highway

15: Chinguacousy Road & Mayfield Road

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	26	1065	398	758	30	217	242	165	465
v/c Ratio	0.13	0.72	0.63	0.29	0.12	0.27	0.30	0.37	0.58
Control Delay	33.8	40.4	50.2	16.7	22.8	23.6	3.6	26.7	29.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	40.4	50.2	16.7	22.8	23.6	3.6	26.7	29.9
Queue Length 50th (m)	4.5	80.5	45.0	35.0	4.2	32.6	0.0	26.1	81.8
Queue Length 95th (m)	12.0	96.5	61.2	43.6	10.8	50.3	14.5	44.4	114.9
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	193	1487	636	2582	240	800	819	444	795
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.72	0.63	0.29	0.13	0.27	0.30	0.37	0.58

Intersection Summary

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

Future Total 2033 - No GTA West Highway
 AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑		↘↘	↑↑↑		↘	↑	↗	↘	↑	↗
Traffic Volume (vph)	24	854	126	366	616	81	28	200	223	152	404	24
Future Volume (vph)	24	854	126	366	616	81	28	200	223	152	404	24
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	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5043		3471	5052		1789	1883	1601	1789	1868	
Flt Permitted	0.35	1.00		0.95	1.00		0.30	1.00	1.00	0.56	1.00	
Satd. Flow (perm)	664	5043		3471	5052		567	1883	1601	1047	1868	
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)	26	928	137	398	670	88	30	217	242	165	439	26
RTOR Reduction (vph)	0	16	0	0	14	0	0	0	139	0	2	0
Lane Group Flow (vph)	26	1049	0	398	744	0	30	217	103	165	463	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	35.0	35.0		22.0	61.0		51.0	51.0	51.0	51.0	51.0	
Effective Green, g (s)	35.0	35.0		22.0	61.0		51.0	51.0	51.0	51.0	51.0	
Actuated g/C Ratio	0.29	0.29		0.18	0.51		0.42	0.42	0.42	0.42	0.42	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	193	1470		636	2568		240	800	680	444	793	
v/s Ratio Prot		c0.21		c0.11	0.15			0.12			c0.25	
v/s Ratio Perm	0.04						0.05		0.06	0.16		
v/c Ratio	0.13	0.71		0.63	0.29		0.12	0.27	0.15	0.37	0.58	
Uniform Delay, d1	31.3	38.0		45.2	17.0		21.0	22.4	21.2	23.6	26.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	3.0		4.6	0.3		1.1	0.8	0.5	2.4	3.1	
Delay (s)	32.8	41.0		49.8	17.3		22.0	23.3	21.7	25.9	29.5	
Level of Service	C	D		D	B		C	C	C	C	C	
Approach Delay (s)		40.8			28.5			22.4			28.6	
Approach LOS		D			C			C			C	

Intersection Summary

HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Total 2033 - No GTA West Highway
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	1110	133	212	856	111	64	319	164	338	639	211
Future Volume (vph)	77	1110	133	212	856	111	64	319	164	338	639	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.983				0.850		0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	5054	0	1789	3579	1601	1789	1814	0
Flt Permitted	0.131			0.108			0.082			0.443		
Satd. Flow (perm)	247	5142	1601	203	5054	0	154	3579	1601	834	1814	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		17				178		18	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	1207	145	230	930	121	70	347	178	367	695	229
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	1207	145	230	1051	0	70	347	178	367	924	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	12.0	37.0	37.0	18.0	43.0		8.0	53.0	53.0	28.0	73.0	
Total Split (%)	8.8%	27.2%	27.2%	13.2%	31.6%		5.9%	39.0%	39.0%	20.6%	53.7%	
Maximum Green (s)	8.0	33.0	33.0	14.0	39.0		4.0	49.0	49.0	24.0	69.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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	33.0	33.0	51.0	39.0		53.0	49.0	49.0	77.0	69.0	
Actuated g/C Ratio	0.30	0.24	0.24	0.38	0.29		0.39	0.36	0.36	0.57	0.51	
v/c Ratio	0.51	0.97	0.30	0.96	0.72		0.65	0.27	0.26	0.57	0.99	

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

Future Total 2033 - No GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Control Delay	39.7	69.7	9.4	85.4	46.2		47.3	31.5	5.0	20.1	61.1		
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay	39.7	69.7	9.4	85.4	46.2		47.3	31.5	5.0	20.1	61.1		
LOS	D	E	A	F	D		D	C	A	C	E		
Approach Delay		61.9				53.2				25.4			49.5
Approach LOS		E				D				C			D

Intersection Summary

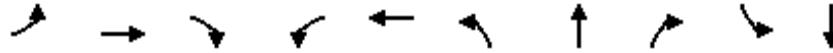
Area Type:	Other
Cycle Length:	136
Actuated Cycle Length:	136
Offset:	120 (88%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	100
Control Type:	Pretimed
Maximum v/c Ratio:	0.99
Intersection Signal Delay:	51.3
Intersection LOS:	D
Intersection Capacity Utilization	96.5%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Total 2033 - No GTA West Highway
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	84	1207	145	230	1051	70	347	178	367	924
v/c Ratio	0.51	0.97	0.30	0.96	0.72	0.65	0.27	0.26	0.57	0.99
Control Delay	39.7	69.7	9.4	85.4	46.2	47.3	31.5	5.0	20.1	61.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.7	69.7	9.4	85.4	46.2	47.3	31.5	5.0	20.1	61.1
Queue Length 50th (m)	14.7	118.3	1.9	46.4	91.7	8.2	34.6	0.0	51.7	237.5
Queue Length 95th (m)	26.5	#148.4	18.6	#97.6	108.2	#20.6	46.8	15.2	72.6	#332.2
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	165	1247	491	239	1461	108	1289	690	640	929
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	0.51	0.97	0.30	0.96	0.72	0.65	0.27	0.26	0.57	0.99

Intersection Summary

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

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

























Future Total 2033 - No GTA West Highway
 AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	1110	133	212	856	111	64	319	164	338	639	211
Future Volume (vph)	77	1110	133	212	856	111	64	319	164	338	639	211
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	5053		1789	3579	1601	1789	1813	
Flt Permitted	0.13	1.00	1.00	0.11	1.00		0.08	1.00	1.00	0.44	1.00	
Satd. Flow (perm)	247	5142	1601	204	5053		154	3579	1601	834	1813	
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)	84	1207	145	230	930	121	70	347	178	367	695	229
RTOR Reduction (vph)	0	0	103	0	12	0	0	0	114	0	9	0
Lane Group Flow (vph)	84	1207	42	230	1039	0	70	347	64	367	915	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	41.0	33.0	33.0	51.0	39.0		53.0	49.0	49.0	77.0	69.0	
Effective Green, g (s)	41.0	33.0	33.0	51.0	39.0		53.0	49.0	49.0	77.0	69.0	
Actuated g/C Ratio	0.30	0.24	0.24	0.38	0.29		0.39	0.36	0.36	0.57	0.51	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	165	1247	388	239	1449		108	1289	576	640	919	
v/s Ratio Prot	0.03	0.23		c0.10	0.21		0.02	0.10		c0.10	c0.50	
v/s Ratio Perm	0.12		0.03	c0.26			0.23		0.04	0.22		
v/c Ratio	0.51	0.97	0.11	0.96	0.72		0.65	0.27	0.11	0.57	1.00	
Uniform Delay, d1	36.0	51.0	40.1	38.1	43.5		34.1	30.8	29.0	16.7	33.4	
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	10.8	18.9	0.6	49.3	3.1		26.3	0.5	0.4	3.7	28.7	
Delay (s)	46.8	69.9	40.6	87.3	46.6		60.4	31.3	29.4	20.4	62.0	
Level of Service	D	E	D	F	D		E	C	C	C	E	
Approach Delay (s)		65.6			53.9			34.2			50.2	
Approach LOS		E			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	54.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Total 2033 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	1138	186	213	646	230	137	665	103	504	1162	194
Future Volume (vph)	175	1138	186	213	646	230	137	665	103	504	1162	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.183			0.117		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	345	3579	1601	220	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			155			250			112			211
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	190	1237	202	232	702	250	149	723	112	548	1263	211
Shared Lane Traffic (%)												
Lane Group Flow (vph)	190	1237	202	232	702	250	149	723	112	548	1263	211
Enter Blocked Intersection	No	No	No	No	No	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	Prot	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			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	16.0	36.0	36.0	13.0	33.0	33.0	13.0	37.0	37.0	42.0	66.0	66.0
Total Split (%)	12.5%	28.1%	28.1%	10.2%	25.8%	25.8%	10.2%	28.9%	28.9%	32.8%	51.6%	51.6%
Maximum Green (s)	12.0	32.0	32.0	9.0	29.0	29.0	9.0	33.0	33.0	38.0	62.0	62.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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
Act Effct Green (s)	12.0	32.0	32.0	9.0	29.0	29.0	42.0	33.0	33.0	75.0	62.0	62.0
Actuated g/C Ratio	0.09	0.25	0.25	0.07	0.23	0.23	0.33	0.26	0.26	0.59	0.48	0.48
v/c Ratio	0.58	0.96	0.39	0.95	0.60	0.45	0.70	0.78	0.23	0.92	0.73	0.24

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

Future Total 2033 - No GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	63.5	65.1	13.2	105.3	46.9	7.6	40.6	51.2	7.7	55.7	29.4	3.0
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	63.5	65.1	13.2	105.3	46.9	7.6	40.6	51.2	7.7	55.7	29.4	3.0
LOS	E	E	B	F	D	A	D	D	A	E	C	A
Approach Delay	58.5			50.0			44.7			33.8		
Approach LOS	E			D			D			C		

Intersection Summary	
Area Type:	Other
Cycle Length:	128
Actuated Cycle Length:	128
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Pretimed
Maximum v/c Ratio:	0.96
Intersection Signal Delay:	45.8
Intersection LOS:	D
Intersection Capacity Utilization	87.7%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road















Queues

Future Total 2033 - No GTA West Highway

17: Hurontario Street & Mayfield Road

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	190	1237	202	232	702	250	149	723	112	548	1263	211
v/c Ratio	0.58	0.96	0.39	0.95	0.60	0.45	0.70	0.78	0.23	0.92	0.73	0.24
Control Delay	63.5	65.1	13.2	105.3	46.9	7.6	40.6	51.2	7.7	55.7	29.4	3.0
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	63.5	65.1	13.2	105.3	46.9	7.6	40.6	51.2	7.7	55.7	29.4	3.0
Queue Length 50th (m)	24.0	113.4	9.2	30.5	58.4	0.0	16.2	89.6	0.0	115.3	130.1	0.0
Queue Length 95th (m)	36.3	#143.3	29.7	#55.8	72.1	20.8	#39.6	112.3	14.2	#182.4	156.3	12.5
Internal Link Dist (m)		1381.8			725.9			357.1			585.4	
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	325	1285	516	244	1164	556	214	922	495	594	1733	884
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	0.96	0.39	0.95	0.60	0.45	0.70	0.78	0.23	0.92	0.73	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
17: Hurontario Street & Mayfield Road

Future Total 2033 - No GTA West Highway
AM Peak Hour

















													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	175	1138	186	213	646	230	137	665	103	504	1162	194	
Future Volume (vph)	175	1138	186	213	646	230	137	665	103	504	1162	194	
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	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.18	1.00	1.00	0.12	1.00	1.00	
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	344	3579	1601	221	3579	1601	
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)	190	1237	202	232	702	250	149	723	112	548	1263	211	
RTOR Reduction (vph)	0	0	116	0	0	193	0	0	83	0	0	109	
Lane Group Flow (vph)	190	1237	86	232	702	57	149	723	29	548	1263	102	
Turn Type	Prot	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			8	2		2	6		6	
Actuated Green, G (s)	12.0	32.0	32.0	9.0	29.0	29.0	42.0	33.0	33.0	75.0	62.0	62.0	
Effective Green, g (s)	12.0	32.0	32.0	9.0	29.0	29.0	42.0	33.0	33.0	75.0	62.0	62.0	
Actuated g/C Ratio	0.09	0.25	0.25	0.07	0.23	0.23	0.33	0.26	0.26	0.59	0.48	0.48	
Clearance Time (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	
Lane Grp Cap (vph)	325	1285	400	244	1164	362	214	922	412	594	1733	775	
v/s Ratio Prot	0.05	c0.24		c0.07	0.14		0.05	0.20		c0.27	0.35		
v/s Ratio Perm			0.05			0.04	0.18		0.02	c0.27		0.06	
v/c Ratio	0.58	0.96	0.21	0.95	0.60	0.16	0.70	0.78	0.07	0.92	0.73	0.13	
Uniform Delay, d1	55.6	47.4	38.0	59.3	44.3	39.7	31.7	44.2	35.9	34.5	26.3	18.2	
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	7.5	17.6	1.2	46.2	2.3	0.9	17.1	6.6	0.3	22.1	2.7	0.4	
Delay (s)	63.1	65.0	39.3	105.5	46.7	40.6	48.8	50.8	36.2	56.6	29.0	18.5	
Level of Service	E	E	D	F	D	D	D	D	D	E	C	B	
Approach Delay (s)		61.6			56.9			48.9			35.4		
Approach LOS		E			E			D			D		
Intersection Summary													
HCM 2000 Control Delay			49.4									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.96										
Actuated Cycle Length (s)			128.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			87.7%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

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

Future Total 2033 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	210	30	457	339	57	26	498	479	34	247	2
Future Volume (vph)	6	210	30	457	339	57	26	498	479	34	247	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.983			0.991			0.935			0.999	
Fl _t Protected		0.999			0.974			0.999			0.994	
Satd. Flow (prot)	0	1850	0	0	1818	0	0	1759	0	0	1870	0
Fl _t Permitted		0.999			0.974			0.999			0.994	
Satd. Flow (perm)	0	1850	0	0	1818	0	0	1759	0	0	1870	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	0.92	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)	7	228	33	497	368	62	28	541	521	37	268	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	268	0	0	927	0	0	1090	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)		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	130.2%					ICU Level of Service H						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - No GTA West Highway
 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)	6	210	30	457	339	57	26	498	479	34	247	2
Future Volume (vph)	6	210	30	457	339	57	26	498	479	34	247	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	228	33	497	368	62	28	541	521	37	268	2
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	268	927	1090	307								
Volume Left (vph)	7	497	28	37								
Volume Right (vph)	33	62	521	2								
Hadj (s)	-0.03	0.10	-0.25	0.05								
Departure Headway (s)	8.9	8.2	7.9	8.7								
Degree Utilization, x	0.66	2.12	2.39	0.74								
Capacity (veh/h)	388	442	466	402								
Control Delay (s)	27.5	531.3	649.5	33.2								
Approach Delay (s)	27.5	531.3	649.5	33.2								
Approach LOS	D	F	F	D								
Intersection Summary												
Delay			469.9									
Level of Service			F									
Intersection Capacity Utilization			130.2%	ICU Level of Service	H							
Analysis Period (min)			15									

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

Future Total 2033 - No GTA West Highway
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	↗
Traffic Volume (vph)	710	63	90	845	50	25
Future Volume (vph)	710	63	90	845	50	25
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.989			0.955		
Flt Protected				0.995	0.968	
Satd. Flow (prot)	1863	0	0	1874	1741	0
Flt Permitted				0.995	0.968	
Satd. Flow (perm)	1863	0	0	1874	1741	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			521.8	121.9	
Travel Time (s)	25.2			26.8	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	772	68	98	918	54	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	840	0	0	1016	81	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	104.9%			ICU Level of Service G		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - No GTA West Highway
 2: Street B & Old School Road PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↔	↔
Traffic Volume (veh/h)	710	63	90	845	50	25
Future Volume (Veh/h)	710	63	90	845	50	25
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)	772	68	98	918	54	27
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			840	1920	806	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			840	1920	806	
tC, single (s)			4.1	6.4	6.2	
tC, 2 stage (s)						
tF (s)			2.2	3.5	3.3	
p0 queue free %			88	17	93	
cM capacity (veh/h)			795	65	382	
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	840	1016	81			
Volume Left	0	98	54			
Volume Right	68	0	27			
cSH	1700	795	90			
Volume to Capacity	0.49	0.12	0.90			
Queue Length 95th (m)	0.0	3.2	38.0			
Control Delay (s)	0.0	3.4	153.4			
Lane LOS		A	F			
Approach Delay (s)	0.0	3.4	153.4			
Approach LOS			F			
Intersection Summary						
Average Delay			8.2			
Intersection Capacity Utilization			104.9%	ICU Level of Service	G	
Analysis Period (min)			15			

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

Future Total 2033 - No GTA West Highway
PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	674	45	168	888	47	70
Future Volume (vph)	674	45	168	888	47	70
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992			0.919		
Flt Protected				0.992	0.980	
Satd. Flow (prot)	1868	0	0	1868	1696	0
Flt Permitted				0.992	0.980	
Satd. Flow (perm)	1868	0	0	1868	1696	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	521.8			371.6	309.0	
Travel Time (s)	26.8			19.1	23.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	733	49	183	965	51	76
Shared Lane Traffic (%)						
Lane Group Flow (vph)	782	0	0	1148	127	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	111.1%
Analysis Period (min)	15
	ICU Level of Service H

















HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - No GTA West Highway
 3: Street D & Old School Road PM Peak Hour



















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	674	45	168	888	47	70
Future Volume (Veh/h)	674	45	168	888	47	70
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)	733	49	183	965	51	76
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			782		2088	758
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			782		2088	758
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			78		0	81
cM capacity (veh/h)			836		45	407
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	782	1148	127			
Volume Left	0	183	51			
Volume Right	49	0	76			
cSH	1700	836	97			
Volume to Capacity	0.46	0.22	1.31			
Queue Length 95th (m)	0.0	6.3	68.8			
Control Delay (s)	0.0	6.1	277.4			
Lane LOS		A	F			
Approach Delay (s)	0.0	6.1	277.4			
Approach LOS			F			
Intersection Summary						
Average Delay			20.6			
Intersection Capacity Utilization			111.1%	ICU Level of Service	H	
Analysis Period (min)			15			

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

Future Total 2033 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	634	64	544	957	43	74	347	556	26	154	24
Future Volume (vph)	44	634	64	544	957	43	74	347	556	26	154	24
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 _t		0.988			0.996			0.923			0.984	
Fl _t Protected		0.997			0.983			0.996			0.994	
Satd. Flow (prot)	0	1855	0	0	1844	0	0	1731	0	0	1842	0
Fl _t Permitted		0.997			0.983			0.996			0.994	
Satd. Flow (perm)	0	1855	0	0	1844	0	0	1731	0	0	1842	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	48	689	70	591	1040	47	80	377	604	28	167	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	807	0	0	1678	0	0	1061	0	0	221	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	199.5%						ICU Level of Service H					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - No GTA West Highway
 4: 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)	44	634	64	544	957	43	74	347	556	26	154	24			
Future Volume (vph)	44	634	64	544	957	43	74	347	556	26	154	24			
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)	48	689	70	591	1040	47	80	377	604	28	167	26			
Direction, Lane #	EB 1	WB 1	NB 1	SB 1											
Volume Total (vph)	807	1678	1061	221											
Volume Left (vph)	48	591	80	28											
Volume Right (vph)	70	47	604	26											
Hadj (s)	-0.01	0.09	-0.29	-0.01											
Departure Headway (s)	8.5	8.6	8.2	9.6											
Degree Utilization, x	1.90	4.00	2.42	0.59											
Capacity (veh/h)	428	424	448	367											
Control Delay (s)	435.4	1373.9	663.4	25.2											
Approach Delay (s)	435.4	1373.9	663.4	25.2											
Approach LOS	F	F	F	D											
Intersection Summary															
Delay			893.6												
Level of Service			F												
Intersection Capacity Utilization			199.5%				ICU Level of Service				H				
Analysis Period (min)			15												

Lanes, Volumes, Timings
5: Street G & Old School Road

Future Total 2033 - No GTA West Highway
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	
Traffic Volume (vph)	1160	50	11	1466	41	16
Future Volume (vph)	1160	50	11	1466	41	16
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt	0.994				0.963	
Flt Protected					0.965	
Satd. Flow (prot)	1872	0	0	1883	1750	0
Flt Permitted					0.965	
Satd. Flow (perm)	1872	0	0	1883	1750	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			794.6	134.3	
Travel Time (s)	18.0			40.9	10.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1261	54	12	1593	45	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1315	0	0	1605	62	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	95.9%			ICU Level of Service F		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - No GTA West Highway
 5: Street G & Old School Road PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1160	50	11	1466	41	16
Future Volume (Veh/h)	1160	50	11	1466	41	16
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)	1261	54	12	1593	45	17
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			1315		2905	1288
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1315		2905	1288
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		0	92
cM capacity (veh/h)			526		17	200
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	1315	1605	62			
Volume Left	0	12	45			
Volume Right	54	0	17			
cSH	1700	526	23			
Volume to Capacity	0.77	0.02	2.74			
Queue Length 95th (m)	0.0	0.5	59.8			
Control Delay (s)	0.0	4.4	1145.8			
Lane LOS		A	F			
Approach Delay (s)	0.0	4.4	1145.8			
Approach LOS			F			
Intersection Summary						
Average Delay			26.2			
Intersection Capacity Utilization			95.9%	ICU Level of Service	F	
Analysis Period (min)			15			

Lanes, Volumes, Timings
6: Street H & Old School Road

Future Total 2033 - No GTA West Highway
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↗	
Traffic Volume (vph)	1122	42	0	2241	33	0
Future Volume (vph)	1122	42	0	2241	33	0
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t	0.995					
Fl _t Protected					0.950	
Satd. Flow (prot)	1874	0	0	1883	1789	0
Fl _t Permitted					0.950	
Satd. Flow (perm)	1874	0	0	1883	1789	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	794.6			213.2	410.2	
Travel Time (s)	40.9			11.0	30.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1220	46	0	2436	36	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1266	0	0	2436	36	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	127.9%			ICU Level of Service H		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - No GTA West Highway
 6: Street H & Old School Road PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↔	↔
Traffic Volume (veh/h)	1122	42	0	2241	33	0
Future Volume (Veh/h)	1122	42	0	2241	33	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)	1220	46	0	2436	36	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)	213					
pX, platoon unblocked					0.43	
vC, conflicting volume			1266	3679	1243	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1266	6551	1243	
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	0	100	
cM capacity (veh/h)			549	0	213	
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	1266	2436	36			
Volume Left	0	0	36			
Volume Right	46	0	0			
cSH	1700	549	0			
Volume to Capacity	0.74	0.00	1506.24			
Queue Length 95th (m)	0.0	0.0	Err			
Control Delay (s)	0.0	0.0	Err			
Lane LOS			F			
Approach Delay (s)	0.0	0.0	Err			
Approach LOS			F			
Intersection Summary						
Average Delay			96.3			
Intersection Capacity Utilization			127.9%	ICU Level of Service	H	
Analysis Period (min)			15			

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

Future Total 2033 - No GTA West Highway
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	667	116	321	313	877	28	584	3801	398	27	1917	626
Future Volume (vph)	667	116	321	313	877	28	584	3801	398	27	1917	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		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		0.890			0.995			0.986			0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1676	0	1789	1874	0	1789	3528	0	1789	3446	0
Flt Permitted	0.114			0.105			0.065			0.069		
Satd. Flow (perm)	215	1676	0	198	1874	0	122	3528	0	130	3446	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		88			1			10			34	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	725	126	349	340	953	30	635	4132	433	29	2084	680
Shared Lane Traffic (%)												
Lane Group Flow (vph)	725	475	0	340	983	0	635	4565	0	29	2764	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	23.0	41.0		26.0	44.0		21.0	73.0		10.0	62.0	
Total Split (%)	15.3%	27.3%		17.3%	29.3%		14.0%	48.7%		6.7%	41.3%	
Maximum Green (s)	19.0	35.0		22.0	38.0		15.0	67.0		4.0	56.0	
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	
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)	56.0	37.0		62.0	40.0		79.0	69.0		64.0	58.0	
Actuated g/C Ratio	0.37	0.25		0.41	0.27		0.53	0.46		0.43	0.39	
v/c Ratio	2.60	0.99		1.08	1.97		2.51	2.80		0.24	2.04	

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

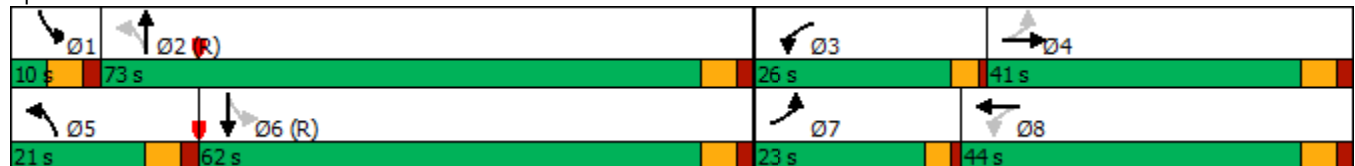
Future Total 2033 - No GTA West Highway
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	750.4	84.4		114.8	471.1		712.5	832.4		23.1	497.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	750.4	84.4		114.8	471.1		712.5	832.4		23.1	497.6	
LOS	F	F		F	F		F	F		C	F	
Approach Delay		486.7			379.5			817.8			492.7	
Approach LOS		F			F			F			F	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.80
Intersection Signal Delay:	638.5
Intersection LOS:	F
Intersection Capacity Utilization	219.2%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Total 2033 - No GTA West Highway
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	725	475	340	983	635	4565	29	2764
v/c Ratio	2.60	0.99	1.08	1.97	2.51	2.80	0.24	2.04
Control Delay	750.4	84.4	114.8	471.1	712.5	832.4	23.1	497.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	750.4	84.4	114.8	471.1	712.5	832.4	23.1	497.6
Queue Length 50th (m)	~347.8	120.5	~96.0	~455.7	~300.7	~1229.3	4.1	~680.2
Queue Length 95th (m)	#424.7	#193.4	#158.5	#536.3	#375.1	#1240.2	9.3	#714.7
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	279	479	315	500	253	1628	121	1353
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	2.60	0.99	1.08	1.97	2.51	2.80	0.24	2.04

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
7: Hurontario Street & Old School Road

Future Total 2033 - No GTA West Highway
PM Peak Hour










Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	667	116	321	313	877	28	584	3801	398	27	1917	626
Future Volume (vph)	667	116	321	313	877	28	584	3801	398	27	1917	626
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		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	0.89		1.00	1.00		1.00	0.99		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)	1789	1676		1789	1875		1789	3528		1789	3446	
Flt Permitted	0.11	1.00		0.11	1.00		0.06	1.00		0.07	1.00	
Satd. Flow (perm)	215	1676		198	1875		122	3528		130	3446	
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)	725	126	349	340	953	30	635	4132	433	29	2084	680
RTOR Reduction (vph)	0	66	0	0	1	0	0	5	0	0	21	0
Lane Group Flow (vph)	725	409	0	340	982	0	635	4560	0	29	2743	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	54.0	35.0		60.0	38.0		77.0	67.0		60.0	56.0	
Effective Green, g (s)	54.0	37.0		60.0	40.0		79.0	69.0		64.0	58.0	
Actuated g/C Ratio	0.36	0.25		0.40	0.27		0.53	0.46		0.43	0.39	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	276	413		312	500		253	1622		121	1332	
v/s Ratio Prot	c0.33	0.24		c0.16	0.52		c0.28	c1.29		0.01	0.80	
v/s Ratio Perm	c0.61			0.28			1.04			0.09		
v/c Ratio	2.63	0.99		1.09	1.96		2.51	2.81		0.24	2.06	
Uniform Delay, d1	45.9	56.3		47.4	55.0		50.3	40.5		34.9	46.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	742.4	41.8		77.1	441.3		691.1	816.7		4.6	479.4	
Delay (s)	788.4	98.1		124.5	496.3		741.4	857.2		39.6	525.4	
Level of Service	F	F		F	F		F	F		D	F	
Approach Delay (s)		515.1			400.7			843.1			520.3	
Approach LOS		F			F			F			F	

Intersection Summary

HCM 2000 Control Delay	664.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.66		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	219.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
8: Chinguacousy Road & Street A (North)

Future Total 2033 - No GTA West Highway
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	76	969	62	98	688
Future Volume (vph)	29	76	969	62	98	688
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.903		0.992			
Flt Protected	0.986					0.994
Satd. Flow (prot)	1677	0	1868	0	0	1872
Flt Permitted	0.986					0.994
Satd. Flow (perm)	1677	0	1868	0	0	1872
Link Speed (k/h)	48		80			80
Link Distance (m)	81.3		401.8			298.8
Travel Time (s)	6.1		18.1			13.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	83	1053	67	107	748
Shared Lane Traffic (%)						
Lane Group Flow (vph)	115	0	1120	0	0	855
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	112.7%		ICU Level of Service H			
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - No GTA West Highway
 8: Chinguacousy Road & Street A (North) PM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	76	969	62	98	688
Future Volume (Veh/h)	29	76	969	62	98	688
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)	32	83	1053	67	107	748
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	2048	1086			1120	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2048	1086			1120	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	37	68			83	
cM capacity (veh/h)	51	263			624	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	115	1120	855			
Volume Left	32	0	107			
Volume Right	83	67	0			
cSH	122	1700	624			
Volume to Capacity	0.95	0.66	0.17			
Queue Length 95th (m)	46.8	0.0	4.7			
Control Delay (s)	135.2	0.0	4.7			
Lane LOS	F		A			
Approach Delay (s)	135.2	0.0	4.7			
Approach LOS	F					
Intersection Summary						
Average Delay			9.4			
Intersection Capacity Utilization			112.7%		ICU Level of Service	H
Analysis Period (min)			15			

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

Future Total 2033 - No GTA West Highway
 PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	64	68	99	915	740	23
Future Volume (vph)	64	68	99	915	740	23
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.931			0.996		
Flt Protected	0.976			0.995		
Satd. Flow (prot)	1711	0	0	1874	1876	0
Flt Permitted	0.976			0.995		
Satd. Flow (perm)	1711	0	0	1874	1876	0
Link Speed (k/h)	48			80	80	
Link Distance (m)	150.6			276.3	311.8	
Travel Time (s)	11.3			12.4	14.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	70	74	108	995	804	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	0	1103	829	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	111.7%
Analysis Period (min)	15
	ICU Level of Service H

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - No GTA West Highway
 9: McLaughlin Road & Street C PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	64	68	99	915	740	23
Future Volume (Veh/h)	64	68	99	915	740	23
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)	70	74	108	995	804	25
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	2028	816	829			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2028	816	829			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	80	87			
cM capacity (veh/h)	55	377	803			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	144	1103	829			
Volume Left	70	108	0			
Volume Right	74	0	25			
cSH	98	803	1700			
Volume to Capacity	1.48	0.13	0.49			
Queue Length 95th (m)	82.1	3.5	0.0			
Control Delay (s)	338.3	4.0	0.0			
Lane LOS	F	A				
Approach Delay (s)	338.3	4.0	0.0			
Approach LOS	F					
Intersection Summary						
Average Delay			25.6			
Intersection Capacity Utilization			111.7%	ICU Level of Service	H	
Analysis Period (min)			15			

Lanes, Volumes, Timings
10: Hurontario Street & Street H

Future Total 2033 - No GTA West Highway
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	23	43	5169	2730	3
Future Volume (vph)	3	23	43	5169	2730	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.879					
Flt Protected	0.995					
Satd. Flow (prot)	1647	0	0	3579	3579	0
Flt Permitted	0.995					
Satd. Flow (perm)	1647	0	0	3579	3579	0
Link Speed (k/h)	48			70	70	
Link Distance (m)	410.2			640.1	215.3	
Travel Time (s)	30.8			32.9	11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	25	47	5618	2967	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	28	0	0	5665	2970	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)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	183.0%
ICU Level of Service	H
Analysis Period (min)	15










HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - No GTA West Highway
 10: Hurontario Street & Street H PM Peak Hour












Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	23	43	5169	2730	3
Future Volume (Veh/h)	3	23	43	5169	2730	3
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)	3	25	47	5618	2967	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					215	
pX, platoon unblocked	0.62	0.62	0.62			
vC, conflicting volume	5872	1485	2970			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	7627	559	2952			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	91	36			
cM capacity (veh/h)	0	293	73			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	28	1920	3745	1978	992	
Volume Left	3	47	0	0	0	
Volume Right	25	0	0	0	3	
cSH	0	73	1700	1700	1700	
Volume to Capacity	3466.00	0.64	2.20	1.16	0.58	
Queue Length 95th (m)	Err	21.8	0.0	0.0	0.0	
Control Delay (s)	Err	2.9	0.0	0.0	0.0	
Lane LOS	F	A				
Approach Delay (s)	Err	1.0		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay			33.0			
Intersection Capacity Utilization			183.0%	ICU Level of Service	H	
Analysis Period (min)			15			

Lanes, Volumes, Timings
 11: Chinguacousy Road & Street A (South)

Future Total 2033 - No GTA West Highway
 PM Peak Hour

















						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	62	969	62	82	635
Future Volume (vph)	29	62	969	62	82	635
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.909		0.992			
Flt Protected	0.984					0.994
Satd. Flow (prot)	1685	0	1868	0	0	1872
Flt Permitted	0.984					0.994
Satd. Flow (perm)	1685	0	1868	0	0	1872
Link Speed (k/h)	48		80			80
Link Distance (m)	156.3		2383.0			401.8
Travel Time (s)	11.7		107.2			18.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	67	1053	67	89	690
Shared Lane Traffic (%)						
Lane Group Flow (vph)	99	0	1120	0	0	779
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	108.1%			ICU Level of Service G		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - No GTA West Highway
 11: Chinguacousy Road & Street A (South) PM Peak Hour

















						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	62	969	62	82	635
Future Volume (Veh/h)	29	62	969	62	82	635
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)	32	67	1053	67	89	690
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	1954	1086			1120	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1954	1086			1120	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	47	75			86	
cM capacity (veh/h)	60	263			624	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	99	1120	779			
Volume Left	32	0	89			
Volume Right	67	67	0			
cSH	126	1700	624			
Volume to Capacity	0.79	0.66	0.14			
Queue Length 95th (m)	35.2	0.0	3.8			
Control Delay (s)	96.9	0.0	3.8			
Lane LOS	F		A			
Approach Delay (s)	96.9	0.0	3.8			
Approach LOS	F					
Intersection Summary						
Average Delay			6.3			
Intersection Capacity Utilization			108.1%	ICU Level of Service	G	
Analysis Period (min)			15			

Lanes, Volumes, Timings
12: McLaughlin Road & Street E

Future Total 2033 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	0	52	172	0	27	74	944	239	34	709	65
Future Volume (vph)	42	0	52	172	0	27	74	944	239	34	709	65
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 _t		0.925			0.982			0.974			0.989	
Fl _t Protected		0.978			0.959			0.997			0.998	
Satd. Flow (prot)	0	1704	0	0	1774	0	0	1829	0	0	1859	0
Fl _t Permitted		0.978			0.959			0.997			0.998	
Satd. Flow (perm)	0	1704	0	0	1774	0	0	1829	0	0	1859	0
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			1359.2			391.4			276.3	
Travel Time (s)		15.4			101.9			17.6			12.4	
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)	46	0	57	187	0	29	80	1026	260	37	771	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	0	0	216	0	0	1366	0	0	879	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	117.2%						ICU Level of Service H					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - No GTA West Highway
 12: McLaughlin Road & Street E PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	0	52	172	0	27	74	944	239	34	709	65
Future Volume (Veh/h)	42	0	52	172	0	27	74	944	239	34	709	65
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)	46	0	57	187	0	29	80	1026	260	37	771	71
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	2226	2326	806	2254	2232	1156	842			1286		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2226	2326	806	2254	2232	1156	842			1286		
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 %	0	100	85	0	100	88	90			93		
cM capacity (veh/h)	24	31	382	22	36	239	794			539		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	103	216	1366	879								
Volume Left	46	187	80	37								
Volume Right	57	29	260	71								
cSH	49	25	794	539								
Volume to Capacity	2.09	8.67	0.10	0.07								
Queue Length 95th (m)	79.2	Err	2.5	1.7								
Control Delay (s)	683.4	Err	4.5	2.1								
Lane LOS	F	F	A	A								
Approach Delay (s)	683.4	Err	4.5	2.1								
Approach LOS	F	F										
Intersection Summary												
Average Delay			872.9									
Intersection Capacity Utilization			117.2%		ICU Level of Service					H		
Analysis Period (min)			15									

Lanes, Volumes, Timings
13: Hurontario Street & Street E

Future Total 2033 - No GTA West Highway
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	273	512	5190	2730	23
Future Volume (vph)	22	273	512	5190	2730	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Fr _t	0.875				0.999	
Fl _t Protected	0.996			0.996		
Satd. Flow (prot)	1641	0	0	3564	3575	0
Fl _t Permitted	0.996			0.996		
Satd. Flow (perm)	1641	0	0	3564	3575	0
Link Speed (k/h)	48			70	70	
Link Distance (m)	1359.2			928.0	640.1	
Travel Time (s)	101.9			47.7	32.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	297	557	5641	2967	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	321	0	0	6198	2992	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	262.6%
ICU Level of Service	H
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - No GTA West Highway
 13: Hurontario Street & Street E PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	273	512	5190	2730	23
Future Volume (Veh/h)	22	273	512	5190	2730	23
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)	24	297	557	5641	2967	25
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	6914	1496	2992			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	6914	1496	2992			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	0	0			
cM capacity (veh/h)	0	112	114			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	321	2437	3761	1978	1014	
Volume Left	24	557	0	0	0	
Volume Right	297	0	0	0	25	
cSH	0	114	1700	1700	1700	
Volume to Capacity	Err	4.89	2.21	1.16	0.60	
Queue Length 95th (m)	Err	Err	0.0	0.0	0.0	
Control Delay (s)	Err	417.5	0.0	0.0	0.0	
Lane LOS	F	F				
Approach Delay (s)	Err	164.2		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay				Err		
Intersection Capacity Utilization				262.6%	ICU Level of Service	H
Analysis Period (min)				15		

Lanes, Volumes, Timings
 14: McLaughlin Road & Street F

Future Total 2033 - No GTA West Highway
 PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	42	52	74	1215	868	65
Future Volume (vph)	42	52	74	1215	868	65
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.925				0.991	
Flt Protected	0.978			0.997		
Satd. Flow (prot)	1704	0	0	1878	1866	0
Flt Permitted	0.978			0.997		
Satd. Flow (perm)	1704	0	0	1878	1866	0
Link Speed (k/h)	48			80	80	
Link Distance (m)	171.6			2104.9	391.4	
Travel Time (s)	12.9			94.7	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	57	80	1321	943	71
Shared Lane Traffic (%)						
Lane Group Flow (vph)	103	0	0	1401	1014	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)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	133.2%
ICU Level of Service	H
Analysis Period (min)	15























HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - No GTA West Highway
 14: McLaughlin Road & Street F PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	42	52	74	1215	868	65
Future Volume (Veh/h)	42	52	74	1215	868	65
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)	46	57	80	1321	943	71
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	2460	978	1014			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2460	978	1014			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	81	88			
cM capacity (veh/h)	30	304	684			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	103	1401	1014			
Volume Left	46	80	0			
Volume Right	57	0	71			
cSH	59	684	1700			
Volume to Capacity	1.74	0.12	0.60			
Queue Length 95th (m)	72.3	3.0	0.0			
Control Delay (s)	504.5	6.0	0.0			
Lane LOS	F	A				
Approach Delay (s)	504.5	6.0	0.0			
Approach LOS	F					
Intersection Summary						
Average Delay			24.0			
Intersection Capacity Utilization			133.2%	ICU Level of Service	H	
Analysis Period (min)			15			

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

Future Total 2033 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	753	49	381	805	202	72	498	405	90	214	26
Future Volume (vph)	31	753	49	381	805	202	72	498	405	90	214	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.970				0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5096	0	3471	4988	0	1789	1883	1601	1789	1853	0
Flt Permitted	0.248			0.950			0.525			0.268		
Satd. Flow (perm)	467	5096	0	3471	4988	0	989	1883	1601	505	1853	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			68				440			7
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5			2383.0	
Travel Time (s)		14.1			73.0			15.5			107.2	
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)	34	818	53	414	875	220	78	541	440	98	233	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	871	0	414	1095	0	78	541	440	98	261	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	34.0	34.0		26.0	60.0		60.0	60.0	60.0	60.0	60.0	60.0
Total Split (%)	28.3%	28.3%		21.7%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	30.0	30.0		22.0	56.0		56.0	56.0	56.0	56.0	56.0	56.0
Yellow Time (s)	3.5	3.5		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	0.5	0.5
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	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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
Act Effct Green (s)	30.0	30.0		22.0	56.0		56.0	56.0	56.0	56.0	56.0	56.0
Actuated g/C Ratio	0.25	0.25		0.18	0.47		0.47	0.47	0.47	0.47	0.47	0.47
v/c Ratio	0.29	0.68		0.65	0.46		0.17	0.62	0.45	0.42	0.30	

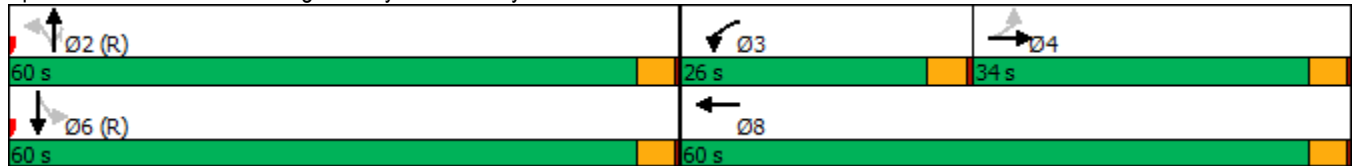
Lanes, Volumes, Timings
 15: Chinguacousy Road & Mayfield Road

Future Total 2033 - No GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	44.6	43.5		35.2	25.7		19.8	27.8	3.3	28.1	20.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	44.6	43.5		35.2	25.7		19.8	27.8	3.3	28.1	20.5	
LOS	D	D		D	C		B	C	A	C	C	
Approach Delay		43.5			28.3			17.0			22.5	
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:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	28.2
Intersection LOS:	C
Intersection Capacity Utilization	71.0%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

Future Total 2033 - No GTA West Highway

15: Chinguacousy Road & Mayfield Road

PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	34	871	414	1095	78	541	440	98	261
v/c Ratio	0.29	0.68	0.65	0.46	0.17	0.62	0.45	0.42	0.30
Control Delay	44.6	43.5	35.2	25.7	19.8	27.8	3.3	28.1	20.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	43.5	35.2	25.7	19.8	27.8	3.3	28.1	20.5
Queue Length 50th (m)	6.5	67.5	51.4	81.4	10.4	93.0	0.0	14.9	36.1
Queue Length 95th (m)	16.6	82.4	m50.6	m77.9	20.3	129.2	16.7	30.8	54.7
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	116	1280	636	2364	461	878	981	235	868
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.68	0.65	0.46	0.17	0.62	0.45	0.42	0.30

Intersection Summary

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




























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

Future Total 2033 - No GTA West Highway
 PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	753	49	381	805	202	72	498	405	90	214	26
Future Volume (vph)	31	753	49	381	805	202	72	498	405	90	214	26
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	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5095		3471	4987		1789	1883	1601	1789	1853	
Flt Permitted	0.25	1.00		0.95	1.00		0.52	1.00	1.00	0.27	1.00	
Satd. Flow (perm)	468	5095		3471	4987		988	1883	1601	505	1853	
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	818	53	414	875	220	78	541	440	98	233	28
RTOR Reduction (vph)	0	6	0	0	36	0	0	0	235	0	4	0
Lane Group Flow (vph)	34	865	0	414	1059	0	78	541	205	98	257	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	30.0	30.0		22.0	56.0		56.0	56.0	56.0	56.0	56.0	
Effective Green, g (s)	30.0	30.0		22.0	56.0		56.0	56.0	56.0	56.0	56.0	
Actuated g/C Ratio	0.25	0.25		0.18	0.47		0.47	0.47	0.47	0.47	0.47	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	117	1273		636	2327		461	878	747	235	864	
v/s Ratio Prot		c0.17		c0.12	0.21			c0.29			0.14	
v/s Ratio Perm	0.07						0.08		0.13	0.19		
v/c Ratio	0.29	0.68		0.65	0.45		0.17	0.62	0.27	0.42	0.30	
Uniform Delay, d1	36.4	40.7		45.4	21.7		18.5	24.0	19.6	21.2	19.8	
Progression Factor	1.00	1.00		0.76	1.26		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.2	2.9		0.5	0.1		0.8	3.2	0.9	5.4	0.9	
Delay (s)	42.6	43.6		34.9	27.3		19.3	27.2	20.5	26.6	20.7	
Level of Service	D	D		C	C		B	C	C	C	C	
Approach Delay (s)		43.6			29.4			23.8			22.3	
Approach LOS		D			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			30.5			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)		12.0				
Intersection Capacity Utilization			71.0%			ICU Level of Service			C			
Analysis Period (min)			15									
c	Critical Lane Group											

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

Future Total 2033 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	209	1081	75	232	1208	357	144	735	193	200	392	195
Future Volume (vph)	209	1081	75	232	1208	357	144	735	193	200	392	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.966				0.850		0.950	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	4967	0	1789	1883	1601	1789	1789	0
Flt Permitted	0.129			0.114			0.137			0.080		
Satd. Flow (perm)	243	5142	1601	215	4967	0	258	1883	1601	151	1789	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118		63				145		26	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	227	1175	82	252	1313	388	157	799	210	217	426	212
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	1175	82	252	1701	0	157	799	210	217	638	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	15.0	35.0	35.0	20.0	40.0		11.0	52.0	52.0	13.0	54.0	
Total Split (%)	12.5%	29.2%	29.2%	16.7%	33.3%		9.2%	43.3%	43.3%	10.8%	45.0%	
Maximum Green (s)	11.0	31.0	31.0	16.0	36.0		7.0	48.0	48.0	9.0	50.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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)	42.0	31.0	31.0	51.0	36.0		55.0	48.0	48.0	59.0	50.0	
Actuated g/C Ratio	0.35	0.26	0.26	0.42	0.30		0.46	0.40	0.40	0.49	0.42	
v/c Ratio	1.00	0.88	0.16	0.84	1.11		0.76	1.06	0.29	1.10	0.84	

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

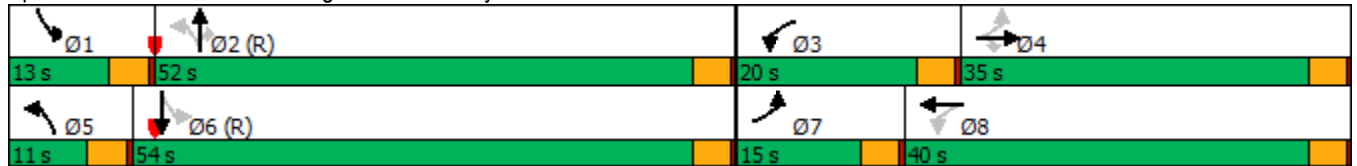
Future Total 2033 - No GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Control Delay	78.1	45.3	8.7	24.5	86.2		41.8	85.7	9.1	122.5	41.7		
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay	78.1	45.3	8.7	24.5	86.2		41.8	85.7	9.1	122.5	41.7		
LOS	E	D	A	C	F		D	F	A	F	D		
Approach Delay		48.3				78.3				66.0			62.2
Approach LOS		D				E				E			

Intersection Summary

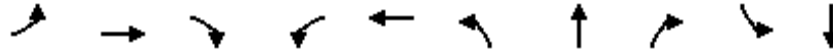
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Pretimed
Maximum v/c Ratio:	1.11
Intersection Signal Delay:	65.0
Intersection LOS:	E
Intersection Capacity Utilization	106.0%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Total 2033 - No GTA West Highway
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	227	1175	82	252	1701	157	799	210	217	638
v/c Ratio	1.00	0.88	0.16	0.84	1.11	0.76	1.06	0.29	1.10	0.84
Control Delay	78.1	45.3	8.7	24.5	86.2	41.8	85.7	9.1	122.5	41.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.1	45.3	8.7	24.5	86.2	41.8	85.7	9.1	122.5	41.7
Queue Length 50th (m)	~43.2	104.6	5.2	45.1	~165.6	19.3	~207.0	9.4	~42.3	128.1
Queue Length 95th (m)	#84.4	#120.5	m12.3	m37.9	m123.4	#41.8	#280.5	25.7	#91.1	#191.7
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	226	1328	501	301	1534	207	753	727	197	760
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	1.00	0.88	0.16	0.84	1.11	0.76	1.06	0.29	1.10	0.84

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

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

Future Total 2033 - No GTA West Highway
 PM Peak Hour



































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑	↗	↘	↗	
Traffic Volume (vph)	209	1081	75	232	1208	357	144	735	193	200	392	195
Future Volume (vph)	209	1081	75	232	1208	357	144	735	193	200	392	195
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	4966		1789	1883	1601	1789	1790	
Flt Permitted	0.13	1.00	1.00	0.11	1.00		0.14	1.00	1.00	0.08	1.00	
Satd. Flow (perm)	243	5142	1601	215	4966		258	1883	1601	151	1790	
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)	227	1175	82	252	1313	388	157	799	210	217	426	212
RTOR Reduction (vph)	0	0	61	0	44	0	0	0	87	0	15	0
Lane Group Flow (vph)	227	1175	21	252	1657	0	157	799	123	217	623	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	42.0	31.0	31.0	51.0	36.0		55.0	48.0	48.0	59.0	50.0	
Effective Green, g (s)	42.0	31.0	31.0	51.0	36.0		55.0	48.0	48.0	59.0	50.0	
Actuated g/C Ratio	0.35	0.26	0.26	0.42	0.30		0.46	0.40	0.40	0.49	0.42	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	226	1328	413	301	1489		207	753	640	197	745	
v/s Ratio Prot	c0.09	0.23		c0.11	c0.33		0.04	0.42		c0.08	0.35	
v/s Ratio Perm	0.26		0.01	0.24			0.30		0.08	c0.46		
v/c Ratio	1.00	0.88	0.05	0.84	1.11		0.76	1.06	0.19	1.10	0.84	
Uniform Delay, d1	33.0	42.8	33.4	30.8	42.0		24.8	36.0	23.4	34.0	31.3	
Progression Factor	0.58	0.87	3.53	0.70	0.94		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	56.5	7.7	0.2	2.7	51.8		22.6	50.2	0.7	93.9	10.8	
Delay (s)	75.6	44.9	118.4	24.3	91.3		47.4	86.2	24.1	127.9	42.1	
Level of Service	E	D	F	C	F		D	F	C	F	D	
Approach Delay (s)		53.7			82.7			69.8			63.9	
Approach LOS		D			F			E			E	

Intersection Summary

HCM 2000 Control Delay	69.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	106.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Total 2033 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 			 	
Traffic Volume (vph)	519	759	146	290	1181	171	421	920	48	214	964	765
Future Volume (vph)	519	759	146	290	1181	171	421	920	48	214	964	765
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.112			0.287		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	211	3579	1601	541	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			159			87			52			292
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	564	825	159	315	1284	186	458	1000	52	233	1048	832
Shared Lane Traffic (%)												
Lane Group Flow (vph)	564	825	159	315	1284	186	458	1000	52	233	1048	832
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2				6
Permitted Phases			4			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	19.0	30.0	30.0	18.0	29.0	29.0	19.0	72.0	72.0	53.0	53.0	53.0
Total Split (%)	15.8%	25.0%	25.0%	15.0%	24.2%	24.2%	15.8%	60.0%	60.0%	44.2%	44.2%	44.2%
Maximum Green (s)	15.0	26.0	26.0	14.0	25.0	25.0	15.0	68.0	68.0	49.0	49.0	49.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	Lag
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
Act Effct Green (s)	15.0	26.0	26.0	14.0	25.0	25.0	68.0	68.0	68.0	49.0	49.0	49.0
Actuated g/C Ratio	0.12	0.22	0.22	0.12	0.21	0.21	0.57	0.57	0.57	0.41	0.41	0.41
v/c Ratio	1.30	0.74	0.34	0.78	1.20	0.46	1.45	0.49	0.06	1.06	0.72	1.01

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

Future Total 2033 - No GTA West Highway
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	173.0	42.1	19.4	65.7	140.0	25.9	244.9	16.7	3.3	113.0	33.1	56.8
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	173.0	42.1	19.4	65.7	140.0	25.9	244.9	16.7	3.3	113.0	33.1	56.8
LOS	F	D	B	E	F	C	F	B	A	F	C	E
Approach Delay	87.4			115.0			85.4			51.3		
Approach LOS	F			F			F			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:	130
Control Type:	Pretimed
Maximum v/c Ratio:	1.45
Intersection Signal Delay:	83.1
Intersection LOS:	F
Intersection Capacity Utilization	103.5%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues

Future Total 2033 - No GTA West Highway

17: 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)	564	825	159	315	1284	186	458	1000	52	233	1048	832
v/c Ratio	1.30	0.74	0.34	0.78	1.20	0.46	1.45	0.49	0.06	1.06	0.72	1.01
Control Delay	173.0	42.1	19.4	65.7	140.0	25.9	244.9	16.7	3.3	113.0	33.1	56.8
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	173.0	42.1	19.4	65.7	140.0	25.9	244.9	16.7	3.3	113.0	33.1	56.8
Queue Length 50th (m)	~87.4	74.6	20.9	37.6	~134.3	19.8	~124.4	70.9	0.0	~60.1	106.9	~149.7
Queue Length 95th (m)	m#104.2	m82.9	m24.9	#56.9	#163.4	42.2	#188.2	87.4	5.3	#109.5	131.3	#236.7
Internal Link Dist (m)		1381.8			725.9			357.1				585.4
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	433	1114	471	404	1071	402	316	2028	929	220	1461	826
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	1.30	0.74	0.34	0.78	1.20	0.46	1.45	0.49	0.06	1.06	0.72	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.

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

















HCM Signalized Intersection Capacity Analysis
 17: Hurontario Street & Mayfield Road

Future Total 2033 - No GTA West Highway
 PM Peak Hour

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 			 	
Traffic Volume (vph)	519	759	146	290	1181	171	421	920	48	214	964	765
Future Volume (vph)	519	759	146	290	1181	171	421	920	48	214	964	765
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	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.11	1.00	1.00	0.29	1.00	1.00
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	210	3579	1601	540	3579	1601
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)	564	825	159	315	1284	186	458	1000	52	233	1048	832
RTOR Reduction (vph)	0	0	125	0	0	69	0	0	23	0	0	173
Lane Group Flow (vph)	564	825	34	315	1284	117	458	1000	29	233	1048	659
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2				6
Permitted Phases			4			8	2		2	6		6
Actuated Green, G (s)	15.0	26.0	26.0	14.0	25.0	25.0	68.0	68.0	68.0	49.0	49.0	49.0
Effective Green, g (s)	15.0	26.0	26.0	14.0	25.0	25.0	68.0	68.0	68.0	49.0	49.0	49.0
Actuated g/C Ratio	0.12	0.22	0.22	0.12	0.21	0.21	0.57	0.57	0.57	0.41	0.41	0.41
Clearance Time (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
Lane Grp Cap (vph)	433	1114	346	404	1071	333	316	2028	907	220	1461	653
v/s Ratio Prot	c0.16	0.16		0.09	c0.25		c0.18	0.28			0.29	
v/s Ratio Perm			0.02			0.07	c0.64		0.02	0.43		0.41
v/c Ratio	1.30	0.74	0.10	0.78	1.20	0.35	1.45	0.49	0.03	1.06	0.72	1.01
Uniform Delay, d1	52.5	43.9	37.6	51.5	47.5	40.6	31.8	15.6	11.5	35.5	29.7	35.5
Progression Factor	0.55	0.90	3.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	144.9	2.3	0.3	13.8	98.7	2.9	219.2	0.9	0.1	77.1	3.1	37.6
Delay (s)	173.9	41.8	113.6	65.3	146.2	43.5	251.0	16.5	11.5	112.6	32.8	73.1
Level of Service	F	D	F	E	F	D	F	B	B	F	C	E
Approach Delay (s)		97.3			121.2			87.5			57.5	
Approach LOS		F			F			F			E	
Intersection Summary												
HCM 2000 Control Delay			89.2			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)					16.0			
Intersection Capacity Utilization			103.5%	ICU Level of Service			G					
Analysis Period (min)			15									
c Critical Lane Group												

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

Future Background 2038 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	241	20	131	138	40	10	254	234	36	350	1
Future Volume (vph)	8	241	20	131	138	40	10	254	234	36	350	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.990			0.983			0.937				
Fl _t Protected		0.998			0.979			0.999			0.995	
Satd. Flow (prot)	0	1861	0	0	1813	0	0	1763	0	0	1874	0
Fl _t Permitted		0.998			0.979			0.999			0.995	
Satd. Flow (perm)	0	1861	0	0	1813	0	0	1763	0	0	1874	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	0.92	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)	9	262	22	142	150	43	11	276	254	39	380	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	293	0	0	335	0	0	541	0	0	420	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	79.1%						ICU Level of Service D					
Analysis Period (min)	15											

















HCM Unsignalized Intersection Capacity Analysis - Future Background 2038 - No GTA West Highway
 1: Chinguacousy Road & Old School Road 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)	8	241	20	131	138	40	10	254	234	36	350	1
Future Volume (vph)	8	241	20	131	138	40	10	254	234	36	350	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
Hourly flow rate (vph)	9	262	22	142	150	43	11	276	254	39	380	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	293	335	541	420								
Volume Left (vph)	9	142	11	39								
Volume Right (vph)	22	43	254	1								
Hadj (s)	0.00	0.04	-0.24	0.05								
Departure Headway (s)	9.1	8.9	8.4	8.5								
Degree Utilization, x	0.74	0.83	1.26	1.00								
Capacity (veh/h)	384	392	436	420								
Control Delay (s)	34.2	43.1	160.7	72.9								
Approach Delay (s)	34.2	43.1	160.7	72.9								
Approach LOS	D	E	F	F								
Intersection Summary												
Delay			89.4									
Level of Service			F									
Intersection Capacity Utilization			79.1%	ICU Level of Service	D							
Analysis Period (min)			15									

















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

Future Background 2038 - No GTA West Highway

AM Peak Hour























												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	342	118	207	258	22	39	101	339	22	323	11
Future Volume (vph)	52	342	118	207	258	22	39	101	339	22	323	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
Frt		0.969			0.994			0.904			0.996	
Flt Protected		0.995			0.979			0.996			0.997	
Satd. Flow (prot)	0	1816	0	0	1833	0	0	1696	0	0	1870	0
Flt Permitted		0.995			0.979			0.996			0.997	
Satd. Flow (perm)	0	1816	0	0	1833	0	0	1696	0	0	1870	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	57	372	128	225	280	24	42	110	368	24	351	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	557	0	0	529	0	0	520	0	0	387	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	103.7%						ICU Level of Service G					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis - Future Background 2038 - No GTA West Highway
 4: McLaughlin Road & Old School Road 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)	52	342	118	207	258	22	39	101	339	22	323	11
Future Volume (vph)	52	342	118	207	258	22	39	101	339	22	323	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	372	128	225	280	24	42	110	368	24	351	12
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	557	529	520	387								
Volume Left (vph)	57	225	42	24								
Volume Right (vph)	128	24	368	12								
Hadj (s)	-0.08	0.09	-0.37	0.03								
Departure Headway (s)	9.5	9.7	9.2	9.6								
Degree Utilization, x	1.47	1.42	1.33	1.03								
Capacity (veh/h)	391	383	400	387								
Control Delay (s)	249.1	229.6	190.4	86.7								
Approach Delay (s)	249.1	229.6	190.4	86.7								
Approach LOS	F	F	F	F								
Intersection Summary												
Delay			197.1									
Level of Service			F									
Intersection Capacity Utilization			103.7%	ICU Level of Service	G							
Analysis Period (min)			15									

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

Future Background 2038 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	514	144	142	393	117	16	42	1733	155	21	3223	270
Future Volume (vph)	514	144	142	393	117	16	42	1733	155	21	3223	270
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		0.926			0.982			0.988			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1744	0	1789	1850	0	1789	3536	0	1789	3536	0
Flt Permitted	0.536			0.319			0.071			0.071		
Satd. Flow (perm)	1010	1744	0	601	1850	0	134	3536	0	134	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40			5			10			10	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	559	157	154	427	127	17	46	1884	168	23	3503	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	559	311	0	427	144	0	46	2052	0	23	3796	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	16.0	36.0		14.0	34.0		10.0	60.0		10.0	60.0	
Total Split (%)	13.3%	30.0%		11.7%	28.3%		8.3%	50.0%		8.3%	50.0%	
Maximum Green (s)	12.0	30.0		10.0	28.0		4.0	54.0		4.0	54.0	
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	
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)	44.0	32.0		40.0	30.0		62.0	56.0		62.0	56.0	
Actuated g/C Ratio	0.37	0.27		0.33	0.25		0.52	0.47		0.52	0.47	
v/c Ratio	1.25	0.63		1.43	0.31		0.30	1.24		0.15	2.29	

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

Future Background 2038 - No GTA West Highway

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	160.7	40.1		239.3	37.5		17.9	143.3		14.7	604.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	160.7	40.1		239.3	37.5		17.9	143.3		14.7	604.9	
LOS	F	D		F	D		B	F		B	F	
Approach Delay		117.6			188.4			140.6			601.3	
Approach LOS		F			F			F			F	

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:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.29
Intersection Signal Delay:	380.7
Intersection LOS:	F
Intersection Capacity Utilization	145.7%
ICU Level of Service	H
Analysis Period (min)	15

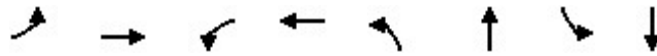
Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Background 2038 - No GTA West Highway

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	559	311	427	144	46	2052	23	3796
v/c Ratio	1.25	0.63	1.43	0.31	0.30	1.24	0.15	2.29
Control Delay	160.7	40.1	239.3	37.5	17.9	143.3	14.7	604.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	160.7	40.1	239.3	37.5	17.9	143.3	14.7	604.9
Queue Length 50th (m)	~154.3	56.5	~119.6	26.7	4.8	~316.7	2.4	~774.1
Queue Length 95th (m)	#230.7	86.9	#197.2	44.8	10.3	#359.2	6.2	#805.6
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	448	494	299	466	151	1655	151	1655
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	1.25	0.63	1.43	0.31	0.30	1.24	0.15	2.29

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 Future Background 2038 - No GTA West Highway
 7: Hurontario Street & Old School Road AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	514	144	142	393	117	16	42	1733	155	21	3223	270
Future Volume (vph)	514	144	142	393	117	16	42	1733	155	21	3223	270
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		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	0.93		1.00	0.98		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)	1789	1744		1789	1850		1789	3535		1789	3537	
Flt Permitted	0.54	1.00		0.32	1.00		0.07	1.00		0.07	1.00	
Satd. Flow (perm)	1010	1744		600	1850		135	3535		135	3537	
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)	559	157	154	427	127	17	46	1884	168	23	3503	293
RTOR Reduction (vph)	0	29	0	0	4	0	0	5	0	0	5	0
Lane Group Flow (vph)	559	282	0	427	140	0	46	2047	0	23	3791	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.0	30.0		38.0	28.0		58.0	54.0		58.0	54.0	
Effective Green, g (s)	42.0	32.0		38.0	30.0		62.0	56.0		62.0	56.0	
Actuated g/C Ratio	0.35	0.27		0.32	0.25		0.52	0.47		0.52	0.47	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	431	465		289	462		152	1649		152	1650	
v/s Ratio Prot	c0.13	0.16		0.12	0.08		c0.02	0.58		0.01	c1.07	
v/s Ratio Perm	0.32			c0.34			0.14			0.07		
v/c Ratio	1.30	0.61		1.48	0.30		0.30	1.24		0.15	2.30	
Uniform Delay, d1	38.0	38.5		39.2	36.5		25.9	32.0		25.6	32.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	149.9	5.8		232.7	1.7		5.1	113.9		2.1	585.7	
Delay (s)	187.9	44.2		271.9	38.2		31.0	145.9		27.7	617.7	
Level of Service	F	D		F	D		C	F		C	F	
Approach Delay (s)		136.5			212.9			143.4			614.2	
Approach LOS		F			F			F			F	
Intersection Summary												
HCM 2000 Control Delay			392.3	HCM 2000 Level of Service				F				
HCM 2000 Volume to Capacity ratio			1.80									
Actuated Cycle Length (s)			120.0	Sum of lost time (s)				16.0				
Intersection Capacity Utilization			145.7%	ICU Level of Service				H				
Analysis Period (min)			15									
c	Critical Lane Group											

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

Future Background 2038 - No GTA West Highway

AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	942	139	241	680	35	31	161	172	109	333	20
Future Volume (vph)	16	942	139	241	680	35	31	161	172	109	333	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.993				0.850		0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5044	0	3471	5106	0	1789	1883	1601	1789	1866	0
Flt Permitted	0.346			0.950			0.368			0.599		
Satd. Flow (perm)	652	5044	0	3471	5106	0	693	1883	1601	1128	1866	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			10				187			3
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	17	1024	151	262	739	38	34	175	187	118	362	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	1175	0	262	777	0	34	175	187	118	384	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	41.0	41.0		26.0	67.0		53.0	53.0	53.0	53.0		53.0
Total Split (%)	34.2%	34.2%		21.7%	55.8%		44.2%	44.2%	44.2%	44.2%		44.2%
Maximum Green (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0		49.0
Yellow Time (s)	3.5	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		0.5
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)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0		49.0
Actuated g/C Ratio	0.31	0.31		0.18	0.52		0.41	0.41	0.41	0.41		0.41
v/c Ratio	0.08	0.75		0.41	0.29		0.12	0.23	0.24	0.26		0.50

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

Future Background 2038 - No GTA West Highway

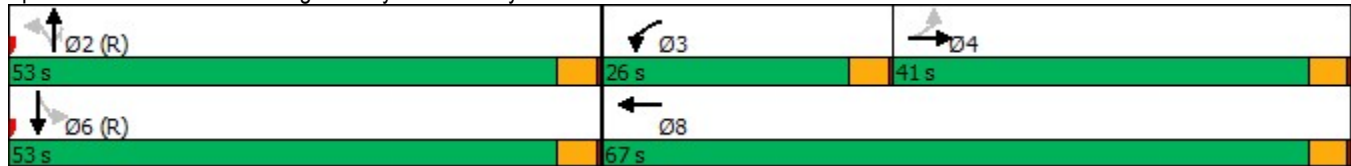
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	31.1	40.1		45.6	16.1		23.7	24.2	4.0	25.4	29.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	31.1	40.1		45.6	16.1		23.7	24.2	4.0	25.4	29.1	
LOS	C	D		D	B		C	C	A	C	C	
Approach Delay		40.0			23.5			14.6			28.2	
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:	0.75
Intersection Signal Delay:	29.4
Intersection LOS:	C
Intersection Capacity Utilization	63.6%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

Future Background 2038 - No GTA West Highway

15: Chinguacousy Road & Mayfield Road


























AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	17	1175	262	777	34	175	187	118	384
v/c Ratio	0.08	0.75	0.41	0.29	0.12	0.23	0.24	0.26	0.50
Control Delay	31.1	40.1	45.6	16.1	23.7	24.2	4.0	25.4	29.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.1	40.1	45.6	16.1	23.7	24.2	4.0	25.4	29.1
Queue Length 50th (m)	2.8	89.3	28.4	35.6	4.9	26.5	0.0	18.1	65.8
Queue Length 95th (m)	8.6	106.2	41.0	44.0	12.1	42.3	13.4	32.2	94.4
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	201	1571	636	2685	282	768	764	460	763
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.75	0.41	0.29	0.12	0.23	0.24	0.26	0.50

Intersection Summary

HCM Signalized Intersection Capacity Analysis Future Background 2038 - No GTA West Highway
 15: Chinguacousy Road & Mayfield Road AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 		 	 								
Traffic Volume (vph)	16	942	139	241	680	35	31	161	172	109	333	20	
Future Volume (vph)	16	942	139	241	680	35	31	161	172	109	333	20	
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	4.0	4.0	4.0		
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00		
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.99		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1789	5043		3471	5104		1789	1883	1601	1789	1867		
Flt Permitted	0.35	1.00		0.95	1.00		0.37	1.00	1.00	0.60	1.00		
Satd. Flow (perm)	651	5043		3471	5104		693	1883	1601	1127	1867		
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)	17	1024	151	262	739	38	34	175	187	118	362	22	
RTOR Reduction (vph)	0	16	0	0	5	0	0	0	111	0	2	0	
Lane Group Flow (vph)	17	1159	0	262	772	0	34	175	76	118	382	0	
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		4		3	8			2		2	6		
Permitted Phases	4						2		2		6		
Actuated Green, G (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0	49.0		
Effective Green, g (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0	49.0		
Actuated g/C Ratio	0.31	0.31		0.18	0.52		0.41	0.41	0.41	0.41	0.41		
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0		
Lane Grp Cap (vph)	200	1554		636	2679		282	768	653	460	762		
v/s Ratio Prot		c0.23		c0.08	0.15			0.09			c0.20		
v/s Ratio Perm	0.03						0.05		0.05	0.10			
v/c Ratio	0.09	0.75		0.41	0.29		0.12	0.23	0.12	0.26	0.50		
Uniform Delay, d1	29.5	37.3		43.3	16.0		22.1	23.2	22.1	23.5	26.4		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.8	3.3		2.0	0.3		0.9	0.7	0.4	1.3	2.4		
Delay (s)	30.3	40.6		45.3	16.2		23.0	23.8	22.4	24.8	28.8		
Level of Service	C	D		D	B		C	C	C	C	C		
Approach Delay (s)		40.4			23.5			23.1			27.8		
Approach LOS		D			C			C			C		
Intersection Summary													
HCM 2000 Control Delay			30.6									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			63.6%									ICU Level of Service	B
Analysis Period (min)			15										
c	Critical Lane Group												

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

Future Background 2038 - No GTA West Highway
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	1171	142	234	923	77	51	224	180	250	462	66
Future Volume (vph)	12	1171	142	234	923	77	51	224	180	250	462	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.988				0.850		0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	5080	0	1789	3579	1601	1789	1848	0
Flt Permitted	0.133			0.105			0.377			0.518		
Satd. Flow (perm)	250	5142	1601	198	5080	0	710	3579	1601	976	1848	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		10				196		7	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	1273	154	254	1003	84	55	243	196	272	502	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	1273	154	254	1087	0	55	243	196	272	574	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	12.0	38.0	38.0	19.0	45.0		8.0	50.0	50.0	29.0	71.0	
Total Split (%)	8.8%	27.9%	27.9%	14.0%	33.1%		5.9%	36.8%	36.8%	21.3%	52.2%	
Maximum Green (s)	8.0	34.0	34.0	15.0	41.0		4.0	46.0	46.0	25.0	67.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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)	42.0	34.0	34.0	53.0	41.0		50.0	46.0	46.0	75.0	67.0	
Actuated g/C Ratio	0.31	0.25	0.25	0.39	0.30		0.37	0.34	0.34	0.55	0.49	
v/c Ratio	0.08	0.99	0.31	1.01	0.71		0.19	0.20	0.29	0.40	0.63	

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

Future Background 2038 - No GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Control Delay	27.1	73.6	10.5	95.7	44.8		18.3	32.5	5.3	18.1	28.8		
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay	27.1	73.6	10.5	95.7	44.8		18.3	32.5	5.3	18.1	28.8		
LOS	C	E	B	F	D		B	C	A	B	C		
Approach Delay		66.4				54.4				20.1			25.4
Approach LOS		E				D				C			

Intersection Summary

Area Type:	Other
Cycle Length:	136
Actuated Cycle Length:	136
Offset:	120 (88%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	1.01
Intersection Signal Delay:	48.5
Intersection LOS:	D
Intersection Capacity Utilization	80.6%
ICU Level of Service	D
Analysis Period (min)	15

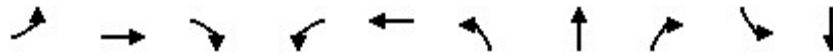
Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Background 2038 - No GTA West Highway

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	13	1273	154	254	1087	55	243	196	272	574
v/c Ratio	0.08	0.99	0.31	1.01	0.71	0.19	0.20	0.29	0.40	0.63
Control Delay	27.1	73.6	10.5	95.7	44.8	18.3	32.5	5.3	18.1	28.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	73.6	10.5	95.7	44.8	18.3	32.5	5.3	18.1	28.8
Queue Length 50th (m)	2.1	125.6	3.7	~53.9	94.2	6.6	24.3	0.0	37.3	109.3
Queue Length 95th (m)	6.7	#158.3	21.0	#109.6	110.6	13.1	34.8	16.3	54.3	148.0
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	167	1285	502	252	1538	292	1210	671	687	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	0.08	0.99	0.31	1.01	0.71	0.19	0.20	0.29	0.40	0.63

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 Future Background 2038 - No GTA West Highway
 16: McLaughlin Road & Mayfield Road AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (vph)	12	1171	142	234	923	77	51	224	180	250	462	66
Future Volume (vph)	12	1171	142	234	923	77	51	224	180	250	462	66
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	5082		1789	3579	1601	1789	1848	
Flt Permitted	0.13	1.00	1.00	0.11	1.00		0.38	1.00	1.00	0.52	1.00	
Satd. Flow (perm)	250	5142	1601	198	5082		710	3579	1601	976	1848	
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)	13	1273	154	254	1003	84	55	243	196	272	502	72
RTOR Reduction (vph)	0	0	102	0	7	0	0	0	130	0	4	0
Lane Group Flow (vph)	13	1273	52	254	1080	0	55	243	66	272	570	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	42.0	34.0	34.0	53.0	41.0		50.0	46.0	46.0	75.0	67.0	
Effective Green, g (s)	42.0	34.0	34.0	53.0	41.0		50.0	46.0	46.0	75.0	67.0	
Actuated g/C Ratio	0.31	0.25	0.25	0.39	0.30		0.37	0.34	0.34	0.55	0.49	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	167	1285	400	252	1532		292	1210	541	687	910	
v/s Ratio Prot	0.00	0.25		c0.11	0.21		0.01	0.07		c0.07	c0.31	
v/s Ratio Perm	0.02		0.03	c0.28			0.06		0.04	0.15		
v/c Ratio	0.08	0.99	0.13	1.01	0.70		0.19	0.20	0.12	0.40	0.63	
Uniform Delay, d1	33.7	50.8	39.5	40.1	42.1		28.3	31.9	31.1	16.4	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	0.9	23.0	0.7	58.7	2.8		1.4	0.4	0.5	1.7	3.3	
Delay (s)	34.6	73.8	40.2	98.9	44.9		29.7	32.3	31.5	18.1	28.6	
Level of Service	C	E	D	F	D		C	C	C	B	C	
Approach Delay (s)		69.9			55.1			31.7			25.2	
Approach LOS		E			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			51.3			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			136.0			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
17: Hurontario Street & Mayfield Road

Future Background 2038 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 			 	
Traffic Volume (vph)	192	1223	99	236	703	243	95	664	114	527	1086	213
Future Volume (vph)	192	1223	99	236	703	243	95	664	114	527	1086	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.188			0.111		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	354	3579	1601	209	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			111			264			124			232
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	209	1329	108	257	764	264	103	722	124	573	1180	232
Shared Lane Traffic (%)												
Lane Group Flow (vph)	209	1329	108	257	764	264	103	722	124	573	1180	232
Enter Blocked Intersection	No	No	No	No	No	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	Prot	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			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	17.0	38.0	38.0	14.0	35.0	35.0	14.0	36.0	36.0	40.0	62.0	62.0
Total Split (%)	13.3%	29.7%	29.7%	10.9%	27.3%	27.3%	10.9%	28.1%	28.1%	31.3%	48.4%	48.4%
Maximum Green (s)	13.0	34.0	34.0	10.0	31.0	31.0	10.0	32.0	32.0	36.0	58.0	58.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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
Act Effct Green (s)	13.0	34.0	34.0	10.0	31.0	31.0	42.0	32.0	32.0	72.0	58.0	58.0
Actuated g/C Ratio	0.10	0.27	0.27	0.08	0.24	0.24	0.33	0.25	0.25	0.56	0.45	0.45
v/c Ratio	0.59	0.97	0.21	0.95	0.61	0.45	0.45	0.81	0.25	1.02	0.73	0.27

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

Future Background 2038 - No GTA West Highway

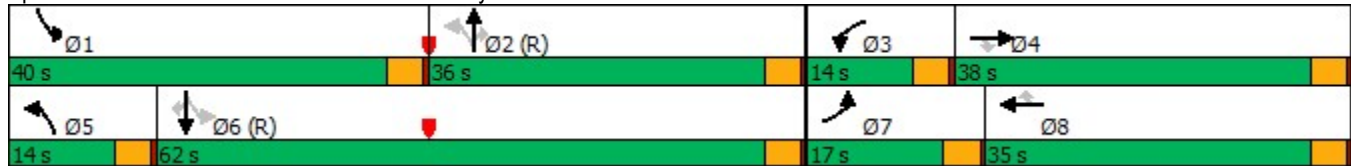
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	62.5	65.4	7.2	101.5	45.7	7.1	25.1	53.3	7.7	79.7	31.8	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	62.5	65.4	7.2	101.5	45.7	7.1	25.1	53.3	7.7	79.7	31.8	3.4
LOS	E	E	A	F	D	A	C	D	A	E	C	A
Approach Delay	61.2			48.9			44.2			42.3		
Approach LOS	E			D			D			D		

Intersection Summary

Area Type:	Other
Cycle Length:	128
Actuated Cycle Length:	128
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	90
Control Type:	Pretimed
Maximum v/c Ratio:	1.02
Intersection Signal Delay:	49.4
Intersection LOS:	D
Intersection Capacity Utilization	91.2%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues
17: Hurontario Street & Mayfield Road

Future Background 2038 - No GTA West Highway

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	209	1329	108	257	764	264	103	722	124	573	1180	232
v/c Ratio	0.59	0.97	0.21	0.95	0.61	0.45	0.45	0.81	0.25	1.02	0.73	0.27
Control Delay	62.5	65.4	7.2	101.5	45.7	7.1	25.1	53.3	7.7	79.7	31.8	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	62.5	65.4	7.2	101.5	45.7	7.1	25.1	53.3	7.7	79.7	31.8	3.4
Queue Length 50th (m)	26.3	121.9	0.0	33.8	63.1	0.0	11.5	90.4	0.0	~137.2	125.2	0.0
Queue Length 95th (m)	39.2	#153.2	13.2	#59.7	77.2	20.9	20.2	113.2	15.0	#206.9	150.8	14.0
Internal Link Dist (m)		1381.8			725.9			357.1			585.4	
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	352	1365	506	271	1245	587	228	894	493	561	1621	852
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	0.59	0.97	0.21	0.95	0.61	0.45	0.45	0.81	0.25	1.02	0.73	0.27

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 Future Background 2038 - No GTA West Highway
 17: Hurontario Street & Mayfield Road AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  			 		 	 	
Traffic Volume (vph)	192	1223	99	236	703	243	95	664	114	527	1086	213
Future Volume (vph)	192	1223	99	236	703	243	95	664	114	527	1086	213
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	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.19	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	354	3579	1601	209	3579	1601
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)	209	1329	108	257	764	264	103	722	124	573	1180	232
RTOR Reduction (vph)	0	0	79	0	0	200	0	0	93	0	0	127
Lane Group Flow (vph)	209	1329	29	257	764	64	103	722	31	573	1180	105
Turn Type	Prot	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			8	2		2	6		6
Actuated Green, G (s)	13.0	34.0	34.0	10.0	31.0	31.0	42.0	32.0	32.0	72.0	58.0	58.0
Effective Green, g (s)	13.0	34.0	34.0	10.0	31.0	31.0	42.0	32.0	32.0	72.0	58.0	58.0
Actuated g/C Ratio	0.10	0.27	0.27	0.08	0.24	0.24	0.33	0.25	0.25	0.56	0.45	0.45
Clearance Time (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
Lane Grp Cap (vph)	352	1365	425	271	1245	387	228	894	400	561	1621	725
v/s Ratio Prot	0.06	c0.26		c0.07	0.15		0.04	0.20		c0.29	0.33	
v/s Ratio Perm			0.02			0.04	0.11		0.02	c0.29		0.07
v/c Ratio	0.59	0.97	0.07	0.95	0.61	0.17	0.45	0.81	0.08	1.02	0.73	0.14
Uniform Delay, d1	55.0	46.6	35.1	58.7	43.2	38.3	30.9	45.1	36.7	37.7	28.6	20.5
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	7.2	18.8	0.3	42.9	2.3	0.9	6.3	7.8	0.4	43.5	2.9	0.4
Delay (s)	62.2	65.4	35.5	101.6	45.4	39.2	37.2	52.9	37.1	81.2	31.5	20.9
Level of Service	E	E	D	F	D	D	D	D	D	F	C	C
Approach Delay (s)		63.0			55.4			49.1			44.6	
Approach LOS		E			E			D			D	
Intersection Summary												
HCM 2000 Control Delay			52.9	HCM 2000 Level of Service				D				
HCM 2000 Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			128.0	Sum of lost time (s)				16.0				
Intersection Capacity Utilization			91.2%	ICU Level of Service				F				
Analysis Period (min)			15									
c Critical Lane Group												

















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

Future Background 2038 - No GTA West Highway

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	155	4	267	316	58	11	491	312	34	239	2
Future Volume (vph)	7	155	4	267	316	58	11	491	312	34	239	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.988			0.948			0.999	
Flt Protected		0.998			0.980			0.999			0.994	
Satd. Flow (prot)	0	1874	0	0	1824	0	0	1784	0	0	1870	0
Flt Permitted		0.998			0.980			0.999			0.994	
Satd. Flow (perm)	0	1874	0	0	1824	0	0	1784	0	0	1870	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	0.92	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)	8	168	4	290	343	63	12	534	339	37	260	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	180	0	0	696	0	0	885	0	0	299	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	100.6%						ICU Level of Service G					
Analysis Period (min)	15											

















HCM Unsignalized Intersection Capacity Analysis - Future Background 2038 - No GTA West Highway
 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)	7	155	4	267	316	58	11	491	312	34	239	2
Future Volume (vph)	7	155	4	267	316	58	11	491	312	34	239	2
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)	8	168	4	290	343	63	12	534	339	37	260	2
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	180	696	885	299								
Volume Left (vph)	8	290	12	37								
Volume Right (vph)	4	63	339	2								
Hadj (s)	0.03	0.06	-0.19	0.05								
Departure Headway (s)	8.8	7.6	7.3	8.2								
Degree Utilization, x	0.44	1.47	1.80	0.68								
Capacity (veh/h)	394	471	497	429								
Control Delay (s)	18.4	242.2	387.1	26.7								
Approach Delay (s)	18.4	242.2	387.1	26.7								
Approach LOS	C	F	F	D								
Intersection Summary												
Delay			253.6									
Level of Service			F									
Intersection Capacity Utilization			100.6%	ICU Level of Service	G							
Analysis Period (min)			15									

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

Future Background 2038 - No GTA West Highway

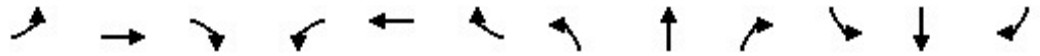
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	401	67	375	558	28	78	335	389	10	109	5
Future Volume (vph)	34	401	67	375	558	28	78	335	389	10	109	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
Frt		0.982			0.996			0.935			0.995	
Flt Protected		0.997			0.981			0.995			0.996	
Satd. Flow (prot)	0	1844	0	0	1840	0	0	1752	0	0	1867	0
Flt Permitted		0.997			0.981			0.995			0.996	
Satd. Flow (perm)	0	1844	0	0	1840	0	0	1752	0	0	1867	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	37	436	73	408	607	30	85	364	423	11	118	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	546	0	0	1045	0	0	872	0	0	134	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	141.3%
ICU Level of Service	H
Analysis Period (min)	15























HCM Unsignalized Intersection Capacity Analysis - Future Background 2038 - No GTA West Highway
 4: 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)	34	401	67	375	558	28	78	335	389	10	109	5
Future Volume (vph)	34	401	67	375	558	28	78	335	389	10	109	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
Hourly flow rate (vph)	37	436	73	408	607	30	85	364	423	11	118	5
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	546	1045	872	134								
Volume Left (vph)	37	408	85	11								
Volume Right (vph)	73	30	423	5								
Hadj (s)	-0.03	0.09	-0.24	0.03								
Departure Headway (s)	7.9	8.0	7.7	9.6								
Degree Utilization, x	1.19	2.32	1.86	0.36								
Capacity (veh/h)	449	459	476	372								
Control Delay (s)	132.9	619.9	412.6	17.8								
Approach Delay (s)	132.9	619.9	412.6	17.8								
Approach LOS	F	F	F	C								
Intersection Summary												
Delay			416.8									
Level of Service			F									
Intersection Capacity Utilization			141.3%		ICU Level of Service					H		
Analysis Period (min)			15									

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

Future Background 2038 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	625	116	59	327	1108	34	124	3892	400	28	1944	576
Future Volume (vph)	625	116	59	327	1108	34	124	3892	400	28	1944	576
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		0.949			0.996			0.986			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1787	0	1789	1876	0	1789	3528	0	1789	3457	0
Flt Permitted	0.143			0.426			0.082			0.089		
Satd. Flow (perm)	269	1787	0	802	1876	0	154	3528	0	168	3457	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			1			11			37	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	679	126	64	355	1204	37	135	4230	435	30	2113	626
Shared Lane Traffic (%)												
Lane Group Flow (vph)	679	190	0	355	1241	0	135	4665	0	30	2739	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	16.0	34.0		22.0	40.0		15.0	54.0		10.0	49.0	
Total Split (%)	13.3%	28.3%		18.3%	33.3%		12.5%	45.0%		8.3%	40.8%	
Maximum Green (s)	12.0	28.0		18.0	34.0		9.0	48.0		4.0	43.0	
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	
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)	42.0	30.0		52.0	36.0		60.0	50.0		51.0	45.0	
Actuated g/C Ratio	0.35	0.25		0.43	0.30		0.50	0.42		0.42	0.38	
v/c Ratio	2.76	0.41		0.72	2.20		0.60	3.16		0.20	2.08	

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

Future Background 2038 - No GTA West Highway

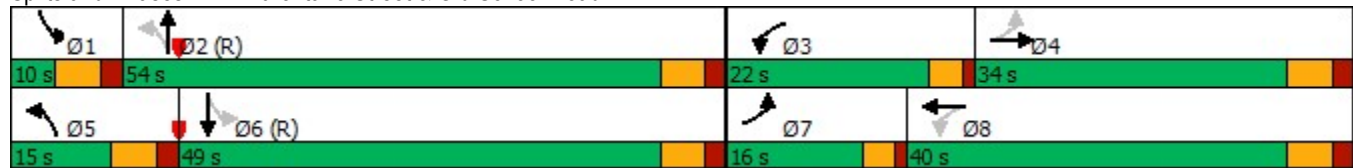
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	821.1	36.7		33.7	571.2		31.9	990.5		18.8	510.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	821.1	36.7		33.7	571.2		31.9	990.5		18.8	510.5	
LOS	F	D		C	F		C	F		B	F	
Approach Delay		649.6			451.6			963.5			505.2	
Approach LOS		F			F			F			F	

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:	150
Control Type:	Pretimed
Maximum v/c Ratio:	3.16
Intersection Signal Delay:	728.4
Intersection LOS:	F
Intersection Capacity Utilization	225.3%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Background 2038 - No GTA West Highway

PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	679	190	355	1241	135	4665	30	2739
v/c Ratio	2.76	0.41	0.72	2.20	0.60	3.16	0.20	2.08
Control Delay	821.1	36.7	33.7	571.2	31.9	990.5	18.8	510.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	821.1	36.7	33.7	571.2	31.9	990.5	18.8	510.5
Queue Length 50th (m)	~259.0	33.5	58.0	~475.5	16.6	~1025.8	3.5	~539.3
Queue Length 95th (m)	#330.7	55.1	84.2	#555.7	35.3	#1048.6	8.4	#578.9
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	246	461	495	563	226	1476	152	1319
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	2.76	0.41	0.72	2.20	0.60	3.16	0.20	2.08

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 Future Background 2038 - No GTA West Highway
 7: 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)	625	116	59	327	1108	34	124	3892	400	28	1944	576
Future Volume (vph)	625	116	59	327	1108	34	124	3892	400	28	1944	576
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		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	0.95		1.00	1.00		1.00	0.99		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)	1789	1788		1789	1875		1789	3528		1789	3456	
Flt Permitted	0.14	1.00		0.43	1.00		0.08	1.00		0.09	1.00	
Satd. Flow (perm)	269	1788		803	1875		154	3528		167	3456	
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)	679	126	64	355	1204	37	135	4230	435	30	2113	626
RTOR Reduction (vph)	0	15	0	0	1	0	0	6	0	0	23	0
Lane Group Flow (vph)	679	175	0	355	1240	0	135	4659	0	30	2716	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	40.0	28.0		50.0	34.0		57.0	48.0		47.0	43.0	
Effective Green, g (s)	40.0	30.0		50.0	36.0		60.0	50.0		51.0	45.0	
Actuated g/C Ratio	0.33	0.25		0.42	0.30		0.50	0.42		0.42	0.38	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	241	447		482	562		226	1470		152	1296	
v/s Ratio Prot	c0.28	0.10		0.11	c0.66		c0.05	c1.32		0.01	0.79	
v/s Ratio Perm	c0.66			0.20			0.24			0.07		
v/c Ratio	2.82	0.39		0.74	2.21		0.60	3.17		0.20	2.10	
Uniform Delay, d1	34.2	37.4		26.1	42.0		25.3	35.0		27.3	37.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	829.3	2.6		9.7	548.9		11.1	977.9		2.9	495.7	
Delay (s)	863.5	40.0		35.8	590.9		36.4	1012.9		30.2	533.2	
Level of Service	F	D		D	F		D	F		C	F	
Approach Delay (s)		683.4			467.4			985.4			527.7	
Approach LOS		F			F			F			F	
Intersection Summary												
HCM 2000 Control Delay			750.6	HCM 2000 Level of Service				F				
HCM 2000 Volume to Capacity ratio			2.72									
Actuated Cycle Length (s)			120.0	Sum of lost time (s)				16.0				
Intersection Capacity Utilization			225.3%	ICU Level of Service				H				
Analysis Period (min)			15									
c Critical Lane Group												

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

Future Background 2038 - No GTA West Highway

PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	830	54	287	889	93	80	406	258	30	136	10
Future Volume (vph)	18	830	54	287	889	93	80	406	258	30	136	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.986				0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5096	0	3471	5070	0	1789	1883	1601	1789	1865	0
Flt Permitted	0.256			0.950			0.629			0.349		
Satd. Flow (perm)	482	5096	0	3471	5070	0	1185	1883	1601	657	1865	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			20				280			4
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	20	902	59	312	966	101	87	441	280	33	148	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	961	0	312	1067	0	87	441	280	33	159	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	36.0	36.0		25.0	61.0		59.0	59.0	59.0	59.0		59.0
Total Split (%)	30.0%	30.0%		20.8%	50.8%		49.2%	49.2%	49.2%	49.2%		49.2%
Maximum Green (s)	32.0	32.0		21.0	57.0		55.0	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		3.5
All-Red Time (s)	0.5	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	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	32.0	32.0		21.0	57.0		55.0	55.0	55.0	55.0		55.0
Actuated g/C Ratio	0.27	0.27		0.18	0.48		0.46	0.46	0.46	0.46		0.46
v/c Ratio	0.16	0.70		0.51	0.44		0.16	0.51	0.32	0.11		0.19

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

Future Background 2038 - No GTA West Highway

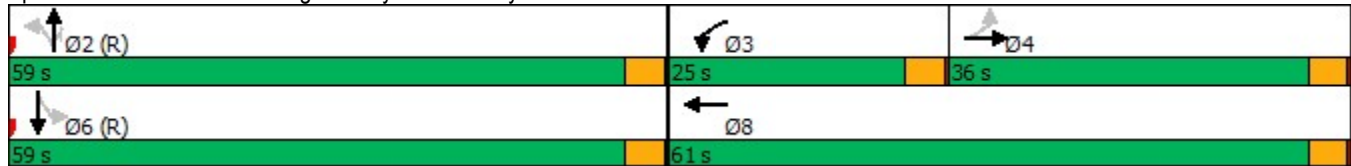
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	37.6	42.7		30.3	29.6		20.1	25.6	3.2	19.9	19.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	37.6	42.7		30.3	29.6		20.1	25.6	3.2	19.9	19.5	
LOS	D	D		C	C		C	C	A	B	B	
Approach Delay		42.6			29.8			17.2				19.6
Approach LOS		D			C			B				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:	50
Control Type:	Pretimed
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	29.9
Intersection LOS:	C
Intersection Capacity Utilization	63.5%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

15: Chinguacousy Road & Mayfield Road

























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	20	961	312	1067	87	441	280	33	159
v/c Ratio	0.16	0.70	0.51	0.44	0.16	0.51	0.32	0.11	0.19
Control Delay	37.6	42.7	30.3	29.6	20.1	25.6	3.2	19.9	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.6	42.7	30.3	29.6	20.1	25.6	3.2	19.9	19.5
Queue Length 50th (m)	3.6	74.3	38.7	91.2	11.7	71.7	0.0	4.3	21.1
Queue Length 95th (m)	10.6	89.8	m39.5	m90.5	22.1	101.2	14.4	10.9	34.7
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	128	1364	607	2418	543	863	885	301	856
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.70	0.51	0.44	0.16	0.51	0.32	0.11	0.19

Intersection Summary





























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

HCM Signalized Intersection Capacity Analysis Future Background 2038 - No GTA West Highway
 15: 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)	18	830	54	287	889	93	80	406	258	30	136	10	
Future Volume (vph)	18	830	54	287	889	93	80	406	258	30	136	10	
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	4.0	4.0	4.0		
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00		
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.99		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1789	5094		3471	5069		1789	1883	1601	1789	1864		
Flt Permitted	0.26	1.00		0.95	1.00		0.63	1.00	1.00	0.35	1.00		
Satd. Flow (perm)	482	5094		3471	5069		1184	1883	1601	658	1864		
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)	20	902	59	312	966	101	87	441	280	33	148	11	
RTOR Reduction (vph)	0	6	0	0	11	0	0	0	152	0	2	0	
Lane Group Flow (vph)	20	955	0	312	1057	0	87	441	128	33	157	0	
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		4		3	8			2		6		6	
Permitted Phases	4						2		2	6			
Actuated Green, G (s)	32.0	32.0		21.0	57.0		55.0	55.0	55.0	55.0	55.0		
Effective Green, g (s)	32.0	32.0		21.0	57.0		55.0	55.0	55.0	55.0	55.0		
Actuated g/C Ratio	0.27	0.27		0.18	0.48		0.46	0.46	0.46	0.46	0.46		
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0		
Lane Grp Cap (vph)	128	1358		607	2407		542	863	733	301	854		
v/s Ratio Prot		c0.19		c0.09	0.21			c0.23			0.08		
v/s Ratio Perm	0.04						0.07		0.08	0.05			
v/c Ratio	0.16	0.70		0.51	0.44		0.16	0.51	0.18	0.11	0.18		
Uniform Delay, d1	33.7	39.7		44.9	20.9		19.0	23.0	19.1	18.5	19.2		
Progression Factor	1.00	1.00		0.65	1.43		1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	2.6	3.1		1.1	0.2		0.6	2.2	0.5	0.7	0.5		
Delay (s)	36.3	42.8		30.0	30.1		19.6	25.1	19.7	19.3	19.7		
Level of Service	D	D		C	C		B	C	B	B	B		
Approach Delay (s)		42.7			30.1			22.7			19.6		
Approach LOS		D			C			C			B		
Intersection Summary													
HCM 2000 Control Delay			31.4									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			63.5%									ICU Level of Service	B
Analysis Period (min)			15										
c	Critical Lane Group												

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

Future Background 2038 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	44	1150	80	256	1267	258	109	509	213	135	210	76
Future Volume (vph)	44	1150	80	256	1267	258	109	509	213	135	210	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.975				0.850		0.960	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	5013	0	1789	1883	1601	1789	1808	0
Flt Permitted	0.121			0.108			0.459			0.197		
Satd. Flow (perm)	228	5142	1601	203	5013	0	864	1883	1601	371	1808	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118		38				232		19	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	1250	87	278	1377	280	118	553	232	147	228	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	1250	87	278	1657	0	118	553	232	147	311	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	13.0	37.0	37.0	18.0	42.0		11.0	53.0	53.0	12.0	54.0	
Total Split (%)	10.8%	30.8%	30.8%	15.0%	35.0%		9.2%	44.2%	44.2%	10.0%	45.0%	
Maximum Green (s)	9.0	33.0	33.0	14.0	38.0		7.0	49.0	49.0	8.0	50.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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)	42.0	33.0	33.0	51.0	38.0		56.0	49.0	49.0	58.0	50.0	
Actuated g/C Ratio	0.35	0.28	0.28	0.42	0.32		0.47	0.41	0.41	0.48	0.42	
v/c Ratio	0.24	0.88	0.17	1.03	1.03		0.26	0.72	0.29	0.54	0.41	

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

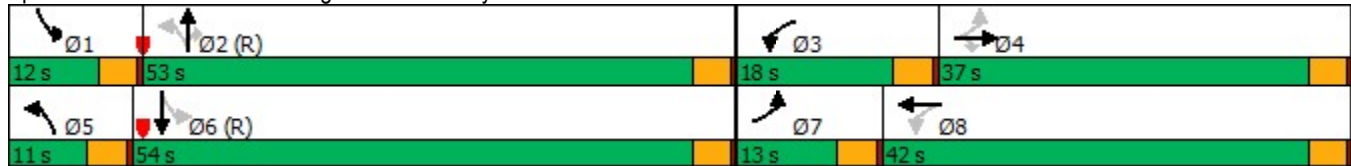
Future Background 2038 - No GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	14.0	45.3	10.7	48.7	54.1		17.3	36.2	3.9	23.7	25.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	14.0	45.3	10.7	48.7	54.1		17.3	36.2	3.9	23.7	25.0	
LOS	B	D	B	D	D		B	D	A	C	C	
Approach Delay		42.1			53.3			25.4			24.6	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Pretimed
Maximum v/c Ratio:	1.03
Intersection Signal Delay:	41.8
Intersection LOS:	D
Intersection Capacity Utilization	84.0%
ICU Level of Service	E
Analysis Period (min)	15

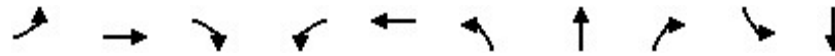
Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Background 2038 - No GTA West Highway

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	48	1250	87	278	1657	118	553	232	147	311
v/c Ratio	0.24	0.88	0.17	1.03	1.03	0.26	0.72	0.29	0.54	0.41
Control Delay	14.0	45.3	10.7	48.7	54.1	17.3	36.2	3.9	23.7	25.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	45.3	10.7	48.7	54.1	17.3	36.2	3.9	23.7	25.0
Queue Length 50th (m)	6.3	112.4	7.3	~54.7	~151.9	14.2	107.5	0.0	17.9	47.4
Queue Length 95th (m)	m9.0	128.6	m16.4	m45.9	m123.1	24.4	149.2	14.6	29.6	71.0
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	196	1414	525	271	1613	457	768	791	273	764
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	0.24	0.88	0.17	1.03	1.03	0.26	0.72	0.29	0.54	0.41




























Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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



































HCM Signalized Intersection Capacity Analysis Future Background 2038 - No GTA West Highway
 16: 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)	44	1150	80	256	1267	258	109	509	213	135	210	76
Future Volume (vph)	44	1150	80	256	1267	258	109	509	213	135	210	76
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	5011		1789	1883	1601	1789	1808	
Flt Permitted	0.12	1.00	1.00	0.11	1.00		0.46	1.00	1.00	0.20	1.00	
Satd. Flow (perm)	228	5142	1601	204	5011		865	1883	1601	371	1808	
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)	48	1250	87	278	1377	280	118	553	232	147	228	83
RTOR Reduction (vph)	0	0	63	0	26	0	0	0	137	0	11	0
Lane Group Flow (vph)	48	1250	24	278	1631	0	118	553	95	147	300	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	42.0	33.0	33.0	51.0	38.0		56.0	49.0	49.0	58.0	50.0	
Effective Green, g (s)	42.0	33.0	33.0	51.0	38.0		56.0	49.0	49.0	58.0	50.0	
Actuated g/C Ratio	0.35	0.28	0.28	0.42	0.32		0.47	0.41	0.41	0.48	0.42	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	196	1414	440	271	1586		457	768	653	273	753	
v/s Ratio Prot	0.02	0.24		c0.12	c0.33		0.02	c0.29		c0.04	0.17	
v/s Ratio Perm	0.07		0.01	0.32			0.11		0.06	0.22		
v/c Ratio	0.24	0.88	0.05	1.03	1.03		0.26	0.72	0.15	0.54	0.40	
Uniform Delay, d1	29.6	41.7	32.0	34.5	41.0		18.7	29.8	22.3	21.5	24.5	
Progression Factor	0.54	0.90	4.01	0.71	0.98		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.5	7.3	0.2	23.4	15.8		1.4	5.8	0.5	7.4	1.6	
Delay (s)	18.6	45.0	128.7	48.1	55.8		20.1	35.5	22.8	29.0	26.1	
Level of Service	B	D	F	D	E		C	D	C	C	C	
Approach Delay (s)		49.3			54.7			30.2			27.0	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			45.7			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			84.0%			ICU Level of Service				E		
Analysis Period (min)			15									
c	Critical Lane Group											

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

Future Background 2038 - No GTA West Highway

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  			 		 	 	
Traffic Volume (vph)	537	832	81	320	1288	178	293	823	53	227	888	794
Future Volume (vph)	537	832	81	320	1288	178	293	823	53	227	888	794
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.150			0.318		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	283	3579	1601	599	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			88			116			58			319
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	584	904	88	348	1400	193	318	895	58	247	965	863
Shared Lane Traffic (%)												
Lane Group Flow (vph)	584	904	88	348	1400	193	318	895	58	247	965	863
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2				6
Permitted Phases			4			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	18.0	29.0	29.0	18.0	29.0	29.0	18.0	73.0	73.0	55.0	55.0	55.0
Total Split (%)	15.0%	24.2%	24.2%	15.0%	24.2%	24.2%	15.0%	60.8%	60.8%	45.8%	45.8%	45.8%
Maximum Green (s)	14.0	25.0	25.0	14.0	25.0	25.0	14.0	69.0	69.0	51.0	51.0	51.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	Lag
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
Act Effct Green (s)	14.0	25.0	25.0	14.0	25.0	25.0	69.0	69.0	69.0	51.0	51.0	51.0
Actuated g/C Ratio	0.12	0.21	0.21	0.12	0.21	0.21	0.58	0.58	0.58	0.42	0.42	0.42
v/c Ratio	1.45	0.84	0.22	0.86	1.31	0.45	0.94	0.44	0.06	0.97	0.63	1.00

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

Future Background 2038 - No GTA West Highway
 PM Peak Hour

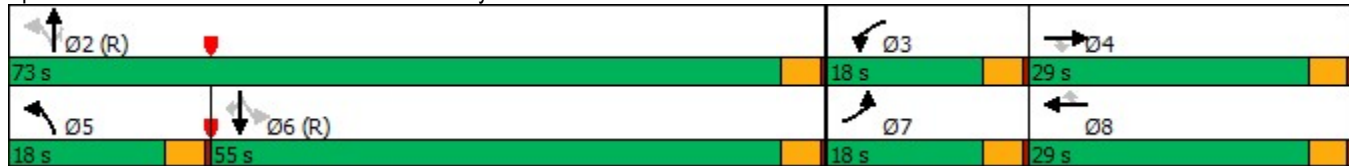


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	236.3	49.3	20.6	73.2	183.6	20.8	56.9	15.3	3.0	85.3	29.5	53.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	236.3	49.3	20.6	73.2	183.6	20.8	56.9	15.3	3.0	85.3	29.5	53.1
LOS	F	D	C	E	F	C	E	B	A	F	C	D
Approach Delay	117.0			147.6			25.1			46.0		
Approach LOS	F			F			C			D		

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	110
Control Type:	Pretimed
Maximum v/c Ratio:	1.45
Intersection Signal Delay:	87.2
Intersection LOS:	F
Intersection Capacity Utilization	100.3%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues
17: Hurontario Street & Mayfield Road

Future Background 2038 - No GTA West Highway
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	584	904	88	348	1400	193	318	895	58	247	965	863
v/c Ratio	1.45	0.84	0.22	0.86	1.31	0.45	0.94	0.44	0.06	0.97	0.63	1.00
Control Delay	236.3	49.3	20.6	73.2	183.6	20.8	56.9	15.3	3.0	85.3	29.5	53.1
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	236.3	49.3	20.6	73.2	183.6	20.8	56.9	15.3	3.0	85.3	29.5	53.1
Queue Length 50th (m)	~98.8	82.3	11.2	42.1	~155.1	15.2	41.7	59.7	0.0	55.9	92.4	148.4
Queue Length 95th (m)	m#121.4	m94.3	m15.8	#66.0	#184.3	37.1	#96.2	74.2	5.5	#109.1	114.2	#240.5
Internal Link Dist (m)		1381.8			725.9			357.1				585.4
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	404	1071	403	404	1071	425	338	2057	945	254	1521	863
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	1.45	0.84	0.22	0.86	1.31	0.45	0.94	0.44	0.06	0.97	0.63	1.00

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.

















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

HCM Signalized Intersection Capacity Analysis Future Background 2038 - No GTA West Highway
 17: 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)	537	832	81	320	1288	178	293	823	53	227	888	794	
Future Volume (vph)	537	832	81	320	1288	178	293	823	53	227	888	794	
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	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601	
Flt Permitted	0.95	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)	3471	5142	1601	3471	5142	1601	283	3579	1601	599	3579	1601	
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)	584	904	88	348	1400	193	318	895	58	247	965	863	
RTOR Reduction (vph)	0	0	70	0	0	92	0	0	25	0	0	183	
Lane Group Flow (vph)	584	904	18	348	1400	101	318	895	33	247	965	680	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	
Protected Phases	7	4		3	8		5	2			6		
Permitted Phases			4			8	2		2	6		6	
Actuated Green, G (s)	14.0	25.0	25.0	14.0	25.0	25.0	69.0	69.0	69.0	51.0	51.0	51.0	
Effective Green, g (s)	14.0	25.0	25.0	14.0	25.0	25.0	69.0	69.0	69.0	51.0	51.0	51.0	
Actuated g/C Ratio	0.12	0.21	0.21	0.12	0.21	0.21	0.58	0.58	0.58	0.42	0.42	0.42	
Clearance Time (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	
Lane Grp Cap (vph)	404	1071	333	404	1071	333	338	2057	920	254	1521	680	
v/s Ratio Prot	c0.17	0.18		0.10	c0.27		c0.11	0.25			0.27		
v/s Ratio Perm			0.01			0.06	0.43		0.02	0.41		c0.42	
v/c Ratio	1.45	0.84	0.06	0.86	1.31	0.30	0.94	0.44	0.04	0.97	0.63	1.00	
Uniform Delay, d1	53.0	45.6	38.0	52.0	47.5	40.1	23.2	14.5	11.1	33.8	27.2	34.5	
Progression Factor	0.57	0.96	2.41	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	209.0	5.2	0.2	20.8	145.1	2.3	36.0	0.7	0.1	49.8	2.0	34.4	
Delay (s)	239.4	49.0	91.8	72.8	192.6	42.5	59.2	15.1	11.1	83.6	29.2	68.8	
Level of Service	F	D	F	E	F	D	E	B	B	F	C	E	
Approach Delay (s)		122.0			156.2			26.0			52.2		
Approach LOS		F			F			C			D		
Intersection Summary													
HCM 2000 Control Delay			92.8									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.13										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			100.3%									ICU Level of Service	G
Analysis Period (min)			15										
c	Critical Lane Group												

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

Future Total 2038 - No GTA West Highway
AM Peak Hour

















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	264	32	230	199	40	15	270	445	36	358	1
Future Volume (vph)	8	264	32	230	199	40	15	270	445	36	358	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.986			0.989			0.918				
Fl _t Protected		0.999			0.976			0.999			0.995	
Satd. Flow (prot)	0	1855	0	0	1818	0	0	1727	0	0	1874	0
Fl _t Permitted		0.999			0.976			0.999			0.995	
Satd. Flow (perm)	0	1855	0	0	1818	0	0	1727	0	0	1874	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	0.92	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)	9	287	35	250	216	43	16	293	484	39	389	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	331	0	0	509	0	0	793	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)		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	97.0%											
Analysis Period (min)	15											
	ICU Level of Service F											

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - No GTA West Highway
 1: Chinguacousy Road & Old School Road 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)	8	264	32	230	199	40	15	270	445	36	358	1
Future Volume (vph)	8	264	32	230	199	40	15	270	445	36	358	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
Hourly flow rate (vph)	9	287	35	250	216	43	16	293	484	39	389	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	331	509	793	429								
Volume Left (vph)	9	250	16	39								
Volume Right (vph)	35	43	484	1								
Hadj (s)	-0.02	0.08	-0.33	0.05								
Departure Headway (s)	9.5	9.3	8.9	9.3								
Degree Utilization, x	0.88	1.32	1.97	1.11								
Capacity (veh/h)	366	392	410	398								
Control Delay (s)	52.2	187.6	463.9	109.0								
Approach Delay (s)	52.2	187.6	463.9	109.0								
Approach LOS	F	F	F	F								
Intersection Summary												
Delay			255.8									
Level of Service			F									
Intersection Capacity Utilization			97.0%		ICU Level of Service				F			
Analysis Period (min)			15									

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

Future Total 2038 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	693	118	264	414	30	39	165	542	32	361	24
Future Volume (vph)	73	693	118	264	414	30	39	165	542	32	361	24
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		0.982			0.994			0.902			0.992	
Flt Protected		0.996			0.982			0.997			0.996	
Satd. Flow (prot)	0	1842	0	0	1838	0	0	1694	0	0	1861	0
Flt Permitted		0.996			0.982			0.997			0.996	
Satd. Flow (perm)	0	1842	0	0	1838	0	0	1694	0	0	1861	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	79	753	128	287	450	33	42	179	589	35	392	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	960	0	0	770	0	0	810	0	0	453	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	148.9%					ICU Level of Service H						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - No GTA West Highway
 4: McLaughlin Road & Old School Road 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)	73	693	118	264	414	30	39	165	542	32	361	24
Future Volume (vph)	73	693	118	264	414	30	39	165	542	32	361	24
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)	79	753	128	287	450	33	42	179	589	35	392	26
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	960	770	810	453								
Volume Left (vph)	79	287	42	35								
Volume Right (vph)	128	33	589	26								
Hadj (s)	-0.03	0.08	-0.39	0.02								
Departure Headway (s)	9.5	9.6	9.2	9.6								
Degree Utilization, x	2.54	2.06	2.06	1.21								
Capacity (veh/h)	387	379	399	381								
Control Delay (s)	722.1	509.2	508.2	144.4								
Approach Delay (s)	722.1	509.2	508.2	144.4								
Approach LOS	F	F	F	F								
Intersection Summary												
Delay			522.0									
Level of Service			F									
Intersection Capacity Utilization			148.9%	ICU Level of Service								H
Analysis Period (min)			15									

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

Future Total 2038 - No GTA West Highway
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	572	144	600	393	123	16	158	1763	155	21	3246	313
Future Volume (vph)	572	144	600	393	123	16	158	1763	155	21	3246	313
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		0.879			0.983			0.988			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1656	0	1789	1851	0	1789	3536	0	1789	3532	0
Flt Permitted	0.523			0.143			0.071			0.071		
Satd. Flow (perm)	985	1656	0	269	1851	0	134	3536	0	134	3532	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		65			5			10			11	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	622	157	652	427	134	17	172	1916	168	23	3528	340
Shared Lane Traffic (%)												
Lane Group Flow (vph)	622	809	0	427	151	0	172	2084	0	23	3868	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	16.0	36.0		14.0	34.0		10.0	60.0		10.0	60.0	
Total Split (%)	13.3%	30.0%		11.7%	28.3%		8.3%	50.0%		8.3%	50.0%	
Maximum Green (s)	12.0	30.0		10.0	28.0		4.0	54.0		4.0	54.0	
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	
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)	44.0	32.0		40.0	30.0		62.0	56.0		62.0	56.0	
Actuated g/C Ratio	0.37	0.27		0.33	0.25		0.52	0.47		0.52	0.47	
v/c Ratio	1.41	1.65		1.98	0.32		1.14	1.26		0.15	2.34	

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

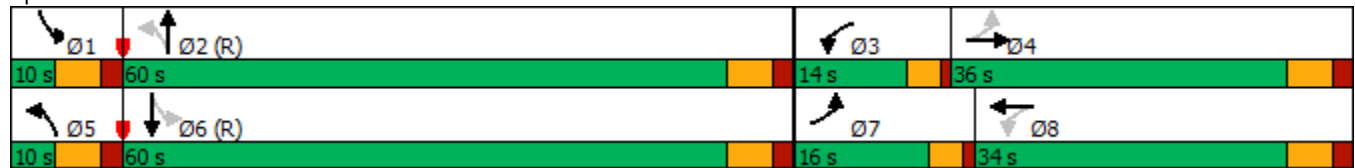
Future Total 2038 - No GTA West Highway
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	227.4	331.8		477.8	37.8		140.8	151.6		14.7	624.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	227.4	331.8		477.8	37.8		140.8	151.6		14.7	624.7	
LOS	F	F		F	D		F	F		B	F	
Approach Delay		286.4			362.8			150.7			621.1	
Approach LOS		F			F			F			F	

Intersection Summary

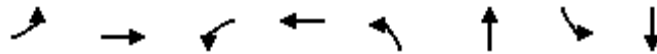
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.34
Intersection Signal Delay:	414.0
Intersection LOS:	F
Intersection Capacity Utilization	188.1%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Total 2038 - No GTA West Highway
AM Peak Hour


























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	622	809	427	151	172	2084	23	3868
v/c Ratio	1.41	1.65	1.98	0.32	1.14	1.26	0.15	2.34
Control Delay	227.4	331.8	477.8	37.8	140.8	151.6	14.7	624.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	227.4	331.8	477.8	37.8	140.8	151.6	14.7	624.7
Queue Length 50th (m)	~196.6	~267.1	~141.0	28.1	~31.4	~325.1	2.4	~793.1
Queue Length 95th (m)	#265.2	#341.9	#203.2	46.9	#75.7	#367.6	6.2	#823.8
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	441	489	216	466	151	1655	151	1654
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	1.41	1.65	1.98	0.32	1.14	1.26	0.15	2.34

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
7: Hurontario Street & Old School Road



























Future Total 2038 - No GTA West Highway
AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations								 			 		
Traffic Volume (vph)	572	144	600	393	123	16	158	1763	155	21	3246	313	
Future Volume (vph)	572	144	600	393	123	16	158	1763	155	21	3246	313	
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		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	0.88		1.00	0.98		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)	1789	1656		1789	1852		1789	3535		1789	3531		
Flt Permitted	0.52	1.00		0.14	1.00		0.07	1.00		0.07	1.00		
Satd. Flow (perm)	986	1656		269	1852		135	3535		135	3531		
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)	622	157	652	427	134	17	172	1916	168	23	3528	340	
RTOR Reduction (vph)	0	48	0	0	4	0	0	5	0	0	6	0	
Lane Group Flow (vph)	622	761	0	427	147	0	172	2079	0	23	3862	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		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)	42.0	30.0		38.0	28.0		58.0	54.0		58.0	54.0		
Effective Green, g (s)	42.0	32.0		38.0	30.0		62.0	56.0		62.0	56.0		
Actuated g/C Ratio	0.35	0.27		0.32	0.25		0.52	0.47		0.52	0.47		
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0		
Lane Grp Cap (vph)	425	441		211	463		152	1649		152	1647		
v/s Ratio Prot	c0.15	0.46		c0.17	0.08		c0.06	0.59		0.01	c1.09		
v/s Ratio Perm	0.37			c0.47			0.53			0.07			
v/c Ratio	1.46	1.73		2.02	0.32		1.13	1.26		0.15	2.34		
Uniform Delay, d1	38.0	44.0		36.1	36.7		31.0	32.0		25.6	32.0		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00		
Incremental Delay, d2	221.2	336.3		477.0	1.8		112.7	122.3		2.1	607.1		
Delay (s)	259.2	380.3		513.0	38.5		143.7	154.3		27.7	639.1		
Level of Service	F	F		F	D		F	F		C	F		
Approach Delay (s)		327.6			389.1			153.5			635.5		
Approach LOS		F			F			F			F		

Intersection Summary			
HCM 2000 Control Delay	430.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.07		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	188.1%	ICU Level of Service	H
Analysis Period (min)	15		
c	Critical Lane Group		

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

Future Total 2038 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		 	 						 	
Traffic Volume (vph)	24	942	139	386	680	82	31	208	238	154	423	25
Future Volume (vph)	24	942	139	386	680	82	31	208	238	154	423	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.984				0.850		0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5044	0	3471	5060	0	1789	1883	1601	1789	1868	0
Flt Permitted	0.328			0.950			0.264			0.539		
Satd. Flow (perm)	618	5044	0	3471	5060	0	497	1883	1601	1015	1868	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			26				259			3
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5			2383.0	
Travel Time (s)		14.1			73.0			15.5			107.2	
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)	26	1024	151	420	739	89	34	226	259	167	460	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	1175	0	420	828	0	34	226	259	167	487	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	41.0	41.0		26.0	67.0		53.0	53.0	53.0	53.0	53.0	53.0
Total Split (%)	34.2%	34.2%		21.7%	55.8%		44.2%	44.2%	44.2%	44.2%	44.2%	44.2%
Maximum Green (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0	49.0	49.0
Yellow Time (s)	3.5	3.5		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	0.5	0.5
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	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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
Act Effct Green (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0	49.0	49.0
Actuated g/C Ratio	0.31	0.31		0.18	0.52		0.41	0.41	0.41	0.41	0.41	0.41
v/c Ratio	0.14	0.75		0.66	0.31		0.17	0.29	0.32	0.40	0.64	

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

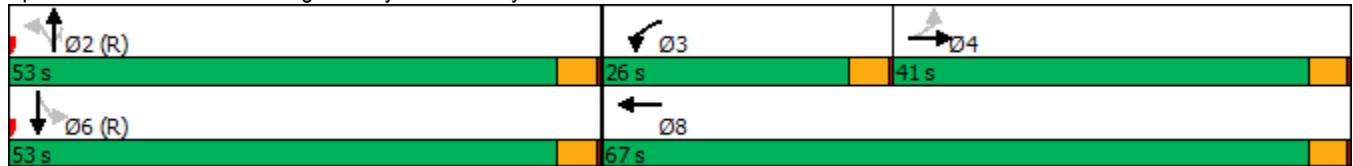
Future Total 2038 - No GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	32.5	40.1		51.2	16.0		25.4	25.2	3.8	28.9	32.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	32.5	40.1		51.2	16.0		25.4	25.2	3.8	28.9	32.9	
LOS	C	D		D	B		C	C	A	C	C	
Approach Delay		39.9			27.8			14.6			31.8	
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:	55
Control Type:	Pretimed
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	30.7
Intersection LOS:	C
Intersection Capacity Utilization	72.8%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

Future Total 2038 - No GTA West Highway

15: Chinguacousy Road & Mayfield Road

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	26	1175	420	828	34	226	259	167	487
v/c Ratio	0.14	0.75	0.66	0.31	0.17	0.29	0.32	0.40	0.64
Control Delay	32.5	40.1	51.2	16.0	25.4	25.2	3.8	28.9	32.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.5	40.1	51.2	16.0	25.4	25.2	3.8	28.9	32.9
Queue Length 50th (m)	4.4	89.3	47.8	37.6	5.0	35.2	0.0	27.4	89.8
Queue Length 95th (m)	11.8	106.2	64.7	46.4	12.7	54.0	15.4	46.8	125.8
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	190	1571	636	2668	202	768	806	414	764
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.75	0.66	0.31	0.17	0.29	0.32	0.40	0.64

Intersection Summary





























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

Future Total 2038 - No GTA West Highway
 AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	942	139	386	680	82	31	208	238	154	423	25
Future Volume (vph)	24	942	139	386	680	82	31	208	238	154	423	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		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5043		3471	5059		1789	1883	1601	1789	1868	
Flt Permitted	0.33	1.00		0.95	1.00		0.26	1.00	1.00	0.54	1.00	
Satd. Flow (perm)	617	5043		3471	5059		498	1883	1601	1016	1868	
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)	26	1024	151	420	739	89	34	226	259	167	460	27
RTOR Reduction (vph)	0	16	0	0	12	0	0	0	153	0	2	0
Lane Group Flow (vph)	26	1159	0	420	816	0	34	226	106	167	485	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0	49.0	
Effective Green, g (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0	49.0	
Actuated g/C Ratio	0.31	0.31		0.18	0.52		0.41	0.41	0.41	0.41	0.41	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	190	1554		636	2655		203	768	653	414	762	
v/s Ratio Prot		c0.23		c0.12	0.16			0.12			c0.26	
v/s Ratio Perm	0.04						0.07		0.07	0.16		
v/c Ratio	0.14	0.75		0.66	0.31		0.17	0.29	0.16	0.40	0.64	
Uniform Delay, d1	30.0	37.3		45.5	16.1		22.5	23.9	22.5	25.1	28.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	3.3		5.3	0.3		1.8	1.0	0.5	2.9	4.0	
Delay (s)	31.5	40.6		50.8	16.4		24.3	24.8	23.0	28.1	32.4	
Level of Service	C	D		D	B		C	C	C	C	C	
Approach Delay (s)		40.4			28.0			23.9			31.3	
Approach LOS		D			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			32.1			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)		12.0				
Intersection Capacity Utilization			72.8%			ICU Level of Service			C			
Analysis Period (min)			15									
c	Critical Lane Group											

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

Future Total 2038 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (vph)	78	1206	142	234	938	113	67	329	180	346	667	211
Future Volume (vph)	78	1206	142	234	938	113	67	329	180	346	667	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.984				0.850		0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	5060	0	1789	3579	1601	1789	1816	0
Flt Permitted	0.118			0.105			0.087			0.425		
Satd. Flow (perm)	222	5142	1601	198	5060	0	164	3579	1601	800	1816	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		16				196		16	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	1311	154	254	1020	123	73	358	196	376	725	229
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	1311	154	254	1143	0	73	358	196	376	954	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	12.0	38.0	38.0	19.0	45.0		8.0	50.0	50.0	29.0	71.0	
Total Split (%)	8.8%	27.9%	27.9%	14.0%	33.1%		5.9%	36.8%	36.8%	21.3%	52.2%	
Maximum Green (s)	8.0	34.0	34.0	15.0	41.0		4.0	46.0	46.0	25.0	67.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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)	42.0	34.0	34.0	53.0	41.0		50.0	46.0	46.0	75.0	67.0	
Actuated g/C Ratio	0.31	0.25	0.25	0.39	0.30		0.37	0.34	0.34	0.55	0.49	
v/c Ratio	0.53	1.02	0.31	1.01	0.74		0.68	0.30	0.29	0.60	1.06	

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

Future Total 2038 - No GTA West Highway
 AM Peak Hour

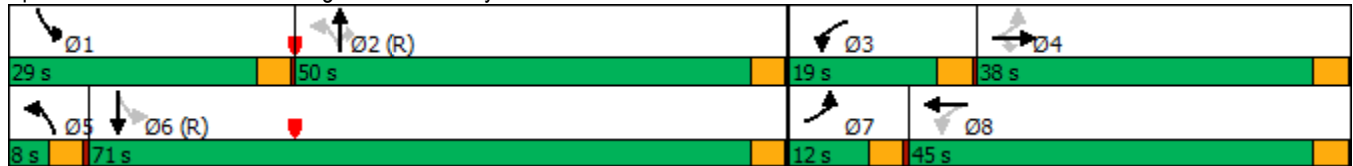


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	39.9	80.2	10.5	95.7	45.7		51.0	33.9	5.3	21.9	79.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	39.9	80.2	10.5	95.7	45.7		51.0	33.9	5.3	21.9	79.8	
LOS	D	F	B	F	D		D	C	A	C	E	
Approach Delay		71.1			54.8			27.0			63.4	
Approach LOS		E			D			C			E	

Intersection Summary

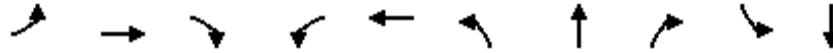
Area Type:	Other
Cycle Length:	136
Actuated Cycle Length:	136
Offset:	120 (88%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	120
Control Type:	Pretimed
Maximum v/c Ratio:	1.06
Intersection Signal Delay:	58.7
Intersection LOS:	E
Intersection Capacity Utilization	101.2%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Total 2038 - No GTA West Highway
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	85	1311	154	254	1143	73	358	196	376	954
v/c Ratio	0.53	1.02	0.31	1.01	0.74	0.68	0.30	0.29	0.60	1.06
Control Delay	39.9	80.2	10.5	95.7	45.7	51.0	33.9	5.3	21.9	79.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.9	80.2	10.5	95.7	45.7	51.0	33.9	5.3	21.9	79.8
Queue Length 50th (m)	14.5	~136.4	3.7	~53.9	100.1	8.9	37.1	0.0	55.3	~278.3
Queue Length 95th (m)	26.1	#165.8	21.0	#109.6	117.1	#22.8	50.0	16.3	77.5	#357.6
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	160	1285	502	252	1536	108	1210	671	622	902
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	0.53	1.02	0.31	1.01	0.74	0.68	0.30	0.29	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
 16: McLaughlin Road & Mayfield Road

Future Total 2038 - No GTA West Highway
 AM Peak Hour




































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑	↗	↘	↗	
Traffic Volume (vph)	78	1206	142	234	938	113	67	329	180	346	667	211
Future Volume (vph)	78	1206	142	234	938	113	67	329	180	346	667	211
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	5059		1789	3579	1601	1789	1816	
Flt Permitted	0.12	1.00	1.00	0.11	1.00		0.09	1.00	1.00	0.42	1.00	
Satd. Flow (perm)	222	5142	1601	198	5059		164	3579	1601	800	1816	
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)	85	1311	154	254	1020	123	73	358	196	376	725	229
RTOR Reduction (vph)	0	0	102	0	11	0	0	0	130	0	8	0
Lane Group Flow (vph)	85	1311	52	254	1132	0	73	358	66	376	946	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	42.0	34.0	34.0	53.0	41.0		50.0	46.0	46.0	75.0	67.0	
Effective Green, g (s)	42.0	34.0	34.0	53.0	41.0		50.0	46.0	46.0	75.0	67.0	
Actuated g/C Ratio	0.31	0.25	0.25	0.39	0.30		0.37	0.34	0.34	0.55	0.49	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	160	1285	400	252	1525		108	1210	541	622	894	
v/s Ratio Prot	0.03	0.25		c0.11	0.22		0.02	0.10		c0.11	c0.52	
v/s Ratio Perm	0.13		0.03	c0.28			0.23		0.04	0.22		
v/c Ratio	0.53	1.02	0.13	1.01	0.74		0.68	0.30	0.12	0.60	1.06	
Uniform Delay, d1	35.5	51.0	39.5	40.1	42.7		35.1	33.1	31.1	18.0	34.5	
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	12.1	30.3	0.7	58.7	3.3		29.0	0.6	0.5	4.3	46.7	
Delay (s)	47.6	81.3	40.2	98.9	46.0		64.1	33.7	31.5	22.3	81.2	
Level of Service	D	F	D	F	D		E	C	C	C	F	
Approach Delay (s)		75.4			55.7			36.6			64.5	
Approach LOS		E			E			D			E	

Intersection Summary

HCM 2000 Control Delay	61.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	101.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Total 2038 - No GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 		 	 	
Traffic Volume (vph)	192	1223	195	236	703	243	146	728	114	527	1265	213
Future Volume (vph)	192	1223	195	236	703	243	146	728	114	527	1265	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.125			0.111		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	235	3579	1601	209	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			162			264			124			232
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	209	1329	212	257	764	264	159	791	124	573	1375	232
Shared Lane Traffic (%)												
Lane Group Flow (vph)	209	1329	212	257	764	264	159	791	124	573	1375	232
Enter Blocked Intersection	No	No	No	No	No	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	Prot	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			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	17.0	38.0	38.0	14.0	35.0	35.0	14.0	36.0	36.0	40.0	62.0	62.0
Total Split (%)	13.3%	29.7%	29.7%	10.9%	27.3%	27.3%	10.9%	28.1%	28.1%	31.3%	48.4%	48.4%
Maximum Green (s)	13.0	34.0	34.0	10.0	31.0	31.0	10.0	32.0	32.0	36.0	58.0	58.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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
Act Effct Green (s)	13.0	34.0	34.0	10.0	31.0	31.0	42.0	32.0	32.0	72.0	58.0	58.0
Actuated g/C Ratio	0.10	0.27	0.27	0.08	0.24	0.24	0.33	0.25	0.25	0.56	0.45	0.45
v/c Ratio	0.59	0.97	0.39	0.95	0.61	0.45	0.80	0.88	0.25	1.02	0.85	0.27

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

Future Total 2038 - No GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	62.5	65.4	12.6	101.5	45.7	7.1	60.2	59.0	7.7	79.7	37.3	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	62.5	65.4	12.6	101.5	45.7	7.1	60.2	59.0	7.7	79.7	37.3	3.4
LOS	E	E	B	F	D	A	E	E	A	E	D	A
Approach Delay	58.7			48.9			53.2			44.8		
Approach LOS	E			D			D			D		

Intersection Summary	
Area Type:	Other
Cycle Length:	128
Actuated Cycle Length:	128
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	90
Control Type:	Pretimed
Maximum v/c Ratio:	1.02
Intersection Signal Delay:	50.9
Intersection LOS:	D
Intersection Capacity Utilization	93.0%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues
17: Hurontario Street & Mayfield Road

Future Total 2038 - No GTA West Highway
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	209	1329	212	257	764	264	159	791	124	573	1375	232
v/c Ratio	0.59	0.97	0.39	0.95	0.61	0.45	0.80	0.88	0.25	1.02	0.85	0.27
Control Delay	62.5	65.4	12.6	101.5	45.7	7.1	60.2	59.0	7.7	79.7	37.3	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	62.5	65.4	12.6	101.5	45.7	7.1	60.2	59.0	7.7	79.7	37.3	3.4
Queue Length 50th (m)	26.3	121.9	9.6	33.8	63.1	0.0	23.3	101.5	0.0	~137.2	158.8	0.0
Queue Length 95th (m)	39.2	#153.2	30.3	#59.7	77.2	20.9	#59.3	#133.5	15.0	#206.9	189.7	14.0
Internal Link Dist (m)		1381.8			725.9			357.1			585.4	
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	352	1365	544	271	1245	587	198	894	493	561	1621	852
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	0.59	0.97	0.39	0.95	0.61	0.45	0.80	0.88	0.25	1.02	0.85	0.27

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
 17: Hurontario Street & Mayfield Road

Future Total 2038 - No GTA West Highway
 AM Peak Hour

















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	192	1223	195	236	703	243	146	728	114	527	1265	213
Future Volume (vph)	192	1223	195	236	703	243	146	728	114	527	1265	213
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	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.12	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	235	3579	1601	209	3579	1601
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)	209	1329	212	257	764	264	159	791	124	573	1375	232
RTOR Reduction (vph)	0	0	119	0	0	200	0	0	93	0	0	127
Lane Group Flow (vph)	209	1329	93	257	764	64	159	791	31	573	1375	105
Turn Type	Prot	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			8	2		2	6		6
Actuated Green, G (s)	13.0	34.0	34.0	10.0	31.0	31.0	42.0	32.0	32.0	72.0	58.0	58.0
Effective Green, g (s)	13.0	34.0	34.0	10.0	31.0	31.0	42.0	32.0	32.0	72.0	58.0	58.0
Actuated g/C Ratio	0.10	0.27	0.27	0.08	0.24	0.24	0.33	0.25	0.25	0.56	0.45	0.45
Clearance Time (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
Lane Grp Cap (vph)	352	1365	425	271	1245	387	198	894	400	561	1621	725
v/s Ratio Prot	0.06	c0.26		c0.07	0.15		0.06	0.22		c0.29	0.38	
v/s Ratio Perm			0.06			0.04	0.20		0.02	c0.29		0.07
v/c Ratio	0.59	0.97	0.22	0.95	0.61	0.17	0.80	0.88	0.08	1.02	0.85	0.14
Uniform Delay, d1	55.0	46.6	36.6	58.7	43.2	38.3	33.4	46.2	36.7	37.8	31.1	20.5
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	7.2	18.8	1.2	42.9	2.3	0.9	28.1	12.5	0.4	43.5	5.7	0.4
Delay (s)	62.2	65.4	37.8	101.6	45.4	39.2	61.5	58.7	37.1	81.3	36.8	20.9
Level of Service	E	E	D	F	D	D	E	E	D	F	D	C
Approach Delay (s)		61.7			55.4			56.6			46.8	
Approach LOS		E			E			E			D	

Intersection Summary

















HCM 2000 Control Delay	54.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Total 2038 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	220	30	461	367	58	27	516	484	34	253	2
Future Volume (vph)	7	220	30	461	367	58	27	516	484	34	253	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.984			0.991			0.936			0.999	
Fl _t Protected		0.999			0.975			0.999			0.994	
Satd. Flow (prot)	0	1851	0	0	1820	0	0	1761	0	0	1870	0
Fl _t Permitted		0.999			0.975			0.999			0.994	
Satd. Flow (perm)	0	1851	0	0	1820	0	0	1761	0	0	1870	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	0.92	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)	8	239	33	501	399	63	29	561	526	37	275	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	280	0	0	963	0	0	1116	0	0	314	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	134.1%					ICU Level of Service H						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - No GTA West Highway
 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)	7	220	30	461	367	58	27	516	484	34	253	2
Future Volume (vph)	7	220	30	461	367	58	27	516	484	34	253	2
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)	8	239	33	501	399	63	29	561	526	37	275	2
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	280	963	1116	314								
Volume Left (vph)	8	501	29	37								
Volume Right (vph)	33	63	526	2								
Hadj (s)	-0.03	0.10	-0.24	0.05								
Departure Headway (s)	8.9	8.4	8.0	8.8								
Degree Utilization, x	0.69	2.24	2.49	0.77								
Capacity (veh/h)	387	436	458	399								
Control Delay (s)	29.9	583.6	694.0	35.8								
Approach Delay (s)	29.9	583.6	694.0	35.8								
Approach LOS	D	F	F	E								
Intersection Summary												
Delay			507.3									
Level of Service			F									
Intersection Capacity Utilization			134.1%	ICU Level of Service	H							
Analysis Period (min)			15									

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

Future Total 2038 - No GTA West Highway
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	
Traffic Volume (vph)	724	63	90	878	50	25
Future Volume (vph)	724	63	90	878	50	25
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.989			0.955		
Flt Protected				0.995	0.968	
Satd. Flow (prot)	1863	0	0	1874	1741	0
Flt Permitted				0.995	0.968	
Satd. Flow (perm)	1863	0	0	1874	1741	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			521.8	121.9	
Travel Time (s)	25.2			26.8	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	787	68	98	954	54	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	855	0	0	1052	81	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	107.4%			ICU Level of Service G		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - No GTA West Highway
 2: Street B & Old School Road PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	724	63	90	878	50	25
Future Volume (Veh/h)	724	63	90	878	50	25
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)	787	68	98	954	54	27
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			855		1971	821
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			855		1971	821
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			88		10	93
cM capacity (veh/h)			785		60	374
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	855	1052	81			
Volume Left	0	98	54			
Volume Right	68	0	27			
cSH	1700	785	83			
Volume to Capacity	0.50	0.12	0.97			
Queue Length 95th (m)	0.0	3.2	40.8			
Control Delay (s)	0.0	3.6	179.2			
Lane LOS		A	F			
Approach Delay (s)	0.0	3.6	179.2			
Approach LOS			F			
Intersection Summary						
Average Delay			9.2			
Intersection Capacity Utilization			107.4%	ICU Level of Service		G
Analysis Period (min)			15			

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

Future Total 2038 - No GTA West Highway
PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	688	45	168	921	47	70
Future Volume (vph)	688	45	168	921	47	70
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992			0.919		
Flt Protected				0.992	0.980	
Satd. Flow (prot)	1868	0	0	1868	1696	0
Flt Permitted				0.992	0.980	
Satd. Flow (perm)	1868	0	0	1868	1696	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	521.8			371.6	309.0	
Travel Time (s)	26.8			19.1	23.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	748	49	183	1001	51	76
Shared Lane Traffic (%)						
Lane Group Flow (vph)	797	0	0	1184	127	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	113.6%
Analysis Period (min)	15
	ICU Level of Service H

















HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - No GTA West Highway
 3: Street D & Old School Road PM Peak Hour



















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	688	45	168	921	47	70
Future Volume (Veh/h)	688	45	168	921	47	70
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	49	183	1001	51	76
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			797			772
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			797			772
tC, single (s)			4.1			6.2
tC, 2 stage (s)						
tF (s)			2.2			3.3
p0 queue free %			78			81
cM capacity (veh/h)			825			399
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	797	1184	127			
Volume Left	0	183	51			
Volume Right	49	0	76			
cSH	1700	825	90			
Volume to Capacity	0.47	0.22	1.41			
Queue Length 95th (m)	0.0	6.4	72.8			
Control Delay (s)	0.0	6.5	320.8			
Lane LOS			A	F		
Approach Delay (s)	0.0	6.5	320.8			
Approach LOS			F			
Intersection Summary						
Average Delay			23.0			
Intersection Capacity Utilization			113.6%	ICU Level of Service		H
Analysis Period (min)			15			

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

Future Total 2038 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	643	67	546	986	46	78	378	560	27	164	24
Future Volume (vph)	48	643	67	546	986	46	78	378	560	27	164	24
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 _t		0.988			0.996			0.926			0.985	
Fl _t Protected		0.997			0.983			0.996			0.994	
Satd. Flow (prot)	0	1855	0	0	1844	0	0	1737	0	0	1844	0
Fl _t Permitted		0.997			0.983			0.996			0.994	
Satd. Flow (perm)	0	1855	0	0	1844	0	0	1737	0	0	1844	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	52	699	73	593	1072	50	85	411	609	29	178	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	824	0	0	1715	0	0	1105	0	0	233	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	205.0%											
Analysis Period (min)	15											
	ICU Level of Service H											

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - No GTA West Highway
 4: 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)	48	643	67	546	986	46	78	378	560	27	164	24
Future Volume (vph)	48	643	67	546	986	46	78	378	560	27	164	24
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)	52	699	73	593	1072	50	85	411	609	29	178	26
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	824	1715	1105	233								
Volume Left (vph)	52	593	85	29								
Volume Right (vph)	73	50	609	26								
Hadj (s)	-0.01	0.09	-0.28	-0.01								
Departure Headway (s)	8.6	8.7	8.3	9.6								
Degree Utilization, x	1.96	4.13	2.55	0.62								
Capacity (veh/h)	424	420	444	368								
Control Delay (s)	461.7	1431.0	721.3	26.9								
Approach Delay (s)	461.7	1431.0	721.3	26.9								
Approach LOS	F	F	F	D								
Intersection Summary												
Delay			938.3									
Level of Service			F									
Intersection Capacity Utilization			205.0%		ICU Level of Service				H			
Analysis Period (min)			15									

Lanes, Volumes, Timings
5: Street G & Old School Road

Future Total 2038 - No GTA West Highway
PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1172	50	11	1500	41	16
Future Volume (vph)	1172	50	11	1500	41	16
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995			0.963		
Flt Protected				0.965		
Satd. Flow (prot)	1874	0	0	1883	1750	0
Flt Permitted				0.965		
Satd. Flow (perm)	1874	0	0	1883	1750	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			794.6	134.3	
Travel Time (s)	18.0			40.9	10.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1274	54	12	1630	45	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1328	0	0	1642	62	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	97.7% ICU Level of Service F
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - No GTA West Highway
 5: Street G & Old School Road PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↘	↙
Traffic Volume (veh/h)	1172	50	11	1500	41	16
Future Volume (Veh/h)	1172	50	11	1500	41	16
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)	1274	54	12	1630	45	17
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			1328		2955	1301
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1328		2955	1301
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		0	91
cM capacity (veh/h)			520		16	197
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	1328	1642	62			
Volume Left	0	12	45			
Volume Right	54	0	17			
cSH	1700	520	21			
Volume to Capacity	0.78	0.02	2.95			
Queue Length 95th (m)	0.0	0.5	60.9			
Control Delay (s)	0.0	6.8	1261.6			
Lane LOS		A	F			
Approach Delay (s)	0.0	6.8	1261.6			
Approach LOS			F			
Intersection Summary						
Average Delay			29.5			
Intersection Capacity Utilization			97.7%	ICU Level of Service	F	
Analysis Period (min)			15			

Lanes, Volumes, Timings
6: Street H & Old School Road

Future Total 2038 - No GTA West Highway
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↗	↘
Traffic Volume (vph)	1134	42	0	2357	33	0
Future Volume (vph)	1134	42	0	2357	33	0
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t	0.995					
Fl _t Protected					0.950	
Satd. Flow (prot)	1874	0	0	1883	1789	0
Fl _t Permitted					0.950	
Satd. Flow (perm)	1874	0	0	1883	1789	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	794.6			213.2	410.2	
Travel Time (s)	40.9			11.0	30.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1233	46	0	2562	36	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1279	0	0	2562	36	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	134.1%			ICU Level of Service H		
Analysis Period (min)	15					























HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - No GTA West Highway
 6: Street H & Old School Road PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↙	↘
Traffic Volume (veh/h)	1134	42	0	2357	33	0
Future Volume (Veh/h)	1134	42	0	2357	33	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)	1233	46	0	2562	36	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)	213					
pX, platoon unblocked					0.37	
vC, conflicting volume			1279	3818	1256	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1279	7800	1256	
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	0	100	
cM capacity (veh/h)			543	0	209	
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	1279	2562	36			
Volume Left	0	0	36			
Volume Right	46	0	0			
cSH	1700	543	0			
Volume to Capacity	0.75	0.00	Err			
Queue Length 95th (m)	0.0	0.0	Err			
Control Delay (s)	0.0	0.0	Err			
Lane LOS			F			
Approach Delay (s)	0.0	0.0	Err			
Approach LOS			F			
Intersection Summary						
Average Delay			92.8			
Intersection Capacity Utilization			134.1%	ICU Level of Service	H	
Analysis Period (min)			15			

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

Future Total 2038 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	672	128	334	327	1108	34	590	3917	400	28	1970	627
Future Volume (vph)	672	128	334	327	1108	34	590	3917	400	28	1970	627
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		0.892			0.996			0.986			0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1680	0	1789	1876	0	1789	3528	0	1789	3450	0
Flt Permitted	0.143			0.125			0.082			0.089		
Satd. Flow (perm)	269	1680	0	235	1876	0	154	3528	0	168	3450	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		92			1			11			41	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	730	139	363	355	1204	37	641	4258	435	30	2141	682
Shared Lane Traffic (%)												
Lane Group Flow (vph)	730	502	0	355	1241	0	641	4693	0	30	2823	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	16.0	34.0		22.0	40.0		15.0	54.0		10.0	49.0	
Total Split (%)	13.3%	28.3%		18.3%	33.3%		12.5%	45.0%		8.3%	40.8%	
Maximum Green (s)	12.0	28.0		18.0	34.0		9.0	48.0		4.0	43.0	
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	
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)	42.0	30.0		52.0	36.0		60.0	50.0		51.0	45.0	
Actuated g/C Ratio	0.35	0.25		0.43	0.30		0.50	0.42		0.42	0.38	
v/c Ratio	2.97	1.03		1.06	2.20		2.84	3.18		0.20	2.14	

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

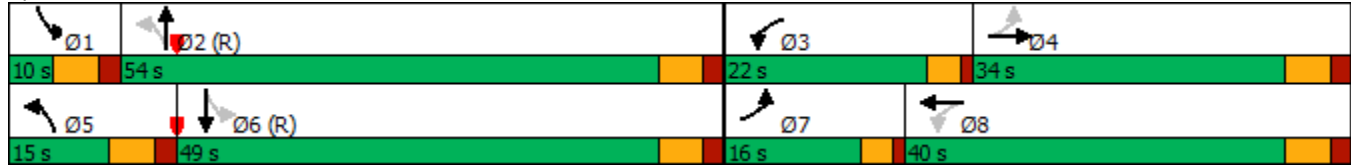
Future Total 2038 - No GTA West Highway
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	913.0	84.2		99.2	571.2		855.8	998.9		18.8	538.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	913.0	84.2		99.2	571.2		855.8	998.9		18.8	538.5	
LOS	F	F		F	F		F	F		B	F	
Approach Delay		575.3			466.2			981.7			533.1	
Approach LOS		F			F			F			F	

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:	150
Control Type:	Pretimed
Maximum v/c Ratio:	3.18
Intersection Signal Delay:	745.4
Intersection LOS:	F
Intersection Capacity Utilization	235.3%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Total 2038 - No GTA West Highway
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	730	502	355	1241	641	4693	30	2823
v/c Ratio	2.97	1.03	1.06	2.20	2.84	3.18	0.20	2.14
Control Delay	913.0	84.2	99.2	571.2	855.8	998.9	18.8	538.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	913.0	84.2	99.2	571.2	855.8	998.9	18.8	538.5
Queue Length 50th (m)	~284.4	~108.8	~75.2	~475.5	~246.0	~1033.1	3.5	~561.0
Queue Length 95th (m)	#357.1	#174.6	#134.0	#555.7	#316.3	#1055.7	8.4	#600.1
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	246	489	334	563	226	1476	152	1319
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	2.97	1.03	1.06	2.20	2.84	3.18	0.20	2.14

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
7: Hurontario Street & Old School Road

Future Total 2038 - No GTA West Highway
PM Peak Hour










Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	672	128	334	327	1108	34	590	3917	400	28	1970	627
Future Volume (vph)	672	128	334	327	1108	34	590	3917	400	28	1970	627
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		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	0.89		1.00	1.00		1.00	0.99		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)	1789	1679		1789	1875		1789	3529		1789	3449	
Flt Permitted	0.14	1.00		0.12	1.00		0.08	1.00		0.09	1.00	
Satd. Flow (perm)	269	1679		235	1875		154	3529		167	3449	
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)	730	139	363	355	1204	37	641	4258	435	30	2141	682
RTOR Reduction (vph)	0	69	0	0	1	0	0	6	0	0	26	0
Lane Group Flow (vph)	730	433	0	355	1240	0	641	4687	0	30	2797	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	40.0	28.0		50.0	34.0		57.0	48.0		47.0	43.0	
Effective Green, g (s)	40.0	30.0		50.0	36.0		60.0	50.0		51.0	45.0	
Actuated g/C Ratio	0.33	0.25		0.42	0.30		0.50	0.42		0.42	0.38	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	241	419		331	562		226	1470		152	1293	
v/s Ratio Prot	c0.30	0.26		0.16	c0.66		c0.26	c1.33		0.01	0.81	
v/s Ratio Perm	c0.70			0.29			1.16			0.07		
v/c Ratio	3.03	1.03		1.07	2.21		2.84	3.19		0.20	2.16	
Uniform Delay, d1	34.2	45.0		35.6	42.0		35.7	35.0		27.3	37.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	924.1	52.8		70.1	548.9		838.5	986.4		2.9	526.1	
Delay (s)	958.3	97.8		105.7	590.9		874.2	1021.4		30.2	563.6	
Level of Service	F	F		F	F		F	F		C	F	
Approach Delay (s)		607.7			483.0			1003.8			558.0	
Approach LOS		F			F			F			F	

Intersection Summary

HCM 2000 Control Delay	768.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	235.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
8: Chinguacousy Road & Street A (North)

Future Total 2038 - No GTA West Highway
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	76	993	62	98	698
Future Volume (vph)	29	76	993	62	98	698
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.903		0.992			
Flt Protected	0.986					0.994
Satd. Flow (prot)	1677	0	1868	0	0	1872
Flt Permitted	0.986					0.994
Satd. Flow (perm)	1677	0	1868	0	0	1872
Link Speed (k/h)	48		80			80
Link Distance (m)	81.3		401.8			298.8
Travel Time (s)	6.1		18.1			13.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	83	1079	67	107	759
Shared Lane Traffic (%)						
Lane Group Flow (vph)	115	0	1146	0	0	866
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	114.5%		ICU Level of Service H			
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - No GTA West Highway
 8: Chinguacousy Road & Street A (North) PM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	76	993	62	98	698
Future Volume (Veh/h)	29	76	993	62	98	698
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)	32	83	1079	67	107	759
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	2086	1112			1146	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2086	1112			1146	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	33	67			82	
cM capacity (veh/h)	48	254			610	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	115	1146	866			
Volume Left	32	0	107			
Volume Right	83	67	0			
cSH	116	1700	610			
Volume to Capacity	0.99	0.67	0.18			
Queue Length 95th (m)	49.6	0.0	4.8			
Control Delay (s)	152.9	0.0	4.9			
Lane LOS	F		A			
Approach Delay (s)	152.9	0.0	4.9			
Approach LOS	F					
Intersection Summary						
Average Delay			10.3			
Intersection Capacity Utilization			114.5%	ICU Level of Service	H	
Analysis Period (min)			15			

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

Future Total 2038 - No GTA West Highway
 PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	64	68	99	953	756	23
Future Volume (vph)	64	68	99	953	756	23
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt	0.931				0.996	
Flt Protected	0.976			0.995		
Satd. Flow (prot)	1711	0	0	1874	1876	0
Flt Permitted	0.976			0.995		
Satd. Flow (perm)	1711	0	0	1874	1876	0
Link Speed (k/h)	48			80	80	
Link Distance (m)	150.6			276.3	311.8	
Travel Time (s)	11.3			12.4	14.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	70	74	108	1036	822	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	0	1144	847	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	114.5%
ICU Level of Service	H
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - No GTA West Highway
 9: McLaughlin Road & Street C PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	64	68	99	953	756	23
Future Volume (Veh/h)	64	68	99	953	756	23
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)	70	74	108	1036	822	25
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	2086	834	847			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2086	834	847			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	80	86			
cM capacity (veh/h)	50	368	790			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	144	1144	847			
Volume Left	70	108	0			
Volume Right	74	0	25			
cSH	90	790	1700			
Volume to Capacity	1.60	0.14	0.50			
Queue Length 95th (m)	87.0	3.6	0.0			
Control Delay (s)	395.6	4.2	0.0			
Lane LOS	F	A				
Approach Delay (s)	395.6	4.2	0.0			
Approach LOS	F					
Intersection Summary						
Average Delay			28.9			
Intersection Capacity Utilization			114.5%	ICU Level of Service	H	
Analysis Period (min)			15			

Lanes, Volumes, Timings
10: Hurontario Street & Street H

Future Total 2038 - No GTA West Highway
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	23	43	4905	2606	3
Future Volume (vph)	3	23	43	4905	2606	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.879					
Flt Protected	0.995					
Satd. Flow (prot)	1647	0	0	3579	3579	0
Flt Permitted	0.995					
Satd. Flow (perm)	1647	0	0	3579	3579	0
Link Speed (k/h)	48			70	70	
Link Distance (m)	410.2			640.1	215.3	
Travel Time (s)	30.8			32.9	11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	25	47	5332	2833	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	28	0	0	5379	2836	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)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	175.7%
ICU Level of Service	H
Analysis Period (min)	15










HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - No GTA West Highway
 10: Hurontario Street & Street H PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	23	43	4905	2606	3
Future Volume (Veh/h)	3	23	43	4905	2606	3
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)	3	25	47	5332	2833	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					215	
pX, platoon unblocked	0.63	0.63	0.63			
vC, conflicting volume	5594	1418	2836			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	7092	505	2741			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	92	48			
cM capacity (veh/h)	0	325	91			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	28	1824	3555	1889	947	
Volume Left	3	47	0	0	0	
Volume Right	25	0	0	0	3	
cSH	0	91	1700	1700	1700	
Volume to Capacity	980.25	0.52	2.09	1.11	0.56	
Queue Length 95th (m)	Err	17.2	0.0	0.0	0.0	
Control Delay (s)	Err	2.1	0.0	0.0	0.0	
Lane LOS	F	A				
Approach Delay (s)	Err	0.7		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay			34.4			
Intersection Capacity Utilization			175.7%	ICU Level of Service	H	
Analysis Period (min)			15			

Lanes, Volumes, Timings
 11: Chinguacousy Road & Street A (South)

Future Total 2038 - No GTA West Highway
 PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	62	993	62	82	645
Future Volume (vph)	29	62	993	62	82	645
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.909		0.992			
Flt Protected	0.984					0.994
Satd. Flow (prot)	1685	0	1868	0	0	1872
Flt Permitted	0.984					0.994
Satd. Flow (perm)	1685	0	1868	0	0	1872
Link Speed (k/h)	48		80			80
Link Distance (m)	156.3		2383.0			401.8
Travel Time (s)	11.7		107.2			18.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	67	1079	67	89	701
Shared Lane Traffic (%)						
Lane Group Flow (vph)	99	0	1146	0	0	790
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	109.9%			ICU Level of Service H		
Analysis Period (min)	15					

















HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - No GTA West Highway
 11: Chinguacousy Road & Street A (South) PM Peak Hour



















Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	62	993	62	82	645
Future Volume (Veh/h)	29	62	993	62	82	645
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)	32	67	1079	67	89	701
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	1992	1112			1146	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1992	1112			1146	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	44	74			85	
cM capacity (veh/h)	57	254			610	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	99	1146	790			
Volume Left	32	0	89			
Volume Right	67	67	0			
cSH	120	1700	610			
Volume to Capacity	0.83	0.67	0.15			
Queue Length 95th (m)	37.5	0.0	3.9			
Control Delay (s)	108.7	0.0	4.0			
Lane LOS	F		A			
Approach Delay (s)	108.7	0.0	4.0			
Approach LOS	F					
Intersection Summary						
Average Delay			6.8			
Intersection Capacity Utilization			109.9%	ICU Level of Service	H	
Analysis Period (min)			15			

Lanes, Volumes, Timings
12: McLaughlin Road & Street E

Future Total 2038 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	0	52	172	0	27	74	982	239	34	725	65
Future Volume (vph)	42	0	52	172	0	27	74	982	239	34	725	65
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 _t		0.925			0.982			0.975			0.989	
Fl _t Protected		0.978			0.959			0.997			0.998	
Satd. Flow (prot)	0	1704	0	0	1774	0	0	1831	0	0	1859	0
Fl _t Permitted		0.978			0.959			0.997			0.998	
Satd. Flow (perm)	0	1704	0	0	1774	0	0	1831	0	0	1859	0
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			1359.2			391.4			276.3	
Travel Time (s)		15.4			101.9			17.6			12.4	
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)	46	0	57	187	0	29	80	1067	260	37	788	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	0	0	216	0	0	1407	0	0	896	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	119.4%					ICU Level of Service H						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - No GTA West Highway
 12: McLaughlin Road & Street E PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	0	52	172	0	27	74	982	239	34	725	65
Future Volume (Veh/h)	42	0	52	172	0	27	74	982	239	34	725	65
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)	46	0	57	187	0	29	80	1067	260	37	788	71
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	2284	2384	824	2312	2290	1197	859			1327		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2284	2384	824	2312	2290	1197	859			1327		
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 %	0	100	85	0	100	87	90			93		
cM capacity (veh/h)	21	28	373	20	33	226	782			520		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	103	216	1407	896								
Volume Left	46	187	80	37								
Volume Right	57	29	260	71								
cSH	44	22	782	520								
Volume to Capacity	2.32	9.61	0.10	0.07								
Queue Length 95th (m)	82.6	Err	2.6	1.7								
Control Delay (s)	796.5	Err	5.0	2.2								
Lane LOS	F	F	A	A								
Approach Delay (s)	796.5	Err	5.0	2.2								
Approach LOS	F	F										
Intersection Summary												
Average Delay			858.5									
Intersection Capacity Utilization			119.4%		ICU Level of Service					H		
Analysis Period (min)			15									

Lanes, Volumes, Timings
13: Hurontario Street & Street E

Future Total 2038 - No GTA West Highway
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	273	512	4926	2606	23
Future Volume (vph)	22	273	512	4926	2606	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.875				0.999	
Flt Protected	0.996			0.995		
Satd. Flow (prot)	1641	0	0	3561	3575	0
Flt Permitted	0.996			0.995		
Satd. Flow (perm)	1641	0	0	3561	3575	0
Link Speed (k/h)	48			70	70	
Link Distance (m)	1359.2			928.0	640.1	
Travel Time (s)	101.9			47.7	32.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	297	557	5354	2833	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	321	0	0	5911	2858	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	251.9%
ICU Level of Service	H
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - No GTA West Highway
 13: Hurontario Street & Street E PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	273	512	4926	2606	23
Future Volume (Veh/h)	22	273	512	4926	2606	23
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)	24	297	557	5354	2833	25
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	6636	1429	2858			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	6636	1429	2858			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	0	0			
cM capacity (veh/h)	0	124	129			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	321	2342	3569	1889	969	
Volume Left	24	557	0	0	0	
Volume Right	297	0	0	0	25	
cSH	0	129	1700	1700	1700	
Volume to Capacity	Err	4.32	2.10	1.11	0.57	
Queue Length 95th (m)	Err	Err	0.0	0.0	0.0	
Control Delay (s)	Err	371.6	0.0	0.0	0.0	
Lane LOS	F	F				
Approach Delay (s)	Err	147.2		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay				Err		
Intersection Capacity Utilization				251.9%	ICU Level of Service	H
Analysis Period (min)				15		

Lanes, Volumes, Timings
 14: McLaughlin Road & Street F

Future Total 2038 - No GTA West Highway
 PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	42	52	74	1253	884	65
Future Volume (vph)	42	52	74	1253	884	65
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.925				0.991	
Flt Protected	0.978			0.997		
Satd. Flow (prot)	1704	0	0	1878	1866	0
Flt Permitted	0.978			0.997		
Satd. Flow (perm)	1704	0	0	1878	1866	0
Link Speed (k/h)	48			80	80	
Link Distance (m)	171.6			2104.9	391.4	
Travel Time (s)	12.9			94.7	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	57	80	1362	961	71
Shared Lane Traffic (%)						
Lane Group Flow (vph)	103	0	0	1442	1032	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)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	136.0%
ICU Level of Service	H
Analysis Period (min)	15























HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - No GTA West Highway
 14: McLaughlin Road & Street F PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	42	52	74	1253	884	65
Future Volume (Veh/h)	42	52	74	1253	884	65
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)	46	57	80	1362	961	71
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	2518	996	1032			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2518	996	1032			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	81	88			
cM capacity (veh/h)	27	296	673			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	103	1442	1032			
Volume Left	46	80	0			
Volume Right	57	0	71			
cSH	55	673	1700			
Volume to Capacity	1.88	0.12	0.61			
Queue Length 95th (m)	75.5	3.1	0.0			
Control Delay (s)	578.7	6.9	0.0			
Lane LOS	F	A				
Approach Delay (s)	578.7	6.9	0.0			
Approach LOS	F					
Intersection Summary						
Average Delay			27.0			
Intersection Capacity Utilization			136.0%	ICU Level of Service	H	
Analysis Period (min)			15			

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

Future Total 2038 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	830	54	407	889	205	80	518	425	91	222	26
Future Volume (vph)	32	830	54	407	889	205	80	518	425	91	222	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.972				0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5096	0	3471	4998	0	1789	1883	1601	1789	1853	0
Flt Permitted	0.225			0.950			0.514			0.242		
Satd. Flow (perm)	424	5096	0	3471	4998	0	968	1883	1601	456	1853	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			60				439			6
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5			2383.0	
Travel Time (s)		14.1			73.0			15.5			107.2	
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)	35	902	59	442	966	223	87	563	462	99	241	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	961	0	442	1189	0	87	563	462	99	269	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	36.0	36.0		25.0	61.0		59.0	59.0	59.0	59.0	59.0	59.0
Total Split (%)	30.0%	30.0%		20.8%	50.8%		49.2%	49.2%	49.2%	49.2%	49.2%	49.2%
Maximum Green (s)	32.0	32.0		21.0	57.0		55.0	55.0	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	3.5	3.5
All-Red Time (s)	0.5	0.5		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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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
Act Effct Green (s)	32.0	32.0		21.0	57.0		55.0	55.0	55.0	55.0	55.0	55.0
Actuated g/C Ratio	0.27	0.27		0.18	0.48		0.46	0.46	0.46	0.46	0.46	0.46
v/c Ratio	0.31	0.70		0.73	0.49		0.20	0.65	0.48	0.47	0.32	

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

Future Total 2038 - No GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	44.3	42.7		35.7	26.5		20.9	29.6	4.1	31.9	21.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	44.3	42.7		35.7	26.5		20.9	29.6	4.1	31.9	21.4	
LOS	D	D		D	C		C	C	A	C	C	
Approach Delay		42.8			29.0			18.3			24.2	
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:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.73
Intersection Signal Delay:	29.0
Intersection LOS:	C
Intersection Capacity Utilization	74.5%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road

Ø2 (R)	Ø3	Ø4
59 s	25 s	36 s
Ø6 (R)	Ø8	
59 s	61 s	

Queues

Future Total 2038 - No GTA West Highway

15: Chinguacousy Road & Mayfield Road

PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	35	961	442	1189	87	563	462	99	269
v/c Ratio	0.31	0.70	0.73	0.49	0.20	0.65	0.48	0.47	0.32
Control Delay	44.3	42.7	35.7	26.5	20.9	29.6	4.1	31.9	21.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.3	42.7	35.7	26.5	20.9	29.6	4.1	31.9	21.4
Queue Length 50th (m)	6.6	74.3	55.8	91.2	11.9	100.2	2.9	15.8	38.2
Queue Length 95th (m)	16.8	89.8	m53.2	m85.9	22.8	138.5	21.0	33.8	57.6
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	113	1364	607	2405	443	863	971	209	852
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.70	0.73	0.49	0.20	0.65	0.48	0.47	0.32

Intersection Summary

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

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

Future Total 2038 - No GTA West Highway
 PM Peak Hour






























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖↗	↑↑↑		↖	↑	↗	↖	↑	↗
Traffic Volume (vph)	32	830	54	407	889	205	80	518	425	91	222	26
Future Volume (vph)	32	830	54	407	889	205	80	518	425	91	222	26
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	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5094		3471	4997		1789	1883	1601	1789	1854	
Flt Permitted	0.23	1.00		0.95	1.00		0.51	1.00	1.00	0.24	1.00	
Satd. Flow (perm)	424	5094		3471	4997		967	1883	1601	456	1854	
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)	35	902	59	442	966	223	87	563	462	99	241	28
RTOR Reduction (vph)	0	6	0	0	32	0	0	0	238	0	3	0
Lane Group Flow (vph)	35	955	0	442	1158	0	87	563	224	99	266	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	32.0	32.0		21.0	57.0		55.0	55.0	55.0	55.0	55.0	
Effective Green, g (s)	32.0	32.0		21.0	57.0		55.0	55.0	55.0	55.0	55.0	
Actuated g/C Ratio	0.27	0.27		0.18	0.48		0.46	0.46	0.46	0.46	0.46	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	113	1358		607	2373		443	863	733	209	849	
v/s Ratio Prot		c0.19		c0.13	0.23			c0.30			0.14	
v/s Ratio Perm	0.08						0.09		0.14	0.22		
v/c Ratio	0.31	0.70		0.73	0.49		0.20	0.65	0.31	0.47	0.31	
Uniform Delay, d1	35.2	39.7		46.8	21.5		19.3	25.1	20.5	22.5	20.6	
Progression Factor	1.00	1.00		0.74	1.29		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.0	3.1		0.7	0.1		1.0	3.8	1.1	7.5	1.0	
Delay (s)	42.2	42.8		35.4	27.8		20.3	28.9	21.6	30.0	21.5	
Level of Service	D	D		D	C		C	C	C	C	C	
Approach Delay (s)		42.8			29.9			25.2			23.8	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
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
16: McLaughlin Road & Mayfield Road

Future Total 2038 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	211	1179	80	256	1310	361	149	762	213	204	403	196
Future Volume (vph)	211	1179	80	256	1310	361	149	762	213	204	403	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.968				0.850		0.951	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	4977	0	1789	1883	1601	1789	1791	0
Flt Permitted	0.121			0.108			0.122			0.080		
Satd. Flow (perm)	228	5142	1601	203	4977	0	230	1883	1601	151	1791	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118		61				156		25	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	229	1282	87	278	1424	392	162	828	232	222	438	213
Shared Lane Traffic (%)												
Lane Group Flow (vph)	229	1282	87	278	1816	0	162	828	232	222	651	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	13.0	37.0	37.0	18.0	42.0		11.0	53.0	53.0	12.0	54.0	
Total Split (%)	10.8%	30.8%	30.8%	15.0%	35.0%		9.2%	44.2%	44.2%	10.0%	45.0%	
Maximum Green (s)	9.0	33.0	33.0	14.0	38.0		7.0	49.0	49.0	8.0	50.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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)	42.0	33.0	33.0	51.0	38.0		56.0	49.0	49.0	58.0	50.0	
Actuated g/C Ratio	0.35	0.28	0.28	0.42	0.32		0.47	0.41	0.41	0.48	0.42	
v/c Ratio	1.17	0.91	0.17	1.03	1.12		0.82	1.08	0.31	1.22	0.86	

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

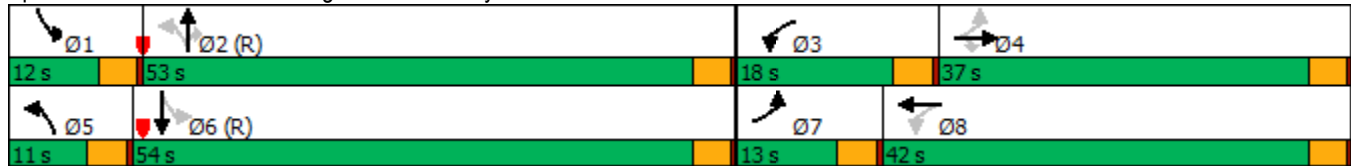
Future Total 2038 - No GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Control Delay	134.4	46.3	8.9	47.8	91.8		49.9	90.4	9.3	165.0	43.3		
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay	134.4	46.3	8.9	47.8	91.8		49.9	90.4	9.3	165.0	43.3		
LOS	F	D	A	D	F		D	F	A	F	D		
Approach Delay		56.9				86.0				69.6			74.2
Approach LOS		E				F				E			E

Intersection Summary

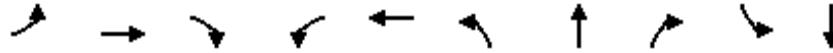
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	120
Control Type:	Pretimed
Maximum v/c Ratio:	1.22
Intersection Signal Delay:	72.7
Intersection LOS:	E
Intersection Capacity Utilization	109.8%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Total 2038 - No GTA West Highway
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	229	1282	87	278	1816	162	828	232	222	651
v/c Ratio	1.17	0.91	0.17	1.03	1.12	0.82	1.08	0.31	1.22	0.86
Control Delay	134.4	46.3	8.9	47.8	91.8	49.9	90.4	9.3	165.0	43.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	134.4	46.3	8.9	47.8	91.8	49.9	90.4	9.3	165.0	43.3
Queue Length 50th (m)	~48.4	114.6	5.9	~53.6	~179.5	19.9	~217.3	11.0	~48.6	132.4
Queue Length 95th (m)	m#92.7	#135.0	m14.5	m40.1	m122.7	#50.1	#290.9	28.0	#97.4	#198.7
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	196	1414	525	271	1617	198	768	746	182	760
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	1.17	0.91	0.17	1.03	1.12	0.82	1.08	0.31	1.22	0.86

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.

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

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

Future Total 2038 - No GTA West Highway
 PM Peak Hour





































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑	↗	↘	↗	
Traffic Volume (vph)	211	1179	80	256	1310	361	149	762	213	204	403	196
Future Volume (vph)	211	1179	80	256	1310	361	149	762	213	204	403	196
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	4975		1789	1883	1601	1789	1791	
Flt Permitted	0.12	1.00	1.00	0.11	1.00		0.12	1.00	1.00	0.08	1.00	
Satd. Flow (perm)	228	5142	1601	204	4975		230	1883	1601	151	1791	
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)	229	1282	87	278	1424	392	162	828	232	222	438	213
RTOR Reduction (vph)	0	0	63	0	42	0	0	0	92	0	15	0
Lane Group Flow (vph)	229	1282	24	278	1774	0	162	828	140	222	636	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	42.0	33.0	33.0	51.0	38.0		56.0	49.0	49.0	58.0	50.0	
Effective Green, g (s)	42.0	33.0	33.0	51.0	38.0		56.0	49.0	49.0	58.0	50.0	
Actuated g/C Ratio	0.35	0.28	0.28	0.42	0.32		0.47	0.41	0.41	0.48	0.42	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	196	1414	440	271	1575		198	768	653	182	746	
v/s Ratio Prot	0.09	0.25		c0.12	c0.36		0.05	0.44		c0.08	0.36	
v/s Ratio Perm	0.32		0.01	0.32			0.33		0.09	c0.51		
v/c Ratio	1.17	0.91	0.05	1.03	1.13		0.82	1.08	0.21	1.22	0.85	
Uniform Delay, d1	33.7	42.0	32.0	34.7	41.0		25.1	35.5	23.0	32.5	31.7	
Progression Factor	0.67	0.89	3.30	0.68	0.95		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	111.7	8.6	0.2	23.4	57.8		29.9	55.6	0.7	138.2	11.9	
Delay (s)	134.4	45.9	105.7	46.8	96.7		55.0	91.1	23.8	170.7	43.6	
Level of Service	F	D	F	D	F		E	F	C	F	D	
Approach Delay (s)		61.8			90.1			73.5			75.9	
Approach LOS		E			F			E			E	

Intersection Summary			
HCM 2000 Control Delay	76.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	109.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Total 2038 - No GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  			 		 	 	
Traffic Volume (vph)	537	832	150	320	1288	178	439	990	53	227	1041	794
Future Volume (vph)	537	832	150	320	1288	178	439	990	53	227	1041	794
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.095			0.258		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	179	3579	1601	486	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			163			82			58			293
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	584	904	163	348	1400	193	477	1076	58	247	1132	863
Shared Lane Traffic (%)												
Lane Group Flow (vph)	584	904	163	348	1400	193	477	1076	58	247	1132	863
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2				6
Permitted Phases			4			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	18.0	29.0	29.0	18.0	29.0	29.0	18.0	73.0	73.0	55.0	55.0	55.0
Total Split (%)	15.0%	24.2%	24.2%	15.0%	24.2%	24.2%	15.0%	60.8%	60.8%	45.8%	45.8%	45.8%
Maximum Green (s)	14.0	25.0	25.0	14.0	25.0	25.0	14.0	69.0	69.0	51.0	51.0	51.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	Lag
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
Act Effct Green (s)	14.0	25.0	25.0	14.0	25.0	25.0	69.0	69.0	69.0	51.0	51.0	51.0
Actuated g/C Ratio	0.12	0.21	0.21	0.12	0.21	0.21	0.58	0.58	0.58	0.42	0.42	0.42
v/c Ratio	1.45	0.84	0.35	0.86	1.31	0.48	1.64	0.52	0.06	1.20	0.74	1.02

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

Future Total 2038 - No GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	234.4	46.5	19.8	73.2	183.6	28.2	330.2	16.6	3.0	159.6	32.7	58.8
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	234.4	46.5	19.8	73.2	183.6	28.2	330.2	16.6	3.0	159.6	32.7	58.8
LOS	F	D	B	E	F	C	F	B	A	F	C	E
Approach Delay	110.4			148.4			109.0			56.8		
Approach LOS	F			F			F			E		

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:	140
Control Type:	Pretimed
Maximum v/c Ratio:	1.64
Intersection Signal Delay:	103.8
Intersection LOS:	F
Intersection Capacity Utilization	108.4%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road

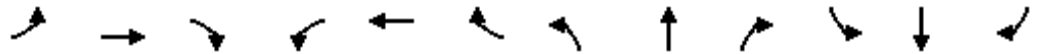


Queues

Future Total 2038 - No GTA West Highway

17: 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)	584	904	163	348	1400	193	477	1076	58	247	1132	863
v/c Ratio	1.45	0.84	0.35	0.86	1.31	0.48	1.64	0.52	0.06	1.20	0.74	1.02
Control Delay	234.4	46.5	19.8	73.2	183.6	28.2	330.2	16.6	3.0	159.6	32.7	58.8
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	234.4	46.5	19.8	73.2	183.6	28.2	330.2	16.6	3.0	159.6	32.7	58.8
Queue Length 50th (m)	~97.1	82.2	21.0	42.1	~155.1	22.5	~143.3	77.0	0.0	~70.4	116.0	~164.3
Queue Length 95th (m)	m#109.6	m88.7	m23.8	#66.0	#184.3	45.4	#208.1	94.3	5.5	#120.9	141.6	#248.1
Internal Link Dist (m)		1381.8			725.9			357.1				585.4
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	404	1071	462	404	1071	398	290	2057	945	206	1521	848
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	1.45	0.84	0.35	0.86	1.31	0.48	1.64	0.52	0.06	1.20	0.74	1.02

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

HCM Signalized Intersection Capacity Analysis
 17: Hurontario Street & Mayfield Road

Future Total 2038 - No GTA West Highway
 PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	537	832	150	320	1288	178	439	990	53	227	1041	794
Future Volume (vph)	537	832	150	320	1288	178	439	990	53	227	1041	794
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	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.10	1.00	1.00	0.26	1.00	1.00
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	179	3579	1601	487	3579	1601
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)	584	904	163	348	1400	193	477	1076	58	247	1132	863
RTOR Reduction (vph)	0	0	129	0	0	65	0	0	25	0	0	168
Lane Group Flow (vph)	584	904	34	348	1400	128	477	1076	33	247	1132	695
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2				6
Permitted Phases			4			8	2		2	6		6
Actuated Green, G (s)	14.0	25.0	25.0	14.0	25.0	25.0	69.0	69.0	69.0	51.0	51.0	51.0
Effective Green, g (s)	14.0	25.0	25.0	14.0	25.0	25.0	69.0	69.0	69.0	51.0	51.0	51.0
Actuated g/C Ratio	0.12	0.21	0.21	0.12	0.21	0.21	0.58	0.58	0.58	0.42	0.42	0.42
Clearance Time (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
Lane Grp Cap (vph)	404	1071	333	404	1071	333	290	2057	920	206	1521	680
v/s Ratio Prot	c0.17	0.18		0.10	c0.27		c0.19	0.30			0.32	
v/s Ratio Perm			0.02			0.08	c0.75		0.02	0.51		0.43
v/c Ratio	1.45	0.84	0.10	0.86	1.31	0.38	1.64	0.52	0.04	1.20	0.74	1.02
Uniform Delay, d1	53.0	45.6	38.4	52.0	47.5	40.9	33.6	15.5	11.1	34.5	29.0	34.5
Progression Factor	0.58	0.92	3.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	207.1	4.0	0.3	20.8	145.1	3.3	305.2	1.0	0.1	126.8	3.3	40.0
Delay (s)	237.6	46.2	117.3	72.8	192.6	44.2	338.8	16.5	11.1	161.3	32.4	74.5
Level of Service	F	D	F	E	F	D	F	B	B	F	C	E
Approach Delay (s)		120.9			156.3			111.7			62.8	
Approach LOS		F			F			F			E	
Intersection Summary												
HCM 2000 Control Delay			110.7			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.58									
Actuated Cycle Length (s)			120.0	Sum of lost time (s)					16.0			
Intersection Capacity Utilization			108.4%	ICU Level of Service			G					
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

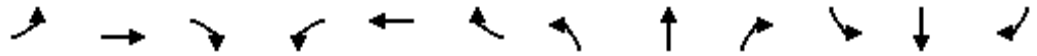
Future Total 2038 - No GTA West Highway & Improvements

1: Chinguacousy Road & Old School Road

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↖	↗	↗		↖	↗		↕	
Traffic Volume (vph)	8	264	32	230	199	40	15	270	445	36	358	1
Future Volume (vph)	8	264	32	230	199	40	15	270	445	36	358	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		25.0	25.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		1	1		1	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			0.850			0.850			0.850			
Flt Protected		0.998		0.950				0.997			0.995	
Satd. Flow (prot)	0	1880	1601	1789	1883	1601	0	1878	1601	0	1874	0
Flt Permitted		0.991		0.501				0.971			0.946	
Satd. Flow (perm)	0	1866	1601	944	1883	1601	0	1829	1601	0	1782	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			30			43			484			
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	0.92	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)	9	287	35	250	216	43	16	293	484	39	389	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	296	35	250	216	43	0	309	484	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			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			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
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	63.0	63.0	63.0	63.0	63.0	63.0	57.0	57.0	57.0	57.0	57.0	57.0
Total Split (%)	52.5%	52.5%	52.5%	52.5%	52.5%	52.5%	47.5%	47.5%	47.5%	47.5%	47.5%	47.5%
Maximum Green (s)	59.0	59.0	59.0	59.0	59.0	59.0	53.0	53.0	53.0	53.0	53.0	53.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	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	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	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)		59.0	59.0	59.0	59.0	59.0		53.0	53.0		53.0	
Actuated g/C Ratio		0.49	0.49	0.49	0.49	0.49		0.44	0.44		0.44	
v/c Ratio		0.32	0.04	0.54	0.23	0.05		0.38	0.50		0.55	

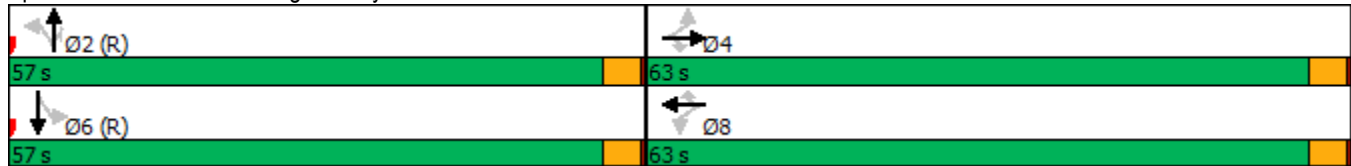


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		19.7	6.6	32.1	19.0	6.5		21.2	2.7		27.9	
Queue Delay		0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay		19.7	6.6	32.1	19.0	6.5		21.2	2.7		27.9	
LOS		B	A	C	B	A		C	A		C	
Approach Delay		18.3			24.4			10.0			27.9	
Approach LOS		B			C			A			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:	18.6
Intersection LOS:	B
Intersection Capacity Utilization	76.3%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road

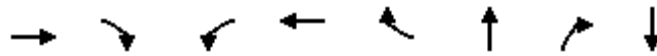


Queues

Future Total 2038 - No GTA West Highway & Improvements

1: Chinguacousy Road & Old School Road

AM Peak Hour
























Lane Group	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	296	35	250	216	43	309	484	429
v/c Ratio	0.32	0.04	0.54	0.23	0.05	0.38	0.50	0.55
Control Delay	19.7	6.6	32.1	19.0	6.5	21.2	2.7	27.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.7	6.6	32.1	19.0	6.5	21.2	2.7	27.9
Queue Length 50th (m)	40.9	0.6	43.8	28.5	0.5	40.4	1.2	72.8
Queue Length 95th (m)	60.2	5.9	m72.0	m48.8	m6.7	58.0	4.5	103.6
Internal Link Dist (m)	566.7			466.2		274.8		318.6
Turn Bay Length (m)		25.0	25.0					
Base Capacity (vph)	917	802	464	925	809	807	977	787
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	0.32	0.04	0.54	0.23	0.05	0.38	0.50	0.55

Intersection Summary

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

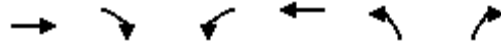
HCM Signalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 1: Chinguacousy Road & Old School Road AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	8	264	32	230	199	40	15	270	445	36	358	1	
Future Volume (vph)	8	264	32	230	199	40	15	270	445	36	358	1	
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	4.0		4.0		
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00		
Frt		1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00		
Flt Protected		1.00	1.00	0.95	1.00	1.00		1.00	1.00		1.00		
Satd. Flow (prot)		1881	1601	1789	1883	1601		1879	1601		1874		
Flt Permitted		0.99	1.00	0.50	1.00	1.00		0.97	1.00		0.95		
Satd. Flow (perm)		1867	1601	943	1883	1601		1829	1601		1781		
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)	9	287	35	250	216	43	16	293	484	39	389	1	
RTOR Reduction (vph)	0	0	15	0	0	22	0	0	270	0	0	0	
Lane Group Flow (vph)	0	296	20	250	216	21	0	309	214	0	429	0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		
Protected Phases		4			8			2		6			
Permitted Phases	4		4	8		8	2		2	6			
Actuated Green, G (s)		59.0	59.0	59.0	59.0	59.0		53.0	53.0		53.0		
Effective Green, g (s)		59.0	59.0	59.0	59.0	59.0		53.0	53.0		53.0		
Actuated g/C Ratio		0.49	0.49	0.49	0.49	0.49		0.44	0.44		0.44		
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0		
Lane Grp Cap (vph)		917	787	463	925	787		807	707		786		
v/s Ratio Prot					0.11								
v/s Ratio Perm		0.16	0.01	c0.27		0.01		0.17	0.13		c0.24		
v/c Ratio		0.32	0.03	0.54	0.23	0.03		0.38	0.30		0.55		
Uniform Delay, d1		18.4	15.7	21.1	17.5	15.7		22.5	21.6		24.6		
Progression Factor		1.00	1.00	1.26	1.04	1.36		0.87	0.50		1.00		
Incremental Delay, d2		0.9	0.1	4.4	0.6	0.1		1.4	1.1		2.7		
Delay (s)		19.4	15.8	30.9	18.8	21.4		20.9	12.0		27.4		
Level of Service		B	B	C	B	C		C	B		C		
Approach Delay (s)		19.0			25.0			15.5			27.4		
Approach LOS		B			C			B			C		
Intersection Summary													
HCM 2000 Control Delay			20.8		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			76.3%		ICU Level of Service					D			
Analysis Period (min)			15										
c Critical Lane Group													

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

Future Total 2038 - No GTA West Highway & Improvements

AM Peak Hour

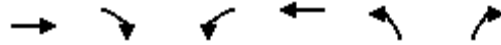


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Traffic Volume (vph)	739	22	29	450	43	44
Future Volume (vph)	739	22	29	450	43	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	25.0		25.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.996					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3564	0	1789	3579	1789	1601
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3564	0	1789	3579	1789	1601
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			521.8	121.9	
Travel Time (s)	25.2			26.8	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	803	24	32	489	47	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	827	0	32	489	47	48
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)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	34.1%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 2: Street B & Old School Road AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑		↙	↑↑	↙	↗		
Traffic Volume (veh/h)	739	22	29	450	43	44		
Future Volume (Veh/h)	739	22	29	450	43	44		
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)	803	24	32	489	47	48		
Pedestrians								
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			827		1124	414		
vC1, stage 1 conf vol					815			
vC2, stage 2 conf vol					308			
vCu, unblocked vol			827		1124	414		
tC, single (s)			4.1		6.8	6.9		
tC, 2 stage (s)					5.8			
tF (s)			2.2		3.5	3.3		
p0 queue free %			96		87	92		
cM capacity (veh/h)			800		365	588		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2	
Volume Total	535	292	32	244	244	47	48	
Volume Left	0	0	32	0	0	47	0	
Volume Right	0	24	0	0	0	0	48	
cSH	1700	1700	800	1700	1700	365	588	
Volume to Capacity	0.31	0.17	0.04	0.14	0.14	0.13	0.08	
Queue Length 95th (m)	0.0	0.0	0.9	0.0	0.0	3.3	2.0	
Control Delay (s)	0.0	0.0	9.7	0.0	0.0	16.3	11.7	
Lane LOS			A				C	B
Approach Delay (s)	0.0		0.6				14.0	
Approach LOS							B	
Intersection Summary								
Average Delay			1.1					
Intersection Capacity Utilization			34.1%	ICU Level of Service		A		
Analysis Period (min)			15					

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

Future Total 2038 - No GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Traffic Volume (vph)	761	17	48	431	48	124
Future Volume (vph)	761	17	48	431	48	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	25.0		25.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.997					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3568	0	1789	3579	1789	1601
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3568	0	1789	3579	1789	1601
Link Speed (k/h)	70			70	48	
Link Distance (m)	521.8			371.6	309.0	
Travel Time (s)	26.8			19.1	23.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	827	18	52	468	52	135
Shared Lane Traffic (%)						
Lane Group Flow (vph)	845	0	52	468	52	135
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)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	38.2%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 3: Street D & Old School Road

AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↵	↑↑	↵	↵	
Traffic Volume (veh/h)	761	17	48	431	48	124	
Future Volume (Veh/h)	761	17	48	431	48	124	
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)	827	18	52	468	52	135	
Pedestrians							
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)	372						
pX, platoon unblocked					0.99		
vC, conflicting volume			845		1174 422		
vC1, stage 1 conf vol					836		
vC2, stage 2 conf vol					338		
vCu, unblocked vol			845		1154 422		
tC, single (s)			4.1		6.8 6.9		
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5 3.3		
p0 queue free %			93		85 77		
cM capacity (veh/h)			787		353 580		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	551	294	52	234	234	52	135
Volume Left	0	0	52	0	0	52	0
Volume Right	0	18	0	0	0	0	135
cSH	1700	1700	787	1700	1700	353	580
Volume to Capacity	0.32	0.17	0.07	0.14	0.14	0.15	0.23
Queue Length 95th (m)	0.0	0.0	1.6	0.0	0.0	3.9	6.8
Control Delay (s)	0.0	0.0	9.9	0.0	0.0	16.9	13.1
Lane LOS			A		C B		
Approach Delay (s)	0.0		1.0		14.2		
Approach LOS							B
Intersection Summary							
Average Delay			2.0				
Intersection Capacity Utilization			38.2%		ICU Level of Service		A
Analysis Period (min)			15				

Lanes, Volumes, Timings

Future Total 2038 - No GTA West Highway & Improvements

4: McLaughlin Road & Old School Road

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	693	118	264	414	30	39	165	542	32	361	24
Future Volume (vph)	73	693	118	264	414	30	39	165	542	32	361	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	50.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		1	0		0
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	1.00	1.00	1.00	1.00	1.00
Frt		0.978			0.990				0.850		0.992	
Flt Protected	0.950			0.950			0.950				0.996	
Satd. Flow (prot)	1789	3500	0	1789	3543	0	1789	1883	1601	0	1861	0
Flt Permitted	0.456			0.275			0.265				0.965	
Satd. Flow (perm)	859	3500	0	518	3543	0	499	1883	1601	0	1803	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		31			12				231			3
Link Speed (k/h)		70			70			80				80
Link Distance (m)		371.6			349.1			311.8				263.1
Travel Time (s)		19.1			18.0			14.0				11.8
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)	79	753	128	287	450	33	42	179	589	35	392	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	79	881	0	287	483	0	42	179	589	0	453	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			Yes			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
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)	20.0	20.0		20.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	80.0	80.0		80.0	80.0		40.0	40.0	40.0	40.0		40.0
Total Split (%)	66.7%	66.7%		66.7%	66.7%		33.3%	33.3%	33.3%	33.3%		33.3%
Maximum Green (s)	76.0	76.0		76.0	76.0		36.0	36.0	36.0	36.0		36.0
Yellow Time (s)	3.5	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		0.5
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	4.0		4.0	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		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)	76.0	76.0		76.0	76.0		36.0	36.0	36.0			36.0
Actuated g/C Ratio	0.63	0.63		0.63	0.63		0.30	0.30	0.30			0.30
v/c Ratio	0.15	0.40		0.88	0.21		0.28	0.32	0.92			0.83



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	11.9	14.0		27.1	8.0		46.5	40.8	55.3		53.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	11.9	14.0		27.1	8.0		46.5	40.8	55.3		53.8	
LOS	B	B		C	A		D	D	E		D	
Approach Delay		13.8			15.1			51.7				53.8
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: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 30.4

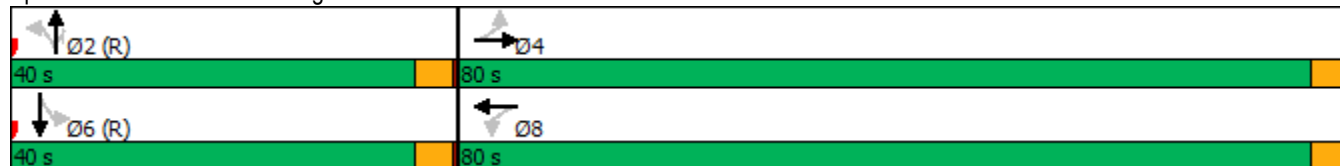
Intersection LOS: C

Intersection Capacity Utilization 88.7%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 4: McLaughlin Road & Old School Road

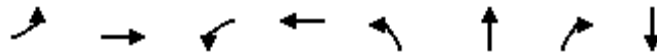


Queues

Future Total 2038 - No GTA West Highway & Improvements

4: McLaughlin Road & Old School Road

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	79	881	287	483	42	179	589	453
v/c Ratio	0.15	0.40	0.88	0.21	0.28	0.32	0.92	0.83
Control Delay	11.9	14.0	27.1	8.0	46.5	40.8	55.3	53.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	14.0	27.1	8.0	46.5	40.8	55.3	53.8
Queue Length 50th (m)	8.9	59.6	37.7	20.0	6.8	29.1	76.8	99.0
Queue Length 95th (m)	16.2	69.4	m36.0	m18.4	16.7	49.3	#123.1	#151.4
Internal Link Dist (m)		347.6		325.1		287.8		239.1
Turn Bay Length (m)	25.0		25.0		50.0			
Base Capacity (vph)	544	2228	328	2248	149	564	642	543
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	0.15	0.40	0.88	0.21	0.28	0.32	0.92	0.83
























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 2038 - No GTA West Highway & Improvements
 4: McLaughlin Road & Old School Road AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	73	693	118	264	414	30	39	165	542	32	361	24
Future Volume (vph)	73	693	118	264	414	30	39	165	542	32	361	24
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	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1789	3501		1789	3542		1789	1883	1601		1862	
Flt Permitted	0.46	1.00		0.27	1.00		0.27	1.00	1.00		0.96	
Satd. Flow (perm)	859	3501		517	3542		500	1883	1601		1803	
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)	79	753	128	287	450	33	42	179	589	35	392	26
RTOR Reduction (vph)	0	11	0	0	4	0	0	0	162	0	2	0
Lane Group Flow (vph)	79	870	0	287	479	0	42	179	427	0	451	0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		6		6
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	76.0	76.0		76.0	76.0		36.0	36.0	36.0		36.0	
Effective Green, g (s)	76.0	76.0		76.0	76.0		36.0	36.0	36.0		36.0	
Actuated g/C Ratio	0.63	0.63		0.63	0.63		0.30	0.30	0.30		0.30	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	544	2217		327	2243		150	564	480		540	
v/s Ratio Prot		0.25			0.14			0.10				
v/s Ratio Perm	0.09			c0.55			0.08		c0.27		0.25	
v/c Ratio	0.15	0.39		0.88	0.21		0.28	0.32	0.89		0.83	
Uniform Delay, d1	8.9	10.7		18.2	9.3		32.1	32.5	40.1		39.2	
Progression Factor	1.24	1.29		0.74	0.87		1.24	1.20	1.47		1.00	
Incremental Delay, d2	0.5	0.5		10.9	0.1		4.4	1.4	20.7		14.2	
Delay (s)	11.6	14.3		24.3	8.2		44.3	40.3	79.7		53.4	
Level of Service	B	B		C	A		D	D	E		D	
Approach Delay (s)		14.1			14.2			69.2			53.4	
Approach LOS		B			B			E			D	
Intersection Summary												
HCM 2000 Control Delay			35.0	HCM 2000 Level of Service				C				
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			120.0	Sum of lost time (s)				8.0				
Intersection Capacity Utilization			88.7%	ICU Level of Service				E				
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
5: Street G & Old School Road

Future Total 2038 - No GTA West Highway & Improvements

AM Peak Hour

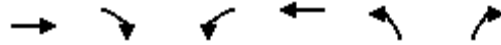


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (vph)	1236	17	12	671	40	13
Future Volume (vph)	1236	17	12	671	40	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	25.0		25.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.998					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3571	0	1789	3579	1789	1601
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3571	0	1789	3579	1789	1601
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			794.6	134.3	
Travel Time (s)	18.0			40.9	10.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1343	18	13	729	43	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1361	0	13	729	43	14
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)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	44.7%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 5: Street G & Old School Road AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↵	↑↑	↵	↵	
Traffic Volume (veh/h)	1236	17	12	671	40	13	
Future Volume (Veh/h)	1236	17	12	671	40	13	
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)	1343	18	13	729	43	14	
Pedestrians							
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)	349						
pX, platoon unblocked			0.90	0.90	0.90		
vC, conflicting volume			1361	1742	680		
vC1, stage 1 conf vol			1352				
vC2, stage 2 conf vol			390				
vCu, unblocked vol			1187	1609	435		
tC, single (s)			4.1	6.8	6.9		
tC, 2 stage (s)			5.8				
tF (s)			2.2	3.5	3.3		
p0 queue free %			98	80	97		
cM capacity (veh/h)			528	218	515		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	895	466	13	364	364	43	14
Volume Left	0	0	13	0	0	43	0
Volume Right	0	18	0	0	0	0	14
cSH	1700	1700	528	1700	1700	218	515
Volume to Capacity	0.53	0.27	0.02	0.21	0.21	0.20	0.03
Queue Length 95th (m)	0.0	0.0	0.6	0.0	0.0	5.4	0.6
Control Delay (s)	0.0	0.0	12.0	0.0	0.0	25.6	12.2
Lane LOS			B		D		
Approach Delay (s)	0.0		0.2		22.3		
Approach LOS					C		
Intersection Summary							
Average Delay			0.7				
Intersection Capacity Utilization			44.7%		ICU Level of Service		A
Analysis Period (min)			15				

Lanes, Volumes, Timings
6: Street H & Old School Road

Future Total 2038 - No GTA West Highway & Improvements

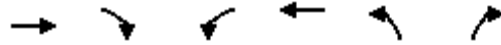
AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Traffic Volume (vph)	1319	16	0	609	31	0
Future Volume (vph)	1319	16	0	609	31	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	25.0		25.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.998					
Flt Protected					0.950	
Satd. Flow (prot)	3571	0	1883	3579	1789	1883
Flt Permitted					0.950	
Satd. Flow (perm)	3571	0	1883	3579	1789	1883
Link Speed (k/h)	70			70	48	
Link Distance (m)	794.6			213.2	410.2	
Travel Time (s)	40.9			11.0	30.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1434	17	0	662	34	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1451	0	0	662	34	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)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	47.0%
Analysis Period (min)	15
	ICU Level of Service A

HCM Unsignalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 6: Street H & Old School Road AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↵	↑↑	↵	↵	
Traffic Volume (veh/h)	1319	16	0	609	31	0	
Future Volume (Veh/h)	1319	16	0	609	31	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)	1434	17	0	662	34	0	
Pedestrians							
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)	213						
pX, platoon unblocked					0.99		
vC, conflicting volume			1451		1774 726		
vC1, stage 1 conf vol					1442		
vC2, stage 2 conf vol					331		
vCu, unblocked vol			1451		1762 726		
tC, single (s)			4.1		6.8 6.9		
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5 3.3		
p0 queue free %			100		81 100		
cM capacity (veh/h)			463		177 367		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	956	495	0	331	331	34	0
Volume Left	0	0	0	0	0	34	0
Volume Right	0	17	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	177	1700
Volume to Capacity	0.56	0.29	0.00	0.19	0.19	0.19	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	5.2	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	30.1	0.0
Lane LOS						D	A
Approach Delay (s)	0.0		0.0			30.1	
Approach LOS						D	
Intersection Summary							
Average Delay			0.5				
Intersection Capacity Utilization			47.0%		ICU Level of Service		A
Analysis Period (min)			15				

Lanes, Volumes, Timings

Future Total 2038 - No GTA West Highway & Improvements

7: Hurontario Street & Old School Road

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	572	144	600	393	123	16	158	1763	155	21	3246	313
Future Volume (vph)	572	144	600	393	123	16	158	1763	155	21	3246	313
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	0.95	0.95	1.00	0.95	0.95	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.879			0.983			0.988			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	3146	0	1789	3518	0	1789	5080	0	1789	5075	0
Flt Permitted	0.656			0.154			0.068			0.068		
Satd. Flow (perm)	1236	3146	0	290	3518	0	128	5080	0	128	5075	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		65			11			17			19	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	622	157	652	427	134	17	172	1916	168	23	3528	340
Shared Lane Traffic (%)												
Lane Group Flow (vph)	622	809	0	427	151	0	172	2084	0	23	3868	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
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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	15.0	29.0		18.0	32.0		10.0	63.0		10.0	63.0	
Total Split (%)	12.5%	24.2%		15.0%	26.7%		8.3%	52.5%		8.3%	52.5%	
Maximum Green (s)	11.0	23.0		14.0	26.0		4.0	57.0		4.0	57.0	
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	
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)	36.0	25.0		42.0	28.0		65.0	59.0		65.0	59.0	
Actuated g/C Ratio	0.30	0.21		0.35	0.23		0.54	0.49		0.54	0.49	
v/c Ratio	1.48	1.69dr		1.55	0.18		1.13	0.83		0.15	1.54	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	257.8	122.4		289.4	34.8		140.7	27.0		13.3	273.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	257.8	122.4		289.4	34.8		140.7	27.0		13.3	273.5	
LOS	F	F		F	C		F	C		B	F	
Approach Delay		181.2			222.9			35.7			272.0	
Approach LOS		F			F			D			F	

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: 150

Control Type: Pretimed

Maximum v/c Ratio: 1.55

Intersection Signal Delay: 187.2

Intersection LOS: F

Intersection Capacity Utilization 136.9%

ICU Level of Service H

Analysis Period (min) 15

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 7: Hurontario Street & Old School Road

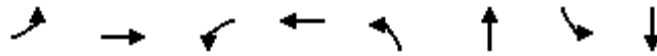


Queues

Future Total 2038 - No GTA West Highway & Improvements

7: Hurontario Street & Old School Road

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	622	809	427	151	172	2084	23	3868
v/c Ratio	1.48	1.69dr	1.55	0.18	1.13	0.83	0.15	1.54
Control Delay	257.8	122.4	289.4	34.8	140.7	27.0	13.3	273.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	257.8	122.4	289.4	34.8	140.7	27.0	13.3	273.5
Queue Length 50th (m)	~202.1	~110.3	~125.6	13.9	~38.8	103.1	2.2	~472.7
Queue Length 95th (m)	m#255.8	m#141.6	#187.9	23.0	#75.0	123.7	5.8	#494.0
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	421	706	276	829	152	2506	152	2504
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	1.48	1.15	1.55	0.18	1.13	0.83	0.15	1.54

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.

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

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

HCM Signalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 7: Hurontario Street & Old School Road AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	572	144	600	393	123	16	158	1763	155	21	3246	313
Future Volume (vph)	572	144	600	393	123	16	158	1763	155	21	3246	313
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		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.88		1.00	0.98		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)	1789	3146		1789	3518		1789	5080		1789	5074	
Flt Permitted	0.66	1.00		0.15	1.00		0.07	1.00		0.07	1.00	
Satd. Flow (perm)	1236	3146		290	3518		128	5080		128	5074	
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)	622	157	652	427	134	17	172	1916	168	23	3528	340
RTOR Reduction (vph)	0	51	0	0	8	0	0	9	0	0	10	0
Lane Group Flow (vph)	622	758	0	427	143	0	172	2075	0	23	3858	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	34.0	23.0		40.0	26.0		61.0	57.0		61.0	57.0	
Effective Green, g (s)	34.0	25.0		40.0	28.0		65.0	59.0		65.0	59.0	
Actuated g/C Ratio	0.28	0.21		0.33	0.23		0.54	0.49		0.54	0.49	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	400	655		271	820		152	2497		152	2494	
v/s Ratio Prot	0.14	0.24		c0.18	0.04		c0.06	0.41		0.01	c0.76	
v/s Ratio Perm	0.30			c0.34			0.56			0.07		
v/c Ratio	1.55	1.69dr		1.58	0.17		1.13	0.83		0.15	1.55	
Uniform Delay, d1	41.5	47.5		34.1	36.8		32.2	26.2		20.2	30.5	
Progression Factor	1.13	1.11		1.00	1.00		1.70	0.92		1.00	1.00	
Incremental Delay, d2	259.7	84.3		276.1	0.5		105.5	2.8		2.1	248.2	
Delay (s)	306.6	137.2		310.2	37.2		160.2	26.9		22.3	278.7	
Level of Service	F	F		F	D		F	C		C	F	
Approach Delay (s)		210.9			238.9			37.1			277.2	
Approach LOS		F			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	196.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.54		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	136.9%	ICU Level of Service	H
Analysis Period (min)	15		
dr Defacto Right Lane. Recode with 1 though lane as a right lane.			
c Critical Lane Group			

Lanes, Volumes, Timings
8: Chinguacousy Road & Street A (North)

Future Total 2038 - No GTA West Highway & Improvements

AM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	35	107	652	23	31	597
Future Volume (vph)	35	107	652	23	31	597
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	0.0		0.0	25.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.995			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1789	1601	3561	0	1789	3579
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1789	1601	3561	0	1789	3579
Link Speed (k/h)	48		80			80
Link Distance (m)	81.3		401.8			298.8
Travel Time (s)	6.1		18.1			13.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	116	709	25	34	649
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	116	734	0	34	649
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	35.4%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 8: Chinguacousy Road & Street A (North) AM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Traffic Volume (veh/h)	35	107	652	23	31	597	
Future Volume (Veh/h)	35	107	652	23	31	597	
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)	38	116	709	25	34	649	
Pedestrians							
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)				299			
pX, platoon unblocked							
vC, conflicting volume	1114	367			734		
vC1, stage 1 conf vol	722						
vC2, stage 2 conf vol	392						
vCu, unblocked vol	1114	367			734		
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 %	90	82			96		
cM capacity (veh/h)	390	630			867		
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	38	116	473	261	34	324	324
Volume Left	38	0	0	0	34	0	0
Volume Right	0	116	0	25	0	0	0
cSH	390	630	1700	1700	867	1700	1700
Volume to Capacity	0.10	0.18	0.28	0.15	0.04	0.19	0.19
Queue Length 95th (m)	2.4	5.1	0.0	0.0	0.9	0.0	0.0
Control Delay (s)	15.2	12.0	0.0	0.0	9.3	0.0	0.0
Lane LOS	C	B			A		
Approach Delay (s)	12.8		0.0		0.5		
Approach LOS	B						
Intersection Summary							
Average Delay			1.5				
Intersection Capacity Utilization			35.4%	ICU Level of Service	A		
Analysis Period (min)			15				

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

Future Total 2038 - No GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	95	89	36	650	735	10
Future Volume (vph)	95	89	36	650	735	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	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	0.95	0.95	0.95
Frt		0.850			0.998	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	3579	3571	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1789	1601	1789	3579	3571	0
Link Speed (k/h)	48			80	80	
Link Distance (m)	150.6			276.3	311.8	
Travel Time (s)	11.3			12.4	14.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	97	39	707	799	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	103	97	39	707	810	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	39.2%
	ICU Level of Service A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 9: McLaughlin Road & Street C AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations							
Traffic Volume (veh/h)	95	89	36	650	735	10	
Future Volume (Veh/h)	95	89	36	650	735	10	
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)	103	97	39	707	799	11	
Pedestrians							
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)			276	312			
pX, platoon unblocked	0.89						
vC, conflicting volume	1236	405	810				
vC1, stage 1 conf vol	804						
vC2, stage 2 conf vol	432						
vCu, unblocked vol	1023	405	810				
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 %	72	84	95				
cM capacity (veh/h)	373	595	812				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	103	97	39	354	354	533	277
Volume Left	103	0	39	0	0	0	0
Volume Right	0	97	0	0	0	0	11
cSH	373	595	812	1700	1700	1700	1700
Volume to Capacity	0.28	0.16	0.05	0.21	0.21	0.31	0.16
Queue Length 95th (m)	8.4	4.4	1.1	0.0	0.0	0.0	0.0
Control Delay (s)	18.3	12.2	9.7	0.0	0.0	0.0	0.0
Lane LOS	C	B	A				
Approach Delay (s)	15.3	0.5		0.0			
Approach LOS	C						
Intersection Summary							
Average Delay			2.0				
Intersection Capacity Utilization			39.2%	ICU Level of Service	A		
Analysis Period (min)			15				

Lanes, Volumes, Timings
10: Hurontario Street & Street H

Future Total 2038 - No GTA West Highway & Improvements
AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	40	11	2074	4204	3
Future Volume (vph)	3	40	11	2074	4204	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	0.0	25.0			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				
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	5142	5142	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1789	1601	1789	5142	5142	0
Link Speed (k/h)	48			70	70	
Link Distance (m)	410.2			640.1	215.3	
Travel Time (s)	30.8			32.9	11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	43	12	2254	4570	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3	43	12	2254	4573	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)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	91.3%
ICU Level of Service	F
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 10: Hurontario Street & Street H AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR				
Lane Configurations										
Traffic Volume (veh/h)	3	40	11	2074	4204	3				
Future Volume (Veh/h)	3	40	11	2074	4204	3				
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)	3	43	12	2254	4570	3				
Pedestrians										
Lane Width (m)										
Walking Speed (m/s)										
Percent Blockage										
Right turn flare (veh)										
Median type				None	None					
Median storage veh										
Upstream signal (m)					215					
pX, platoon unblocked	0.52	0.52	0.52							
vC, conflicting volume	5347	1525	4573							
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	6133	0	4641							
tC, single (s)	6.8	6.9	4.1							
tC, 2 stage (s)										
tF (s)	3.5	3.3	2.2							
p0 queue free %	0	92	2							
cM capacity (veh/h)	0	562	12							
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	
Volume Total	3	43	12	751	751	751	1828	1828	917	
Volume Left	3	0	12	0	0	0	0	0	0	
Volume Right	0	43	0	0	0	0	0	0	3	
cSH	0	562	12	1700	1700	1700	1700	1700	1700	
Volume to Capacity	4723.24	0.08	0.98	0.44	0.44	0.44	1.08	1.08	0.54	
Queue Length 95th (m)	Err	1.9	16.0	0.0	0.0	0.0	0.0	0.0	0.0	
Control Delay (s)	Err	11.9	652.0	0.0	0.0	0.0	0.0	0.0	0.0	
Lane LOS	F	B	F							
Approach Delay (s)	663.3		3.5			0.0				
Approach LOS	F									
Intersection Summary										
Average Delay			5.6							
Intersection Capacity Utilization			91.3%				ICU Level of Service		F	
Analysis Period (min)	15									

Lanes, Volumes, Timings Future Total 2038 - No GTA West Highway & Improvements
 11: Chinguacousy Road & Street A (South) AM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	35	99	576	23	26	606
Future Volume (vph)	35	99	576	23	26	606
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	0.0		0.0	25.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.994			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1789	1601	3557	0	1789	3579
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1789	1601	3557	0	1789	3579
Link Speed (k/h)	48		80			80
Link Distance (m)	156.3		2383.0			401.8
Travel Time (s)	11.7		107.2			18.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	108	626	25	28	659
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	108	651	0	28	659
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	31.6%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 11: Chinguacousy Road & Street A (South) AM Peak Hour

























Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Traffic Volume (veh/h)	35	99	576	23	26	606	
Future Volume (Veh/h)	35	99	576	23	26	606	
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)	38	108	626	25	28	659	
Pedestrians							
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	1024	326			651		
vC1, stage 1 conf vol	638						
vC2, stage 2 conf vol	386						
vCu, unblocked vol	1024	326			651		
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 %	91	84			97		
cM capacity (veh/h)	425	670			931		
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	38	108	417	234	28	330	330
Volume Left	38	0	0	0	28	0	0
Volume Right	0	108	0	25	0	0	0
cSH	425	670	1700	1700	931	1700	1700
Volume to Capacity	0.09	0.16	0.25	0.14	0.03	0.19	0.19
Queue Length 95th (m)	2.2	4.3	0.0	0.0	0.7	0.0	0.0
Control Delay (s)	14.3	11.4	0.0	0.0	9.0	0.0	0.0
Lane LOS	B	B			A		
Approach Delay (s)	12.2	0.0		0.4			
Approach LOS	B						
Intersection Summary							
Average Delay			1.4				
Intersection Capacity Utilization			31.6%		ICU Level of Service		A
Analysis Period (min)			15				

Lanes, Volumes, Timings
12: McLaughlin Road & Street E

Future Total 2038 - No GTA West Highway & Improvements

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	0	66	207	0	40	28	590	94	24	779	22
Future Volume (vph)	56	0	66	207	0	40	28	590	94	24	779	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	50.0		0.0	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	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.850			0.850			0.979			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1601	0	1789	1601	0	1789	3503	0	1789	3564	0
Flt Permitted	0.729			0.710			0.243			0.297		
Satd. Flow (perm)	1373	1601	0	1337	1601	0	458	3503	0	559	3564	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		125			215			22			3	
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			1359.2			391.4			276.3	
Travel Time (s)		15.4			101.9			17.6			12.4	
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)	61	0	72	225	0	43	30	641	102	26	847	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	61	72	0	225	43	0	30	743	0	26	871	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			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
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)	54.0	54.0		54.0	54.0		66.0	66.0		66.0	66.0	
Total Split (%)	45.0%	45.0%		45.0%	45.0%		55.0%	55.0%		55.0%	55.0%	
Maximum Green (s)	50.0	50.0		50.0	50.0		62.0	62.0		62.0	62.0	
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	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag 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		62.0	62.0		62.0	62.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.52	0.52		0.52	0.52	
v/c Ratio	0.11	0.10		0.40	0.05		0.13	0.41		0.09	0.47	

Lanes, Volumes, Timings
12: McLaughlin Road & Street E

Future Total 2038 - No GTA West Highway & Improvements

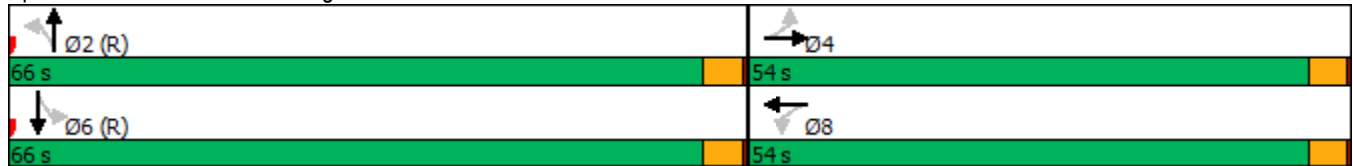
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	22.1	0.7		23.8	0.1		16.9	18.0		13.6	16.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	22.1	0.7		23.8	0.1		16.9	18.0		13.6	16.2	
LOS	C	A		C	A		B	B		B	B	
Approach Delay		10.5			20.0			18.0				16.2
Approach LOS		B			B			B				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:	0.47
Intersection Signal Delay:	17.0
Intersection LOS:	B
Intersection Capacity Utilization	48.1%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 12: McLaughlin Road & Street E



Queues
12: McLaughlin Road & Street E

Future Total 2038 - No GTA West Highway & Improvements

AM Peak Hour

























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	61	72	225	43	30	743	26	871
v/c Ratio	0.11	0.10	0.40	0.05	0.13	0.41	0.09	0.47
Control Delay	22.1	0.7	23.8	0.1	16.9	18.0	13.6	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	0.7	23.8	0.1	16.9	18.0	13.6	16.2
Queue Length 50th (m)	8.6	0.0	29.6	0.0	3.5	52.6	2.6	53.1
Queue Length 95th (m)	17.4	1.1	m32.1	m0.0	9.2	67.0	m3.6	m62.1
Internal Link Dist (m)		180.8		1335.2		367.4		252.3
Turn Bay Length (m)	25.0		25.0		50.0		50.0	
Base Capacity (vph)	572	740	557	792	236	1820	288	1842
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	0.11	0.10	0.40	0.05	0.13	0.41	0.09	0.47

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 12: McLaughlin Road & Street E AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	0	66	207	0	40	28	590	94	24	779	22
Future Volume (vph)	56	0	66	207	0	40	28	590	94	24	779	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		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	0.85		1.00	0.85		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	1601		1789	1601		1789	3505		1789	3564	
Flt Permitted	0.73	1.00		0.71	1.00		0.24	1.00		0.30	1.00	
Satd. Flow (perm)	1373	1601		1337	1601		457	3505		560	3564	
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)	61	0	72	225	0	43	30	641	102	26	847	24
RTOR Reduction (vph)	0	42	0	0	25	0	0	11	0	0	1	0
Lane Group Flow (vph)	61	30	0	225	18	0	30	732	0	26	870	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)	50.0	50.0		50.0	50.0		62.0	62.0		62.0	62.0	
Effective Green, g (s)	50.0	50.0		50.0	50.0		62.0	62.0		62.0	62.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.52	0.52		0.52	0.52	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	572	667		557	667		236	1810		289	1841	
v/s Ratio Prot		0.02			0.01			0.21			c0.24	
v/s Ratio Perm	0.04			c0.17			0.07			0.05		
v/c Ratio	0.11	0.04		0.40	0.03		0.13	0.40		0.09	0.47	
Uniform Delay, d1	21.4	20.8		24.5	20.6		15.0	17.7		14.7	18.5	
Progression Factor	1.00	1.00		0.89	1.00		1.00	1.00		0.87	0.84	
Incremental Delay, d2	0.4	0.1		1.4	0.0		1.1	0.7		0.4	0.6	
Delay (s)	21.7	20.9		23.3	20.7		16.1	18.4		13.2	16.1	
Level of Service	C	C		C	C		B	B		B	B	
Approach Delay (s)		21.3			22.9			18.3			16.1	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	48.1%	ICU Level of Service	A
Analysis Period (min)	15		
c	Critical Lane Group		

Lanes, Volumes, Timings
13: Hurontario Street & Street E

Future Total 2038 - No GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	27	477	132	2058	4224	20
Future Volume (vph)	27	477	132	2058	4224	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	0.0	75.0			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		0.048			
Satd. Flow (perm)	1789	1601	90	5142	5137	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		53			1	
Link Speed (k/h)	48			70	70	
Link Distance (m)	1359.2			928.0	640.1	
Travel Time (s)	101.9			47.7	32.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	518	143	2237	4591	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	518	143	2237	4613	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)	24	14	24			14
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0	
Total Split (s)	29.0	29.0	8.0	91.0	83.0	
Total Split (%)	24.2%	24.2%	6.7%	75.8%	69.2%	
Maximum Green (s)	25.0	25.0	4.0	87.0	79.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	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	
Lead-Lag Optimize?			Yes		Yes	
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 Effect Green (s)	25.0	25.0	87.0	87.0	79.0	
Actuated g/C Ratio	0.21	0.21	0.72	0.72	0.66	
v/c Ratio	0.08	1.38	1.18	0.60	1.36	

Lanes, Volumes, Timings
 13: Hurontario Street & Street E

Future Total 2038 - No GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Control Delay	43.4	222.2	162.0	8.9	186.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	43.4	222.2	162.0	8.9	186.3	
LOS	D	F	F	A	F	
Approach Delay	212.7			18.1	186.3	
Approach LOS	F			B	F	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle:	150
Control Type:	Pretimed
Maximum v/c Ratio:	1.38
Intersection Signal Delay:	135.1
Intersection LOS:	F
Intersection Capacity Utilization	118.3%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 13: Hurontario Street & Street E



Queues
13: Hurontario Street & Street E

Future Total 2038 - No GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	29	518	143	2237	4613
v/c Ratio	0.08	1.38	1.18	0.60	1.36
Control Delay	43.4	222.2	162.0	8.9	186.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	222.2	162.0	8.9	186.3
Queue Length 50th (m)	5.4	~149.8	~13.6	82.9	~521.0
Queue Length 95th (m)	13.6	#214.4	#50.3	93.8	m158.7
Internal Link Dist (m)	1335.2			904.0	616.1
Turn Bay Length (m)	25.0		75.0		
Base Capacity (vph)	372	375	121	3727	3382
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	0.08	1.38	1.18	0.60	1.36

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.

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

HCM Signalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 13: Hurontario Street & Street E AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	27	477	132	2058	4224	20
Future Volume (vph)	27	477	132	2058	4224	20
Ideal Flow (vphpl)	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	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	5138	
Flt Permitted	0.95	1.00	0.05	1.00	1.00	
Satd. Flow (perm)	1789	1601	91	5142	5138	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	518	143	2237	4591	22
RTOR Reduction (vph)	0	42	0	0	0	0
Lane Group Flow (vph)	29	476	143	2237	4613	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	25.0	25.0	87.0	87.0	79.0	
Effective Green, g (s)	25.0	25.0	87.0	87.0	79.0	
Actuated g/C Ratio	0.21	0.21	0.72	0.72	0.66	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	372	333	122	3727	3382	
v/s Ratio Prot	0.02		c0.04	0.44	c0.90	
v/s Ratio Perm		c0.30	0.81			
v/c Ratio	0.08	1.43	1.17	0.60	1.36	
Uniform Delay, d1	38.2	47.5	39.0	8.0	20.5	
Progression Factor	1.11	1.06	1.00	1.00	0.96	
Incremental Delay, d2	0.4	209.9	135.1	0.7	163.9	
Delay (s)	43.0	260.4	174.0	8.8	183.6	
Level of Service	D	F	F	A	F	
Approach Delay (s)	248.9			18.7	183.6	
Approach LOS	F			B	F	

Intersection Summary			
HCM 2000 Control Delay	136.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	118.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
14: McLaughlin Road & Street F

Future Total 2038 - No GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	56	66	28	657	1030	22
Future Volume (vph)	56	66	28	657	1030	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	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	0.95	0.95	0.95
Frt		0.850			0.997	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	3579	3568	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1789	1601	1789	3579	3568	0
Link Speed (k/h)	48			80	80	
Link Distance (m)	171.6			2104.9	391.4	
Travel Time (s)	12.9			94.7	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	72	30	714	1120	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	61	72	30	714	1144	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	39.9%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 14: McLaughlin Road & Street F AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations							
Traffic Volume (veh/h)	56	66	28	657	1030	22	
Future Volume (Veh/h)	56	66	28	657	1030	22	
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)	61	72	30	714	1120	24	
Pedestrians							
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)			391				
pX, platoon unblocked	0.85	0.85	0.85				
vC, conflicting volume	1549	572	1144				
vC1, stage 1 conf vol	1132						
vC2, stage 2 conf vol	417						
vCu, unblocked vol	1286	133	808				
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 %	80	90	96				
cM capacity (veh/h)	309	755	688				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	61	72	30	357	357	747	397
Volume Left	61	0	30	0	0	0	0
Volume Right	0	72	0	0	0	0	24
cSH	309	755	688	1700	1700	1700	1700
Volume to Capacity	0.20	0.10	0.04	0.21	0.21	0.44	0.23
Queue Length 95th (m)	5.5	2.4	1.0	0.0	0.0	0.0	0.0
Control Delay (s)	19.5	10.3	10.5	0.0	0.0	0.0	0.0
Lane LOS	C	B	B				
Approach Delay (s)	14.5		0.4	0.0			
Approach LOS	B						
Intersection Summary							
Average Delay			1.1				
Intersection Capacity Utilization			39.9%	ICU Level of Service	A		
Analysis Period (min)			15				

Lanes, Volumes, Timings

Future Total 2038 - No GTA West Highway & Improvements

15: Chinguacousy Road & Mayfield Road

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	942	139	386	680	82	31	208	238	154	423	25
Future Volume (vph)	24	942	139	386	680	82	31	208	238	154	423	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	0.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.984				0.850		0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5044	0	3471	5060	0	1789	1883	1601	1789	1868	0
Flt Permitted	0.328			0.950			0.264			0.539		
Satd. Flow (perm)	618	5044	0	3471	5060	0	497	1883	1601	1015	1868	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			26				259			3
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	26	1024	151	420	739	89	34	226	259	167	460	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	1175	0	420	828	0	34	226	259	167	487	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)		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												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
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	41.0	41.0		26.0	67.0		53.0	53.0	53.0	53.0	53.0	53.0
Total Split (%)	34.2%	34.2%		21.7%	55.8%		44.2%	44.2%	44.2%	44.2%	44.2%	44.2%
Maximum Green (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0	49.0	49.0
Yellow Time (s)	3.5	3.5		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	0.5	0.5
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	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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
Act Effct Green (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0	49.0	49.0
Actuated g/C Ratio	0.31	0.31		0.18	0.52		0.41	0.41	0.41	0.41	0.41	0.41
v/c Ratio	0.14	0.75		0.66	0.31		0.17	0.29	0.32	0.40	0.64	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	32.5	40.1		51.2	16.0		25.4	25.2	3.8	22.8	25.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	32.5	40.1		51.2	16.0		25.4	25.2	3.8	22.8	25.1	
LOS	C	D		D	B		C	C	A	C	C	
Approach Delay		39.9			27.8			14.6			24.5	
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: 55

Control Type: Pretimed

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 29.4

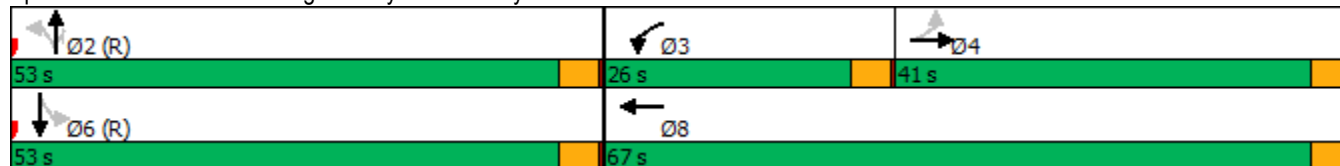
Intersection LOS: C

Intersection Capacity Utilization 72.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

Future Total 2038 - No GTA West Highway & Improvements

15: Chinguacousy Road & Mayfield Road

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	26	1175	420	828	34	226	259	167	487
v/c Ratio	0.14	0.75	0.66	0.31	0.17	0.29	0.32	0.40	0.64
Control Delay	32.5	40.1	51.2	16.0	25.4	25.2	3.8	22.8	25.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.5	40.1	51.2	16.0	25.4	25.2	3.8	22.8	25.1
Queue Length 50th (m)	4.4	89.3	47.8	37.6	5.0	35.2	0.0	19.9	59.3
Queue Length 95th (m)	11.8	106.2	64.7	46.4	12.7	54.0	15.4	33.7	87.8
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0				
Base Capacity (vph)	190	1571	636	2668	202	768	806	414	764
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.75	0.66	0.31	0.17	0.29	0.32	0.40	0.64

Intersection Summary

HCM Signalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 15: Chinguacousy Road & Mayfield Road AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	942	139	386	680	82	31	208	238	154	423	25
Future Volume (vph)	24	942	139	386	680	82	31	208	238	154	423	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		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5043		3471	5059		1789	1883	1601	1789	1868	
Flt Permitted	0.33	1.00		0.95	1.00		0.26	1.00	1.00	0.54	1.00	
Satd. Flow (perm)	617	5043		3471	5059		498	1883	1601	1016	1868	
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)	26	1024	151	420	739	89	34	226	259	167	460	27
RTOR Reduction (vph)	0	16	0	0	12	0	0	0	153	0	2	0
Lane Group Flow (vph)	26	1159	0	420	816	0	34	226	106	167	485	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0	49.0	
Effective Green, g (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0	49.0	
Actuated g/C Ratio	0.31	0.31		0.18	0.52		0.41	0.41	0.41	0.41	0.41	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	190	1554		636	2655		203	768	653	414	762	
v/s Ratio Prot		c0.23		c0.12	0.16			0.12			c0.26	
v/s Ratio Perm	0.04						0.07		0.07	0.16		
v/c Ratio	0.14	0.75		0.66	0.31		0.17	0.29	0.16	0.40	0.64	
Uniform Delay, d1	30.0	37.3		45.5	16.1		22.5	23.9	22.5	25.1	28.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.78	0.74	
Incremental Delay, d2	1.5	3.3		5.3	0.3		1.8	1.0	0.5	2.6	3.7	
Delay (s)	31.5	40.6		50.8	16.4		24.3	24.8	23.0	22.2	24.8	
Level of Service	C	D		D	B		C	C	C	C	C	
Approach Delay (s)		40.4			28.0			23.9			24.1	
Approach LOS		D			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			30.8			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)		12.0				
Intersection Capacity Utilization			72.8%			ICU Level of Service			C			
Analysis Period (min)			15									
c	Critical Lane Group											



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	78	1206	142	234	938	113	67	329	180	346	667	211
Future Volume (vph)	78	1206	142	234	938	113	67	329	180	346	667	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		25.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.984				0.850		0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	5060	0	1789	3579	1601	1789	3450	0
Flt Permitted	0.223			0.087			0.252			0.275		
Satd. Flow (perm)	420	5142	1601	164	5060	0	475	3579	1601	518	3450	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		19				142		35	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	1311	154	254	1020	123	73	358	196	376	725	229
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	1311	154	254	1143	0	73	358	196	376	954	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)		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												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
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	11.0	46.0	46.0	28.0	63.0		9.0	27.0	27.0	35.0	53.0	
Total Split (%)	8.1%	33.8%	33.8%	20.6%	46.3%		6.6%	19.9%	19.9%	25.7%	39.0%	
Maximum Green (s)	7.0	42.0	42.0	24.0	59.0		5.0	23.0	23.0	31.0	49.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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	42.0	42.0	70.0	59.0		28.0	23.0	23.0	58.0	49.0	
Actuated g/C Ratio	0.36	0.31	0.31	0.51	0.43		0.21	0.17	0.17	0.43	0.36	
v/c Ratio	0.38	0.83	0.26	0.68	0.52		0.50	0.59	0.51	0.74	0.75	

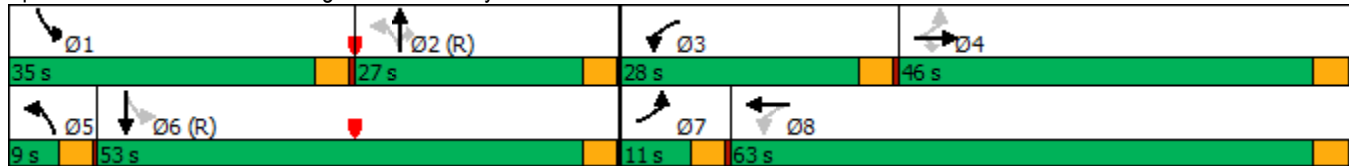


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	24.2	49.0	8.6	41.8	28.6		41.0	56.7	20.6	38.0	41.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	24.2	49.0	8.6	41.8	28.6		41.0	56.7	20.6	38.0	41.3	
LOS	C	D	A	D	C		D	E	C	D	D	
Approach Delay		43.6			31.0			43.6			40.4	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type:	Other
Cycle Length:	136
Actuated Cycle Length:	136
Offset:	120 (88%), 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:	39.1
Intersection LOS:	D
Intersection Capacity Utilization	78.5%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 16: McLaughlin Road & Mayfield Road

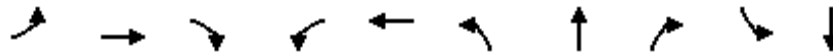


Queues

Future Total 2038 - No GTA West Highway & Improvements

16: McLaughlin Road & Mayfield Road

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	85	1311	154	254	1143	73	358	196	376	954
v/c Ratio	0.38	0.83	0.26	0.68	0.52	0.50	0.59	0.51	0.74	0.75
Control Delay	24.2	49.0	8.6	41.8	28.6	41.0	56.7	20.6	38.0	41.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.2	49.0	8.6	41.8	28.6	41.0	56.7	20.6	38.0	41.3
Queue Length 50th (m)	11.3	119.7	3.4	47.7	79.5	11.6	47.2	12.6	72.4	114.0
Queue Length 95th (m)	20.3	138.1	19.2	77.6	93.1	21.5	63.7	36.5	101.4	139.2
Internal Link Dist (m)	1395.4				1381.8		317.6		2080.9	
Turn Bay Length (m)	30.0		60.0	120.0		50.0		25.0	30.0	
Base Capacity (vph)	221	1587	588	371	2205	146	605	388	510	1265
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	0.38	0.83	0.26	0.68	0.52	0.50	0.59	0.51	0.74	0.75

Intersection Summary

HCM Signalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 16: McLaughlin Road & Mayfield Road AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	1206	142	234	938	113	67	329	180	346	667	211
Future Volume (vph)	78	1206	142	234	938	113	67	329	180	346	667	211
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	5059		1789	3579	1601	1789	3450	
Flt Permitted	0.22	1.00	1.00	0.09	1.00		0.25	1.00	1.00	0.27	1.00	
Satd. Flow (perm)	420	5142	1601	164	5059		475	3579	1601	517	3450	
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)	85	1311	154	254	1020	123	73	358	196	376	725	229
RTOR Reduction (vph)	0	0	94	0	11	0	0	0	118	0	22	0
Lane Group Flow (vph)	85	1311	60	254	1132	0	73	358	78	376	932	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	49.0	42.0	42.0	70.0	59.0		28.0	23.0	23.0	58.0	49.0	
Effective Green, g (s)	49.0	42.0	42.0	70.0	59.0		28.0	23.0	23.0	58.0	49.0	
Actuated g/C Ratio	0.36	0.31	0.31	0.51	0.43		0.21	0.17	0.17	0.43	0.36	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	221	1587	494	371	2194		146	605	270	510	1243	
v/s Ratio Prot	0.02	c0.25		c0.12	0.22		0.02	0.10		c0.17	c0.27	
v/s Ratio Perm	0.12		0.04	0.23			0.08		0.05	0.15		
v/c Ratio	0.38	0.83	0.12	0.68	0.52		0.50	0.59	0.29	0.74	0.75	
Uniform Delay, d1	29.2	43.6	33.8	34.6	28.1		44.8	52.2	49.4	29.3	38.1	
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	5.0	5.1	0.5	9.8	0.9		11.7	4.2	2.7	9.2	4.2	
Delay (s)	34.2	48.7	34.3	44.4	29.0		56.5	56.4	52.0	38.5	42.3	
Level of Service	C	D	C	D	C		E	E	D	D	D	
Approach Delay (s)		46.4			31.8			55.0			41.2	
Approach LOS		D			C			E			D	





































Intersection Summary			
HCM 2000 Control Delay	41.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

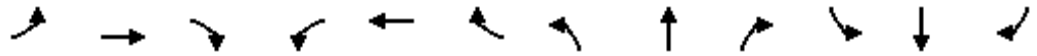
Lanes, Volumes, Timings

Future Total 2038 - No GTA West Highway & Improvements

17: Hurontario Street & Mayfield Road

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  			  		 	  	
Traffic Volume (vph)	192	1223	195	236	703	243	146	728	114	527	1265	213
Future Volume (vph)	192	1223	195	236	703	243	146	728	114	527	1265	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	5142	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.167			0.143		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	315	5142	1601	269	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			264			124			232
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	209	1329	212	257	764	264	159	791	124	573	1375	232
Shared Lane Traffic (%)												
Lane Group Flow (vph)	209	1329	212	257	764	264	159	791	124	573	1375	232
Enter Blocked Intersection	No	No	No	No	No	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	Prot	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			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	17.0	40.0	40.0	15.0	38.0	38.0	14.0	28.0	28.0	45.0	59.0	59.0
Total Split (%)	13.3%	31.3%	31.3%	11.7%	29.7%	29.7%	10.9%	21.9%	21.9%	35.2%	46.1%	46.1%
Maximum Green (s)	13.0	36.0	36.0	11.0	34.0	34.0	10.0	24.0	24.0	41.0	55.0	55.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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
Act Effct Green (s)	13.0	36.0	36.0	11.0	34.0	34.0	34.0	24.0	24.0	69.0	55.0	55.0
Actuated g/C Ratio	0.10	0.28	0.28	0.09	0.27	0.27	0.27	0.19	0.19	0.54	0.43	0.43
v/c Ratio	0.59	0.92	0.37	0.86	0.56	0.43	0.80	0.82	0.31	0.91	0.89	0.28

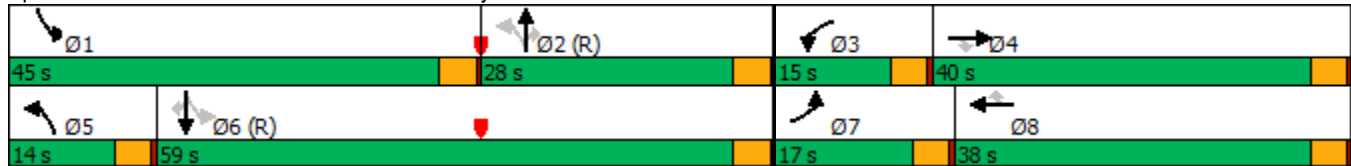


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	62.5	55.7	11.7	84.4	42.4	6.5	60.8	58.0	9.6	52.0	42.7	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.5	55.7	11.7	84.4	42.4	6.5	60.8	58.0	9.6	52.0	42.7	3.7
LOS	E	E	B	F	D	A	E	E	A	D	D	A
Approach Delay	51.2			43.4			52.8			41.0		
Approach LOS	D			D			D			D		

Intersection Summary

Area Type:	Other
Cycle Length:	128
Actuated Cycle Length:	128
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Pretimed
Maximum v/c Ratio:	0.92
Intersection Signal Delay:	46.3
Intersection LOS:	D
Intersection Capacity Utilization	87.0%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road















Queues

Future Total 2038 - No GTA West Highway & Improvements

17: Hurontario Street & Mayfield Road

AM Peak Hour


































												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	209	1329	212	257	764	264	159	791	124	573	1375	232
v/c Ratio	0.59	0.92	0.37	0.86	0.56	0.43	0.80	0.82	0.31	0.91	0.89	0.28
Control Delay	62.5	55.7	11.7	84.4	42.4	6.5	60.8	58.0	9.6	52.0	42.7	3.7
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	62.5	55.7	11.7	84.4	42.4	6.5	60.8	58.0	9.6	52.0	42.7	3.7
Queue Length 50th (m)	26.3	119.1	9.0	33.5	61.1	0.0	23.3	70.8	0.0	120.9	166.3	0.0
Queue Length 95th (m)	39.2	#145.6	29.1	#56.1	74.7	20.1	#57.6	86.3	16.3	#188.0	198.5	14.6
Internal Link Dist (m)		1381.8			725.9			357.1			585.4	
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	352	1446	568	298	1365	619	198	964	400	631	1537	820
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	0.59	0.92	0.37	0.86	0.56	0.43	0.80	0.82	0.31	0.91	0.89	0.28

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 17: Hurontario Street & Mayfield Road AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			  			 	
Traffic Volume (vph)	192	1223	195	236	703	243	146	728	114	527	1265	213
Future Volume (vph)	192	1223	195	236	703	243	146	728	114	527	1265	213
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	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	5142	1601	1789	3579	1601
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.17	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	314	5142	1601	269	3579	1601
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)	209	1329	212	257	764	264	159	791	124	573	1375	232
RTOR Reduction (vph)	0	0	118	0	0	194	0	0	101	0	0	132
Lane Group Flow (vph)	209	1329	94	257	764	70	159	791	23	573	1375	100
Turn Type	Prot	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			8	2		2	6		6
Actuated Green, G (s)	13.0	36.0	36.0	11.0	34.0	34.0	34.0	24.0	24.0	69.0	55.0	55.0
Effective Green, g (s)	13.0	36.0	36.0	11.0	34.0	34.0	34.0	24.0	24.0	69.0	55.0	55.0
Actuated g/C Ratio	0.10	0.28	0.28	0.09	0.27	0.27	0.27	0.19	0.19	0.54	0.43	0.43
Clearance Time (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
Lane Grp Cap (vph)	352	1446	450	298	1365	425	198	964	300	631	1537	687
v/s Ratio Prot	0.06	c0.26		c0.07	0.15		0.06	0.15		c0.29	0.38	
v/s Ratio Perm			0.06			0.04	0.15		0.01	c0.20		0.06
v/c Ratio	0.59	0.92	0.21	0.86	0.56	0.17	0.80	0.82	0.08	0.91	0.89	0.15
Uniform Delay, d1	55.0	44.6	35.1	57.8	40.5	36.1	38.9	49.9	42.9	33.1	33.8	22.2
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	7.2	10.9	1.1	26.5	1.7	0.8	28.1	7.8	0.5	19.2	8.4	0.4
Delay (s)	62.2	55.5	36.2	84.3	42.2	36.9	67.0	57.7	43.4	52.4	42.3	22.6
Level of Service	E	E	D	F	D	D	E	E	D	D	D	C
Approach Delay (s)		53.9			49.5			57.4			42.8	
Approach LOS		D			D			E			D	
Intersection Summary												
HCM 2000 Control Delay			49.8	HCM 2000 Level of Service				D				
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			128.0	Sum of lost time (s)				16.0				
Intersection Capacity Utilization			87.0%	ICU Level of Service				E				
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings

Future Total 2038 - No GTA West Highway & Improvements

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)	7	220	30	461	367	58	27	516	484	34	253	2
Future Volume (vph)	7	220	30	461	367	58	27	516	484	34	253	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		25.0	25.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		1	1		1	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			0.850			0.850			0.850		0.999	
Flt Protected		0.998		0.950				0.998			0.994	
Satd. Flow (prot)	0	1880	1601	1789	1883	1601	0	1880	1601	0	1870	0
Flt Permitted		0.983		0.243				0.972			0.689	
Satd. Flow (perm)	0	1851	1601	458	1883	1601	0	1831	1601	0	1296	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			45			63			526			
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	0.92	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)	8	239	33	501	399	63	29	561	526	37	275	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	247	33	501	399	63	0	590	526	0	314	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			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
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Minimum Split (s)	20.0	20.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	26.0	26.0	26.0	37.0	63.0	63.0	57.0	57.0	57.0	57.0	57.0	57.0
Total Split (%)	21.7%	21.7%	21.7%	30.8%	52.5%	52.5%	47.5%	47.5%	47.5%	47.5%	47.5%	47.5%
Maximum Green (s)	22.0	22.0	22.0	33.0	59.0	59.0	53.0	53.0	53.0	53.0	53.0	53.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
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	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	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0	0	0	0
Act Effct Green (s)		22.0	22.0	59.0	59.0	59.0		53.0	53.0		53.0	
Actuated g/C Ratio		0.18	0.18	0.49	0.49	0.49		0.44	0.44		0.44	
v/c Ratio		0.73	0.10	0.85	0.43	0.08		0.73	0.53		0.55	

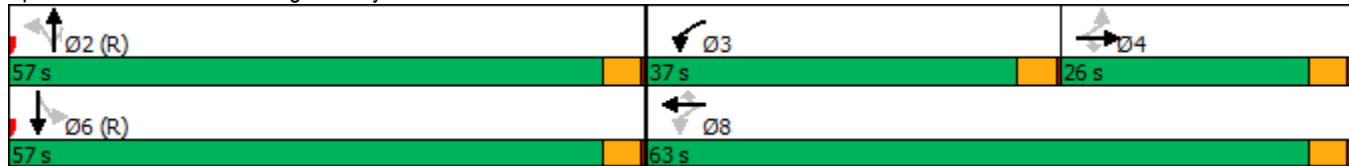


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		59.8	8.4	58.4	35.9	14.9		27.5	2.9		29.2	
Queue Delay		0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay		59.8	8.4	58.4	35.9	14.9		27.5	2.9		29.2	
LOS		E	A	E	D	B		C	A		C	
Approach Delay		53.7			46.2			15.9			29.2	
Approach LOS		D			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:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.85
Intersection Signal Delay:	32.4
Intersection LOS:	C
Intersection Capacity Utilization	89.6%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road

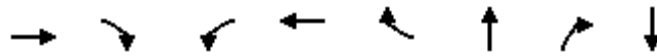


Queues

Future Total 2038 - No GTA West Highway & Improvements

1: Chinguacousy Road & Old School Road

PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	247	33	501	399	63	590	526	314
v/c Ratio	0.73	0.10	0.85	0.43	0.08	0.73	0.53	0.55
Control Delay	59.8	8.4	58.4	35.9	14.9	27.5	2.9	29.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.8	8.4	58.4	35.9	14.9	27.5	2.9	29.2
Queue Length 50th (m)	55.4	0.0	115.1	75.7	3.6	77.8	1.3	53.4
Queue Length 95th (m)	#88.4	6.4	#160.4	105.9	m13.6	121.5	9.0	82.1
Internal Link Dist (m)	566.7			466.2		274.8		318.6
Turn Bay Length (m)		25.0	25.0					
Base Capacity (vph)	339	330	591	925	819	808	1000	572
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	0.10	0.85	0.43	0.08	0.73	0.53	0.55

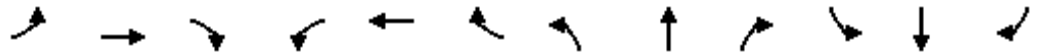
Intersection Summary

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 2038 - No GTA West Highway & Improvements
 1: Chinguacousy Road & Old School Road PM Peak Hour



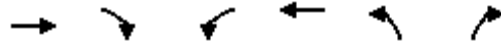
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗	↖	↖	↗		↕	↗		↕	↕
Traffic Volume (vph)	7	220	30	461	367	58	27	516	484	34	253	2
Future Volume (vph)	7	220	30	461	367	58	27	516	484	34	253	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	
Flt Protected		1.00	1.00	0.95	1.00	1.00		1.00	1.00		0.99	
Satd. Flow (prot)		1880	1601	1789	1883	1601		1879	1601		1871	
Flt Permitted		0.98	1.00	0.24	1.00	1.00		0.97	1.00		0.69	
Satd. Flow (perm)		1852	1601	457	1883	1601		1832	1601		1297	
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)	8	239	33	501	399	63	29	561	526	37	275	2
RTOR Reduction (vph)	0	0	27	0	0	32	0	0	294	0	0	0
Lane Group Flow (vph)	0	247	6	501	399	31	0	590	232	0	314	0
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)		22.0	22.0	59.0	59.0	59.0		53.0	53.0		53.0	
Effective Green, g (s)		22.0	22.0	59.0	59.0	59.0		53.0	53.0		53.0	
Actuated g/C Ratio		0.18	0.18	0.49	0.49	0.49		0.44	0.44		0.44	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Grp Cap (vph)		339	293	590	925	787		809	707		572	
v/s Ratio Prot				c0.23	0.21							
v/s Ratio Perm		0.13	0.00	c0.18		0.02		c0.32	0.15		0.24	
v/c Ratio		0.73	0.02	0.85	0.43	0.04		0.73	0.33		0.55	
Uniform Delay, d1		46.2	40.2	24.9	19.7	15.8		27.6	21.9		24.7	
Progression Factor		1.00	1.00	1.85	1.72	3.69		0.78	0.58		1.00	
Incremental Delay, d2		12.9	0.1	13.2	1.3	0.1		5.4	1.2		3.8	
Delay (s)		59.1	40.3	59.4	35.2	58.4		26.9	13.8		28.5	
Level of Service		E	D	E	D	E		C	B		C	
Approach Delay (s)		56.9			49.3			20.7			28.5	
Approach LOS		E			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	35.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Total 2038 - No GTA West Highway & Improvements

PM Peak Hour

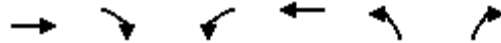


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (vph)	724	63	90	878	50	25
Future Volume (vph)	724	63	90	878	50	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	25.0		25.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.988					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3536	0	1789	3579	1789	1601
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3536	0	1789	3579	1789	1601
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			521.8	121.9	
Travel Time (s)	25.2			26.8	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	787	68	98	954	54	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	855	0	98	954	54	27
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)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	40.3%
	ICU Level of Service A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 2: Street B & Old School Road PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↵	↑↑	↵	↵	
Traffic Volume (veh/h)	724	63	90	878	50	25	
Future Volume (Veh/h)	724	63	90	878	50	25	
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)	787	68	98	954	54	27	
Pedestrians							
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			855		1494	428	
vC1, stage 1 conf vol					821		
vC2, stage 2 conf vol					673		
vCu, unblocked vol			855		1494	428	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5	3.3	
p0 queue free %			87		82	95	
cM capacity (veh/h)			781		293	576	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	525	330	98	477	477	54	27
Volume Left	0	0	98	0	0	54	0
Volume Right	0	68	0	0	0	0	27
cSH	1700	1700	781	1700	1700	293	576
Volume to Capacity	0.31	0.19	0.13	0.28	0.28	0.18	0.05
Queue Length 95th (m)	0.0	0.0	3.3	0.0	0.0	5.0	1.1
Control Delay (s)	0.0	0.0	10.3	0.0	0.0	20.0	11.6
Lane LOS			B			C	B
Approach Delay (s)	0.0		1.0			17.2	
Approach LOS						C	
Intersection Summary							
Average Delay			1.2				
Intersection Capacity Utilization			40.3%	ICU Level of Service		A	
Analysis Period (min)			15				

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

Future Total 2038 - No GTA West Highway & Improvements

PM Peak Hour

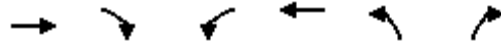


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (vph)	688	45	168	921	47	70
Future Volume (vph)	688	45	168	921	47	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	25.0		25.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.991					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3546	0	1789	3579	1789	1601
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3546	0	1789	3579	1789	1601
Link Speed (k/h)	70			70	48	
Link Distance (m)	521.8			371.6	309.0	
Travel Time (s)	26.8			19.1	23.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	748	49	183	1001	51	76
Shared Lane Traffic (%)						
Lane Group Flow (vph)	797	0	183	1001	51	76
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)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	43.1%
	ICU Level of Service A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 3: Street D & Old School Road PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↵	↑↑	↵	↵	
Traffic Volume (veh/h)	688	45	168	921	47	70	
Future Volume (Veh/h)	688	45	168	921	47	70	
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	49	183	1001	51	76	
Pedestrians							
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)	372						
pX, platoon unblocked					0.86		
vC, conflicting volume			797	1639			398
vC1, stage 1 conf vol			772				
vC2, stage 2 conf vol			866				
vCu, unblocked vol			797	1425			398
tC, single (s)			4.1	6.8			6.9
tC, 2 stage (s)			5.8				
tF (s)			2.2	3.5			3.3
p0 queue free %			78	82			87
cM capacity (veh/h)			821	283			601
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	499	298	183	500	500	51	76
Volume Left	0	0	183	0	0	51	0
Volume Right	0	49	0	0	0	0	76
cSH	1700	1700	821	1700	1700	283	601
Volume to Capacity	0.29	0.18	0.22	0.29	0.29	0.18	0.13
Queue Length 95th (m)	0.0	0.0	6.5	0.0	0.0	4.9	3.3
Control Delay (s)	0.0	0.0	10.6	0.0	0.0	20.5	11.9
Lane LOS			B			C	
Approach Delay (s)	0.0		1.6			15.3	
Approach LOS						C	
Intersection Summary							
Average Delay			1.8				
Intersection Capacity Utilization			43.1%		ICU Level of Service		A
Analysis Period (min)			15				

Lanes, Volumes, Timings

Future Total 2038 - No GTA West Highway & Improvements

4: 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)	48	643	67	546	986	46	78	378	560	27	164	24
Future Volume (vph)	48	643	67	546	986	46	78	378	560	27	164	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	50.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		1	0		0
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	1.00	1.00	1.00	1.00	1.00
Frt		0.986			0.993				0.850		0.985	
Flt Protected	0.950			0.950			0.950				0.994	
Satd. Flow (prot)	1789	3528	0	1789	3553	0	1789	1883	1601	0	1844	0
Flt Permitted	0.254			0.114			0.475				0.664	
Satd. Flow (perm)	478	3528	0	215	3553	0	895	1883	1601	0	1232	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			8				609			5
Link Speed (k/h)		70			70			80				80
Link Distance (m)		371.6			349.1			311.8				263.1
Travel Time (s)		19.1			18.0			14.0				11.8
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)	52	699	73	593	1072	50	85	411	609	29	178	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	772	0	593	1122	0	85	411	609	0	233	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			Yes			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
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		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	35.0	35.0		46.0	81.0		39.0	39.0	39.0	39.0		39.0
Total Split (%)	29.2%	29.2%		38.3%	67.5%		32.5%	32.5%	32.5%	32.5%		32.5%
Maximum Green (s)	31.0	31.0		42.0	77.0		35.0	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		3.5
All-Red Time (s)	0.5	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	0.0	0.0			0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0			4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	31.0	31.0		77.0	77.0		35.0	35.0	35.0			35.0
Actuated g/C Ratio	0.26	0.26		0.64	0.64		0.29	0.29	0.29			0.29
v/c Ratio	0.42	0.84		0.86	0.49		0.33	0.75	0.68			0.64



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	45.1	46.4		23.5	8.6		51.7	60.6	18.1		45.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	45.1	46.4		23.5	8.6		51.7	60.6	18.1		45.7	
LOS	D	D		C	A		D	E	B		D	
Approach Delay		46.3			13.7			36.5			45.7	
Approach LOS		D			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: 65

Control Type: Pretimed

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 29.1

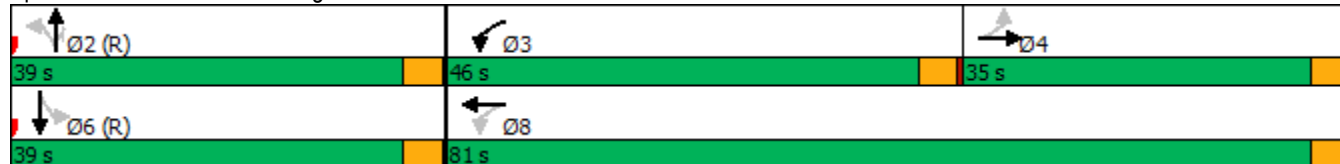
Intersection LOS: C

Intersection Capacity Utilization 93.4%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 4: McLaughlin Road & Old School Road

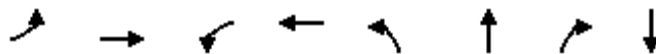


Queues

Future Total 2038 - No GTA West Highway & Improvements

4: McLaughlin Road & Old School Road

PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	52	772	593	1122	85	411	609	233
v/c Ratio	0.42	0.84	0.86	0.49	0.33	0.75	0.68	0.64
Control Delay	45.1	46.4	23.5	8.6	51.7	60.6	18.1	45.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.1	46.4	23.5	8.6	51.7	60.6	18.1	45.7
Queue Length 50th (m)	9.6	86.8	118.5	72.2	17.4	85.7	34.9	46.8
Queue Length 95th (m)	m19.8	#114.4	m56.2	m41.5	m31.0	116.0	68.0	75.2
Internal Link Dist (m)		347.6		325.1		287.8		239.1
Turn Bay Length (m)	25.0		25.0		50.0			
Base Capacity (vph)	123	918	688	2282	261	549	898	362
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	0.84	0.86	0.49	0.33	0.75	0.68	0.64

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 2038 - No GTA West Highway & Improvements
 4: McLaughlin Road & Old School Road PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	643	67	546	986	46	78	378	560	27	164	24
Future Volume (vph)	48	643	67	546	986	46	78	378	560	27	164	24
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	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1789	3528		1789	3555		1789	1883	1601		1844	
Flt Permitted	0.25	1.00		0.11	1.00		0.48	1.00	1.00		0.66	
Satd. Flow (perm)	478	3528		215	3555		896	1883	1601		1233	
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)	52	699	73	593	1072	50	85	411	609	29	178	26
RTOR Reduction (vph)	0	7	0	0	3	0	0	0	431	0	4	0
Lane Group Flow (vph)	52	765	0	593	1119	0	85	411	178	0	229	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)	31.0	31.0		77.0	77.0		35.0	35.0	35.0		35.0	
Effective Green, g (s)	31.0	31.0		77.0	77.0		35.0	35.0	35.0		35.0	
Actuated g/C Ratio	0.26	0.26		0.64	0.64		0.29	0.29	0.29		0.29	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	123	911		688	2281		261	549	466		359	
v/s Ratio Prot		0.22		c0.30	0.31			c0.22				
v/s Ratio Perm	0.11			c0.25			0.09		0.11		0.19	
v/c Ratio	0.42	0.84		0.86	0.49		0.33	0.75	0.38		0.64	
Uniform Delay, d1	37.1	42.2		29.1	11.2		33.3	38.5	33.9		37.0	
Progression Factor	0.91	0.90		0.76	0.75		1.42	1.34	5.14		1.00	
Incremental Delay, d2	9.2	8.3		1.4	0.1		2.9	7.9	2.0		8.4	
Delay (s)	43.1	46.4		23.5	8.5		50.2	59.7	176.2		45.4	
Level of Service	D	D		C	A		D	E	F		D	
Approach Delay (s)		46.2			13.7			123.2			45.4	
Approach LOS		D			B			F			D	
Intersection Summary												
HCM 2000 Control Delay			53.7		HCM 2000 Level of Service				D			
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			120.0		Sum of lost time (s)				12.0			
Intersection Capacity Utilization			93.4%		ICU Level of Service				F			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
5: Street G & Old School Road

Future Total 2038 - No GTA West Highway & Improvements

PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Traffic Volume (vph)	1172	50	11	1500	41	16
Future Volume (vph)	1172	50	11	1500	41	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	25.0		25.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.994					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3557	0	1789	3579	1789	1601
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3557	0	1789	3579	1789	1601
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			794.6	134.3	
Travel Time (s)	18.0			40.9	10.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1274	54	12	1630	45	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1328	0	12	1630	45	17
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)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	51.5%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 5: Street G & Old School Road PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↵	↑↑	↵	↵	
Traffic Volume (veh/h)	1172	50	11	1500	41	16	
Future Volume (Veh/h)	1172	50	11	1500	41	16	
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)	1274	54	12	1630	45	17	
Pedestrians							
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)	349						
pX, platoon unblocked			0.81		0.81	0.81	
vC, conflicting volume			1328		2140	664	
vC1, stage 1 conf vol					1301		
vC2, stage 2 conf vol					839		
vCu, unblocked vol			930		1935	109	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5	3.3	
p0 queue free %			98		80	98	
cM capacity (veh/h)			591		226	747	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	849	479	12	815	815	45	17
Volume Left	0	0	12	0	0	45	0
Volume Right	0	54	0	0	0	0	17
cSH	1700	1700	591	1700	1700	226	747
Volume to Capacity	0.50	0.28	0.02	0.48	0.48	0.20	0.02
Queue Length 95th (m)	0.0	0.0	0.5	0.0	0.0	5.5	0.5
Control Delay (s)	0.0	0.0	11.2	0.0	0.0	24.9	9.9
Lane LOS			B			C	A
Approach Delay (s)	0.0		0.1			20.8	
Approach LOS						C	
Intersection Summary							
Average Delay			0.5				
Intersection Capacity Utilization			51.5%	ICU Level of Service		A	
Analysis Period (min)			15				

Lanes, Volumes, Timings
6: Street H & Old School Road

Future Total 2038 - No GTA West Highway & Improvements

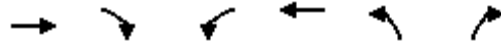
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Traffic Volume (vph)	1134	42	0	2357	33	0
Future Volume (vph)	1134	42	0	2357	33	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	25.0		25.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.995					
Flt Protected					0.950	
Satd. Flow (prot)	3561	0	1883	3579	1789	1883
Flt Permitted					0.950	
Satd. Flow (perm)	3561	0	1883	3579	1789	1883
Link Speed (k/h)	70			70	48	
Link Distance (m)	794.6			213.2	410.2	
Travel Time (s)	40.9			11.0	30.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1233	46	0	2562	36	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1279	0	0	2562	36	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)	14		24	24		14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 75.2% ICU Level of Service D
 Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 6: Street H & Old School Road PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↵	↑↑	↵	↵	
Traffic Volume (veh/h)	1134	42	0	2357	33	0	
Future Volume (Veh/h)	1134	42	0	2357	33	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)	1233	46	0	2562	36	0	
Pedestrians							
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)	213						
pX, platoon unblocked					0.77		
vC, conflicting volume			1279	2537	640		
vC1, stage 1 conf vol					1256		
vC2, stage 2 conf vol					1281		
vCu, unblocked vol			1279	2395	640		
tC, single (s)			4.1	6.8	6.9		
tC, 2 stage (s)					5.8		
tF (s)			2.2	3.5	3.3		
p0 queue free %			100	80	100		
cM capacity (veh/h)			539	181	418		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	822	457	0	1281	1281	36	0
Volume Left	0	0	0	0	0	36	0
Volume Right	0	46	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	181	1700
Volume to Capacity	0.48	0.27	0.00	0.75	0.75	0.20	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	5.4	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	29.8	0.0
Lane LOS						D	A
Approach Delay (s)	0.0	0.0					29.8
Approach LOS						D	
Intersection Summary							
Average Delay			0.3				
Intersection Capacity Utilization			75.2%	ICU Level of Service		D	
Analysis Period (min)			15				

Lanes, Volumes, Timings

Future Total 2038 - No GTA West Highway & Improvements

7: 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)	672	128	334	327	1108	34	590	3917	400	28	1970	627
Future Volume (vph)	672	128	334	327	1108	34	590	3917	400	28	1970	627
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	0.95	0.95	1.00	0.95	0.95	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.892			0.996			0.986			0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	3192	0	1789	3564	0	1789	5070	0	1789	4957	0
Flt Permitted	0.174			0.185			0.083			0.091		
Satd. Flow (perm)	328	3192	0	348	3564	0	156	5070	0	171	4957	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		147			2			18			75	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	730	139	363	355	1204	37	641	4258	435	30	2141	682
Shared Lane Traffic (%)												
Lane Group Flow (vph)	730	502	0	355	1241	0	641	4693	0	30	2823	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
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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	20.0	29.0		24.0	33.0		19.0	57.0		10.0	48.0	
Total Split (%)	16.7%	24.2%		20.0%	27.5%		15.8%	47.5%		8.3%	40.0%	
Maximum Green (s)	16.0	23.0		20.0	27.0		13.0	51.0		4.0	42.0	
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	
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)	41.0	25.0		49.0	29.0		63.0	53.0		50.0	44.0	
Actuated g/C Ratio	0.34	0.21		0.41	0.24		0.52	0.44		0.42	0.37	
v/c Ratio	2.39	0.64		0.93	1.44		2.24	2.09		0.20	1.51	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	648.7	30.1		60.8	239.1		582.2	512.5		17.8	263.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	648.7	30.1		60.8	239.1		582.2	512.5		17.8	263.3	
LOS	F	C		E	F		F	F		B	F	
Approach Delay		396.6			199.4			520.9				260.7
Approach LOS		F			F			F				F

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: 150

Control Type: Pretimed

Maximum v/c Ratio: 2.39

Intersection Signal Delay: 393.0

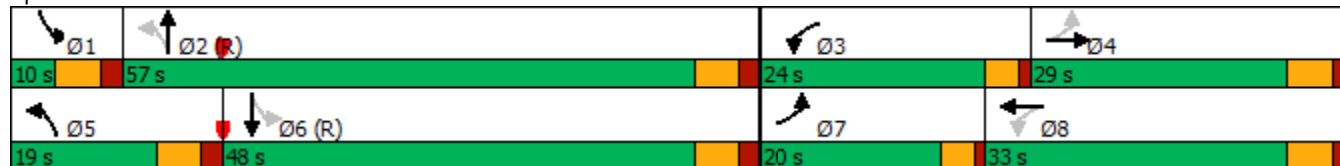
Intersection LOS: F

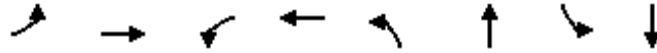
Intersection Capacity Utilization 170.2%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 7: Hurontario Street & Old School Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	730	502	355	1241	641	4693	30	2823
v/c Ratio	2.39	0.64	0.93	1.44	2.24	2.09	0.20	1.51
Control Delay	648.7	30.1	60.8	239.1	582.2	512.5	17.8	263.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	648.7	30.1	60.8	239.1	582.2	512.5	17.8	263.3
Queue Length 50th (m)	~268.2	49.6	61.3	~210.2	~236.3	~643.5	3.3	~337.8
Queue Length 95th (m)	m#330.5	m62.4	#117.6	#252.4	m#162.1	m#447.0	8.0	#365.0
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	306	781	382	862	286	2249	152	1865
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	2.39	0.64	0.93	1.44	2.24	2.09	0.20	1.51

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.

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

HCM Signalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements

7: 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)	672	128	334	327	1108	34	590	3917	400	28	1970	627
Future Volume (vph)	672	128	334	327	1108	34	590	3917	400	28	1970	627
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		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.89		1.00	1.00		1.00	0.99		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)	1789	3190		1789	3563		1789	5070		1789	4955	
Flt Permitted	0.17	1.00		0.18	1.00		0.08	1.00		0.09	1.00	
Satd. Flow (perm)	328	3190		348	3563		157	5070		171	4955	
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)	730	139	363	355	1204	37	641	4258	435	30	2141	682
RTOR Reduction (vph)	0	116	0	0	2	0	0	10	0	0	48	0
Lane Group Flow (vph)	730	386	0	355	1239	0	641	4683	0	30	2776	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	39.0	23.0		47.0	27.0		61.0	51.0		46.0	42.0	
Effective Green, g (s)	39.0	25.0		47.0	29.0		63.0	53.0		50.0	44.0	
Actuated g/C Ratio	0.32	0.21		0.39	0.24		0.52	0.44		0.42	0.37	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	301	664		376	861		286	2239		152	1816	
v/s Ratio Prot	c0.32	0.12		c0.16	0.35		c0.28	0.92		0.01	0.56	
v/s Ratio Perm	c0.46			0.21			c0.90			0.07		
v/c Ratio	2.43	0.58		0.94	1.44		2.24	2.09		0.20	1.53	
Uniform Delay, d1	35.0	42.8		30.0	45.5		37.9	33.5		27.5	38.0	
Progression Factor	0.75	0.90		1.00	1.00		1.18	1.10		1.00	1.00	
Incremental Delay, d2	647.8	2.4		34.3	204.4		559.6	491.3		2.9	240.6	
Delay (s)	674.1	41.0		64.2	249.9		604.2	528.3		30.4	278.6	
Level of Service	F	D		E	F		F	F		C	F	
Approach Delay (s)		416.1			208.6			537.4			276.0	
Approach LOS		F			F			F			F	

Intersection Summary

HCM 2000 Control Delay	408.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.26		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	170.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
8: Chinguacousy Road & Street A (North)

Future Total 2038 - No GTA West Highway & Improvements

PM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	76	993	62	98	698
Future Volume (vph)	29	76	993	62	98	698
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	0.0		0.0	25.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.991			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1789	1601	3546	0	1789	3579
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1789	1601	3546	0	1789	3579
Link Speed (k/h)	48		80			80
Link Distance (m)	81.3		401.8			298.8
Travel Time (s)	6.1		18.1			13.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	83	1079	67	107	759
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	83	1146	0	107	759
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	48.2%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 8: Chinguacousy Road & Street A (North) PM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Traffic Volume (veh/h)	29	76	993	62	98	698	
Future Volume (Veh/h)	29	76	993	62	98	698	
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)	32	83	1079	67	107	759	
Pedestrians							
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)				299			
pX, platoon unblocked							
vC, conflicting volume	1706	573			1146		
vC1, stage 1 conf vol	1112						
vC2, stage 2 conf vol	594						
vCu, unblocked vol	1706	573			1146		
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 %	86	82			82		
cM capacity (veh/h)	233	463			605		
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	32	83	719	427	107	380	380
Volume Left	32	0	0	0	107	0	0
Volume Right	0	83	0	67	0	0	0
cSH	233	463	1700	1700	605	1700	1700
Volume to Capacity	0.14	0.18	0.42	0.25	0.18	0.22	0.22
Queue Length 95th (m)	3.6	4.9	0.0	0.0	4.8	0.0	0.0
Control Delay (s)	22.9	14.5	0.0	0.0	12.2	0.0	0.0
Lane LOS	C	B			B		
Approach Delay (s)	16.8		0.0		1.5		
Approach LOS	C						
Intersection Summary							
Average Delay			1.5				
Intersection Capacity Utilization			48.2%	ICU Level of Service	A		
Analysis Period (min)			15				

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

Future Total 2038 - No GTA West Highway & Improvements

PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	64	68	99	953	756	23
Future Volume (vph)	64	68	99	953	756	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	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	0.95	0.95	0.95
Frt		0.850			0.996	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	3579	3564	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1789	1601	1789	3579	3564	0
Link Speed (k/h)	48			80	80	
Link Distance (m)	150.6			276.3	311.8	
Travel Time (s)	11.3			12.4	14.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	70	74	108	1036	822	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	70	74	108	1036	847	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	40.7%
	ICU Level of Service A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 9: McLaughlin Road & Street C PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations							
Traffic Volume (veh/h)	64	68	99	953	756	23	
Future Volume (Veh/h)	64	68	99	953	756	23	
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)	70	74	108	1036	822	25	
Pedestrians							
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)			276	312			
pX, platoon unblocked	0.81						
vC, conflicting volume	1568	424	847				
vC1, stage 1 conf vol	834						
vC2, stage 2 conf vol	734						
vCu, unblocked vol	1241	424	847				
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 %	79	87	86				
cM capacity (veh/h)	328	579	786				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	70	74	108	518	518	548	299
Volume Left	70	0	108	0	0	0	0
Volume Right	0	74	0	0	0	0	25
cSH	328	579	786	1700	1700	1700	1700
Volume to Capacity	0.21	0.13	0.14	0.30	0.30	0.32	0.18
Queue Length 95th (m)	6.0	3.3	3.6	0.0	0.0	0.0	0.0
Control Delay (s)	18.9	12.1	10.3	0.0	0.0	0.0	0.0
Lane LOS	C	B	B				
Approach Delay (s)	15.4		1.0			0.0	
Approach LOS	C						
Intersection Summary							
Average Delay			1.6				
Intersection Capacity Utilization			40.7%	ICU Level of Service	A		
Analysis Period (min)			15				

Lanes, Volumes, Timings
10: Hurontario Street & Street H

Future Total 2038 - No GTA West Highway & Improvements

PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	23	43	4905	2606	3
Future Volume (vph)	3	23	43	4905	2606	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	0.0	25.0			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				
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	5142	5142	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1789	1601	1789	5142	5142	0
Link Speed (k/h)	48			70	70	
Link Distance (m)	410.2			640.1	215.3	
Travel Time (s)	30.8			32.9	11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	25	47	5332	2833	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3	25	47	5332	2836	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)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	104.8%
ICU Level of Service	G
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 10: Hurontario Street & Street H PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	↘	↗	↘	↑↑↑	↑↑↑				
Traffic Volume (veh/h)	3	23	43	4905	2606	3			
Future Volume (Veh/h)	3	23	43	4905	2606	3			
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)	3	25	47	5332	2833	3			
Pedestrians									
Lane Width (m)									
Walking Speed (m/s)									
Percent Blockage									
Right turn flare (veh)									
Median type				None	None				
Median storage veh									
Upstream signal (m)					215				
pX, platoon unblocked	0.65	0.65	0.65						
vC, conflicting volume	4706	946	2836						
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol	4819	0	1921						
tC, single (s)	6.8	6.9	4.1						
tC, 2 stage (s)									
tF (s)	3.5	3.3	2.2						
p0 queue free %	0	96	76						
cM capacity (veh/h)	0	700	196						
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	3	25	47	1777	1777	1777	1133	1133	570
Volume Left	3	0	47	0	0	0	0	0	0
Volume Right	0	25	0	0	0	0	0	0	3
cSH	0	700	196	1700	1700	1700	1700	1700	1700
Volume to Capacity	11.91	0.04	0.24	1.05	1.05	1.05	0.67	0.67	0.34
Queue Length 95th (m)	Err	0.8	6.9	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	Err	10.3	29.1	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	B	D						
Approach Delay (s)	1080.5		0.3					0.0	
Approach LOS	F								
Intersection Summary									
Average Delay			3.8						
Intersection Capacity Utilization			104.8%	ICU Level of Service					G
Analysis Period (min)			15						

Lanes, Volumes, Timings Future Total 2038 - No GTA West Highway & Improvements
 11: Chinguacousy Road & Street A (South) PM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	62	993	62	82	645
Future Volume (vph)	29	62	993	62	82	645
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	0.0		0.0	25.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.991			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1789	1601	3546	0	1789	3579
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1789	1601	3546	0	1789	3579
Link Speed (k/h)	48		80			80
Link Distance (m)	156.3		2383.0			401.8
Travel Time (s)	11.7		107.2			18.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	67	1079	67	89	701
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	67	1146	0	89	701
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	47.3%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 11: Chinguacousy Road & Street A (South) PM Peak Hour

























Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	↵	↵	↕↕		↵	↕↕	
Traffic Volume (veh/h)	29	62	993	62	82	645	
Future Volume (Veh/h)	29	62	993	62	82	645	
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)	32	67	1079	67	89	701	
Pedestrians							
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	1641	573			1146		
vC1, stage 1 conf vol	1112						
vC2, stage 2 conf vol	528						
vCu, unblocked vol	1641	573			1146		
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 %	87	86			85		
cM capacity (veh/h)	242	463			605		
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	32	67	719	427	89	350	350
Volume Left	32	0	0	0	89	0	0
Volume Right	0	67	0	67	0	0	0
cSH	242	463	1700	1700	605	1700	1700
Volume to Capacity	0.13	0.14	0.42	0.25	0.15	0.21	0.21
Queue Length 95th (m)	3.4	3.8	0.0	0.0	3.9	0.0	0.0
Control Delay (s)	22.2	14.1	0.0	0.0	12.0	0.0	0.0
Lane LOS	C	B			B		
Approach Delay (s)	16.7	0.0		1.3			
Approach LOS	C						
Intersection Summary							
Average Delay			1.3				
Intersection Capacity Utilization			47.3%		ICU Level of Service		A
Analysis Period (min)			15				

Lanes, Volumes, Timings
12: McLaughlin Road & Street E

Future Total 2038 - No GTA West Highway & Improvements

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	0	52	172	0	27	74	982	239	34	725	65
Future Volume (vph)	42	0	52	172	0	27	74	982	239	34	725	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	50.0		0.0	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	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.850			0.850			0.971			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1601	0	1789	1601	0	1789	3475	0	1789	3536	0
Flt Permitted	0.738			0.720			0.285			0.144		
Satd. Flow (perm)	1390	1601	0	1356	1601	0	537	3475	0	271	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		219			121			50			16	
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			1359.2			391.4			276.3	
Travel Time (s)		15.4			101.9			17.6			12.4	
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)	46	0	57	187	0	29	80	1067	260	37	788	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	57	0	187	29	0	80	1327	0	37	859	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			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
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)	39.0	39.0		39.0	39.0		81.0	81.0		81.0	81.0	
Total Split (%)	32.5%	32.5%		32.5%	32.5%		67.5%	67.5%		67.5%	67.5%	
Maximum Green (s)	35.0	35.0		35.0	35.0		77.0	77.0		77.0	77.0	
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	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag 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)	35.0	35.0		35.0	35.0		77.0	77.0		77.0	77.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.64	0.64		0.64	0.64	
v/c Ratio	0.11	0.09		0.47	0.05		0.23	0.59		0.21	0.38	

Lanes, Volumes, Timings
12: McLaughlin Road & Street E

Future Total 2038 - No GTA West Highway & Improvements

PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	32.2	0.3		14.9	0.6		11.2	13.2		18.4	16.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	32.2	0.3		14.9	0.6		11.2	13.2		18.4	16.4	
LOS	C	A		B	A		B	B		B	B	
Approach Delay		14.6			13.0			13.1			16.5	
Approach LOS		B			B			B			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:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.59
Intersection Signal Delay:	14.3
Intersection LOS:	B
Intersection Capacity Utilization	64.3%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 12: McLaughlin Road & Street E

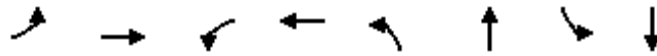
Ø2 (R)	Ø4
81 s	39 s
Ø6 (R)	Ø8
81 s	39 s

Queues

Future Total 2038 - No GTA West Highway & Improvements

12: McLaughlin Road & Street E

PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	57	187	29	80	1327	37	859
v/c Ratio	0.11	0.09	0.47	0.05	0.23	0.59	0.21	0.38
Control Delay	32.2	0.3	14.9	0.6	11.2	13.2	18.4	16.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.2	0.3	14.9	0.6	11.2	13.2	18.4	16.4
Queue Length 50th (m)	7.9	0.0	27.2	0.0	7.4	84.3	4.5	59.0
Queue Length 95th (m)	17.2	0.0	m22.3	m0.0	15.5	103.1	m6.5	m74.4
Internal Link Dist (m)		180.8		1335.2		367.4		252.3
Turn Bay Length (m)	25.0		25.0		50.0		50.0	
Base Capacity (vph)	405	622	395	552	344	2247	173	2274
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	0.11	0.09	0.47	0.05	0.23	0.59	0.21	0.38

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 12: McLaughlin Road & Street E PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	0	52	172	0	27	74	982	239	34	725	65
Future Volume (vph)	42	0	52	172	0	27	74	982	239	34	725	65
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		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	0.85		1.00	0.85		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	1601		1789	1601		1789	3473		1789	3534	
Flt Permitted	0.74	1.00		0.72	1.00		0.28	1.00		0.14	1.00	
Satd. Flow (perm)	1391	1601		1356	1601		537	3473		272	3534	
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)	46	0	57	187	0	29	80	1067	260	37	788	71
RTOR Reduction (vph)	0	40	0	0	21	0	0	18	0	0	6	0
Lane Group Flow (vph)	46	17	0	187	8	0	80	1309	0	37	853	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)	35.0	35.0		35.0	35.0		77.0	77.0		77.0	77.0	
Effective Green, g (s)	35.0	35.0		35.0	35.0		77.0	77.0		77.0	77.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.64	0.64		0.64	0.64	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	405	466		395	466		344	2228		174	2267	
v/s Ratio Prot		0.01			0.01			c0.38			0.24	
v/s Ratio Perm	0.03			c0.14			0.15			0.14		
v/c Ratio	0.11	0.04		0.47	0.02		0.23	0.59		0.21	0.38	
Uniform Delay, d1	31.1	30.4		34.9	30.3		9.1	12.4		8.9	10.2	
Progression Factor	1.00	1.00		0.41	1.00		1.00	1.00		1.67	1.60	
Incremental Delay, d2	0.6	0.1		0.4	0.0		1.6	1.1		1.8	0.3	
Delay (s)	31.7	30.6		14.6	30.3		10.6	13.5		16.7	16.6	
Level of Service	C	C		B	C		B	B		B	B	
Approach Delay (s)		31.1			16.7			13.3			16.6	
Approach LOS		C			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			15.4			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			64.3%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
13: Hurontario Street & Street E

Future Total 2038 - No GTA West Highway & Improvements

PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	273	512	4926	2606	23
Future Volume (vph)	22	273	512	4926	2606	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	0.0	75.0			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		0.060			
Satd. Flow (perm)	1789	1601	113	5142	5137	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		297			2	
Link Speed (k/h)	48			70	70	
Link Distance (m)	1359.2			928.0	640.1	
Travel Time (s)	101.9			47.7	32.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	297	557	5354	2833	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	297	557	5354	2858	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)	24	14	24			14
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0	
Total Split (s)	20.0	20.0	33.0	100.0	67.0	
Total Split (%)	16.7%	16.7%	27.5%	83.3%	55.8%	
Maximum Green (s)	16.0	16.0	29.0	96.0	63.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	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	
Lead-Lag Optimize?			Yes		Yes	
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	96.0	96.0	63.0	
Actuated g/C Ratio	0.13	0.13	0.80	0.80	0.52	
v/c Ratio	0.10	0.63	1.13	1.30	1.06	

Lanes, Volumes, Timings
 13: Hurontario Street & Street E

Future Total 2038 - No GTA West Highway & Improvements

PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Control Delay	57.2	30.3	114.3	155.4	63.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	57.2	30.3	114.3	155.4	63.2	
LOS	E	C	F	F	E	
Approach Delay	32.3			151.5	63.2	
Approach LOS	C			F	E	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle:	150
Control Type:	Pretimed
Maximum v/c Ratio:	1.30
Intersection Signal Delay:	119.6
Intersection LOS:	F
Intersection Capacity Utilization	105.2%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 13: Hurontario Street & Street E



Queues
13: Hurontario Street & Street E

Future Total 2038 - No GTA West Highway & Improvements

PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	24	297	557	5354	2858
v/c Ratio	0.10	0.63	1.13	1.30	1.06
Control Delay	57.2	30.3	114.3	155.4	63.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	30.3	114.3	155.4	63.2
Queue Length 50th (m)	6.0	25.4	~136.1	~591.7	~262.6
Queue Length 95th (m)	m11.1	52.0	#203.9	#602.1	m135.7
Internal Link Dist (m)	1335.2			904.0	616.1
Turn Bay Length (m)	25.0		75.0		
Base Capacity (vph)	238	470	495	4113	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	0.10	0.63	1.13	1.30	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.

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

HCM Signalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 13: Hurontario Street & Street E PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	273	512	4926	2606	23
Future Volume (vph)	22	273	512	4926	2606	23
Ideal Flow (vphpl)	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	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	0.06	1.00	1.00	
Satd. Flow (perm)	1789	1601	112	5142	5135	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	297	557	5354	2833	25
RTOR Reduction (vph)	0	257	0	0	1	0
Lane Group Flow (vph)	24	40	557	5354	2857	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	16.0	16.0	96.0	96.0	63.0	
Effective Green, g (s)	16.0	16.0	96.0	96.0	63.0	
Actuated g/C Ratio	0.13	0.13	0.80	0.80	0.52	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	238	213	494	4113	2695	
v/s Ratio Prot	0.01		0.27	c1.04	0.56	
v/s Ratio Perm		c0.02	0.63			
v/c Ratio	0.10	0.19	1.13	1.30	1.06	
Uniform Delay, d1	45.7	46.2	40.3	12.0	28.5	
Progression Factor	1.22	4.40	1.00	1.00	1.27	
Incremental Delay, d2	0.7	1.7	80.4	137.6	28.1	
Delay (s)	56.7	205.0	120.7	149.6	64.4	
Level of Service	E	F	F	F	E	
Approach Delay (s)	193.9			146.9	64.4	
Approach LOS	F			F	E	

Intersection Summary

HCM 2000 Control Delay	122.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	105.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
14: McLaughlin Road & Street F

Future Total 2038 - No GTA West Highway & Improvements
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	42	52	74	1253	884	65
Future Volume (vph)	42	52	74	1253	884	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	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	0.95	0.95	0.95
Frt		0.850			0.990	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	3579	3543	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1789	1601	1789	3579	3543	0
Link Speed (k/h)	48			80	80	
Link Distance (m)	171.6			2104.9	391.4	
Travel Time (s)	12.9			94.7	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	57	80	1362	961	71
Shared Lane Traffic (%)						
Lane Group Flow (vph)	46	57	80	1362	1032	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	44.6%
	ICU Level of Service A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 14: McLaughlin Road & Street F PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations							
Traffic Volume (veh/h)	42	52	74	1253	884	65	
Future Volume (Veh/h)	42	52	74	1253	884	65	
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)	46	57	80	1362	961	71	
Pedestrians							
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)			391				
pX, platoon unblocked	0.90	0.90	0.90				
vC, conflicting volume	1838	516	1032				
vC1, stage 1 conf vol	996						
vC2, stage 2 conf vol	841						
vCu, unblocked vol	1707	238	812				
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 %	82	92	89				
cM capacity (veh/h)	253	686	729				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	46	57	80	681	681	641	391
Volume Left	46	0	80	0	0	0	0
Volume Right	0	57	0	0	0	0	71
cSH	253	686	729	1700	1700	1700	1700
Volume to Capacity	0.18	0.08	0.11	0.40	0.40	0.38	0.23
Queue Length 95th (m)	4.9	2.1	2.8	0.0	0.0	0.0	0.0
Control Delay (s)	22.3	10.7	10.5	0.0	0.0	0.0	0.0
Lane LOS	C	B	B				
Approach Delay (s)	15.9	0.6		0.0			
Approach LOS	C						
Intersection Summary							
Average Delay			1.0				
Intersection Capacity Utilization			44.6%	ICU Level of Service	A		
Analysis Period (min)			15				

Lanes, Volumes, Timings

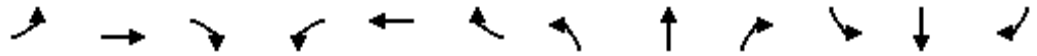
Future Total 2038 - No GTA West Highway & Improvements

15: 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)	32	830	54	407	889	205	80	518	425	91	222	26
Future Volume (vph)	32	830	54	407	889	205	80	518	425	91	222	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	0.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.972				0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5096	0	3471	4998	0	1789	1883	1601	1789	1853	0
Flt Permitted	0.225			0.950			0.514			0.242		
Satd. Flow (perm)	424	5096	0	3471	4998	0	968	1883	1601	456	1853	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			60				439			6
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	35	902	59	442	966	223	87	563	462	99	241	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	961	0	442	1189	0	87	563	462	99	269	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)		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												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
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	36.0	36.0		25.0	61.0		59.0	59.0	59.0	59.0		59.0
Total Split (%)	30.0%	30.0%		20.8%	50.8%		49.2%	49.2%	49.2%	49.2%		49.2%
Maximum Green (s)	32.0	32.0		21.0	57.0		55.0	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		3.5
All-Red Time (s)	0.5	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	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	32.0	32.0		21.0	57.0		55.0	55.0	55.0	55.0		55.0
Actuated g/C Ratio	0.27	0.27		0.18	0.48		0.46	0.46	0.46	0.46		0.46
v/c Ratio	0.31	0.70		0.73	0.49		0.20	0.65	0.48	0.47		0.32

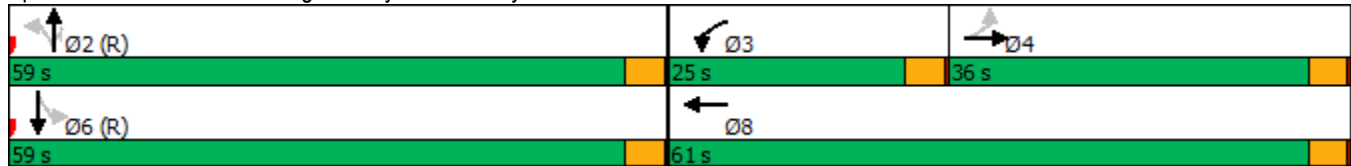


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	44.3	42.7		54.7	21.2		20.9	29.6	4.1	32.7	23.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	44.3	42.7		54.7	21.2		20.9	29.6	4.1	32.7	23.5	
LOS	D	D		D	C		C	C	A	C	C	
Approach Delay		42.8			30.3			18.3				26.0
Approach 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:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.73
Intersection Signal Delay:	29.7
Intersection LOS:	C
Intersection Capacity Utilization	74.5%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

Future Total 2038 - No GTA West Highway & Improvements

15: Chinguacousy Road & Mayfield Road

PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	35	961	442	1189	87	563	462	99	269
v/c Ratio	0.31	0.70	0.73	0.49	0.20	0.65	0.48	0.47	0.32
Control Delay	44.3	42.7	54.7	21.2	20.9	29.6	4.1	32.7	23.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.3	42.7	54.7	21.2	20.9	29.6	4.1	32.7	23.5
Queue Length 50th (m)	6.6	74.3	51.2	64.9	11.9	100.2	2.9	16.8	43.3
Queue Length 95th (m)	16.8	89.8	68.7	77.5	22.8	138.5	21.0	m25.7	m57.2
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0				
Base Capacity (vph)	113	1364	607	2405	443	863	971	209	852
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.70	0.73	0.49	0.20	0.65	0.48	0.47	0.32

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 15: 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)	32	830	54	407	889	205	80	518	425	91	222	26
Future Volume (vph)	32	830	54	407	889	205	80	518	425	91	222	26
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	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5094		3471	4997		1789	1883	1601	1789	1854	
Flt Permitted	0.23	1.00		0.95	1.00		0.51	1.00	1.00	0.24	1.00	
Satd. Flow (perm)	424	5094		3471	4997		967	1883	1601	456	1854	
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)	35	902	59	442	966	223	87	563	462	99	241	28
RTOR Reduction (vph)	0	6	0	0	32	0	0	0	238	0	3	0
Lane Group Flow (vph)	35	955	0	442	1158	0	87	563	224	99	266	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	32.0	32.0		21.0	57.0		55.0	55.0	55.0	55.0	55.0	
Effective Green, g (s)	32.0	32.0		21.0	57.0		55.0	55.0	55.0	55.0	55.0	
Actuated g/C Ratio	0.27	0.27		0.18	0.48		0.46	0.46	0.46	0.46	0.46	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	113	1358		607	2373		443	863	733	209	849	
v/s Ratio Prot		c0.19		c0.13	0.23			c0.30			0.14	
v/s Ratio Perm	0.08						0.09		0.14	0.22		
v/c Ratio	0.31	0.70		0.73	0.49		0.20	0.65	0.31	0.47	0.31	
Uniform Delay, d1	35.2	39.7		46.8	21.5		19.3	25.1	20.5	22.5	20.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.10	1.11	
Incremental Delay, d2	7.0	3.1		7.5	0.7		1.0	3.8	1.1	6.0	0.8	
Delay (s)	42.2	42.8		54.3	22.2		20.3	28.9	21.6	30.6	23.6	
Level of Service	D	D		D	C		C	C	C	C	C	
Approach Delay (s)		42.8			30.9			25.2			25.5	
Approach LOS		D			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			31.8			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.68									
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

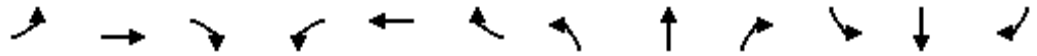
Future Total 2038 - No GTA West Highway & Improvements

16: 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)	211	1179	80	256	1310	361	149	762	213	204	403	196
Future Volume (vph)	211	1179	80	256	1310	361	149	762	213	204	403	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		25.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.968				0.850		0.951	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	4977	0	1789	3579	1601	1789	3403	0
Flt Permitted	0.091			0.083			0.248			0.097		
Satd. Flow (perm)	171	5142	1601	156	4977	0	467	3579	1601	183	3403	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			104		58				104		63	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	229	1282	87	278	1424	392	162	828	232	222	438	213
Shared Lane Traffic (%)												
Lane Group Flow (vph)	229	1282	87	278	1816	0	162	828	232	222	651	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)		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												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
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	20.0	48.0	48.0	26.0	54.0		16.0	43.0	43.0	19.0	46.0	
Total Split (%)	14.7%	35.3%	35.3%	19.1%	39.7%		11.8%	31.6%	31.6%	14.0%	33.8%	
Maximum Green (s)	16.0	44.0	44.0	22.0	50.0		12.0	39.0	39.0	15.0	42.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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)	60.0	44.0	44.0	70.0	50.0		51.0	39.0	39.0	57.0	42.0	
Actuated g/C Ratio	0.44	0.32	0.32	0.51	0.37		0.38	0.29	0.29	0.42	0.31	
v/c Ratio	0.86	0.77	0.15	0.81	0.97		0.56	0.81	0.44	0.88	0.60	

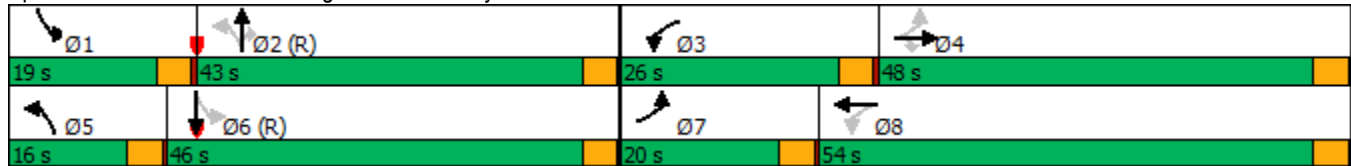


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	65.5	45.3	4.4	53.8	56.4		32.8	52.2	24.0	66.4	38.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	65.5	45.3	4.4	53.8	56.4		32.8	52.2	24.0	66.4	38.3	
LOS	E	D	A	D	E		C	D	C	E	D	
Approach Delay		45.9			56.0			44.3			45.5	
Approach LOS		D			E			D			D	

Intersection Summary

Area Type:	Other
Cycle Length:	136
Actuated Cycle Length:	136
Offset:	120 (88%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Pretimed
Maximum v/c Ratio:	0.97
Intersection Signal Delay:	49.2
Intersection LOS:	D
Intersection Capacity Utilization	90.8%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 16: McLaughlin Road & Mayfield Road

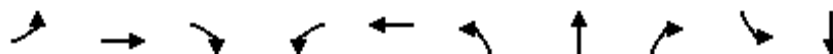


Queues

Future Total 2038 - No GTA West Highway & Improvements

16: McLaughlin Road & Mayfield Road

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	229	1282	87	278	1816	162	828	232	222	651
v/c Ratio	0.86	0.77	0.15	0.81	0.97	0.56	0.81	0.44	0.88	0.60
Control Delay	65.5	45.3	4.4	53.8	56.4	32.8	52.2	24.0	66.4	38.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.5	45.3	4.4	53.8	56.4	32.8	52.2	24.0	66.4	38.3
Queue Length 50th (m)	45.0	113.5	0.0	56.4	170.9	27.1	108.8	27.2	43.1	70.5
Queue Length 95th (m)	#89.5	131.3	8.4	#98.7	#205.9	42.8	133.6	51.7	#88.0	90.3
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0		25.0	30.0	
Base Capacity (vph)	265	1663	588	344	1866	291	1026	533	253	1094
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	0.77	0.15	0.81	0.97	0.56	0.81	0.44	0.88	0.60

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis 2038 - No GTA West Highway & Improvements
 16: 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)	211	1179	80	256	1310	361	149	762	213	204	403	196
Future Volume (vph)	211	1179	80	256	1310	361	149	762	213	204	403	196
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	4975		1789	3579	1601	1789	3403	
Flt Permitted	0.09	1.00	1.00	0.08	1.00		0.25	1.00	1.00	0.10	1.00	
Satd. Flow (perm)	171	5142	1601	157	4975		467	3579	1601	183	3403	
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)	229	1282	87	278	1424	392	162	828	232	222	438	213
RTOR Reduction (vph)	0	0	59	0	37	0	0	0	74	0	44	0
Lane Group Flow (vph)	229	1282	28	278	1779	0	162	828	158	222	607	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	60.0	44.0	44.0	70.0	50.0		51.0	39.0	39.0	57.0	42.0	
Effective Green, g (s)	60.0	44.0	44.0	70.0	50.0		51.0	39.0	39.0	57.0	42.0	
Actuated g/C Ratio	0.44	0.32	0.32	0.51	0.37		0.38	0.29	0.29	0.42	0.31	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	265	1663	517	344	1829		291	1026	459	253	1050	
v/s Ratio Prot	0.10	0.25		c0.13	c0.36		0.05	0.23		c0.10	0.18	
v/s Ratio Perm	0.28		0.02	0.28			0.16		0.10	c0.27		
v/c Ratio	0.86	0.77	0.05	0.81	0.97		0.56	0.81	0.34	0.88	0.58	
Uniform Delay, d1	38.2	41.5	31.7	38.2	42.3		30.3	45.0	38.4	36.1	39.6	
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	29.2	3.5	0.2	18.2	15.5		7.5	6.8	2.0	32.2	2.3	
Delay (s)	67.4	45.0	31.9	56.4	57.9		37.8	51.8	40.4	68.2	41.9	
Level of Service	E	D	C	E	E		D	D	D	E	D	
Approach Delay (s)		47.5			57.7			47.8			48.6	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	51.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings

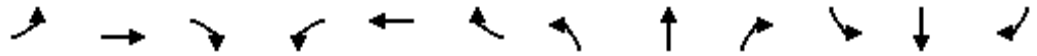
Future Total 2038 - No GTA West Highway & Improvements

17: 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)	537	832	150	320	1288	178	439	990	53	227	1041	794
Future Volume (vph)	537	832	150	320	1288	178	439	990	53	227	1041	794
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	5142	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.091			0.138		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	171	5142	1601	260	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			163			150			77			278
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	584	904	163	348	1400	193	477	1076	58	247	1132	863
Shared Lane Traffic (%)												
Lane Group Flow (vph)	584	904	163	348	1400	193	477	1076	58	247	1132	863
Enter Blocked Intersection	No	No	No	No	No	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	Prot	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			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	21.0	34.0	34.0	20.0	33.0	33.0	25.0	48.0	48.0	26.0	49.0	49.0
Total Split (%)	16.4%	26.6%	26.6%	15.6%	25.8%	25.8%	19.5%	37.5%	37.5%	20.3%	38.3%	38.3%
Maximum Green (s)	17.0	30.0	30.0	16.0	29.0	29.0	21.0	44.0	44.0	22.0	45.0	45.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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
Act Effct Green (s)	17.0	30.0	30.0	16.0	29.0	29.0	65.0	44.0	44.0	67.0	45.0	45.0
Actuated g/C Ratio	0.13	0.23	0.23	0.12	0.23	0.23	0.51	0.34	0.34	0.52	0.35	0.35
v/c Ratio	1.27	0.75	0.33	0.80	1.20	0.40	1.36	0.61	0.10	0.62	0.90	1.16

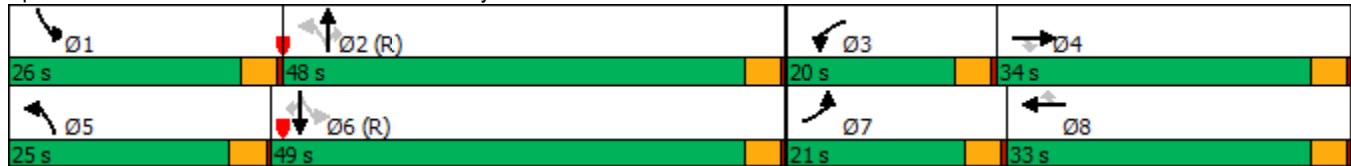


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	182.0	50.1	7.7	69.3	142.2	13.9	209.8	36.6	3.7	27.7	50.2	113.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	182.0	50.1	7.7	69.3	142.2	13.9	209.8	36.6	3.7	27.7	50.2	113.6
LOS	F	D	A	E	F	B	F	D	A	C	D	F
Approach Delay	92.6			116.4			86.7			72.1		
Approach LOS	F			F			F			E		

Intersection Summary

Area Type:	Other
Cycle Length:	128
Actuated Cycle Length:	128
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	110
Control Type:	Pretimed
Maximum v/c Ratio:	1.36
Intersection Signal Delay:	91.4
Intersection LOS:	F
Intersection Capacity Utilization	108.4%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road

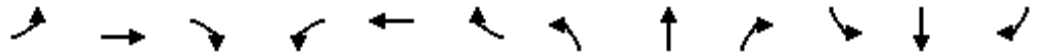


Queues

Future Total 2038 - No GTA West Highway & Improvements

17: 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)	584	904	163	348	1400	193	477	1076	58	247	1132	863
v/c Ratio	1.27	0.75	0.33	0.80	1.20	0.40	1.36	0.61	0.10	0.62	0.90	1.16
Control Delay	182.0	50.1	7.7	69.3	142.2	13.9	209.8	36.6	3.7	27.7	50.2	113.6
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	182.0	50.1	7.7	69.3	142.2	13.9	209.8	36.6	3.7	27.7	50.2	113.6
Queue Length 50th (m)	~95.4	78.0	0.0	44.5	~156.8	8.7	~142.7	82.0	0.0	31.8	141.6	~209.7
Queue Length 95th (m)	#131.0	93.8	17.2	#65.6	#186.1	29.4	#208.7	97.0	5.9	60.0	#180.2	#286.3
Internal Link Dist (m)	1381.8			725.9			357.1			585.4		
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	460	1205	500	433	1164	478	352	1767	600	398	1258	743
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	0.75	0.33	0.80	1.20	0.40	1.36	0.61	0.10	0.62	0.90	1.16

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 2038 - No GTA West Highway & Improvements
 17: 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)	537	832	150	320	1288	178	439	990	53	227	1041	794
Future Volume (vph)	537	832	150	320	1288	178	439	990	53	227	1041	794
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	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	5142	1601	1789	3579	1601
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.09	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	171	5142	1601	259	3579	1601
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)	584	904	163	348	1400	193	477	1076	58	247	1132	863
RTOR Reduction (vph)	0	0	125	0	0	116	0	0	38	0	0	180
Lane Group Flow (vph)	584	904	38	348	1400	77	477	1076	20	247	1132	683
Turn Type	Prot	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			8	2		2	6		6
Actuated Green, G (s)	17.0	30.0	30.0	16.0	29.0	29.0	65.0	44.0	44.0	67.0	45.0	45.0
Effective Green, g (s)	17.0	30.0	30.0	16.0	29.0	29.0	65.0	44.0	44.0	67.0	45.0	45.0
Actuated g/C Ratio	0.13	0.23	0.23	0.12	0.23	0.23	0.51	0.34	0.34	0.52	0.35	0.35
Clearance Time (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
Lane Grp Cap (vph)	460	1205	375	433	1164	362	352	1767	550	398	1258	562
v/s Ratio Prot	c0.17	0.18		0.10	c0.27		c0.22	0.21		0.11	0.32	
v/s Ratio Perm			0.02			0.05	c0.46		0.01	0.22		0.43
v/c Ratio	1.27	0.75	0.10	0.80	1.20	0.21	1.36	0.61	0.04	0.62	0.90	1.21
Uniform Delay, d1	55.5	45.5	38.4	54.5	49.5	40.2	40.5	34.9	27.9	20.3	39.4	41.5
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	137.6	4.3	0.5	14.6	99.6	1.3	177.4	1.6	0.1	7.1	10.4	112.3
Delay (s)	193.1	49.8	39.0	69.1	149.1	41.6	217.9	36.4	28.0	27.4	49.8	153.8
Level of Service	F	D	D	E	F	D	F	D	C	C	D	F
Approach Delay (s)		99.4			124.1			89.9			87.4	
Approach LOS		F			F			F			F	

Intersection Summary		
HCM 2000 Control Delay	100.2	HCM 2000 Level of Service F
HCM 2000 Volume to Capacity ratio	1.29	
Actuated Cycle Length (s)	128.0	Sum of lost time (s) 16.0
Intersection Capacity Utilization	108.4%	ICU Level of Service G
Analysis Period (min)	15	
c Critical Lane Group		

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

Future Background 2028 - With GTA West Highway

















AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	191	17	125	105	40	8	240	229	34	309	1
Future Volume (vph)	7	191	17	125	105	40	8	240	229	34	309	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.980			0.935				
Flt Protected		0.998			0.977			0.999			0.995	
Satd. Flow (prot)	0	1861	0	0	1803	0	0	1759	0	0	1874	0
Flt Permitted		0.998			0.977			0.999			0.995	
Satd. Flow (perm)	0	1861	0	0	1803	0	0	1759	0	0	1874	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	0.92	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)	8	208	18	136	114	43	9	261	249	37	336	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	234	0	0	293	0	0	519	0	0	374	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	72.2%
ICU Level of Service	C
Analysis Period (min)	15

















HCM Unsignalized Intersection Capacity Analysis Background 2028 - With GTA West Highway
 1: Chinguacousy Road & Old School Road 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)	7	191	17	125	105	40	8	240	229	34	309	1
Future Volume (vph)	7	191	17	125	105	40	8	240	229	34	309	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
Hourly flow rate (vph)	8	208	18	136	114	43	9	261	249	37	336	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	234	293	519	374								
Volume Left (vph)	8	136	9	37								
Volume Right (vph)	18	43	249	1								
Hadj (s)	-0.01	0.04	-0.25	0.05								
Departure Headway (s)	8.2	8.0	7.1	7.6								
Degree Utilization, x	0.53	0.65	1.02	0.79								
Capacity (veh/h)	404	421	519	462								
Control Delay (s)	20.3	24.7	70.9	33.4								
Approach Delay (s)	20.3	24.7	70.9	33.4								
Approach LOS	C	C	F	D								
Intersection Summary												
Delay			43.2									
Level of Service			E									
Intersection Capacity Utilization			72.2%		ICU Level of Service		C					
Analysis Period (min)			15									

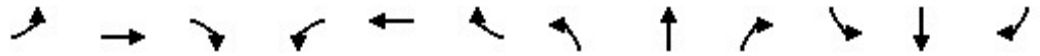
Lanes, Volumes, Timings
4: McLaughlin Road & Old School Road

Future Background 2028 - With GTA West Highway

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	311	101	199	221	18	39	82	334	18	265	9
Future Volume (vph)	42	311	101	199	221	18	39	82	334	18	265	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 _t		0.970			0.994			0.901			0.996	
Fl _t Protected		0.995			0.978			0.996			0.997	
Satd. Flow (prot)	0	1818	0	0	1831	0	0	1690	0	0	1870	0
Fl _t Permitted		0.995			0.978			0.996			0.997	
Satd. Flow (perm)	0	1818	0	0	1831	0	0	1690	0	0	1870	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	46	338	110	216	240	20	42	89	363	20	288	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	494	0	0	476	0	0	494	0	0	318	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	96.7%						ICU Level of Service F					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Background 2028 - With GTA West Highway
 4: McLaughlin Road & Old School Road 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)	42	311	101	199	221	18	39	82	334	18	265	9
Future Volume (vph)	42	311	101	199	221	18	39	82	334	18	265	9
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)	46	338	110	216	240	20	42	89	363	20	288	10























Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	494	476	494	318
Volume Left (vph)	46	216	42	20
Volume Right (vph)	110	20	363	10
Hadj (s)	-0.08	0.10	-0.39	0.03
Departure Headway (s)	9.1	9.3	8.8	9.6
Degree Utilization, x	1.25	1.23	1.21	0.85
Capacity (veh/h)	409	394	415	372
Control Delay (s)	158.4	150.9	141.1	47.8
Approach Delay (s)	158.4	150.9	141.1	47.8
Approach LOS	F	F	F	E

Intersection Summary			
Delay		131.8	
Level of Service		F	
Intersection Capacity Utilization	96.7%	ICU Level of Service	F
Analysis Period (min)		15	

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

Future Background 2028 - With GTA West Highway

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	511	107	106	322	84	123	38	1646	131	59	2991	268
Future Volume (vph)	511	107	106	322	84	123	38	1646	131	59	2991	268
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		0.925			0.911			0.989			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1742	0	1789	1716	0	1789	3539	0	1789	3536	0
Flt Permitted	0.359			0.470			0.070			0.070		
Satd. Flow (perm)	676	1742	0	885	1716	0	132	3539	0	132	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40			58			9			11	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	555	116	115	350	91	134	41	1789	142	64	3251	291
Shared Lane Traffic (%)												
Lane Group Flow (vph)	555	231	0	350	225	0	41	1931	0	64	3542	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	17.0	35.0		14.0	32.0		10.0	61.0		10.0	61.0	
Total Split (%)	14.2%	29.2%		11.7%	26.7%		8.3%	50.8%		8.3%	50.8%	
Maximum Green (s)	13.0	29.0		10.0	26.0		4.0	55.0		4.0	55.0	
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	
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)	44.0	31.0		38.0	28.0		63.0	57.0		63.0	57.0	
Actuated g/C Ratio	0.37	0.26		0.32	0.23		0.52	0.48		0.52	0.48	
v/c Ratio	1.51	0.48		0.99	0.51		0.27	1.15		0.42	2.10	

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

Future Background 2028 - With GTA West Highway
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	270.0	34.8		80.2	33.9		16.6	103.7		21.0	520.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	270.0	34.8		80.2	33.9		16.6	103.7		21.0	520.0	
LOS	F	C		F	C		B	F		C	F	
Approach Delay		200.9			62.1			101.9			511.1	
Approach LOS		F			E			F			F	

Intersection Summary

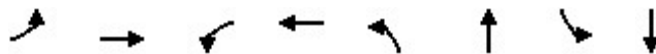
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.10
Intersection Signal Delay:	322.5
Intersection LOS:	F
Intersection Capacity Utilization	141.5%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Background 2028 - With GTA West Highway
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	555	231	350	225	41	1931	64	3542
v/c Ratio	1.51	0.48	0.99	0.51	0.27	1.15	0.42	2.10
Control Delay	270.0	34.8	80.2	33.9	16.6	103.7	21.0	520.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	270.0	34.8	80.2	33.9	16.6	103.7	21.0	520.0
Queue Length 50th (m)	~137.2	38.0	63.4	34.1	4.2	~281.0	6.6	~703.5
Queue Length 95th (m)	#206.3	62.3	#127.3	58.6	9.3	#323.7	13.0	#737.1
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	368	479	355	444	152	1685	152	1685
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	1.51	0.48	0.99	0.51	0.27	1.15	0.42	2.10

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 - Future Background 2028 - With GTA West Highway
 7: Hurontario Street & Old School Road

AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	511	107	106	322	84	123	38	1646	131	59	2991	268
Future Volume (vph)	511	107	106	322	84	123	38	1646	131	59	2991	268
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		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	0.93		1.00	0.91		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)	1789	1743		1789	1715		1789	3539		1789	3534	
Flt Permitted	0.36	1.00		0.47	1.00		0.07	1.00		0.07	1.00	
Satd. Flow (perm)	677	1743		886	1715		132	3539		132	3534	
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)	555	116	115	350	91	134	41	1789	142	64	3251	291
RTOR Reduction (vph)	0	30	0	0	44	0	0	5	0	0	6	0
Lane Group Flow (vph)	555	201	0	350	181	0	41	1926	0	64	3536	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.0	29.0		36.0	26.0		59.0	55.0		59.0	55.0	
Effective Green, g (s)	42.0	31.0		36.0	28.0		63.0	57.0		63.0	57.0	
Actuated g/C Ratio	0.35	0.26		0.30	0.23		0.52	0.48		0.52	0.48	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	357	450		341	400		152	1681		152	1678	
v/s Ratio Prot	c0.17	0.12		0.09	0.11		0.01	0.54		c0.02	c1.00	
v/s Ratio Perm	c0.38			0.22			0.13			0.20		
v/c Ratio	1.55	0.45		1.03	0.45		0.27	1.15		0.42	2.11	
Uniform Delay, d1	36.9	37.3		40.8	39.4		25.8	31.5		26.2	31.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	263.0	3.2		55.7	3.6		4.3	73.2		8.3	500.4	
Delay (s)	299.9	40.5		96.5	43.1		30.1	104.7		34.5	531.9	
Level of Service	F	D		F	D		C	F		C	F	
Approach Delay (s)		223.6			75.6			103.2			523.0	
Approach LOS		F			E			F			F	




























Intersection Summary

HCM 2000 Control Delay	332.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	141.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Background 2028 - With GTA West Highway

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	  						 	
Traffic Volume (vph)	16	774	114	203	558	32	25	147	143	105	296	18
Future Volume (vph)	16	774	114	203	558	32	25	147	143	105	296	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.992				0.850		0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5044	0	3471	5101	0	1789	1883	1601	1789	1866	0
Flt Permitted	0.397			0.950			0.417			0.619		
Satd. Flow (perm)	748	5044	0	3471	5101	0	785	1883	1601	1166	1866	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			11				155			3
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	17	841	124	221	607	35	27	160	155	114	322	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	965	0	221	642	0	27	160	155	114	342	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	38.0	38.0		28.0	66.0		54.0	54.0	54.0	54.0		54.0
Total Split (%)	31.7%	31.7%		23.3%	55.0%		45.0%	45.0%	45.0%	45.0%		45.0%
Maximum Green (s)	34.0	34.0		24.0	62.0		50.0	50.0	50.0	50.0		50.0
Yellow Time (s)	3.5	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		0.5
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)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	34.0	34.0		24.0	62.0		50.0	50.0	50.0	50.0		50.0
Actuated g/C Ratio	0.28	0.28		0.20	0.52		0.42	0.42	0.42	0.42		0.42
v/c Ratio	0.08	0.67		0.32	0.24		0.08	0.20	0.20	0.24		0.44

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

Future Background 2028 - With GTA West Highway
 AM Peak Hour

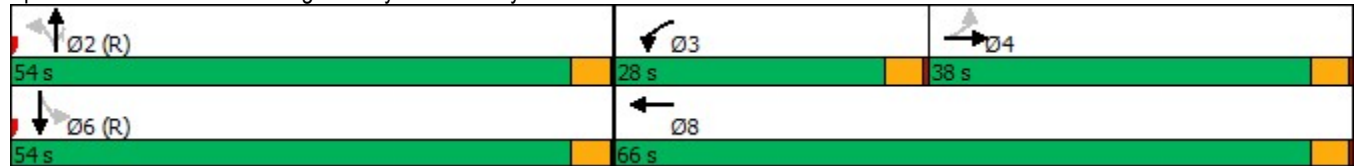


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	33.0	39.7		42.5	16.0		22.2	23.2	4.0	24.3	27.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	33.0	39.7		42.5	16.0		22.2	23.2	4.0	24.3	27.0	
LOS	C	D		D	B		C	C	A	C	C	
Approach Delay		39.6			22.8			14.4			26.3	
Approach 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:	0.67
Intersection Signal Delay:	28.6
Intersection LOS:	C
Intersection Capacity Utilization	56.6%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

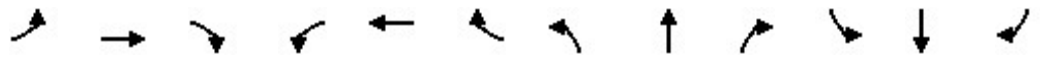
15: Chinguacousy Road & Mayfield Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	17	965	221	642	27	160	155	114	342
v/c Ratio	0.08	0.67	0.32	0.24	0.08	0.20	0.20	0.24	0.44
Control Delay	33.0	39.7	42.5	16.0	22.2	23.2	4.0	24.3	27.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	39.7	42.5	16.0	22.2	23.2	4.0	24.3	27.0
Queue Length 50th (m)	2.9	71.9	23.1	28.9	3.8	23.6	0.0	17.1	56.1
Queue Length 95th (m)	8.9	87.2	34.5	36.5	9.9	38.4	12.1	30.5	81.5
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	211	1445	694	2640	327	784	757	485	779
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.67	0.32	0.24	0.08	0.20	0.20	0.24	0.44

Intersection Summary

HCM Signalized Intersection Capacity Analysis - Future Background 2028 - With GTA West Highway
 15: Chinguacousy Road & Mayfield Road AM Peak Hour































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖↗	↑↑↑		↖	↑	↗	↖	↑	↗
Traffic Volume (vph)	16	774	114	203	558	32	25	147	143	105	296	18
Future Volume (vph)	16	774	114	203	558	32	25	147	143	105	296	18
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	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5043		3471	5100		1789	1883	1601	1789	1867	
Flt Permitted	0.40	1.00		0.95	1.00		0.42	1.00	1.00	0.62	1.00	
Satd. Flow (perm)	748	5043		3471	5100		786	1883	1601	1165	1867	
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)	17	841	124	221	607	35	27	160	155	114	322	20
RTOR Reduction (vph)	0	16	0	0	5	0	0	0	90	0	2	0
Lane Group Flow (vph)	17	949	0	221	637	0	27	160	65	114	340	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2		2	6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	34.0	34.0		24.0	62.0		50.0	50.0	50.0	50.0	50.0	
Effective Green, g (s)	34.0	34.0		24.0	62.0		50.0	50.0	50.0	50.0	50.0	
Actuated g/C Ratio	0.28	0.28		0.20	0.52		0.42	0.42	0.42	0.42	0.42	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	211	1428		694	2635		327	784	667	485	777	
v/s Ratio Prot		c0.19		c0.06	0.12			0.08			c0.18	
v/s Ratio Perm	0.02						0.03		0.04	0.10		
v/c Ratio	0.08	0.66		0.32	0.24		0.08	0.20	0.10	0.24	0.44	
Uniform Delay, d1	31.5	38.0		41.0	16.0		21.1	22.3	21.3	22.6	25.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	2.5		1.2	0.2		0.5	0.6	0.3	1.1	1.8	
Delay (s)	32.3	40.4		42.2	16.2		21.6	22.9	21.6	23.8	26.8	
Level of Service	C	D		D	B		C	C	C	C	C	
Approach Delay (s)		40.3			22.9			22.2			26.0	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		
c	Critical Lane Group		

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

Future Background 2028 - With GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (vph)	11	989	125	193	766	74	45	206	149	236	409	65
Future Volume (vph)	11	989	125	193	766	74	45	206	149	236	409	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.987				0.850			0.979
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	5075	0	1789	3579	1601	1789	1844	0
Flt Permitted	0.178			0.114			0.445			0.548		
Satd. Flow (perm)	335	5142	1601	215	5075	0	838	3579	1601	1032	1844	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		11				162			9
Link Speed (k/h)		70			70			80				80
Link Distance (m)		1419.4			1405.8			341.6				2104.9
Travel Time (s)		73.0			72.3			15.4				94.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	1075	136	210	833	80	49	224	162	257	445	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	12	1075	136	210	913	0	49	224	162	257	516	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	12.0	35.0	35.0	18.0	41.0		8.0	56.0	56.0	27.0	75.0	
Total Split (%)	8.8%	25.7%	25.7%	13.2%	30.1%		5.9%	41.2%	41.2%	19.9%	55.1%	
Maximum Green (s)	8.0	31.0	31.0	14.0	37.0		4.0	52.0	52.0	23.0	71.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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)	39.0	31.0	31.0	49.0	37.0		56.0	52.0	52.0	79.0	71.0	
Actuated g/C Ratio	0.29	0.23	0.23	0.36	0.27		0.41	0.38	0.38	0.58	0.52	
v/c Ratio	0.07	0.92	0.29	0.88	0.66		0.13	0.16	0.23	0.35	0.53	

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

Future Background 2028 - With GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	29.3	64.0	8.3	68.7	46.0		15.3	28.1	4.7	15.5	23.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	29.3	64.0	8.3	68.7	46.0		15.3	28.1	4.7	15.5	23.7	
LOS	C	E	A	E	D		B	C	A	B	C	
Approach Delay		57.5			50.2			17.9			20.9	
Approach LOS		E			D			B			C	

Intersection Summary

Area Type:	Other
Cycle Length:	136
Actuated Cycle Length:	136
Offset:	120 (88%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.92
Intersection Signal Delay:	42.4
Intersection LOS:	D
Intersection Capacity Utilization	71.9%
ICU Level of Service	C
Analysis Period (min)	15

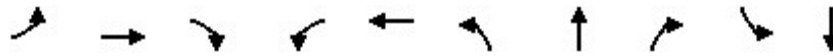
Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Background 2028 - With GTA West Highway

AM Peak Hour

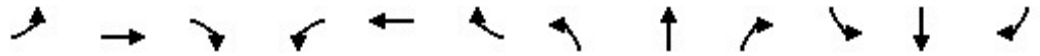


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	12	1075	136	210	913	49	224	162	257	516
v/c Ratio	0.07	0.92	0.29	0.88	0.66	0.13	0.16	0.23	0.35	0.53
Control Delay	29.3	64.0	8.3	68.7	46.0	15.3	28.1	4.7	15.5	23.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.3	64.0	8.3	68.7	46.0	15.3	28.1	4.7	15.5	23.7
Queue Length 50th (m)	2.1	104.0	0.0	40.7	79.0	5.4	20.7	0.0	32.3	87.6
Queue Length 95th (m)	6.5	#128.8	16.7	#85.1	94.4	11.1	30.0	14.1	47.5	119.5
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	181	1172	469	239	1388	373	1368	712	727	966
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	0.07	0.92	0.29	0.88	0.66	0.13	0.16	0.23	0.35	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 Future Background 2028 - With GTA West Highway
 16: McLaughlin Road & Mayfield Road AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	989	125	193	766	74	45	206	149	236	409	65
Future Volume (vph)	11	989	125	193	766	74	45	206	149	236	409	65
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	5074		1789	3579	1601	1789	1845	
Flt Permitted	0.18	1.00	1.00	0.11	1.00		0.44	1.00	1.00	0.55	1.00	
Satd. Flow (perm)	336	5142	1601	215	5074		838	3579	1601	1031	1845	
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)	12	1075	136	210	833	80	49	224	162	257	445	71
RTOR Reduction (vph)	0	0	105	0	8	0	0	0	100	0	4	0
Lane Group Flow (vph)	12	1075	31	210	905	0	49	224	62	257	512	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	39.0	31.0	31.0	49.0	37.0		56.0	52.0	52.0	79.0	71.0	
Effective Green, g (s)	39.0	31.0	31.0	49.0	37.0		56.0	52.0	52.0	79.0	71.0	
Actuated g/C Ratio	0.29	0.23	0.23	0.36	0.27		0.41	0.38	0.38	0.58	0.52	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	181	1172	364	239	1380		373	1368	612	727	963	
v/s Ratio Prot	0.00	0.21		c0.09	0.18		0.00	0.06		c0.06	c0.28	
v/s Ratio Perm	0.02		0.02	c0.23			0.05		0.04	0.15		
v/c Ratio	0.07	0.92	0.09	0.88	0.66		0.13	0.16	0.10	0.35	0.53	
Uniform Delay, d1	35.4	51.2	41.3	35.3	43.9		24.2	27.7	27.0	14.1	21.5	
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	0.7	12.7	0.5	33.7	2.4		0.7	0.3	0.3	1.3	2.1	
Delay (s)	36.1	63.9	41.8	69.0	46.3		25.0	27.9	27.3	15.5	23.6	
Level of Service	D	E	D	E	D		C	C	C	B	C	
Approach Delay (s)		61.2			50.6			27.4			20.9	
Approach LOS		E			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	44.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Background 2028 - With GTA West Highway
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	159	1061	81	193	595	219	78	544	93	483	891	177
Future Volume (vph)	159	1061	81	193	595	219	78	544	93	483	891	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.296			0.181		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	557	3579	1601	341	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			111			238			111			192
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	173	1153	88	210	647	238	85	591	101	525	968	192
Shared Lane Traffic (%)												
Lane Group Flow (vph)	173	1153	88	210	647	238	85	591	101	525	968	192
Enter Blocked Intersection	No	No	No	No	No	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	Prot	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			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	15.0	36.0	36.0	14.0	35.0	35.0	16.0	35.0	35.0	43.0	62.0	62.0
Total Split (%)	11.7%	28.1%	28.1%	10.9%	27.3%	27.3%	12.5%	27.3%	27.3%	33.6%	48.4%	48.4%
Maximum Green (s)	11.0	32.0	32.0	10.0	31.0	31.0	12.0	31.0	31.0	39.0	58.0	58.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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
Act Effct Green (s)	11.0	32.0	32.0	10.0	31.0	31.0	43.0	31.0	31.0	74.0	58.0	58.0
Actuated g/C Ratio	0.09	0.25	0.25	0.08	0.24	0.24	0.34	0.24	0.24	0.58	0.45	0.45
v/c Ratio	0.58	0.90	0.18	0.77	0.52	0.42	0.28	0.68	0.21	0.82	0.60	0.23

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

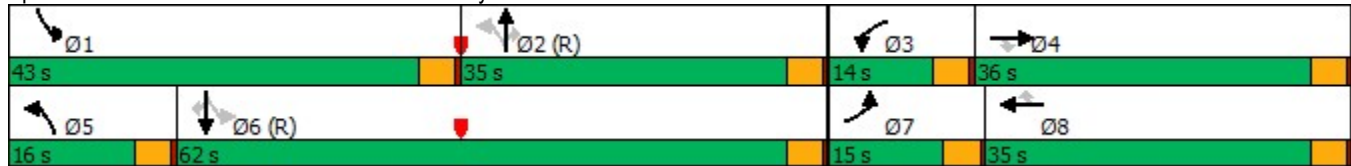
Future Background 2028 - With GTA West Highway
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	64.7	56.7	4.5	77.3	43.8	7.1	19.1	48.7	6.8	37.6	28.2	3.5
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	64.7	56.7	4.5	77.3	43.8	7.1	19.1	48.7	6.8	37.6	28.2	3.5
LOS	E	E	A	E	D	A	B	D	A	D	C	A
Approach Delay	54.4			42.3			40.0			28.3		
Approach LOS	D			D			D			C		

Intersection Summary

Area Type:	Other
Cycle Length:	128
Actuated Cycle Length:	128
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	75
Control Type:	Pretimed
Maximum v/c Ratio:	0.90
Intersection Signal Delay:	40.6
Intersection LOS:	D
Intersection Capacity Utilization	81.1%
ICU Level of Service	D
Analysis Period (min)	15

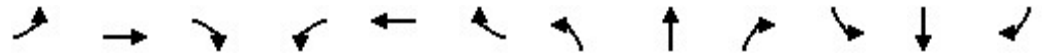
Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues
17: Hurontario Street & Mayfield Road

Future Background 2028 - With GTA West Highway

AM Peak Hour



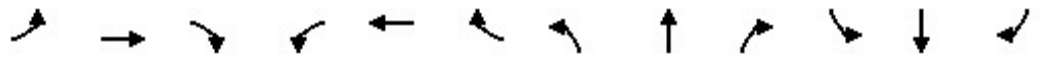
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	173	1153	88	210	647	238	85	591	101	525	968	192
v/c Ratio	0.58	0.90	0.18	0.77	0.52	0.42	0.28	0.68	0.21	0.82	0.60	0.23
Control Delay	64.7	56.7	4.5	77.3	43.8	7.1	19.1	48.7	6.8	37.6	28.2	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.7	56.7	4.5	77.3	43.8	7.1	19.1	48.7	6.8	37.6	28.2	3.5
Queue Length 50th (m)	22.0	103.4	0.0	27.2	52.0	0.0	9.0	71.5	0.0	94.6	94.3	0.0
Queue Length 95th (m)	33.8	#123.9	8.2	#44.9	64.8	20.1	16.5	91.6	11.8	#149.8	115.1	12.9
Internal Link Dist (m)		1381.8			725.9			357.1			585.4	
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	298	1285	483	271	1245	568	302	866	471	638	1621	830
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	0.90	0.18	0.77	0.52	0.42	0.28	0.68	0.21	0.82	0.60	0.23

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis Future Background 2028 - With GTA West Highway
 17: Hurontario Street & Mayfield Road

AM Peak Hour



















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↗	↖↗	↑↑↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	159	1061	81	193	595	219	78	544	93	483	891	177
Future Volume (vph)	159	1061	81	193	595	219	78	544	93	483	891	177
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	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.30	1.00	1.00	0.18	1.00	1.00
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	557	3579	1601	340	3579	1601
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)	173	1153	88	210	647	238	85	591	101	525	968	192
RTOR Reduction (vph)	0	0	66	0	0	180	0	0	77	0	0	105
Lane Group Flow (vph)	173	1153	22	210	647	58	85	591	24	525	968	87
Turn Type	Prot	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			8	2		2	6		6
Actuated Green, G (s)	11.0	32.0	32.0	10.0	31.0	31.0	43.0	31.0	31.0	74.0	58.0	58.0
Effective Green, g (s)	11.0	32.0	32.0	10.0	31.0	31.0	43.0	31.0	31.0	74.0	58.0	58.0
Actuated g/C Ratio	0.09	0.25	0.25	0.08	0.24	0.24	0.34	0.24	0.24	0.58	0.45	0.45
Clearance Time (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
Lane Grp Cap (vph)	298	1285	400	271	1245	387	302	866	387	638	1621	725
v/s Ratio Prot	0.05	c0.22		c0.06	0.13		0.03	0.17		c0.25	0.27	
v/s Ratio Perm			0.01			0.04	0.07		0.02	c0.22		0.05
v/c Ratio	0.58	0.90	0.06	0.77	0.52	0.15	0.28	0.68	0.06	0.82	0.60	0.12
Uniform Delay, d1	56.3	46.4	36.5	57.9	42.0	38.1	29.6	44.0	37.3	27.2	26.2	20.2
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	8.0	10.1	0.3	19.2	1.6	0.8	2.3	4.3	0.3	11.5	1.6	0.3
Delay (s)	64.3	56.5	36.8	77.1	43.6	38.9	31.9	48.4	37.6	38.7	27.9	20.6
Level of Service	E	E	D	E	D	D	C	D	D	D	C	C
Approach Delay (s)		56.2			49.0			45.2			30.4	
Approach LOS		E			D			D			C	

Intersection Summary

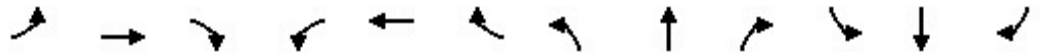
HCM 2000 Control Delay	44.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	128.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Background 2028 - with GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	121	3	260	263	56	9	457	303	34	228	2
Future Volume (vph)	6	121	3	260	263	56	9	457	303	34	228	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.997			0.987			0.947			0.999	
Fl _t Protected		0.998			0.978			0.999			0.994	
Satd. Flow (prot)	0	1874	0	0	1818	0	0	1782	0	0	1870	0
Fl _t Permitted		0.998			0.978			0.999			0.994	
Satd. Flow (perm)	0	1874	0	0	1818	0	0	1782	0	0	1870	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	0.92	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)	7	132	3	283	286	61	10	497	329	37	248	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	142	0	0	630	0	0	836	0	0	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)		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	92.6%						ICU Level of Service F					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis - Future Background 2028 - with GTA West Highway
 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)	6	121	3	260	263	56	9	457	303	34	228	2
Future Volume (vph)	6	121	3	260	263	56	9	457	303	34	228	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	132	3	283	286	61	10	497	329	37	248	2

















Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	142	630	836	287
Volume Left (vph)	7	283	10	37
Volume Right (vph)	3	61	329	2
Hadj (s)	0.03	0.07	-0.20	0.06
Departure Headway (s)	8.6	7.3	7.0	7.9
Degree Utilization, x	0.34	1.28	1.63	0.63
Capacity (veh/h)	397	486	516	441
Control Delay (s)	16.0	163.0	312.8	23.5
Approach Delay (s)	16.0	163.0	312.8	23.5
Approach LOS	C	F	F	C

Intersection Summary			
Delay		197.0	
Level of Service		F	
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)		15	

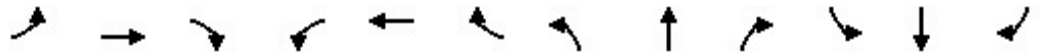
Lanes, Volumes, Timings
4: McLaughlin Road & Old School Road

Future Background 2028 - with GTA West Highway

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	370	61	370	503	23	72	275	383	8	90	4
Future Volume (vph)	28	370	61	370	503	23	72	275	383	8	90	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 _t		0.982			0.997			0.929			0.995	
Fl _t Protected		0.997			0.980			0.995			0.996	
Satd. Flow (prot)	0	1844	0	0	1840	0	0	1741	0	0	1867	0
Fl _t Permitted		0.997			0.980			0.995			0.996	
Satd. Flow (perm)	0	1844	0	0	1840	0	0	1741	0	0	1867	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	30	402	66	402	547	25	78	299	416	9	98	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	498	0	0	974	0	0	793	0	0	111	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	131.6%					ICU Level of Service H						
Analysis Period (min)	15											























HCM Unsignalized Intersection Capacity Analysis - Future Background 2028 - with GTA West Highway
 4: 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)	28	370	61	370	503	23	72	275	383	8	90	4
Future Volume (vph)	28	370	61	370	503	23	72	275	383	8	90	4
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)	30	402	66	402	547	25	78	299	416	9	98	4
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	498	974	793	111								
Volume Left (vph)	30	402	78	9								
Volume Right (vph)	66	25	416	4								
Hadj (s)	-0.03	0.10	-0.26	0.03								
Departure Headway (s)	7.7	7.8	7.5	9.6								
Degree Utilization, x	1.07	2.12	1.65	0.30								
Capacity (veh/h)	464	467	486	371								
Control Delay (s)	88.6	530.9	320.6	16.6								
Approach Delay (s)	88.6	530.9	320.6	16.6								
Approach LOS	F	F	F	C								
Intersection Summary												
Delay			344.0									
Level of Service			F									
Intersection Capacity Utilization			131.6%	ICU Level of Service	H							
Analysis Period (min)			15									

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

Future Background 2028 - with GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	619	87	44	340	837	137	112	3666	326	160	1840	574
Future Volume (vph)	619	87	44	340	837	137	112	3666	326	160	1840	574
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		0.950			0.979			0.988			0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1789	0	1789	1844	0	1789	3536	0	1789	3450	0
Flt Permitted	0.148			0.497			0.080			0.087		
Satd. Flow (perm)	279	1789	0	936	1844	0	151	3536	0	164	3450	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			7			10			40	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	673	95	48	370	910	149	122	3985	354	174	2000	624
Shared Lane Traffic (%)												
Lane Group Flow (vph)	673	143	0	370	1059	0	122	4339	0	174	2624	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	17.0	33.0		21.0	37.0		16.0	56.0		10.0	50.0	
Total Split (%)	14.2%	27.5%		17.5%	30.8%		13.3%	46.7%		8.3%	41.7%	
Maximum Green (s)	13.0	27.0		17.0	31.0		10.0	50.0		4.0	44.0	
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	
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)	42.0	29.0		50.0	33.0		62.0	52.0		52.0	46.0	
Actuated g/C Ratio	0.35	0.24		0.42	0.28		0.52	0.43		0.43	0.38	
v/c Ratio	2.58	0.32		0.73	2.07		0.51	2.82		1.14	1.95	

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

Future Background 2028 - with GTA West Highway

PM Peak Hour

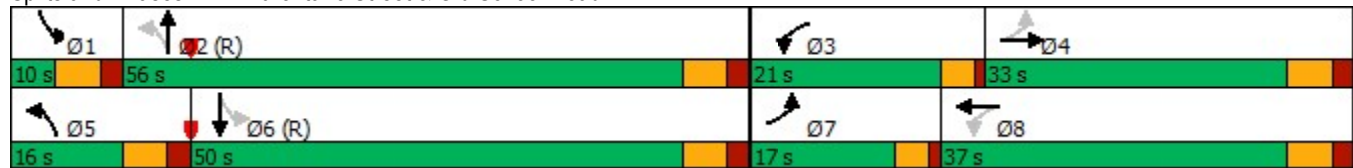


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	740.2	34.3		35.7	512.5		25.9	840.1		142.9	453.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	740.2	34.3		35.7	512.5		25.9	840.1		142.9	453.8	
LOS	F	C		D	F		C	F		F	F	
Approach Delay	616.5			389.0			817.9			434.5		
Approach LOS	F			F			F			F		

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:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.82
Intersection Signal Delay:	623.2
Intersection LOS:	F
Intersection Capacity Utilization	220.6%
ICU Level of Service	H
Analysis Period (min)	15

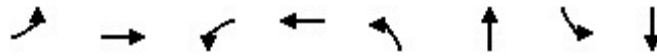
Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Background 2028 - with GTA West Highway

PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	673	143	370	1059	122	4339	174	2624
v/c Ratio	2.58	0.32	0.73	2.07	0.51	2.82	1.14	1.95
Control Delay	740.2	34.3	35.7	512.5	25.9	840.1	142.9	453.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	740.2	34.3	35.7	512.5	25.9	840.1	142.9	453.8
Queue Length 50th (m)	~252.1	23.7	63.1	~396.7	14.4	~932.2	~32.2	~505.3
Queue Length 95th (m)	#323.4	42.0	91.0	#475.4	30.5	#958.6	#77.1	#545.4
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	261	447	510	512	241	1537	152	1347
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	2.58	0.32	0.73	2.07	0.51	2.82	1.14	1.95

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 - Future Background 2028 - with GTA West Highway
 7: 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)	619	87	44	340	837	137	112	3666	326	160	1840	574
Future Volume (vph)	619	87	44	340	837	137	112	3666	326	160	1840	574
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		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	0.95		1.00	0.98		1.00	0.99		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)	1789	1789		1789	1844		1789	3535		1789	3451	
Flt Permitted	0.15	1.00		0.50	1.00		0.08	1.00		0.09	1.00	
Satd. Flow (perm)	279	1789		936	1844		151	3535		164	3451	
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)	673	95	48	370	910	149	122	3985	354	174	2000	624
RTOR Reduction (vph)	0	15	0	0	5	0	0	6	0	0	25	0
Lane Group Flow (vph)	673	128	0	370	1054	0	122	4333	0	174	2599	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	40.0	27.0		48.0	31.0		60.0	50.0		48.0	44.0	
Effective Green, g (s)	40.0	29.0		48.0	33.0		62.0	52.0		52.0	46.0	
Actuated g/C Ratio	0.33	0.24		0.40	0.28		0.52	0.43		0.43	0.38	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	256	432		495	507		241	1531		152	1322	
v/s Ratio Prot	c0.28	0.07		0.11	c0.57		0.05	c1.23		c0.06	0.75	
v/s Ratio Perm	c0.59			0.19			0.21			0.44		
v/c Ratio	2.63	0.30		0.75	2.08		0.51	2.83		1.14	1.97	
Uniform Delay, d1	34.1	37.2		28.3	43.5		24.5	34.0		30.3	37.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	744.2	1.7		9.9	492.2		7.4	825.5		117.2	437.5	
Delay (s)	778.3	38.9		38.2	535.7		31.9	859.5		147.5	474.5	
Level of Service	F	D		D	F		C	F		F	F	
Approach Delay (s)		648.7			406.9			836.9			454.2	
Approach LOS		F			F			F			F	
Intersection Summary												
HCM 2000 Control Delay			643.4			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			2.52									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			220.6%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												

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

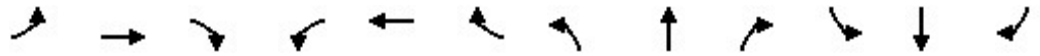
Future Background 2028 - with GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	683	45	237	729	88	65	368	219	29	120	9
Future Volume (vph)	16	683	45	237	729	88	65	368	219	29	120	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.984				0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5096	0	3471	5060	0	1789	1883	1601	1789	1863	0
Flt Permitted	0.308			0.950			0.651			0.392		
Satd. Flow (perm)	580	5096	0	3471	5060	0	1226	1883	1601	738	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			24				238			4
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	17	742	49	258	792	96	71	400	238	32	130	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	791	0	258	888	0	71	400	238	32	140	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	33.0	33.0		27.0	60.0		60.0	60.0	60.0	60.0		60.0
Total Split (%)	27.5%	27.5%		22.5%	50.0%		50.0%	50.0%	50.0%	50.0%		50.0%
Maximum Green (s)	29.0	29.0		23.0	56.0		56.0	56.0	56.0	56.0		56.0
Yellow Time (s)	3.5	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		0.5
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)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	29.0	29.0		23.0	56.0		56.0	56.0	56.0	56.0		56.0
Actuated g/C Ratio	0.24	0.24		0.19	0.47		0.47	0.47	0.47	0.47		0.47
v/c Ratio	0.12	0.64		0.39	0.37		0.12	0.46	0.27	0.09		0.16

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

Future Background 2028 - with GTA West Highway

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	38.4	43.2		28.9	28.1		18.9	23.8	3.1	18.9	18.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	38.4	43.2		28.9	28.1		18.9	23.8	3.1	18.9	18.5	
LOS	D	D		C	C		B	C	A	B	B	
Approach Delay		43.1			28.3			16.4				18.6
Approach LOS		D			C			B				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: 50

Control Type: Pretimed

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 28.9

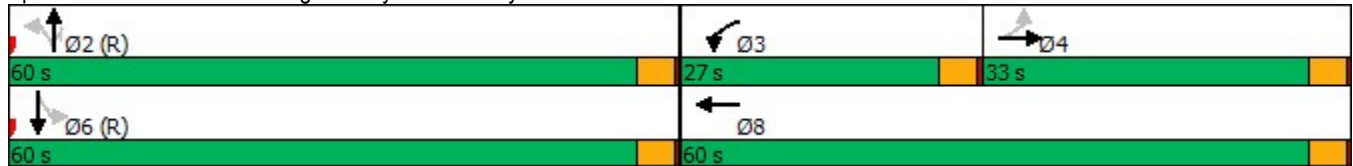
Intersection LOS: C

Intersection Capacity Utilization 57.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

15: Chinguacousy Road & Mayfield Road

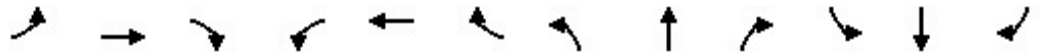


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	17	791	258	888	71	400	238	32	140
v/c Ratio	0.12	0.64	0.39	0.37	0.12	0.46	0.27	0.09	0.16
Control Delay	38.4	43.2	28.9	28.1	18.9	23.8	3.1	18.9	18.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.4	43.2	28.9	28.1	18.9	23.8	3.1	18.9	18.5
Queue Length 50th (m)	3.1	60.8	31.2	73.8	9.2	62.2	0.0	4.1	18.0
Queue Length 95th (m)	9.6	75.1	m34.2	m78.2	18.1	88.4	13.2	10.2	30.3
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	140	1237	665	2374	572	878	874	344	871
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.64	0.39	0.37	0.12	0.46	0.27	0.09	0.16

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis - Future Background 2028 - with GTA West Highway
 15: 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)	16	683	45	237	729	88	65	368	219	29	120	9
Future Volume (vph)	16	683	45	237	729	88	65	368	219	29	120	9
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	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5094		3471	5058		1789	1883	1601	1789	1863	
Flt Permitted	0.31	1.00		0.95	1.00		0.65	1.00	1.00	0.39	1.00	
Satd. Flow (perm)	580	5094		3471	5058		1226	1883	1601	739	1863	
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)	17	742	49	258	792	96	71	400	238	32	130	10
RTOR Reduction (vph)	0	6	0	0	13	0	0	0	127	0	2	0
Lane Group Flow (vph)	17	785	0	258	875	0	71	400	111	32	138	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	29.0	29.0		23.0	56.0		56.0	56.0	56.0	56.0	56.0	
Effective Green, g (s)	29.0	29.0		23.0	56.0		56.0	56.0	56.0	56.0	56.0	
Actuated g/C Ratio	0.24	0.24		0.19	0.47		0.47	0.47	0.47	0.47	0.47	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	140	1231		665	2360		572	878	747	344	869	
v/s Ratio Prot		c0.15		0.07	c0.17			c0.21			0.07	
v/s Ratio Perm	0.03						0.06		0.07	0.04		
v/c Ratio	0.12	0.64		0.39	0.37		0.12	0.46	0.15	0.09	0.16	
Uniform Delay, d1	35.5	40.8		42.4	20.6		18.1	21.7	18.3	17.8	18.4	
Progression Factor	1.00	1.00		0.66	1.38		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.8	2.5		0.8	0.2		0.4	1.7	0.4	0.5	0.4	
Delay (s)	37.3	43.3		28.7	28.7		18.6	23.4	18.8	18.4	18.8	
Level of Service	D	D		C	C		B	C	B	B	B	
Approach Delay (s)		43.2			28.7			21.3			18.7	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	30.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		
c	Critical Lane Group		

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

Future Background 2028 - with GTA West Highway
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	963	71	211	1072	251	100	458	176	128	188	74
Future Volume (vph)	41	963	71	211	1072	251	100	458	176	128	188	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.972				0.850		0.958	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	4998	0	1789	1883	1601	1789	1804	0
Flt Permitted	0.125			0.114			0.503			0.244		
Satd. Flow (perm)	235	5142	1601	215	4998	0	947	1883	1601	460	1804	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82		46				191		20	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	1047	77	229	1165	273	109	498	191	139	204	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	1047	77	229	1438	0	109	498	191	139	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	15.0	36.0	36.0	18.0	39.0		11.0	53.0	53.0	13.0	55.0	
Total Split (%)	12.5%	30.0%	30.0%	15.0%	32.5%		9.2%	44.2%	44.2%	10.8%	45.8%	
Maximum Green (s)	11.0	32.0	32.0	14.0	35.0		7.0	49.0	49.0	9.0	51.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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	32.0	32.0	49.0	35.0		56.0	49.0	49.0	60.0	51.0	
Actuated g/C Ratio	0.36	0.27	0.27	0.41	0.29		0.47	0.41	0.41	0.50	0.42	
v/c Ratio	0.20	0.76	0.16	0.85	0.97		0.22	0.65	0.25	0.42	0.37	

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

Future Background 2028 - with GTA West Highway

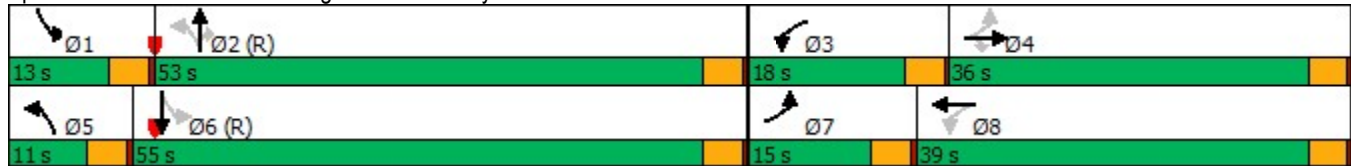
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Control Delay	12.5	39.1	11.8	26.1	41.8		16.3	33.4	4.0	19.4	23.4		
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay	12.5	39.1	11.8	26.1	41.8		16.3	33.4	4.0	19.4	23.4		
LOS	B	D	B	C	D		B	C	A	B	C		
Approach Delay		36.3				39.7				24.0			22.1
Approach LOS		D				D				C			C

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.97
Intersection Signal Delay:	33.8
Intersection LOS:	C
Intersection Capacity Utilization	74.8%
ICU Level of Service	D
Analysis Period (min)	15

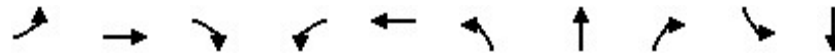
Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Background 2028 - with GTA West Highway

PM Peak Hour

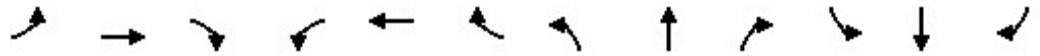


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	45	1047	77	229	1438	109	498	191	139	284
v/c Ratio	0.20	0.76	0.16	0.85	0.97	0.22	0.65	0.25	0.42	0.37
Control Delay	12.5	39.1	11.8	26.1	41.8	16.3	33.4	4.0	19.4	23.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	39.1	11.8	26.1	41.8	16.3	33.4	4.0	19.4	23.4
Queue Length 50th (m)	5.4	92.8	6.9	42.5	121.6	12.7	93.0	0.0	16.5	41.4
Queue Length 95th (m)	m8.6	108.2	m17.5	m42.3	m116.8	22.4	129.7	13.6	27.7	62.9
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	226	1371	487	271	1490	491	768	766	329	778
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	0.20	0.76	0.16	0.85	0.97	0.22	0.65	0.25	0.42	0.37

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis Future Background 2028 - with GTA West Highway
 16: 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)	41	963	71	211	1072	251	100	458	176	128	188	74
Future Volume (vph)	41	963	71	211	1072	251	100	458	176	128	188	74
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	4995		1789	1883	1601	1789	1804	
Flt Permitted	0.12	1.00	1.00	0.11	1.00		0.50	1.00	1.00	0.24	1.00	
Satd. Flow (perm)	235	5142	1601	215	4995		947	1883	1601	459	1804	
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)	45	1047	77	229	1165	273	109	498	191	139	204	80
RTOR Reduction (vph)	0	0	56	0	33	0	0	0	113	0	12	0
Lane Group Flow (vph)	45	1047	21	229	1405	0	109	498	78	139	273	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	43.0	32.0	32.0	49.0	35.0		56.0	49.0	49.0	60.0	51.0	
Effective Green, g (s)	43.0	32.0	32.0	49.0	35.0		56.0	49.0	49.0	60.0	51.0	
Actuated g/C Ratio	0.36	0.27	0.27	0.41	0.29		0.47	0.41	0.41	0.50	0.42	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	226	1371	426	271	1456		491	768	653	329	766	
v/s Ratio Prot	0.02	0.20		c0.10	c0.28		0.01	c0.26		c0.03	0.15	
v/s Ratio Perm	0.05		0.01	0.25			0.09		0.05	0.18		
v/c Ratio	0.20	0.76	0.05	0.85	0.97		0.22	0.65	0.12	0.42	0.36	
Uniform Delay, d1	28.7	40.5	32.7	29.0	41.9		18.4	28.6	22.1	19.4	23.4	
Progression Factor	0.50	0.87	1.68	0.75	0.96		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.8	3.7	0.2	3.1	2.6		1.0	4.2	0.4	3.9	1.3	
Delay (s)	16.2	38.9	55.2	24.9	42.9		19.4	32.8	22.5	23.3	24.7	
Level of Service	B	D	E	C	D		B	C	C	C	C	
Approach Delay (s)		39.1			40.4			28.5			24.2	
Approach LOS		D			D			C			C	

Intersection Summary				
HCM 2000 Control Delay		36.0	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)	16.0
Intersection Capacity Utilization		74.8%	ICU Level of Service	D
Analysis Period (min)		15		
c Critical Lane Group				

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

Future Background 2028 - with GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 			 	
Traffic Volume (vph)	503	692	73	263	1084	164	260	690	43	203	741	739
Future Volume (vph)	503	692	73	263	1084	164	260	690	43	203	741	739
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.194			0.367		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	365	3579	1601	691	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82			153			47			356
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	547	752	79	286	1178	178	283	750	47	221	805	803
Shared Lane Traffic (%)												
Lane Group Flow (vph)	547	752	79	286	1178	178	283	750	47	221	805	803
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2				6
Permitted Phases			4			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	21.0	30.0	30.0	19.0	28.0	28.0	20.0	71.0	71.0	51.0	51.0	51.0
Total Split (%)	17.5%	25.0%	25.0%	15.8%	23.3%	23.3%	16.7%	59.2%	59.2%	42.5%	42.5%	42.5%
Maximum Green (s)	17.0	26.0	26.0	15.0	24.0	24.0	16.0	67.0	67.0	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	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	Lag
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
Act Effct Green (s)	17.0	26.0	26.0	15.0	24.0	24.0	67.0	67.0	67.0	47.0	47.0	47.0
Actuated g/C Ratio	0.14	0.22	0.22	0.12	0.20	0.20	0.56	0.56	0.56	0.39	0.39	0.39
v/c Ratio	1.11	0.68	0.19	0.66	1.15	0.40	0.72	0.38	0.05	0.82	0.57	0.95

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

Future Background 2028 - with GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	101.0	43.7	20.3	58.1	120.5	12.2	26.0	15.5	3.6	58.0	30.7	41.7
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	101.0	43.7	20.3	58.1	120.5	12.2	26.0	15.5	3.6	58.0	30.7	41.7
LOS	F	D	C	E	F	B	C	B	A	E	C	D
Approach Delay	65.1			97.9			17.7			38.8		
Approach LOS	E			F			B			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:	90
Control Type:	Pretimed
Maximum v/c Ratio:	1.15
Intersection Signal Delay:	57.5
Intersection LOS:	E
Intersection Capacity Utilization	91.1%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues
17: Hurontario Street & Mayfield Road

Future Background 2028 - with GTA West Highway

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	547	752	79	286	1178	178	283	750	47	221	805	803
v/c Ratio	1.11	0.68	0.19	0.66	1.15	0.40	0.72	0.38	0.05	0.82	0.57	0.95
Control Delay	101.0	43.7	20.3	58.1	120.5	12.2	26.0	15.5	3.6	58.0	30.7	41.7
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	101.0	43.7	20.3	58.1	120.5	12.2	26.0	15.5	3.6	58.0	30.7	41.7
Queue Length 50th (m)	~78.0	67.7	9.8	33.6	~119.1	4.8	33.4	49.5	0.0	46.0	77.3	117.8
Queue Length 95th (m)	#111.5	81.7	m16.5	47.8	#147.8	23.9	53.6	62.5	5.2	#90.5	97.0	#205.8
Internal Link Dist (m)	1381.8			725.9			357.1			585.4		
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	491	1114	411	433	1028	442	393	1998	914	270	1401	843
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	1.11	0.68	0.19	0.66	1.15	0.40	0.72	0.38	0.05	0.82	0.57	0.95

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.

















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

HCM Signalized Intersection Capacity Analysis Future Background 2028 - with GTA West Highway
 17: 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)	503	692	73	263	1084	164	260	690	43	203	741	739		
Future Volume (vph)	503	692	73	263	1084	164	260	690	43	203	741	739		
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	4.0	4.0	4.0	4.0	4.0	4.0		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601		
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.19	1.00	1.00	0.37	1.00	1.00		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	366	3579	1601	691	3579	1601		
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)	547	752	79	286	1178	178	283	750	47	221	805	803		
RTOR Reduction (vph)	0	0	62	0	0	122	0	0	21	0	0	217		
Lane Group Flow (vph)	547	752	17	286	1178	56	283	750	26	221	805	586		
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm		
Protected Phases	7	4		3	8		5	2			6			
Permitted Phases			4			8	2		2	6		6		
Actuated Green, G (s)	17.0	26.0	26.0	15.0	24.0	24.0	67.0	67.0	67.0	47.0	47.0	47.0		
Effective Green, g (s)	17.0	26.0	26.0	15.0	24.0	24.0	67.0	67.0	67.0	47.0	47.0	47.0		
Actuated g/C Ratio	0.14	0.22	0.22	0.12	0.20	0.20	0.56	0.56	0.56	0.39	0.39	0.39		
Clearance Time (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		
Lane Grp Cap (vph)	491	1114	346	433	1028	320	394	1998	893	270	1401	627		
v/s Ratio Prot	c0.16	0.15		0.08	c0.23		c0.10	0.21			0.22			
v/s Ratio Perm			0.01			0.03	0.30		0.02	0.32		c0.37		
v/c Ratio	1.11	0.68	0.05	0.66	1.15	0.17	0.72	0.38	0.03	0.82	0.57	0.94		
Uniform Delay, d1	51.5	43.1	37.2	50.1	48.0	39.8	17.6	14.8	11.9	32.7	28.7	35.0		
Progression Factor	0.57	0.95	2.47	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	70.7	2.5	0.2	7.7	77.3	1.2	10.7	0.5	0.1	23.4	1.7	23.1		
Delay (s)	100.2	43.5	92.1	57.8	125.3	41.0	28.3	15.3	12.0	56.1	30.4	58.2		
Level of Service	F	D	F	E	F	D	C	B	B	E	C	E		
Approach Delay (s)		68.8			104.4			18.6			45.7			
Approach LOS		E			F			B			D			
Intersection Summary														
HCM 2000 Control Delay			62.4									HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio			0.98											
Actuated Cycle Length (s)			120.0								16.0			
Intersection Capacity Utilization			91.1%										ICU Level of Service	F
Analysis Period (min)			15											
c	Critical Lane Group													

















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

Future Total 2028 - With GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	214	29	224	166	40	13	256	440	34	317	1
Future Volume (vph)	7	214	29	224	166	40	13	256	440	34	317	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.984			0.988			0.916				
Fl _t Protected		0.999			0.975			0.999			0.995	
Satd. Flow (prot)	0	1851	0	0	1814	0	0	1724	0	0	1874	0
Fl _t Permitted		0.999			0.975			0.999			0.995	
Satd. Flow (perm)	0	1851	0	0	1814	0	0	1724	0	0	1874	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	0.92	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)	8	233	32	243	180	43	14	278	478	37	345	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	273	0	0	466	0	0	770	0	0	383	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	90.4%					ICU Level of Service E						
Analysis Period (min)	15											

















HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway
 1: Chinguacousy Road & Old School Road

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)	7	214	29	224	166	40	13	256	440	34	317	1
Future Volume (vph)	7	214	29	224	166	40	13	256	440	34	317	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
Hourly flow rate (vph)	8	233	32	243	180	43	14	278	478	37	345	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	273	466	770	383								
Volume Left (vph)	8	243	14	37								
Volume Right (vph)	32	43	478	1								
Hadj (s)	-0.03	0.08	-0.33	0.05								
Departure Headway (s)	9.4	8.8	8.4	8.9								
Degree Utilization, x	0.71	1.14	1.79	0.94								
Capacity (veh/h)	371	408	436	400								
Control Delay (s)	32.4	115.8	383.5	61.7								
Approach Delay (s)	32.4	115.8	383.5	61.7								
Approach LOS	D	F	F	F								
Intersection Summary												
Delay			201.8									
Level of Service			F									
Intersection Capacity Utilization			90.4%	ICU Level of Service	E							
Analysis Period (min)			15									

















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

Future Total 2028 - With GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	662	101	256	377	26	39	146	537	28	303	22
Future Volume (vph)	63	662	101	256	377	26	39	146	537	28	303	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
Fr _t		0.983			0.995			0.900			0.992	
Fl _t Protected		0.996			0.981			0.997			0.996	
Satd. Flow (prot)	0	1844	0	0	1838	0	0	1690	0	0	1861	0
Fl _t Permitted		0.996			0.981			0.997			0.996	
Satd. Flow (perm)	0	1844	0	0	1838	0	0	1690	0	0	1861	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	68	720	110	278	410	28	42	159	584	30	329	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	898	0	0	716	0	0	785	0	0	383	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	141.6%					ICU Level of Service H						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway
 4: McLaughlin Road & Old School Road

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)	63	662	101	256	377	26	39	146	537	28	303	22
Future Volume (vph)	63	662	101	256	377	26	39	146	537	28	303	22
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)	68	720	110	278	410	28	42	159	584	30	329	24
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	898	716	785	383								
Volume Left (vph)	68	278	42	30								
Volume Right (vph)	110	28	584	24								
Hadj (s)	-0.02	0.09	-0.40	0.01								
Departure Headway (s)	9.5	9.7	9.2	9.6								
Degree Utilization, x	2.38	1.92	2.00	1.02								
Capacity (veh/h)	385	378	399	383								
Control Delay (s)	649.5	445.8	479.1	83.2								
Approach Delay (s)	649.5	445.8	479.1	83.2								
Approach LOS	F	F	F	F								
Intersection Summary												
Delay			471.0									
Level of Service			F									
Intersection Capacity Utilization			141.6%	ICU Level of Service	H							
Analysis Period (min)			15									

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

Future Total 2028 - With GTA West Highway
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	569	107	564	322	90	123	154	1676	131	59	3014	311
Future Volume (vph)	569	107	564	322	90	123	154	1676	131	59	3014	311
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		0.874			0.913			0.989			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1646	0	1789	1720	0	1789	3539	0	1789	3528	0
Flt Permitted	0.347			0.154			0.070			0.070		
Satd. Flow (perm)	654	1646	0	290	1720	0	132	3539	0	132	3528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		66			54			9			12	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	618	116	613	350	98	134	167	1822	142	64	3276	338
Shared Lane Traffic (%)												
Lane Group Flow (vph)	618	729	0	350	232	0	167	1964	0	64	3614	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	17.0	35.0		14.0	32.0		10.0	61.0		10.0	61.0	
Total Split (%)	14.2%	29.2%		11.7%	26.7%		8.3%	50.8%		8.3%	50.8%	
Maximum Green (s)	13.0	29.0		10.0	26.0		4.0	55.0		4.0	55.0	
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	
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)	44.0	31.0		38.0	28.0		63.0	57.0		63.0	57.0	
Actuated g/C Ratio	0.37	0.26		0.32	0.23		0.52	0.48		0.52	0.48	
v/c Ratio	1.71	1.54		1.62	0.52		1.10	1.17		0.42	2.15	

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

Future Total 2028 - With GTA West Highway
 AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	355.4	282.3		324.3	35.4		127.5	111.8		21.0	540.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	355.4	282.3		324.3	35.4		127.5	111.8		21.0	540.6	
LOS	F	F		F	D		F	F		C	F	
Approach Delay		315.9			209.1			113.0			531.5	
Approach LOS		F			F			F			F	

Intersection Summary

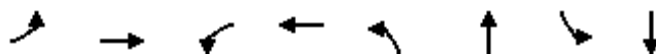
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.15
Intersection Signal Delay:	354.5
Intersection LOS:	F
Intersection Capacity Utilization	173.3%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Total 2028 - With GTA West Highway
AM Peak Hour

























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	618	729	350	232	167	1964	64	3614
v/c Ratio	1.71	1.54	1.62	0.52	1.10	1.17	0.42	2.15
Control Delay	355.4	282.3	324.3	35.4	127.5	111.8	21.0	540.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	355.4	282.3	324.3	35.4	127.5	111.8	21.0	540.6
Queue Length 50th (m)	~170.4	~230.8	~102.4	36.6	~28.8	~289.7	6.6	~722.7
Queue Length 95th (m)	#243.0	#303.5	#160.7	61.8	#72.7	#332.4	13.0	#755.7
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	362	474	216	442	152	1685	152	1682
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	1.71	1.54	1.62	0.52	1.10	1.17	0.42	2.15

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 Future Total 2028 - With GTA West Highway
 7: Hurontario Street & Old School Road AM Peak Hour



























												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	569	107	564	322	90	123	154	1676	131	59	3014	311
Future Volume (vph)	569	107	564	322	90	123	154	1676	131	59	3014	311
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		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	0.87		1.00	0.91		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)	1789	1646		1789	1720		1789	3540		1789	3528	
Flt Permitted	0.35	1.00		0.15	1.00		0.07	1.00		0.07	1.00	
Satd. Flow (perm)	654	1646		290	1720		132	3540		132	3528	
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)	618	116	613	350	98	134	167	1822	142	64	3276	338
RTOR Reduction (vph)	0	49	0	0	41	0	0	5	0	0	6	0
Lane Group Flow (vph)	618	680	0	350	191	0	167	1959	0	64	3608	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.0	29.0		36.0	26.0		59.0	55.0		59.0	55.0	
Effective Green, g (s)	42.0	31.0		36.0	28.0		63.0	57.0		63.0	57.0	
Actuated g/C Ratio	0.35	0.26		0.30	0.23		0.52	0.48		0.52	0.48	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	351	425		211	401		152	1681		152	1675	
v/s Ratio Prot	c0.19	0.41		0.14	0.11		c0.05	0.55		0.02	c1.02	
v/s Ratio Perm	c0.42			0.36			0.52			0.20		
v/c Ratio	1.76	1.60		1.66	0.48		1.10	1.17		0.42	2.15	
Uniform Delay, d1	36.7	44.5		37.5	39.7		31.4	31.5		26.2	31.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	353.8	280.9		316.6	4.0		101.9	81.4		8.3	521.2	
Delay (s)	390.5	325.4		354.1	43.7		133.3	112.9		34.5	552.7	
Level of Service	F	F		F	D		F	F		C	F	
Approach Delay (s)		355.3			230.3			114.5			543.7	
Approach LOS		F			F			F			F	

Intersection Summary

HCM 2000 Control Delay	369.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.95		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	173.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Total 2028 - With GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		 	 						 	
Traffic Volume (vph)	24	774	114	348	558	79	25	194	209	150	386	23
Future Volume (vph)	24	774	114	348	558	79	25	194	209	150	386	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.981				0.850		0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5044	0	3471	5044	0	1789	1883	1601	1789	1868	0
Flt Permitted	0.377			0.950			0.313			0.560		
Satd. Flow (perm)	710	5044	0	3471	5044	0	590	1883	1601	1055	1868	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			32				227			3
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	26	841	124	378	607	86	27	211	227	163	420	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	965	0	378	693	0	27	211	227	163	445	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	38.0	38.0		28.0	66.0		54.0	54.0	54.0	54.0		54.0
Total Split (%)	31.7%	31.7%		23.3%	55.0%		45.0%	45.0%	45.0%	45.0%		45.0%
Maximum Green (s)	34.0	34.0		24.0	62.0		50.0	50.0	50.0	50.0		50.0
Yellow Time (s)	3.5	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		0.5
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)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	34.0	34.0		24.0	62.0		50.0	50.0	50.0	50.0		50.0
Actuated g/C Ratio	0.28	0.28		0.20	0.52		0.42	0.42	0.42	0.42		0.42
v/c Ratio	0.13	0.67		0.54	0.26		0.11	0.27	0.28	0.37		0.57

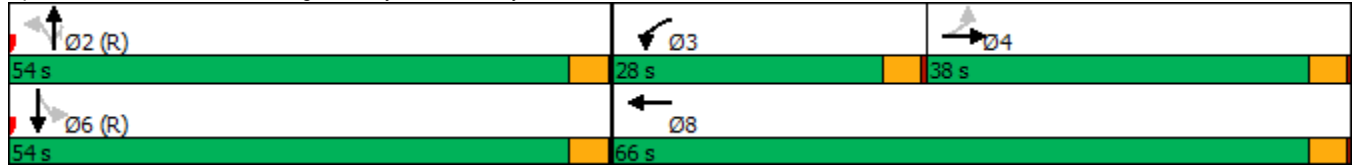
Lanes, Volumes, Timings
 15: Chinguacousy Road & Mayfield Road

Future Total 2028 - With GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	34.2	39.7		46.5	15.7		23.0	24.2	3.8	27.3	30.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	34.2	39.7		46.5	15.7		23.0	24.2	3.8	27.3	30.1	
LOS	C	D		D	B		C	C	A	C	C	
Approach Delay		39.6			26.6			14.1			29.4	
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:	55
Control Type:	Pretimed
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	29.4
Intersection LOS:	C
Intersection Capacity Utilization	65.8%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

Future Total 2028 - With GTA West Highway

15: Chinguacousy Road & Mayfield Road





























AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	26	965	378	693	27	211	227	163	445
v/c Ratio	0.13	0.67	0.54	0.26	0.11	0.27	0.28	0.37	0.57
Control Delay	34.2	39.7	46.5	15.7	23.0	24.2	3.8	27.3	30.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.2	39.7	46.5	15.7	23.0	24.2	3.8	27.3	30.1
Queue Length 50th (m)	4.6	71.9	41.5	30.6	3.8	32.1	0.0	26.1	78.4
Queue Length 95th (m)	12.1	87.2	56.9	38.6	10.2	49.7	14.4	44.3	110.8
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	201	1445	694	2621	245	784	799	439	780
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.67	0.54	0.26	0.11	0.27	0.28	0.37	0.57





























Intersection Summary

HCM Signalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway
 15: Chinguacousy Road & Mayfield Road AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	  						 	
Traffic Volume (vph)	24	774	114	348	558	79	25	194	209	150	386	23
Future Volume (vph)	24	774	114	348	558	79	25	194	209	150	386	23
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	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5043		3471	5046		1789	1883	1601	1789	1868	
Flt Permitted	0.38	1.00		0.95	1.00		0.31	1.00	1.00	0.56	1.00	
Satd. Flow (perm)	709	5043		3471	5046		590	1883	1601	1054	1868	
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)	26	841	124	378	607	86	27	211	227	163	420	25
RTOR Reduction (vph)	0	16	0	0	15	0	0	0	132	0	2	0
Lane Group Flow (vph)	26	949	0	378	678	0	27	211	95	163	443	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	34.0	34.0		24.0	62.0		50.0	50.0	50.0	50.0	50.0	
Effective Green, g (s)	34.0	34.0		24.0	62.0		50.0	50.0	50.0	50.0	50.0	
Actuated g/C Ratio	0.28	0.28		0.20	0.52		0.42	0.42	0.42	0.42	0.42	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	200	1428		694	2607		245	784	667	439	778	
v/s Ratio Prot		c0.19		c0.11	0.13			0.11			c0.24	
v/s Ratio Perm	0.04						0.05		0.06	0.15		
v/c Ratio	0.13	0.66		0.54	0.26		0.11	0.27	0.14	0.37	0.57	
Uniform Delay, d1	32.0	38.0		43.1	16.2		21.4	23.0	21.7	24.2	26.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.3	2.5		3.1	0.2		0.9	0.8	0.4	2.4	3.0	
Delay (s)	33.3	40.4		46.2	16.4		22.3	23.8	22.1	26.6	29.8	
Level of Service	C	D		D	B		C	C	C	C	C	
Approach Delay (s)		40.2			26.9			22.9			28.9	
Approach LOS		D			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			30.9			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)		12.0				
Intersection Capacity Utilization			65.8%			ICU Level of Service			C			
Analysis Period (min)			15									
c	Critical Lane Group											

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

Future Total 2028 - With GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 				
Traffic Volume (vph)	77	1024	125	193	781	110	61	311	149	332	614	210
Future Volume (vph)	77	1024	125	193	781	110	61	311	149	332	614	210
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.981				0.850		0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	5044	0	1789	3579	1601	1789	1812	0
Flt Permitted	0.152			0.114			0.077			0.458		
Satd. Flow (perm)	286	5142	1601	215	5044	0	145	3579	1601	863	1812	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		19				162		19	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	1113	136	210	849	120	66	338	162	361	667	228
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	1113	136	210	969	0	66	338	162	361	895	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	12.0	35.0	35.0	18.0	41.0		8.0	56.0	56.0	27.0	75.0	
Total Split (%)	8.8%	25.7%	25.7%	13.2%	30.1%		5.9%	41.2%	41.2%	19.9%	55.1%	
Maximum Green (s)	8.0	31.0	31.0	14.0	37.0		4.0	52.0	52.0	23.0	71.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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)	39.0	31.0	31.0	49.0	37.0		56.0	52.0	52.0	79.0	71.0	
Actuated g/C Ratio	0.29	0.23	0.23	0.36	0.27		0.41	0.38	0.38	0.58	0.52	
v/c Ratio	0.49	0.95	0.29	0.88	0.70		0.61	0.25	0.23	0.55	0.94	

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

Future Total 2028 - With GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	40.1	68.4	8.3	68.7	46.8		43.0	29.3	4.7	18.5	47.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	40.1	68.4	8.3	68.7	46.8		43.0	29.3	4.7	18.5	47.8	
LOS	D	E	A	E	D		D	C	A	B	D	
Approach Delay		60.4			50.7			23.8			39.4	
Approach LOS		E			D			C			D	

Intersection Summary

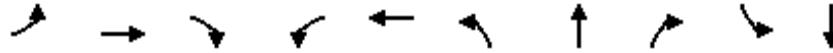
Area Type: Other
 Cycle Length: 136
 Actuated Cycle Length: 136
 Offset: 120 (88%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 90
 Control Type: Pretimed
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 46.9 Intersection LOS: D
 Intersection Capacity Utilization 92.3% ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Total 2028 - With GTA West Highway
AM Peak Hour

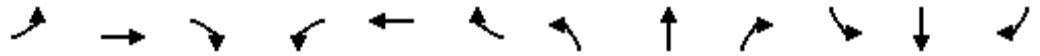


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	84	1113	136	210	969	66	338	162	361	895
v/c Ratio	0.49	0.95	0.29	0.88	0.70	0.61	0.25	0.23	0.55	0.94
Control Delay	40.1	68.4	8.3	68.7	46.8	43.0	29.3	4.7	18.5	47.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.1	68.4	8.3	68.7	46.8	43.0	29.3	4.7	18.5	47.8
Queue Length 50th (m)	15.1	108.8	0.0	40.7	84.4	7.4	32.3	0.0	48.8	215.2
Queue Length 95th (m)	27.2	#136.8	16.7	#85.1	100.4	#18.0	44.1	14.1	68.7	#307.7
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	170	1172	469	239	1386	108	1368	712	657	955
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	0.49	0.95	0.29	0.88	0.70	0.61	0.25	0.23	0.55	0.94

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway
 16: McLaughlin Road & Mayfield Road AM Peak Hour




































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑	↗	↘	↗	
Traffic Volume (vph)	77	1024	125	193	781	110	61	311	149	332	614	210
Future Volume (vph)	77	1024	125	193	781	110	61	311	149	332	614	210
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	5046		1789	3579	1601	1789	1811	
Flt Permitted	0.15	1.00	1.00	0.11	1.00		0.08	1.00	1.00	0.46	1.00	
Satd. Flow (perm)	287	5142	1601	215	5046		145	3579	1601	863	1811	
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)	84	1113	136	210	849	120	66	338	162	361	667	228
RTOR Reduction (vph)	0	0	105	0	14	0	0	0	100	0	9	0
Lane Group Flow (vph)	84	1113	31	210	955	0	66	338	62	361	886	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	39.0	31.0	31.0	49.0	37.0		56.0	52.0	52.0	79.0	71.0	
Effective Green, g (s)	39.0	31.0	31.0	49.0	37.0		56.0	52.0	52.0	79.0	71.0	
Actuated g/C Ratio	0.29	0.23	0.23	0.36	0.27		0.41	0.38	0.38	0.58	0.52	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	170	1172	364	239	1372		108	1368	612	657	945	
v/s Ratio Prot	0.03	c0.22		c0.09	0.19		0.02	0.09		c0.09	c0.49	
v/s Ratio Perm	0.11		0.02	0.23			0.23		0.04	0.23		
v/c Ratio	0.49	0.95	0.09	0.88	0.70		0.61	0.25	0.10	0.55	0.94	
Uniform Delay, d1	37.2	51.7	41.3	35.5	44.5		31.3	28.6	27.0	15.4	30.4	
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	9.9	16.7	0.5	33.7	2.9		23.1	0.4	0.3	3.3	17.6	
Delay (s)	47.1	68.4	41.8	69.2	47.4		54.5	29.1	27.3	18.7	48.0	
Level of Service	D	E	D	E	D		D	C	C	B	D	
Approach Delay (s)		64.4			51.3			31.5			39.6	
Approach LOS		E			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	49.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Total 2028 - With GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 		 		 
Traffic Volume (vph)	159	1061	177	193	595	219	129	608	93	483	1070	177
Future Volume (vph)	159	1061	177	193	595	219	129	608	93	483	1070	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.204			0.135		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	384	3579	1601	254	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			192			238			111			192
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	173	1153	192	210	647	238	140	661	101	525	1163	192
Shared Lane Traffic (%)												
Lane Group Flow (vph)	173	1153	192	210	647	238	140	661	101	525	1163	192
Enter Blocked Intersection	No	No	No	No	No	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	Prot	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			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	15.0	36.0	36.0	14.0	35.0	35.0	16.0	35.0	35.0	43.0	62.0	62.0
Total Split (%)	11.7%	28.1%	28.1%	10.9%	27.3%	27.3%	12.5%	27.3%	27.3%	33.6%	48.4%	48.4%
Maximum Green (s)	11.0	32.0	32.0	10.0	31.0	31.0	12.0	31.0	31.0	39.0	58.0	58.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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
Act Effct Green (s)	11.0	32.0	32.0	10.0	31.0	31.0	43.0	31.0	31.0	74.0	58.0	58.0
Actuated g/C Ratio	0.09	0.25	0.25	0.08	0.24	0.24	0.34	0.24	0.24	0.58	0.45	0.45
v/c Ratio	0.58	0.90	0.35	0.77	0.52	0.42	0.54	0.76	0.21	0.86	0.72	0.23

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

Future Total 2028 - With GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	64.7	56.7	7.1	77.3	43.8	7.1	28.2	51.8	6.8	44.9	31.5	3.5
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	64.7	56.7	7.1	77.3	43.8	7.1	28.2	51.8	6.8	44.9	31.5	3.5
LOS	E	E	A	E	D	A	C	D	A	D	C	A
Approach Delay	51.3			42.3			43.1			32.4		
Approach LOS	D			D			D			C		

Intersection Summary

Area Type:	Other
Cycle Length:	128
Actuated Cycle Length:	128
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	75
Control Type:	Pretimed
Maximum v/c Ratio:	0.90
Intersection Signal Delay:	41.5
Intersection LOS:	D
Intersection Capacity Utilization	82.9%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues

Future Total 2028 - With GTA West Highway

17: Hurontario Street & Mayfield Road

AM Peak Hour




































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	173	1153	192	210	647	238	140	661	101	525	1163	192
v/c Ratio	0.58	0.90	0.35	0.77	0.52	0.42	0.54	0.76	0.21	0.86	0.72	0.23
Control Delay	64.7	56.7	7.1	77.3	43.8	7.1	28.2	51.8	6.8	44.9	31.5	3.5
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	64.7	56.7	7.1	77.3	43.8	7.1	28.2	51.8	6.8	44.9	31.5	3.5
Queue Length 50th (m)	22.0	103.4	0.0	27.2	52.0	0.0	15.4	82.0	0.0	103.7	122.5	0.0
Queue Length 95th (m)	33.8	#123.9	18.1	#44.9	64.8	20.1	28.9	103.6	11.8	#162.7	147.7	12.9
Internal Link Dist (m)		1381.8			725.9			357.1			585.4	
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	298	1285	544	271	1245	568	260	866	471	614	1621	830
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	0.90	0.35	0.77	0.52	0.42	0.54	0.76	0.21	0.86	0.72	0.23

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

















Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway
 17: Hurontario Street & Mayfield Road AM Peak Hour

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 		 	 	
Traffic Volume (vph)	159	1061	177	193	595	219	129	608	93	483	1070	177
Future Volume (vph)	159	1061	177	193	595	219	129	608	93	483	1070	177
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	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.20	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	384	3579	1601	253	3579	1601
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)	173	1153	192	210	647	238	140	661	101	525	1163	192
RTOR Reduction (vph)	0	0	144	0	0	180	0	0	77	0	0	105
Lane Group Flow (vph)	173	1153	48	210	647	58	140	661	24	525	1163	87
Turn Type	Prot	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			8	2		2	6		6
Actuated Green, G (s)	11.0	32.0	32.0	10.0	31.0	31.0	43.0	31.0	31.0	74.0	58.0	58.0
Effective Green, g (s)	11.0	32.0	32.0	10.0	31.0	31.0	43.0	31.0	31.0	74.0	58.0	58.0
Actuated g/C Ratio	0.09	0.25	0.25	0.08	0.24	0.24	0.34	0.24	0.24	0.58	0.45	0.45
Clearance Time (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
Lane Grp Cap (vph)	298	1285	400	271	1245	387	260	866	387	614	1621	725
v/s Ratio Prot	0.05	c0.22		c0.06	0.13		0.05	0.18		c0.26	0.32	
v/s Ratio Perm			0.03			0.04	0.13		0.02	c0.23		0.05
v/c Ratio	0.58	0.90	0.12	0.77	0.52	0.15	0.54	0.76	0.06	0.86	0.72	0.12
Uniform Delay, d1	56.3	46.4	37.1	57.9	42.0	38.1	30.8	45.1	37.3	31.5	28.4	20.2
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	8.0	10.1	0.6	19.2	1.6	0.8	7.8	6.3	0.3	14.2	2.8	0.3
Delay (s)	64.3	56.5	37.7	77.1	43.6	38.9	38.5	51.4	37.6	45.7	31.1	20.6
Level of Service	E	E	D	E	D	D	D	D	D	D	C	C
Approach Delay (s)		55.0			49.0			47.9			34.1	
Approach LOS		D			D			D			C	
Intersection Summary												
HCM 2000 Control Delay			45.3	HCM 2000 Level of Service				D				
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			128.0	Sum of lost time (s)				16.0				
Intersection Capacity Utilization			82.9%	ICU Level of Service				E				
Analysis Period (min)			15									
c Critical Lane Group												

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

Future Total 2028 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	186	29	454	314	56	25	482	475	34	242	2
Future Volume (vph)	6	186	29	454	314	56	25	482	475	34	242	2
Ideal Flow (vphp)	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		0.982			0.991			0.935			0.999	
Flt Protected		0.999			0.973			0.999			0.994	
Satd. Flow (prot)	0	1848	0	0	1816	0	0	1759	0	0	1870	0
Flt Permitted		0.999			0.973			0.999			0.994	
Satd. Flow (perm)	0	1848	0	0	1816	0	0	1759	0	0	1870	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	0.92	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)	7	202	32	493	341	61	27	524	516	37	263	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	241	0	0	895	0	0	1067	0	0	302	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	126.0%					ICU Level of Service H						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway
 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)	6	186	29	454	314	56	25	482	475	34	242	2
Future Volume (vph)	6	186	29	454	314	56	25	482	475	34	242	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	202	32	493	341	61	27	524	516	37	263	2
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	241	895	1067	302								
Volume Left (vph)	7	493	27	37								
Volume Right (vph)	32	61	516	2								
Hadj (s)	-0.04	0.10	-0.25	0.05								
Departure Headway (s)	8.8	8.0	7.7	8.6								
Degree Utilization, x	0.59	2.00	2.27	0.72								
Capacity (veh/h)	388	453	478	410								
Control Delay (s)	23.6	474.8	597.8	30.4								
Approach Delay (s)	23.6	474.8	597.8	30.4								
Approach LOS	C	F	F	D								
Intersection Summary												
Delay			430.2									
Level of Service			F									
Intersection Capacity Utilization			126.0%	ICU Level of Service	H							
Analysis Period (min)			15									

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

Future Total 2028 - With GTA West Highway
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	
Traffic Volume (vph)	681	63	90	816	50	25
Future Volume (vph)	681	63	90	816	50	25
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.989			0.955		
Flt Protected				0.995	0.968	
Satd. Flow (prot)	1863	0	0	1874	1741	0
Flt Permitted				0.995	0.968	
Satd. Flow (perm)	1863	0	0	1874	1741	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			521.8	121.9	
Travel Time (s)	25.2			26.8	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	740	68	98	887	54	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	808	0	0	985	81	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	101.9%			ICU Level of Service G		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway
2: Street B & Old School Road

PM Peak Hour



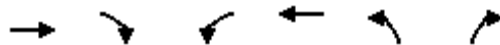
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↘	↙
Traffic Volume (veh/h)	681	63	90	816	50	25
Future Volume (Veh/h)	681	63	90	816	50	25
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	740	68	98	887	54	27
Pedestrians						
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			808		1857	774
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			808		1857	774
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			88		24	93
cM capacity (veh/h)			817		71	398
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	808	985	81			
Volume Left	0	98	54			
Volume Right	68	0	27			
cSH	1700	817	98			
Volume to Capacity	0.48	0.12	0.83			
Queue Length 95th (m)	0.0	3.1	34.6			
Control Delay (s)	0.0	3.3	125.9			
Lane LOS		A	F			
Approach Delay (s)	0.0	3.3	125.9			
Approach LOS			F			
Intersection Summary						
Average Delay			7.2			
Intersection Capacity Utilization			101.9%	ICU Level of Service	G	
Analysis Period (min)			15			

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

Future Total 2028 - With GTA West Highway
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	
Traffic Volume (vph)	645	45	168	859	47	70
Future Volume (vph)	645	45	168	859	47	70
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt	0.991				0.919	
Flt Protected				0.992	0.980	
Satd. Flow (prot)	1866	0	0	1868	1696	0
Flt Permitted				0.992	0.980	
Satd. Flow (perm)	1866	0	0	1868	1696	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	521.8			371.6	309.0	
Travel Time (s)	26.8			19.1	23.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	701	49	183	934	51	76
Shared Lane Traffic (%)						
Lane Group Flow (vph)	750	0	0	1117	127	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	108.1%			ICU Level of Service G		
Analysis Period (min)	15					

















HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway
 3: Street D & Old School Road PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	645	45	168	859	47	70
Future Volume (Veh/h)	645	45	168	859	47	70
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)	701	49	183	934	51	76
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			750		2026	726
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			750		2026	726
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			79		0	82
cM capacity (veh/h)			859		50	425
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	750	1117	127			
Volume Left	0	183	51			
Volume Right	49	0	76			
cSH	1700	859	106			
Volume to Capacity	0.44	0.21	1.20			
Queue Length 95th (m)	0.0	6.1	63.5			
Control Delay (s)	0.0	5.8	227.0			
Lane LOS		A	F			
Approach Delay (s)	0.0	5.8	227.0			
Approach LOS			F			
Intersection Summary						
Average Delay			17.7			
Intersection Capacity Utilization			108.1%	ICU Level of Service		G
Analysis Period (min)			15			

















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

Future Total 2028 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	612	61	541	931	41	72	318	554	25	145	23
Future Volume (vph)	42	612	61	541	931	41	72	318	554	25	145	23
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 _t		0.989			0.996			0.921			0.984	
Fl _t Protected		0.997			0.982			0.996			0.994	
Satd. Flow (prot)	0	1857	0	0	1842	0	0	1728	0	0	1842	0
Fl _t Permitted		0.997			0.982			0.996			0.994	
Satd. Flow (perm)	0	1857	0	0	1842	0	0	1728	0	0	1842	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	46	665	66	588	1012	45	78	346	602	27	158	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	777	0	0	1645	0	0	1026	0	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)		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	194.3%					ICU Level of Service H						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway
 4: 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)	42	612	61	541	931	41	72	318	554	25	145	23
Future Volume (vph)	42	612	61	541	931	41	72	318	554	25	145	23
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)	46	665	66	588	1012	45	78	346	602	27	158	25
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	777	1645	1026	210								
Volume Left (vph)	46	588	78	27								
Volume Right (vph)	66	45	602	25								
Hadj (s)	-0.01	0.09	-0.30	-0.01								
Departure Headway (s)	8.4	8.5	8.1	9.6								
Degree Utilization, x	1.82	3.89	2.31	0.56								
Capacity (veh/h)	440	428	452	366								
Control Delay (s)	396.9	1323.2	616.7	23.9								
Approach Delay (s)	396.9	1323.2	616.7	23.9								
Approach LOS	F	F	F	C								
Intersection Summary												
Delay			853.7									
Level of Service			F									
Intersection Capacity Utilization			194.3%		ICU Level of Service		H					
Analysis Period (min)			15									

Lanes, Volumes, Timings
5: Street G & Old School Road

Future Total 2028 - With GTA West Highway
PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1133	50	11	1435	41	16
Future Volume (vph)	1133	50	11	1435	41	16
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994			0.963		
Flt Protected				0.965		
Satd. Flow (prot)	1872	0	0	1883	1750	0
Flt Permitted				0.965		
Satd. Flow (perm)	1872	0	0	1883	1750	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			794.6	134.3	
Travel Time (s)	18.0			40.9	10.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1232	54	12	1560	45	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1286	0	0	1572	62	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	94.3%
Analysis Period (min)	15
	ICU Level of Service F

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway
 5: Street G & Old School Road

PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1133	50	11	1435	41	16
Future Volume (Veh/h)	1133	50	11	1435	41	16
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)	1232	54	12	1560	45	17
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			1286		2843	1259
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1286		2843	1259
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		0	92
cM capacity (veh/h)			539		19	208
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	1286	1572	62			
Volume Left	0	12	45			
Volume Right	54	0	17			
cSH	1700	539	25			
Volume to Capacity	0.76	0.02	2.50			
Queue Length 95th (m)	0.0	0.5	58.3			
Control Delay (s)	0.0	3.3	1013.2			
Lane LOS		A	F			
Approach Delay (s)	0.0	3.3	1013.2			
Approach LOS			F			
Intersection Summary						
Average Delay			23.3			
Intersection Capacity Utilization			94.3%	ICU Level of Service	F	
Analysis Period (min)			15			

Lanes, Volumes, Timings
6: Street H & Old School Road

Future Total 2028 - With GTA West Highway
PM Peak Hour

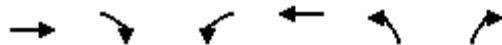


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1095	42	0	2135	33	0
Future Volume (vph)	1095	42	0	2135	33	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995					
Flt Protected					0.950	
Satd. Flow (prot)	1874	0	0	1883	1789	0
Flt Permitted					0.950	
Satd. Flow (perm)	1874	0	0	1883	1789	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	794.6			213.2	410.2	
Travel Time (s)	40.9			11.0	30.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1190	46	0	2321	36	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1236	0	0	2321	36	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	122.4%
ICU Level of Service	H
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway
 6: Street H & Old School Road PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1095	42	0	2135	33	0
Future Volume (Veh/h)	1095	42	0	2135	33	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)	1190	46	0	2321	36	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)	213					
pX, platoon unblocked					0.41	
vC, conflicting volume			1236		3534	1213
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1236		6413	1213
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		0	100
cM capacity (veh/h)			564		0	222
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	1236	2321	36			
Volume Left	0	0	36			
Volume Right	46	0	0			
cSH	1700	564	0			
Volume to Capacity	0.73	0.00	1254.82			
Queue Length 95th (m)	0.0	0.0	Err			
Control Delay (s)	0.0	0.0	Err			
Lane LOS			F			
Approach Delay (s)	0.0	0.0	Err			
Approach LOS			F			
Intersection Summary						
Average Delay			100.2			
Intersection Capacity Utilization			122.4%	ICU Level of Service	H	
Analysis Period (min)			15			

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

Future Total 2028 - With GTA West Highway
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	666	99	319	340	837	137	578	3691	326	160	1866	625
Future Volume (vph)	666	99	319	340	837	137	578	3691	326	160	1866	625
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		0.886			0.979			0.988			0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1669	0	1789	1844	0	1789	3536	0	1789	3443	0
Flt Permitted	0.148			0.129			0.080			0.087		
Satd. Flow (perm)	279	1669	0	243	1844	0	151	3536	0	164	3443	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		87			7			10			44	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	724	108	347	370	910	149	628	4012	354	174	2028	679
Shared Lane Traffic (%)												
Lane Group Flow (vph)	724	455	0	370	1059	0	628	4366	0	174	2707	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	17.0	33.0		21.0	37.0		16.0	56.0		10.0	50.0	
Total Split (%)	14.2%	27.5%		17.5%	30.8%		13.3%	46.7%		8.3%	41.7%	
Maximum Green (s)	13.0	27.0		17.0	31.0		10.0	50.0		4.0	44.0	
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	
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)	42.0	29.0		50.0	33.0		62.0	52.0		52.0	46.0	
Actuated g/C Ratio	0.35	0.24		0.42	0.28		0.52	0.43		0.43	0.38	
v/c Ratio	2.77	0.97		1.16	2.07		2.61	2.84		1.14	2.01	

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

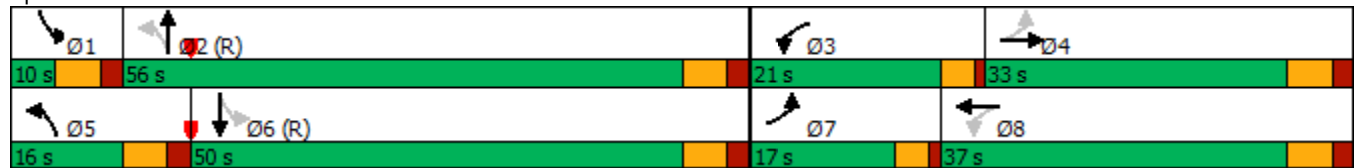
Future Total 2028 - With GTA West Highway
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	826.6	71.7		130.6	512.5		753.3	847.9		142.9	481.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	826.6	71.7		130.6	512.5		753.3	847.9		142.9	481.5	
LOS	F	E		F	F		F	F		F	F	
Approach Delay		535.3			413.6			836.0			461.1	
Approach LOS		F			F			F			F	

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:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.84
Intersection Signal Delay:	641.6
Intersection LOS:	F
Intersection Capacity Utilization	223.9%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Total 2028 - With GTA West Highway
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	724	455	370	1059	628	4366	174	2707
v/c Ratio	2.77	0.97	1.16	2.07	2.61	2.84	1.14	2.01
Control Delay	826.6	71.7	130.6	512.5	753.3	847.9	142.9	481.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	826.6	71.7	130.6	512.5	753.3	847.9	142.9	481.5
Queue Length 50th (m)	~277.5	89.3	~86.3	~396.7	~235.8	~939.3	~32.2	~526.7
Queue Length 95th (m)	#349.8	#154.4	#145.6	#475.4	#306.0	#965.2	#77.1	#566.3
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	261	469	320	512	241	1537	152	1346
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	2.77	0.97	1.16	2.07	2.61	2.84	1.14	2.01

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 Future Total 2028 - With GTA West Highway
 7: 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)	666	99	319	340	837	137	578	3691	326	160	1866	625
Future Volume (vph)	666	99	319	340	837	137	578	3691	326	160	1866	625
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		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	0.89		1.00	0.98		1.00	0.99		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)	1789	1668		1789	1844		1789	3535		1789	3444	
Flt Permitted	0.15	1.00		0.13	1.00		0.08	1.00		0.09	1.00	
Satd. Flow (perm)	279	1668		243	1844		151	3535		164	3444	
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)	724	108	347	370	910	149	628	4012	354	174	2028	679
RTOR Reduction (vph)	0	66	0	0	5	0	0	6	0	0	27	0
Lane Group Flow (vph)	724	389	0	370	1054	0	628	4360	0	174	2680	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	40.0	27.0		48.0	31.0		60.0	50.0		48.0	44.0	
Effective Green, g (s)	40.0	29.0		48.0	33.0		62.0	52.0		52.0	46.0	
Actuated g/C Ratio	0.33	0.24		0.40	0.28		0.52	0.43		0.43	0.38	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	256	403		316	507		241	1531		152	1320	
v/s Ratio Prot	c0.31	0.23		c0.17	0.57		c0.26	c1.23		0.06	0.78	
v/s Ratio Perm	c0.63			0.30			1.08			0.44		
v/c Ratio	2.83	0.97		1.17	2.08		2.61	2.85		1.14	2.03	
Uniform Delay, d1	34.1	45.0		35.1	43.5		36.8	34.0		30.3	37.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	833.4	36.9		105.4	492.2		734.5	833.4		117.2	466.3	
Delay (s)	867.5	81.9		140.5	535.7		771.3	867.4		147.5	503.3	
Level of Service	F	F		F	F		F	F		F	F	
Approach Delay (s)		564.4			433.4			855.3			481.8	
Approach LOS		F			F			F			F	










Intersection Summary			
HCM 2000 Control Delay	662.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	223.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
 8: Chinguacousy Road & Street A (North)

Future Total 2028 - With GTA West Highway
 PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	76	948	62	98	679
Future Volume (vph)	29	76	948	62	98	679
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.903		0.992			
Flt Protected	0.986					0.994
Satd. Flow (prot)	1677	0	1868	0	0	1872
Flt Permitted	0.986					0.994
Satd. Flow (perm)	1677	0	1868	0	0	1872
Link Speed (k/h)	48		80			80
Link Distance (m)	81.3		401.8			298.8
Travel Time (s)	6.1		18.1			13.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	83	1030	67	107	738
Shared Lane Traffic (%)						
Lane Group Flow (vph)	115	0	1097	0	0	845
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	111.1%		ICU Level of Service H			
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway
 8: Chinguacousy Road & Street A (North) PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	76	948	62	98	679
Future Volume (Veh/h)	29	76	948	62	98	679
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)	32	83	1030	67	107	738
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	2016	1064			1097	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2016	1064			1097	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	40	69			83	
cM capacity (veh/h)	54	271			636	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	115	1097	845			
Volume Left	32	0	107			
Volume Right	83	67	0			
cSH	127	1700	636			
Volume to Capacity	0.90	0.65	0.17			
Queue Length 95th (m)	44.4	0.0	4.6			
Control Delay (s)	121.1	0.0	4.6			
Lane LOS	F		A			
Approach Delay (s)	121.1	0.0	4.6			
Approach LOS	F					
Intersection Summary						
Average Delay			8.6			
Intersection Capacity Utilization			111.1%	ICU Level of Service	H	
Analysis Period (min)			15			

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

Future Total 2028 - With GTA West Highway
 PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	64	68	99	880	725	23
Future Volume (vph)	64	68	99	880	725	23
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt	0.931				0.996	
Flt Protected	0.976			0.995		
Satd. Flow (prot)	1711	0	0	1874	1876	0
Flt Permitted	0.976			0.995		
Satd. Flow (perm)	1711	0	0	1874	1876	0
Link Speed (k/h)	48			80	80	
Link Distance (m)	150.6			276.3	311.8	
Travel Time (s)	11.3			12.4	14.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	70	74	108	957	788	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	0	1065	813	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	109.1%
Analysis Period (min)	15
	ICU Level of Service H

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway 9: McLaughlin Road & Street C

PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	64	68	99	880	725	23
Future Volume (Veh/h)	64	68	99	880	725	23
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)	70	74	108	957	788	25
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	1974	800	813			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1974	800	813			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	81	87			
cM capacity (veh/h)	59	385	814			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	144	1065	813			
Volume Left	70	108	0			
Volume Right	74	0	25			
cSH	105	814	1700			
Volume to Capacity	1.37	0.13	0.48			
Queue Length 95th (m)	77.4	3.5	0.0			
Control Delay (s)	291.1	3.8	0.0			
Lane LOS	F	A				
Approach Delay (s)	291.1	3.8	0.0			
Approach LOS	F					
Intersection Summary						
Average Delay	22.7					
Intersection Capacity Utilization	109.1%			ICU Level of Service	H	
Analysis Period (min)	15					

Lanes, Volumes, Timings
10: Hurontario Street & Street H

Future Total 2028 - With GTA West Highway
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	23	43	4593	2523	3
Future Volume (vph)	3	23	43	4593	2523	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.879					
Flt Protected	0.995					
Satd. Flow (prot)	1647	0	0	3579	3579	0
Flt Permitted	0.995					
Satd. Flow (perm)	1647	0	0	3579	3579	0
Link Speed (k/h)	48			70	70	
Link Distance (m)	410.2			640.1	215.3	
Travel Time (s)	30.8			32.9	11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	25	47	4992	2742	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	28	0	0	5039	2745	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)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	167.1%
Analysis Period (min)	15
	ICU Level of Service H

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway
 10: Hurontario Street & Street H










PM Peak Hour












Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	23	43	4593	2523	3
Future Volume (Veh/h)	3	23	43	4593	2523	3
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)	3	25	47	4992	2742	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					215	
pX, platoon unblocked	0.63	0.63	0.63			
vC, conflicting volume	5334	1372	2745			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	6729	399	2593			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	93	54			
cM capacity (veh/h)	0	376	103			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	28	1711	3328	1828	917	
Volume Left	3	47	0	0	0	
Volume Right	25	0	0	0	3	
cSH	0	103	1700	1700	1700	
Volume to Capacity	466.42	0.46	1.96	1.08	0.54	
Queue Length 95th (m)	Err	14.9	0.0	0.0	0.0	
Control Delay (s)	Err	66.3	0.0	0.0	0.0	
Lane LOS	F	F				
Approach Delay (s)	Err	22.5		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay	50.4					
Intersection Capacity Utilization	167.1%			ICU Level of Service	H	
Analysis Period (min)	15					

Lanes, Volumes, Timings
 11: Chinguacousy Road & Street A (South)

Future Total 2028 - With GTA West Highway
 PM Peak Hour

















						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	62	948	62	82	626
Future Volume (vph)	29	62	948	62	82	626
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.909		0.992			
Flt Protected	0.984					0.994
Satd. Flow (prot)	1685	0	1868	0	0	1872
Flt Permitted	0.984					0.994
Satd. Flow (perm)	1685	0	1868	0	0	1872
Link Speed (k/h)	48		80			80
Link Distance (m)	156.3		2383.0			401.8
Travel Time (s)	11.7		107.2			18.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	67	1030	67	89	680
Shared Lane Traffic (%)						
Lane Group Flow (vph)	99	0	1097	0	0	769
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	106.6%			ICU Level of Service G		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway
 11: Chinguacousy Road & Street A (South) PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	62	948	62	82	626
Future Volume (Veh/h)	29	62	948	62	82	626
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)	32	67	1030	67	89	680
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	1922	1064			1097	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1922	1064			1097	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	50	75			86	
cM capacity (veh/h)	63	271			636	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	99	1097	769			
Volume Left	32	0	89			
Volume Right	67	67	0			
cSH	132	1700	636			
Volume to Capacity	0.75	0.65	0.14			
Queue Length 95th (m)	33.3	0.0	3.7			
Control Delay (s)	87.7	0.0	3.7			
Lane LOS	F		A			
Approach Delay (s)	87.7	0.0	3.7			
Approach LOS	F					
Intersection Summary						
Average Delay			5.9			
Intersection Capacity Utilization			106.6%		ICU Level of Service	G
Analysis Period (min)			15			

















Lanes, Volumes, Timings
12: McLaughlin Road & Street E

Future Total 2028 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	0	52	172	0	27	74	909	239	34	694	65
Future Volume (vph)	42	0	52	172	0	27	74	909	239	34	694	65
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 _t		0.925			0.982			0.974			0.989	
Fl _t Protected		0.978			0.959			0.997			0.998	
Satd. Flow (prot)	0	1704	0	0	1774	0	0	1829	0	0	1859	0
Fl _t Permitted		0.978			0.959			0.997			0.998	
Satd. Flow (perm)	0	1704	0	0	1774	0	0	1829	0	0	1859	0
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			1359.2			391.4			276.3	
Travel Time (s)		15.4			101.9			17.6			12.4	
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)	46	0	57	187	0	29	80	988	260	37	754	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	0	0	216	0	0	1328	0	0	862	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	115.1%					ICU Level of Service H						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway
 12: McLaughlin Road & Street E

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	0	52	172	0	27	74	909	239	34	694	65
Future Volume (Veh/h)	42	0	52	172	0	27	74	909	239	34	694	65
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)	46	0	57	187	0	29	80	988	260	37	754	71
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	2170	2272	790	2198	2177	1118	825			1248		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2170	2272	790	2198	2177	1118	825			1248		
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 %	0	100	85	0	100	88	90			93		
cM capacity (veh/h)	26	34	390	24	39	252	805			558		
Direction, Lane #												
	EB 1	WB 1	NB 1	SB 1								
Volume Total	103	216	1328	862								
Volume Left	46	187	80	37								
Volume Right	57	29	260	71								
cSH	54	27	805	558								
Volume to Capacity	1.90	7.87	0.10	0.07								
Queue Length 95th (m)	75.8	Err	2.5	1.6								
Control Delay (s)	588.1	Err	4.1	2.0								
Lane LOS	F	F	A	A								
Approach Delay (s)	588.1	Err	4.1	2.0								
Approach LOS	F	F										
Intersection Summary												
Average Delay			887.8									
Intersection Capacity Utilization			115.1%		ICU Level of Service					H		
Analysis Period (min)			15									

Lanes, Volumes, Timings
13: Hurontario Street & Street E

Future Total 2028 - With GTA West Highway
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	273	512	4384	2523	23
Future Volume (vph)	22	273	512	4384	2523	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.875				0.999	
Flt Protected	0.996			0.995		
Satd. Flow (prot)	1641	0	0	3561	3575	0
Flt Permitted	0.996			0.995		
Satd. Flow (perm)	1641	0	0	3561	3575	0
Link Speed (k/h)	48			70	70	
Link Distance (m)	1359.2			928.0	640.1	
Travel Time (s)	101.9			47.7	32.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	297	557	4765	2742	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	321	0	0	5322	2767	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	234.6%
ICU Level of Service	H
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway
 13: Hurontario Street & Street E

PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	273	512	4384	2523	23
Future Volume (Veh/h)	22	273	512	4384	2523	23
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)	24	297	557	4765	2742	25
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	6251	1384	2767			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	6251	1384	2767			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	0	0			
cM capacity (veh/h)	0	133	140			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	321	2145	3177	1828	939	
Volume Left	24	557	0	0	0	
Volume Right	297	0	0	0	25	
cSH	0	140	1700	1700	1700	
Volume to Capacity	Err	3.97	1.87	1.08	0.55	
Queue Length 95th (m)	Err	Err	0.0	0.0	0.0	
Control Delay (s)	Err	1400.6	0.0	0.0	0.0	
Lane LOS	F	F				
Approach Delay (s)	Err	564.6		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay				Err		
Intersection Capacity Utilization				234.6%	ICU Level of Service	H
Analysis Period (min)				15		

Lanes, Volumes, Timings
 14: McLaughlin Road & Street F

Future Total 2028 - With GTA West Highway
 PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	42	52	74	1180	853	65
Future Volume (vph)	42	52	74	1180	853	65
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.925				0.990	
Flt Protected	0.978			0.997		
Satd. Flow (prot)	1704	0	0	1878	1865	0
Flt Permitted	0.978			0.997		
Satd. Flow (perm)	1704	0	0	1878	1865	0
Link Speed (k/h)	48			80	80	
Link Distance (m)	171.6			2104.9	391.4	
Travel Time (s)	12.9			94.7	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	57	80	1283	927	71
Shared Lane Traffic (%)						
Lane Group Flow (vph)	103	0	0	1363	998	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)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	130.5%
ICU Level of Service	H
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway
 14: McLaughlin Road & Street F























PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	42	52	74	1180	853	65
Future Volume (Veh/h)	42	52	74	1180	853	65
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)	46	57	80	1283	927	71
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	2406	962	998			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2406	962	998			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	82	88			
cM capacity (veh/h)	32	310	693			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	103	1363	998			
Volume Left	46	80	0			
Volume Right	57	0	71			
cSH	64	693	1700			
Volume to Capacity	1.61	0.12	0.59			
Queue Length 95th (m)	69.3	3.0	0.0			
Control Delay (s)	442.9	5.4	0.0			
Lane LOS	F	A				
Approach Delay (s)	442.9	5.4	0.0			
Approach LOS	F					
Intersection Summary						
Average Delay			21.5			
Intersection Capacity Utilization			130.5%	ICU Level of Service	H	
Analysis Period (min)			15			

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

Future Total 2028 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	683	45	357	729	200	65	480	386	90	206	25
Future Volume (vph)	30	683	45	357	729	200	65	480	386	90	206	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.968				0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5096	0	3471	4977	0	1789	1883	1601	1789	1853	0
Flt Permitted	0.272			0.950			0.535			0.284		
Satd. Flow (perm)	512	5096	0	3471	4977	0	1008	1883	1601	535	1853	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			77				420			7
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	33	742	49	388	792	217	71	522	420	98	224	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	791	0	388	1009	0	71	522	420	98	251	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	33.0	33.0		27.0	60.0		60.0	60.0	60.0	60.0		60.0
Total Split (%)	27.5%	27.5%		22.5%	50.0%		50.0%	50.0%	50.0%	50.0%		50.0%
Maximum Green (s)	29.0	29.0		23.0	56.0		56.0	56.0	56.0	56.0		56.0
Yellow Time (s)	3.5	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		0.5
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)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	29.0	29.0		23.0	56.0		56.0	56.0	56.0	56.0		56.0
Actuated g/C Ratio	0.24	0.24		0.19	0.47		0.47	0.47	0.47	0.47		0.47
v/c Ratio	0.27	0.64		0.58	0.43		0.15	0.59	0.43	0.39		0.29

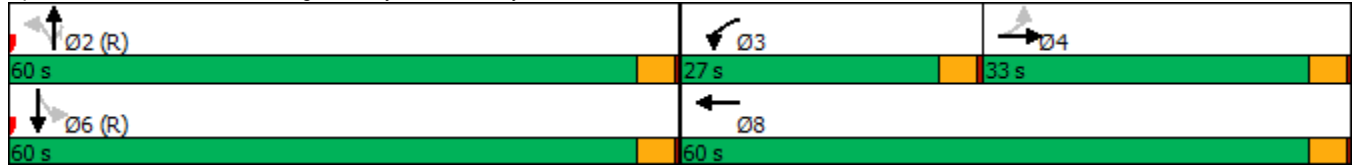
Lanes, Volumes, Timings
 15: Chinguacousy Road & Mayfield Road

Future Total 2028 - With GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	43.9	43.2		34.7	24.1		19.5	27.1	3.2	26.9	20.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	43.9	43.2		34.7	24.1		19.5	27.1	3.2	26.9	20.3	
LOS	D	D		C	C		B	C	A	C	C	
Approach Delay		43.2			27.1			16.7			22.1	
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:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.64
Intersection Signal Delay:	27.4
Intersection LOS:	C
Intersection Capacity Utilization	68.0%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

15: Chinguacousy Road & Mayfield Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	33	791	388	1009	71	522	420	98	251
v/c Ratio	0.27	0.64	0.58	0.43	0.15	0.59	0.43	0.39	0.29
Control Delay	43.9	43.2	34.7	24.1	19.5	27.1	3.2	26.9	20.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.9	43.2	34.7	24.1	19.5	27.1	3.2	26.9	20.3
Queue Length 50th (m)	6.3	60.8	47.7	73.5	9.4	88.4	0.0	14.7	34.5
Queue Length 95th (m)	16.3	75.1	m48.8	m72.6	18.6	123.0	16.6	30.0	52.6
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	123	1237	665	2363	470	878	971	249	868
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.64	0.58	0.43	0.15	0.59	0.43	0.39	0.29

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway
 15: 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)	30	683	45	357	729	200	65	480	386	90	206	25
Future Volume (vph)	30	683	45	357	729	200	65	480	386	90	206	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		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5094		3471	4976		1789	1883	1601	1789	1853	
Flt Permitted	0.27	1.00		0.95	1.00		0.53	1.00	1.00	0.28	1.00	
Satd. Flow (perm)	512	5094		3471	4976		1007	1883	1601	536	1853	
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)	33	742	49	388	792	217	71	522	420	98	224	27
RTOR Reduction (vph)	0	6	0	0	41	0	0	0	224	0	4	0
Lane Group Flow (vph)	33	785	0	388	968	0	71	522	196	98	247	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	29.0	29.0		23.0	56.0		56.0	56.0	56.0	56.0	56.0	
Effective Green, g (s)	29.0	29.0		23.0	56.0		56.0	56.0	56.0	56.0	56.0	
Actuated g/C Ratio	0.24	0.24		0.19	0.47		0.47	0.47	0.47	0.47	0.47	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	123	1231		665	2322		469	878	747	250	864	
v/s Ratio Prot		c0.15		c0.11	0.19			c0.28			0.13	
v/s Ratio Perm	0.06						0.07		0.12	0.18		
v/c Ratio	0.27	0.64		0.58	0.42		0.15	0.59	0.26	0.39	0.29	
Uniform Delay, d1	36.9	40.8		44.1	21.2		18.4	23.6	19.4	20.9	19.7	
Progression Factor	1.00	1.00		0.76	1.22		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.3	2.5		0.9	0.1		0.7	3.0	0.9	4.6	0.8	
Delay (s)	42.2	43.3		34.5	26.0		19.0	26.6	20.3	25.5	20.5	
Level of Service	D	D		C	C		B	C	C	C	C	
Approach Delay (s)		43.3			28.4			23.4			21.9	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.8	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)	12.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Total 2028 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	208	992	71	211	1115	354	140	711	176	197	381	194
Future Volume (vph)	208	992	71	211	1115	354	140	711	176	197	381	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.964				0.850		0.949	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	4957	0	1789	1883	1601	1789	1787	0
Flt Permitted	0.125			0.114			0.160			0.078		
Satd. Flow (perm)	235	5142	1601	215	4957	0	301	1883	1601	147	1787	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82		67				138		27	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	226	1078	77	229	1212	385	152	773	191	214	414	211
Shared Lane Traffic (%)												
Lane Group Flow (vph)	226	1078	77	229	1597	0	152	773	191	214	625	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	15.0	36.0	36.0	18.0	39.0		11.0	53.0	53.0	13.0	55.0	
Total Split (%)	12.5%	30.0%	30.0%	15.0%	32.5%		9.2%	44.2%	44.2%	10.8%	45.8%	
Maximum Green (s)	11.0	32.0	32.0	14.0	35.0		7.0	49.0	49.0	9.0	51.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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	32.0	32.0	49.0	35.0		56.0	49.0	49.0	60.0	51.0	
Actuated g/C Ratio	0.36	0.27	0.27	0.41	0.29		0.47	0.41	0.41	0.50	0.42	
v/c Ratio	1.00	0.79	0.16	0.85	1.07		0.67	1.01	0.26	1.09	0.81	

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

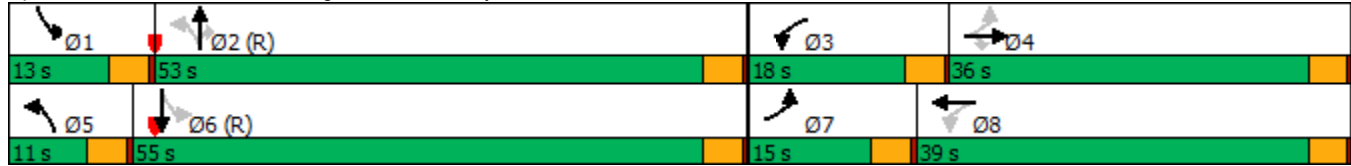
Future Total 2028 - With GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Control Delay	78.2	39.3	9.8	25.1	69.8		32.2	70.0	8.2	119.8	38.4		
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay	78.2	39.3	9.8	25.1	69.8		32.2	70.0	8.2	119.8	38.4		
LOS	E	D	A	C	E		C	E	A	F	D		
Approach Delay		44.0				64.2				54.3			59.2
Approach LOS		D				E				D			E

Intersection Summary

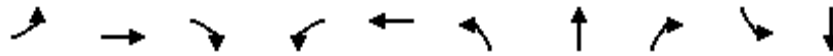
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Pretimed
Maximum v/c Ratio:	1.09
Intersection Signal Delay:	55.8
Intersection LOS:	E
Intersection Capacity Utilization	102.6%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Total 2028 - With GTA West Highway
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	226	1078	77	229	1597	152	773	191	214	625
v/c Ratio	1.00	0.79	0.16	0.85	1.07	0.67	1.01	0.26	1.09	0.81
Control Delay	78.2	39.3	9.8	25.1	69.8	32.2	70.0	8.2	119.8	38.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.2	39.3	9.8	25.1	69.8	32.2	70.0	8.2	119.8	38.4
Queue Length 50th (m)	43.0	94.5	5.5	40.3	~150.0	18.2	~181.7	7.5	~41.0	121.9
Queue Length 95th (m)	#86.4	108.6	m15.0	m35.9	m121.5	#32.6	#263.4	22.2	#89.4	171.2
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	226	1371	487	271	1493	227	768	735	196	775
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	1.00	0.79	0.16	0.85	1.07	0.67	1.01	0.26	1.09	0.81

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.

































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

HCM Signalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway
 16: 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)	208	992	71	211	1115	354	140	711	176	197	381	194
Future Volume (vph)	208	992	71	211	1115	354	140	711	176	197	381	194
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	4956		1789	1883	1601	1789	1788	
Flt Permitted	0.12	1.00	1.00	0.11	1.00		0.16	1.00	1.00	0.08	1.00	
Satd. Flow (perm)	235	5142	1601	215	4956		301	1883	1601	148	1788	
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)	226	1078	77	229	1212	385	152	773	191	214	414	211
RTOR Reduction (vph)	0	0	56	0	47	0	0	0	82	0	16	0
Lane Group Flow (vph)	226	1078	21	229	1550	0	152	773	109	214	609	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	43.0	32.0	32.0	49.0	35.0		56.0	49.0	49.0	60.0	51.0	
Effective Green, g (s)	43.0	32.0	32.0	49.0	35.0		56.0	49.0	49.0	60.0	51.0	
Actuated g/C Ratio	0.36	0.27	0.27	0.41	0.29		0.47	0.41	0.41	0.50	0.42	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	226	1371	426	271	1445		227	768	653	197	759	
v/s Ratio Prot	c0.09	0.21		c0.10	c0.31		0.04	0.41		c0.08	0.34	
v/s Ratio Perm	0.27		0.01	0.25			0.27		0.07	c0.46		
v/c Ratio	1.00	0.79	0.05	0.85	1.07		0.67	1.01	0.17	1.09	0.80	
Uniform Delay, d1	32.2	40.8	32.7	29.1	42.5		23.5	35.5	22.5	34.3	30.1	
Progression Factor	0.60	0.86	1.37	0.71	0.93		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	56.1	4.1	0.2	3.1	34.1		14.6	34.1	0.6	89.0	8.8	
Delay (s)	75.5	39.0	45.1	23.8	73.8		38.1	69.6	23.1	123.3	38.9	
Level of Service	E	D	D	C	E		D	E	C	F	D	
Approach Delay (s)		45.3			67.5			57.3			60.4	
Approach LOS		D			E			E			E	
Intersection Summary												
HCM 2000 Control Delay			58.2			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.10									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			102.6%			ICU Level of Service			G			
Analysis Period (min)			15									
c	Critical Lane Group											

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

Future Total 2028 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 			 	
Traffic Volume (vph)	503	692	142	263	1084	164	406	857	43	203	894	739
Future Volume (vph)	503	692	142	263	1084	164	406	857	43	203	894	739
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.127			0.307		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	239	3579	1601	578	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			154			98			47			312
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	547	752	154	286	1178	178	441	932	47	221	972	803
Shared Lane Traffic (%)												
Lane Group Flow (vph)	547	752	154	286	1178	178	441	932	47	221	972	803
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2				6
Permitted Phases			4			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	21.0	30.0	30.0	19.0	28.0	28.0	20.0	71.0	71.0	51.0	51.0	51.0
Total Split (%)	17.5%	25.0%	25.0%	15.8%	23.3%	23.3%	16.7%	59.2%	59.2%	42.5%	42.5%	42.5%
Maximum Green (s)	17.0	26.0	26.0	15.0	24.0	24.0	16.0	67.0	67.0	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	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	Lag
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
Act Effct Green (s)	17.0	26.0	26.0	15.0	24.0	24.0	67.0	67.0	67.0	47.0	47.0	47.0
Actuated g/C Ratio	0.14	0.22	0.22	0.12	0.20	0.20	0.56	0.56	0.56	0.39	0.39	0.39
v/c Ratio	1.11	0.68	0.33	0.66	1.15	0.45	1.30	0.47	0.05	0.98	0.69	0.98

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

Future Total 2028 - With GTA West Highway
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	98.2	41.5	19.8	58.1	120.5	23.1	179.9	16.8	3.6	92.1	33.7	50.6
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	98.2	41.5	19.8	58.1	120.5	23.1	179.9	16.8	3.6	92.1	33.7	50.6
LOS	F	D	B	E	F	C	F	B	A	F	C	D
Approach Delay	60.6			99.1			67.0			47.0		
Approach LOS	E			F			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:	140
Control Type:	Pretimed
Maximum v/c Ratio:	1.30
Intersection Signal Delay:	67.5
Intersection LOS:	E
Intersection Capacity Utilization	99.2%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues
17: Hurontario Street & Mayfield Road

Future Total 2028 - With GTA West Highway
PM Peak Hour




































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	547	752	154	286	1178	178	441	932	47	221	972	803
v/c Ratio	1.11	0.68	0.33	0.66	1.15	0.45	1.30	0.47	0.05	0.98	0.69	0.98
Control Delay	98.2	41.5	19.8	58.1	120.5	23.1	179.9	16.8	3.6	92.1	33.7	50.6
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	98.2	41.5	19.8	58.1	120.5	23.1	179.9	16.8	3.6	92.1	33.7	50.6
Queue Length 50th (m)	~75.4	67.7	20.3	33.6	~119.1	16.0	~107.9	65.7	0.0	50.6	99.4	131.5
Queue Length 95th (m)	m#103.7	m78.7	m27.0	47.8	#147.8	37.3	#170.7	81.4	5.2	#101.3	122.6	#219.4
Internal Link Dist (m)	1381.8			725.9			357.1			585.4		
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	491	1114	467	433	1028	398	340	1998	914	226	1401	816
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	1.11	0.68	0.33	0.66	1.15	0.45	1.30	0.47	0.05	0.98	0.69	0.98

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

















HCM Signalized Intersection Capacity Analysis Future Total 2028 - With GTA West Highway
 17: 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)	503	692	142	263	1084	164	406	857	43	203	894	739		
Future Volume (vph)	503	692	142	263	1084	164	406	857	43	203	894	739		
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	4.0	4.0	4.0	4.0	4.0	4.0		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601		
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.13	1.00	1.00	0.31	1.00	1.00		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	240	3579	1601	577	3579	1601		
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)	547	752	154	286	1178	178	441	932	47	221	972	803		
RTOR Reduction (vph)	0	0	121	0	0	78	0	0	21	0	0	190		
Lane Group Flow (vph)	547	752	33	286	1178	100	441	932	26	221	972	613		
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm		
Protected Phases	7	4		3	8		5	2			6			
Permitted Phases			4			8	2		2	6		6		
Actuated Green, G (s)	17.0	26.0	26.0	15.0	24.0	24.0	67.0	67.0	67.0	47.0	47.0	47.0		
Effective Green, g (s)	17.0	26.0	26.0	15.0	24.0	24.0	67.0	67.0	67.0	47.0	47.0	47.0		
Actuated g/C Ratio	0.14	0.22	0.22	0.12	0.20	0.20	0.56	0.56	0.56	0.39	0.39	0.39		
Clearance Time (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		
Lane Grp Cap (vph)	491	1114	346	433	1028	320	340	1998	893	225	1401	627		
v/s Ratio Prot	c0.16	0.15		0.08	c0.23		c0.17	0.26			0.27			
v/s Ratio Perm			0.02			0.06	c0.55		0.02	0.38		0.38		
v/c Ratio	1.11	0.68	0.10	0.66	1.15	0.31	1.30	0.47	0.03	0.98	0.69	0.98		
Uniform Delay, d1	51.5	43.1	37.6	50.1	48.0	40.9	30.4	15.8	11.9	36.1	30.5	36.0		
Progression Factor	0.57	0.91	3.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	68.2	2.1	0.3	7.7	77.3	2.5	153.8	0.8	0.1	55.6	2.9	30.9		
Delay (s)	97.4	41.3	113.5	57.8	125.3	43.5	184.2	16.6	12.0	91.7	33.3	66.9		
Level of Service	F	D	F	E	F	D	F	B	B	F	C	E		
Approach Delay (s)		70.0			104.7			68.5			53.3			
Approach LOS		E			F			E			D			
Intersection Summary														
HCM 2000 Control Delay			73.3									HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio			1.26											
Actuated Cycle Length (s)			120.0								16.0			
Intersection Capacity Utilization			99.2%										ICU Level of Service	F
Analysis Period (min)			15											
c Critical Lane Group														

















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

Future Background 2033 - With GTA West Highway

AM Peak Hour

















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	233	30	226	174	40	14	262	440	35	337	1
Future Volume (vph)	8	233	30	226	174	40	14	262	440	35	337	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.985			0.988			0.917				
Fl _t Protected		0.998			0.975			0.999			0.995	
Satd. Flow (prot)	0	1851	0	0	1814	0	0	1725	0	0	1874	0
Fl _t Permitted		0.998			0.975			0.999			0.995	
Satd. Flow (perm)	0	1851	0	0	1814	0	0	1725	0	0	1874	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	0.92	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)	9	253	33	246	189	43	15	285	478	38	366	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	295	0	0	478	0	0	778	0	0	405	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	92.6%						ICU Level of Service F					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Background 2033 - With GTA West Highway
 1: Chinguacousy Road & Old School Road 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)	8	233	30	226	174	40	14	262	440	35	337	1
Future Volume (vph)	8	233	30	226	174	40	14	262	440	35	337	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
Hourly flow rate (vph)	9	253	33	246	189	43	15	285	478	38	366	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	295	478	778	405								
Volume Left (vph)	9	246	15	38								
Volume Right (vph)	33	43	478	1								
Hadj (s)	-0.03	0.08	-0.33	0.05								
Departure Headway (s)	9.5	9.1	8.7	9.0								
Degree Utilization, x	0.78	1.21	1.87	1.02								
Capacity (veh/h)	372	400	421	405								
Control Delay (s)	39.3	142.5	422.5	80.6								
Approach Delay (s)	39.3	142.5	422.5	80.6								
Approach LOS	E	F	F	F								
Intersection Summary												
Delay			225.5									
Level of Service			F									
Intersection Capacity Utilization			92.6%	ICU Level of Service	F							
Analysis Period (min)			15									

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

Future Background 2033 - With GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	672	109	260	388	28	39	155	539	30	331	23
Future Volume (vph)	68	672	109	260	388	28	39	155	539	30	331	23
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 _t		0.983			0.994			0.901			0.992	
Fl _t Protected		0.996			0.981			0.997			0.996	
Satd. Flow (prot)	0	1844	0	0	1837	0	0	1692	0	0	1861	0
Fl _t Permitted		0.996			0.981			0.997			0.996	
Satd. Flow (perm)	0	1844	0	0	1837	0	0	1692	0	0	1861	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	74	730	118	283	422	30	42	168	586	33	360	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	922	0	0	735	0	0	796	0	0	418	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	144.5%					ICU Level of Service H						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Background 2033 - With GTA West Highway
 4: McLaughlin Road & Old School Road 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)	68	672	109	260	388	28	39	155	539	30	331	23
Future Volume (vph)	68	672	109	260	388	28	39	155	539	30	331	23
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)	74	730	118	283	422	30	42	168	586	33	360	25
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	922	735	796	418								
Volume Left (vph)	74	283	42	33								
Volume Right (vph)	118	30	586	25								
Hadj (s)	-0.03	0.09	-0.40	0.01								
Departure Headway (s)	9.5	9.7	9.2	9.6								
Degree Utilization, x	2.44	1.97	2.03	1.11								
Capacity (veh/h)	386	379	399	386								
Control Delay (s)	677.5	468.1	491.9	111.5								
Approach Delay (s)	677.5	468.1	491.9	111.5								
Approach LOS	F	F	F	F								
Intersection Summary												
Delay			490.0									
Level of Service			F									
Intersection Capacity Utilization			144.5%		ICU Level of Service				H			
Analysis Period (min)			15									

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

Future Background 2033 - With GTA West Highway
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	569	111	569	323	93	124	156	1719	133	60	3128	312
Future Volume (vph)	569	111	569	323	93	124	156	1719	133	60	3128	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		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		0.875			0.914			0.989			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1648	0	1789	1721	0	1789	3539	0	1789	3528	0
Flt Permitted	0.340			0.154			0.070			0.070		
Satd. Flow (perm)	640	1648	0	290	1721	0	132	3539	0	132	3528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		66			52			9			12	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	618	121	618	351	101	135	170	1868	145	65	3400	339
Shared Lane Traffic (%)												
Lane Group Flow (vph)	618	739	0	351	236	0	170	2013	0	65	3739	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	17.0	35.0		14.0	32.0		10.0	61.0		10.0	61.0	
Total Split (%)	14.2%	29.2%		11.7%	26.7%		8.3%	50.8%		8.3%	50.8%	
Maximum Green (s)	13.0	29.0		10.0	26.0		4.0	55.0		4.0	55.0	
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	
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)	44.0	31.0		38.0	28.0		63.0	57.0		63.0	57.0	
Actuated g/C Ratio	0.37	0.26		0.32	0.23		0.52	0.48		0.52	0.48	
v/c Ratio	1.72	1.56		1.62	0.54		1.12	1.19		0.43	2.22	

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

Future Background 2033 - With GTA West Highway
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	361.6	291.3		326.3	36.2		133.8	123.8		21.3	573.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	361.6	291.3		326.3	36.2		133.8	123.8		21.3	573.4	
LOS	F	F		F	D		F	F		C	F	
Approach Delay		323.3			209.6			124.6			564.0	
Approach LOS		F			F			F			F	

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:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.22
Intersection Signal Delay:	375.7
Intersection LOS:	F
Intersection Capacity Utilization	177.2%
ICU Level of Service	H
Analysis Period (min)	15

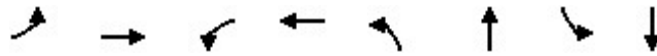
Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Background 2033 - With GTA West Highway

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	618	739	351	236	170	2013	65	3739
v/c Ratio	1.72	1.56	1.62	0.54	1.12	1.19	0.43	2.22
Control Delay	361.6	291.3	326.3	36.2	133.8	123.8	21.3	573.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	361.6	291.3	326.3	36.2	133.8	123.8	21.3	573.4
Queue Length 50th (m)	~172.2	~235.6	~102.9	38.0	~30.3	~302.5	6.7	~755.5
Queue Length 95th (m)	#244.9	#308.9	#161.2	63.6	#74.2	#345.0	13.3	#787.5
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	359	474	216	441	152	1685	152	1682
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	1.72	1.56	1.63	0.54	1.12	1.19	0.43	2.22

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

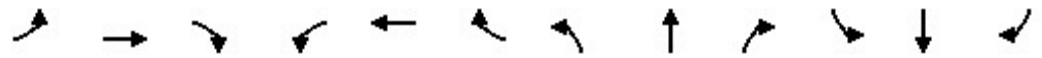
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis - Future Background 2033 - With GTA West Highway
 7: Hurontario Street & Old School Road

AM Peak Hour

























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	569	111	569	323	93	124	156	1719	133	60	3128	312
Future Volume (vph)	569	111	569	323	93	124	156	1719	133	60	3128	312
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		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	0.87		1.00	0.91		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)	1789	1647		1789	1722		1789	3540		1789	3530	
Flt Permitted	0.34	1.00		0.15	1.00		0.07	1.00		0.07	1.00	
Satd. Flow (perm)	640	1647		290	1722		132	3540		132	3530	
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)	618	121	618	351	101	135	170	1868	145	65	3400	339
RTOR Reduction (vph)	0	49	0	0	40	0	0	5	0	0	6	0
Lane Group Flow (vph)	618	690	0	351	196	0	170	2008	0	65	3733	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.0	29.0		36.0	26.0		59.0	55.0		59.0	55.0	
Effective Green, g (s)	42.0	31.0		36.0	28.0		63.0	57.0		63.0	57.0	
Actuated g/C Ratio	0.35	0.26		0.30	0.23		0.52	0.48		0.52	0.48	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	348	425		211	401		152	1681		152	1676	
v/s Ratio Prot	c0.19	0.42		0.14	0.11		c0.06	0.57		0.02	c1.06	
v/s Ratio Perm	c0.43			0.36			0.53			0.20		
v/c Ratio	1.78	1.62		1.66	0.49		1.12	1.19		0.43	2.23	
Uniform Delay, d1	36.6	44.5		37.5	39.8		31.4	31.5		26.2	31.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	360.6	291.3		318.6	4.2		108.3	93.8		8.6	554.2	
Delay (s)	397.2	335.8		356.1	44.0		139.7	125.3		34.7	585.7	
Level of Service	F	F		F	D		F	F		C	F	
Approach Delay (s)		363.8			230.6			126.4			576.2	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	390.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	177.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Background 2033 - With GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	854	126	366	616	81	28	200	223	152	404	24
Future Volume (vph)	24	854	126	366	616	81	28	200	223	152	404	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.983				0.850		0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5044	0	3471	5054	0	1789	1883	1601	1789	1868	0
Flt Permitted	0.352			0.950			0.301			0.556		
Satd. Flow (perm)	663	5044	0	3471	5054	0	567	1883	1601	1047	1868	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			28				242			3
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	26	928	137	398	670	88	30	217	242	165	439	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	1065	0	398	758	0	30	217	242	165	465	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	39.0	39.0		26.0	65.0		55.0	55.0	55.0	55.0		55.0
Total Split (%)	32.5%	32.5%		21.7%	54.2%		45.8%	45.8%	45.8%	45.8%		45.8%
Maximum Green (s)	35.0	35.0		22.0	61.0		51.0	51.0	51.0	51.0		51.0
Yellow Time (s)	3.5	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		0.5
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)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	35.0	35.0		22.0	61.0		51.0	51.0	51.0	51.0		51.0
Actuated g/C Ratio	0.29	0.29		0.18	0.51		0.42	0.42	0.42	0.42		0.42
v/c Ratio	0.13	0.72		0.63	0.29		0.12	0.27	0.30	0.37		0.58

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

Future Background 2033 - With GTA West Highway
 AM Peak Hour

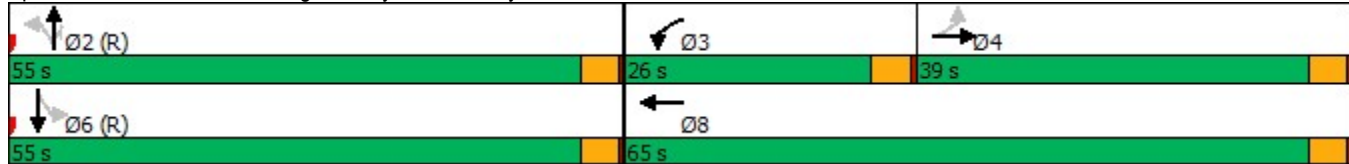


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	33.8	40.4		50.2	16.7		22.8	23.6	3.6	26.7	29.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	33.8	40.4		50.2	16.7		22.8	23.6	3.6	26.7	29.9	
LOS	C	D		D	B		C	C	A	C	C	
Approach Delay		40.3			28.2			13.7			29.1	
Approach 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:	55
Control Type:	Pretimed
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	30.2
Intersection LOS:	C
Intersection Capacity Utilization	69.1%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

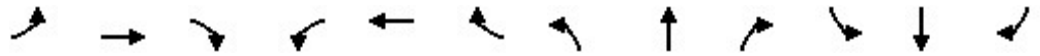
15: Chinguacousy Road & Mayfield Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	26	1065	398	758	30	217	242	165	465
v/c Ratio	0.13	0.72	0.63	0.29	0.12	0.27	0.30	0.37	0.58
Control Delay	33.8	40.4	50.2	16.7	22.8	23.6	3.6	26.7	29.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	40.4	50.2	16.7	22.8	23.6	3.6	26.7	29.9
Queue Length 50th (m)	4.5	80.5	45.0	35.0	4.2	32.6	0.0	26.1	81.8
Queue Length 95th (m)	12.0	96.5	61.2	43.6	10.8	50.3	14.5	44.4	114.9
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	193	1487	636	2582	240	800	819	444	795
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.72	0.63	0.29	0.13	0.27	0.30	0.37	0.58

Intersection Summary

HCM Signalized Intersection Capacity Analysis Future Background 2033 - With GTA West Highway
 15: Chinguacousy Road & Mayfield Road AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑↑		↖↖	↑↑↑		↖	↑	↖	↖	↑	↖
Traffic Volume (vph)	24	854	126	366	616	81	28	200	223	152	404	24
Future Volume (vph)	24	854	126	366	616	81	28	200	223	152	404	24
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	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5043		3471	5052		1789	1883	1601	1789	1868	
Flt Permitted	0.35	1.00		0.95	1.00		0.30	1.00	1.00	0.56	1.00	
Satd. Flow (perm)	664	5043		3471	5052		567	1883	1601	1047	1868	
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)	26	928	137	398	670	88	30	217	242	165	439	26
RTOR Reduction (vph)	0	16	0	0	14	0	0	0	139	0	2	0
Lane Group Flow (vph)	26	1049	0	398	744	0	30	217	103	165	463	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2		2	6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	35.0	35.0		22.0	61.0		51.0	51.0	51.0	51.0	51.0	
Effective Green, g (s)	35.0	35.0		22.0	61.0		51.0	51.0	51.0	51.0	51.0	
Actuated g/C Ratio	0.29	0.29		0.18	0.51		0.42	0.42	0.42	0.42	0.42	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	193	1470		636	2568		240	800	680	444	793	
v/s Ratio Prot		c0.21		c0.11	0.15			0.12			c0.25	
v/s Ratio Perm	0.04						0.05		0.06	0.16		
v/c Ratio	0.13	0.71		0.63	0.29		0.12	0.27	0.15	0.37	0.58	
Uniform Delay, d1	31.3	38.0		45.2	17.0		21.0	22.4	21.2	23.6	26.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	3.0		4.6	0.3		1.1	0.8	0.5	2.4	3.1	
Delay (s)	32.8	41.0		49.8	17.3		22.0	23.3	21.7	25.9	29.5	
Level of Service	C	D		D	B		C	C	C	C	C	
Approach Delay (s)		40.8			28.5			22.4			28.6	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		
c	Critical Lane Group		

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

Future Background 2033 - With GTA West Highway
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	1110	133	212	856	111	64	319	164	338	639	211
Future Volume (vph)	77	1110	133	212	856	111	64	319	164	338	639	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.983				0.850		0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	5054	0	1789	3579	1601	1789	1814	0
Flt Permitted	0.131			0.108			0.082			0.443		
Satd. Flow (perm)	247	5142	1601	203	5054	0	154	3579	1601	834	1814	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		17				178		18	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	1207	145	230	930	121	70	347	178	367	695	229
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	1207	145	230	1051	0	70	347	178	367	924	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	12.0	37.0	37.0	18.0	43.0		8.0	53.0	53.0	28.0	73.0	
Total Split (%)	8.8%	27.2%	27.2%	13.2%	31.6%		5.9%	39.0%	39.0%	20.6%	53.7%	
Maximum Green (s)	8.0	33.0	33.0	14.0	39.0		4.0	49.0	49.0	24.0	69.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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	33.0	33.0	51.0	39.0		53.0	49.0	49.0	77.0	69.0	
Actuated g/C Ratio	0.30	0.24	0.24	0.38	0.29		0.39	0.36	0.36	0.57	0.51	
v/c Ratio	0.51	0.97	0.30	0.96	0.72		0.65	0.27	0.26	0.57	0.99	

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

Future Background 2033 - With GTA West Highway
 AM Peak Hour

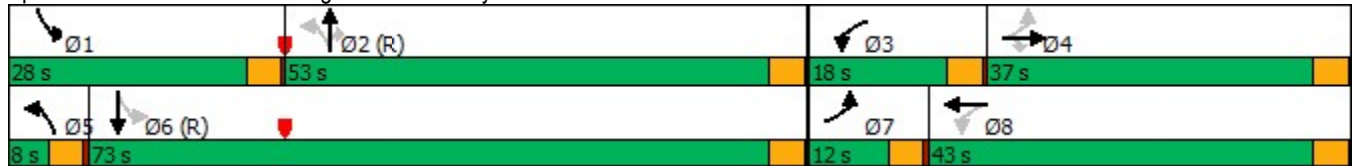


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	39.7	69.7	9.4	85.4	46.2		47.3	31.5	5.0	20.1	61.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	39.7	69.7	9.4	85.4	46.2		47.3	31.5	5.0	20.1	61.1	
LOS	D	E	A	F	D		D	C	A	C	E	
Approach Delay		61.9			53.2			25.4			49.5	
Approach LOS		E			D			C			D	

Intersection Summary

Area Type:	Other
Cycle Length:	136
Actuated Cycle Length:	136
Offset:	120 (88%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	100
Control Type:	Pretimed
Maximum v/c Ratio:	0.99
Intersection Signal Delay:	51.3
Intersection LOS:	D
Intersection Capacity Utilization	96.5%
ICU Level of Service	F
Analysis Period (min)	15

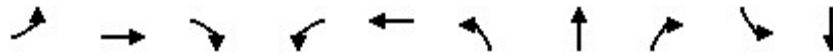
Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Background 2033 - With GTA West Highway

AM Peak Hour

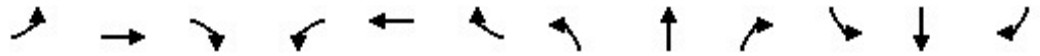


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	84	1207	145	230	1051	70	347	178	367	924
v/c Ratio	0.51	0.97	0.30	0.96	0.72	0.65	0.27	0.26	0.57	0.99
Control Delay	39.7	69.7	9.4	85.4	46.2	47.3	31.5	5.0	20.1	61.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.7	69.7	9.4	85.4	46.2	47.3	31.5	5.0	20.1	61.1
Queue Length 50th (m)	14.7	118.3	1.9	46.4	91.7	8.2	34.6	0.0	51.7	237.5
Queue Length 95th (m)	26.5	#148.4	18.6	#97.6	108.2	#20.6	46.8	15.2	72.6	#332.2
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	165	1247	491	239	1461	108	1289	690	640	929
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	0.51	0.97	0.30	0.96	0.72	0.65	0.27	0.26	0.57	0.99

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis - Future Background 2033 - With GTA West Highway
 16: McLaughlin Road & Mayfield Road AM Peak Hour






































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑	↗	↘	↗	
Traffic Volume (vph)	77	1110	133	212	856	111	64	319	164	338	639	211
Future Volume (vph)	77	1110	133	212	856	111	64	319	164	338	639	211
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	5053		1789	3579	1601	1789	1813	
Flt Permitted	0.13	1.00	1.00	0.11	1.00		0.08	1.00	1.00	0.44	1.00	
Satd. Flow (perm)	247	5142	1601	204	5053		154	3579	1601	834	1813	
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)	84	1207	145	230	930	121	70	347	178	367	695	229
RTOR Reduction (vph)	0	0	103	0	12	0	0	0	114	0	9	0
Lane Group Flow (vph)	84	1207	42	230	1039	0	70	347	64	367	915	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	41.0	33.0	33.0	51.0	39.0		53.0	49.0	49.0	77.0	69.0	
Effective Green, g (s)	41.0	33.0	33.0	51.0	39.0		53.0	49.0	49.0	77.0	69.0	
Actuated g/C Ratio	0.30	0.24	0.24	0.38	0.29		0.39	0.36	0.36	0.57	0.51	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	165	1247	388	239	1449		108	1289	576	640	919	
v/s Ratio Prot	0.03	0.23		c0.10	0.21		0.02	0.10		c0.10	c0.50	
v/s Ratio Perm	0.12		0.03	c0.26			0.23		0.04	0.22		
v/c Ratio	0.51	0.97	0.11	0.96	0.72		0.65	0.27	0.11	0.57	1.00	
Uniform Delay, d1	36.0	51.0	40.1	38.1	43.5		34.1	30.8	29.0	16.7	33.4	
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	10.8	18.9	0.6	49.3	3.1		26.3	0.5	0.4	3.7	28.7	
Delay (s)	46.8	69.9	40.6	87.3	46.6		60.4	31.3	29.4	20.4	62.0	
Level of Service	D	E	D	F	D		E	C	C	C	E	
Approach Delay (s)		65.6			53.9			34.2			50.2	
Approach LOS		E			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	54.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Background 2033 - With GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  			 		 	 	 
Traffic Volume (vph)	175	1138	186	213	646	230	137	665	103	504	1162	194
Future Volume (vph)	175	1138	186	213	646	230	137	665	103	504	1162	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.183			0.117		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	345	3579	1601	220	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			155			250			112			211
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	190	1237	202	232	702	250	149	723	112	548	1263	211
Shared Lane Traffic (%)												
Lane Group Flow (vph)	190	1237	202	232	702	250	149	723	112	548	1263	211
Enter Blocked Intersection	No	No	No	No	No	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	Prot	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			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	16.0	36.0	36.0	13.0	33.0	33.0	13.0	37.0	37.0	42.0	66.0	66.0
Total Split (%)	12.5%	28.1%	28.1%	10.2%	25.8%	25.8%	10.2%	28.9%	28.9%	32.8%	51.6%	51.6%
Maximum Green (s)	12.0	32.0	32.0	9.0	29.0	29.0	9.0	33.0	33.0	38.0	62.0	62.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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
Act Effct Green (s)	12.0	32.0	32.0	9.0	29.0	29.0	42.0	33.0	33.0	75.0	62.0	62.0
Actuated g/C Ratio	0.09	0.25	0.25	0.07	0.23	0.23	0.33	0.26	0.26	0.59	0.48	0.48
v/c Ratio	0.58	0.96	0.39	0.95	0.60	0.45	0.70	0.78	0.23	0.92	0.73	0.24

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

Future Background 2033 - With GTA West Highway
 AM Peak Hour

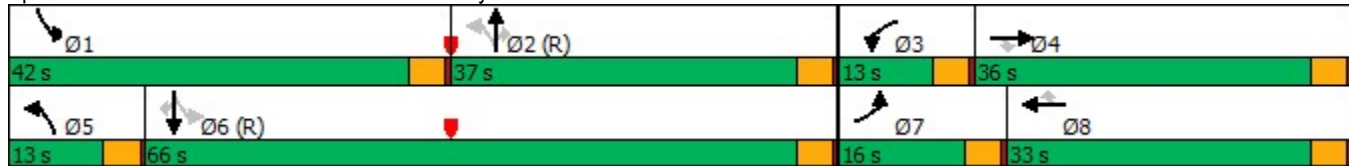


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	63.5	65.1	13.2	105.3	46.9	7.6	40.6	51.2	7.7	55.7	29.4	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.5	65.1	13.2	105.3	46.9	7.6	40.6	51.2	7.7	55.7	29.4	3.0
LOS	E	E	B	F	D	A	D	D	A	E	C	A
Approach Delay	58.5			50.0			44.7			33.8		
Approach LOS	E			D			D			C		

Intersection Summary

Area Type:	Other
Cycle Length:	128
Actuated Cycle Length:	128
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Pretimed
Maximum v/c Ratio:	0.96
Intersection Signal Delay:	45.8
Intersection LOS:	D
Intersection Capacity Utilization	87.7%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues
17: Hurontario Street & Mayfield Road

Future Background 2033 - With GTA West Highway
AM Peak Hour



































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	190	1237	202	232	702	250	149	723	112	548	1263	211
v/c Ratio	0.58	0.96	0.39	0.95	0.60	0.45	0.70	0.78	0.23	0.92	0.73	0.24
Control Delay	63.5	65.1	13.2	105.3	46.9	7.6	40.6	51.2	7.7	55.7	29.4	3.0
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	63.5	65.1	13.2	105.3	46.9	7.6	40.6	51.2	7.7	55.7	29.4	3.0
Queue Length 50th (m)	24.0	113.4	9.2	30.5	58.4	0.0	16.2	89.6	0.0	115.3	130.1	0.0
Queue Length 95th (m)	36.3	#143.3	29.7	#55.8	72.1	20.8	#39.6	112.3	14.2	#182.4	156.3	12.5
Internal Link Dist (m)		1381.8			725.9			357.1			585.4	
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	325	1285	516	244	1164	556	214	922	495	594	1733	884
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	0.96	0.39	0.95	0.60	0.45	0.70	0.78	0.23	0.92	0.73	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 Future Background 2033 - With GTA West Highway
 17: Hurontario Street & Mayfield Road AM Peak Hour

















													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	 	  		 	  			 			 		
Traffic Volume (vph)	175	1138	186	213	646	230	137	665	103	504	1162	194	
Future Volume (vph)	175	1138	186	213	646	230	137	665	103	504	1162	194	
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	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.18	1.00	1.00	0.12	1.00	1.00	
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	344	3579	1601	221	3579	1601	
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)	190	1237	202	232	702	250	149	723	112	548	1263	211	
RTOR Reduction (vph)	0	0	116	0	0	193	0	0	83	0	0	109	
Lane Group Flow (vph)	190	1237	86	232	702	57	149	723	29	548	1263	102	
Turn Type	Prot	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			8	2		2	6		6	
Actuated Green, G (s)	12.0	32.0	32.0	9.0	29.0	29.0	42.0	33.0	33.0	75.0	62.0	62.0	
Effective Green, g (s)	12.0	32.0	32.0	9.0	29.0	29.0	42.0	33.0	33.0	75.0	62.0	62.0	
Actuated g/C Ratio	0.09	0.25	0.25	0.07	0.23	0.23	0.33	0.26	0.26	0.59	0.48	0.48	
Clearance Time (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	
Lane Grp Cap (vph)	325	1285	400	244	1164	362	214	922	412	594	1733	775	
v/s Ratio Prot	0.05	c0.24		c0.07	0.14		0.05	0.20		c0.27	0.35		
v/s Ratio Perm			0.05			0.04	0.18		0.02	c0.27		0.06	
v/c Ratio	0.58	0.96	0.21	0.95	0.60	0.16	0.70	0.78	0.07	0.92	0.73	0.13	
Uniform Delay, d1	55.6	47.4	38.0	59.3	44.3	39.7	31.7	44.2	35.9	34.5	26.3	18.2	
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	7.5	17.6	1.2	46.2	2.3	0.9	17.1	6.6	0.3	22.1	2.7	0.4	
Delay (s)	63.1	65.0	39.3	105.5	46.7	40.6	48.8	50.8	36.2	56.6	29.0	18.5	
Level of Service	E	E	D	F	D	D	D	D	D	E	C	B	
Approach Delay (s)		61.6			56.9			48.9			35.4		
Approach LOS		E			E			D			D		
Intersection Summary													
HCM 2000 Control Delay			49.4									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.96										
Actuated Cycle Length (s)			128.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			87.7%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

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

Future Background 2033 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	130	4	263	288	57	10	473	307	34	233	2
Future Volume (vph)	6	130	4	263	288	57	10	473	307	34	233	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.996			0.987			0.948			0.999	
Fl _t Protected		0.998			0.979			0.999			0.994	
Satd. Flow (prot)	0	1872	0	0	1820	0	0	1784	0	0	1870	0
Fl _t Permitted		0.998			0.979			0.999			0.994	
Satd. Flow (perm)	0	1872	0	0	1820	0	0	1784	0	0	1870	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	0.92	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)	7	141	4	286	313	62	11	514	334	37	253	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	152	0	0	661	0	0	859	0	0	292	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	96.0%						ICU Level of Service F					
Analysis Period (min)	15											

















HCM Unsignalized Intersection Capacity Analysis Background 2033 - With GTA West Highway
 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)	6	130	4	263	288	57	10	473	307	34	233	2
Future Volume (vph)	6	130	4	263	288	57	10	473	307	34	233	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	141	4	286	313	62	11	514	334	37	253	2
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	152	661	859	292								
Volume Left (vph)	7	286	11	37								
Volume Right (vph)	4	62	334	2								
Hadj (s)	0.03	0.06	-0.20	0.06								
Departure Headway (s)	8.7	7.4	7.1	8.0								
Degree Utilization, x	0.37	1.36	1.70	0.65								
Capacity (veh/h)	396	483	511	438								
Control Delay (s)	16.6	194.9	341.4	24.5								
Approach Delay (s)	16.6	194.9	341.4	24.5								
Approach LOS	C	F	F	C								
Intersection Summary												
Delay			219.8									
Level of Service			F									
Intersection Capacity Utilization			96.0%		ICU Level of Service				F			
Analysis Period (min)			15									

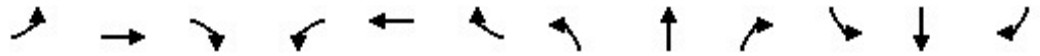
Lanes, Volumes, Timings
4: McLaughlin Road & Old School Road

Future Background 2033 - With GTA West Highway

PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	377	64	373	529	25	74	304	385	9	99	5
Future Volume (vph)	30	377	64	373	529	25	74	304	385	9	99	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
Frt		0.982			0.996			0.932			0.995	
Flt Protected		0.997			0.980			0.995			0.996	
Satd. Flow (prot)	0	1844	0	0	1838	0	0	1747	0	0	1867	0
Flt Permitted		0.997			0.980			0.995			0.996	
Satd. Flow (perm)	0	1844	0	0	1838	0	0	1747	0	0	1867	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	33	410	70	405	575	27	80	330	418	10	108	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	513	0	0	1007	0	0	828	0	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)		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	135.7%					ICU Level of Service H						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Background 2033 - With GTA West Highway
 4: 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)	30	377	64	373	529	25	74	304	385	9	99	5
Future Volume (vph)	30	377	64	373	529	25	74	304	385	9	99	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
Hourly flow rate (vph)	33	410	70	405	575	27	80	330	418	10	108	5

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	513	1007	828	123
Volume Left (vph)	33	405	80	10
Volume Right (vph)	70	27	418	5
Hadj (s)	-0.04	0.10	-0.25	0.03
Departure Headway (s)	7.8	7.9	7.6	9.6
Degree Utilization, x	1.11	2.22	1.74	0.33
Capacity (veh/h)	451	463	481	371
Control Delay (s)	103.0	573.0	362.2	17.2
Approach Delay (s)	103.0	573.0	362.2	17.2
Approach LOS	F	F	F	C

Intersection Summary			
Delay		377.1	
Level of Service		F	
Intersection Capacity Utilization		135.7%	ICU Level of Service H
Analysis Period (min)		15	

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

Future Background 2033 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	620	89	46	343	877	138	118	3776	328	162	1891	575
Future Volume (vph)	620	89	46	343	877	138	118	3776	328	162	1891	575
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		0.949			0.980			0.988			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1787	0	1789	1846	0	1789	3536	0	1789	3453	0
Flt Permitted	0.114			0.505			0.065			0.069		
Satd. Flow (perm)	215	1787	0	951	1846	0	122	3536	0	130	3453	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			5			8			31	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	674	97	50	373	953	150	128	4104	357	176	2055	625
Shared Lane Traffic (%)												
Lane Group Flow (vph)	674	147	0	373	1103	0	128	4461	0	176	2680	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	23.0	41.0		26.0	44.0		21.0	73.0		10.0	62.0	
Total Split (%)	15.3%	27.3%		17.3%	29.3%		14.0%	48.7%		6.7%	41.3%	
Maximum Green (s)	19.0	35.0		22.0	38.0		15.0	67.0		4.0	56.0	
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	
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)	56.0	37.0		62.0	40.0		79.0	69.0		64.0	58.0	
Actuated g/C Ratio	0.37	0.25		0.41	0.27		0.53	0.46		0.43	0.39	
v/c Ratio	2.42	0.33		0.72	2.23		0.51	2.74		1.45	1.98	

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

Future Background 2033 - With GTA West Highway

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	669.9	43.4		41.8	585.0		33.8	802.6		271.1	469.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	669.9	43.4		41.8	585.0		33.8	802.6		271.1	469.8	
LOS	F	D		D	F		C	F		F	F	
Approach Delay		557.8			447.8			781.1			457.6	
Approach LOS		F			F			F			F	

Intersection Summary

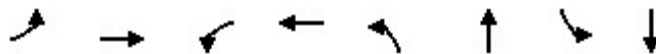
Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.74
Intersection Signal Delay:	617.0
Intersection LOS:	F
Intersection Capacity Utilization	226.0%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Background 2033 - With GTA West Highway
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	674	147	373	1103	128	4461	176	2680
v/c Ratio	2.42	0.33	0.72	2.23	0.51	2.74	1.45	1.98
Control Delay	669.9	43.4	41.8	585.0	33.8	802.6	271.1	469.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	669.9	43.4	41.8	585.0	33.8	802.6	271.1	469.8
Queue Length 50th (m)	~315.9	32.1	80.6	~531.2	19.8	~1194.8	~55.5	~652.7
Queue Length 95th (m)	#391.5	52.6	111.0	#613.0	41.5	#1207.3	#104.9	#687.8
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	279	452	515	495	253	1630	121	1354
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	2.42	0.33	0.72	2.23	0.51	2.74	1.45	1.98

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 - Future Background 2033 - With GTA West Highway
 7: 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)	620	89	46	343	877	138	118	3776	328	162	1891	575
Future Volume (vph)	620	89	46	343	877	138	118	3776	328	162	1891	575
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		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	0.95		1.00	0.98		1.00	0.99		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)	1789	1787		1789	1845		1789	3536		1789	3453	
Flt Permitted	0.11	1.00		0.51	1.00		0.06	1.00		0.07	1.00	
Satd. Flow (perm)	215	1787		952	1845		122	3536		130	3453	
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)	674	97	50	373	953	150	128	4104	357	176	2055	625
RTOR Reduction (vph)	0	12	0	0	4	0	0	4	0	0	19	0
Lane Group Flow (vph)	674	135	0	373	1099	0	128	4457	0	176	2661	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	54.0	35.0		60.0	38.0		77.0	67.0		60.0	56.0	
Effective Green, g (s)	54.0	37.0		60.0	40.0		79.0	69.0		64.0	58.0	
Actuated g/C Ratio	0.36	0.25		0.40	0.27		0.53	0.46		0.43	0.39	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	276	440		503	492		253	1626		121	1335	
v/s Ratio Prot	c0.31	0.08		c0.11	c0.60		0.06	c1.26		c0.06	0.77	
v/s Ratio Perm	0.57			0.19			0.21			0.56		
v/c Ratio	2.44	0.31		0.74	2.23		0.51	2.74		1.45	1.99	
Uniform Delay, d1	45.9	46.0		35.1	55.0		31.7	40.5		38.1	46.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	659.8	1.8		9.5	562.0		7.1	785.1		244.4	449.7	
Delay (s)	705.7	47.8		44.6	617.0		38.8	825.6		282.5	495.7	
Level of Service	F	D		D	F		D	F		F	F	
Approach Delay (s)		587.9			472.4			803.7			482.5	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	641.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.49		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	226.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Background 2033 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	753	49	261	805	90	72	386	238	29	128	10
Future Volume (vph)	17	753	49	261	805	90	72	386	238	29	128	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.985				0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5096	0	3471	5065	0	1789	1883	1601	1789	1863	0
Flt Permitted	0.282			0.950			0.640			0.374		
Satd. Flow (perm)	531	5096	0	3471	5065	0	1205	1883	1601	704	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			21				259			4
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	18	818	53	284	875	98	78	420	259	32	139	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	871	0	284	973	0	78	420	259	32	150	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	34.0	34.0		26.0	60.0		60.0	60.0	60.0	60.0		60.0
Total Split (%)	28.3%	28.3%		21.7%	50.0%		50.0%	50.0%	50.0%	50.0%		50.0%
Maximum Green (s)	30.0	30.0		22.0	56.0		56.0	56.0	56.0	56.0		56.0
Yellow Time (s)	3.5	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		0.5
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)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	30.0	30.0		22.0	56.0		56.0	56.0	56.0	56.0		56.0
Actuated g/C Ratio	0.25	0.25		0.18	0.47		0.47	0.47	0.47	0.47		0.47
v/c Ratio	0.14	0.68		0.45	0.41		0.14	0.48	0.29	0.10		0.17

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

Future Background 2033 - With GTA West Highway

PM Peak Hour

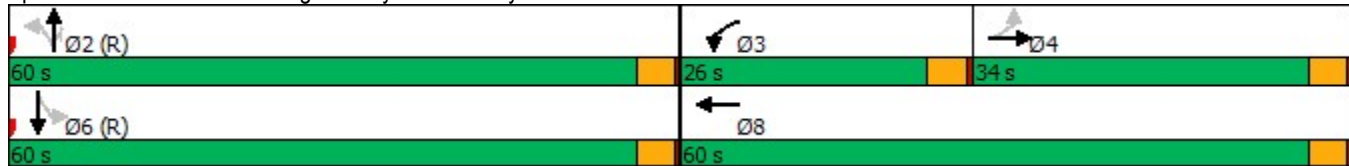


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	38.3	43.5		29.9	29.4		19.2	24.3	3.1	19.0	18.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	38.3	43.5		29.9	29.4		19.2	24.3	3.1	19.0	18.7	
LOS	D	D		C	C		B	C	A	B	B	
Approach Delay		43.3			29.5			16.5				18.8
Approach LOS		D			C			B				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:	50
Control Type:	Pretimed
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	29.7
Intersection LOS:	C
Intersection Capacity Utilization	60.1%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

15: Chinguacousy Road & Mayfield Road

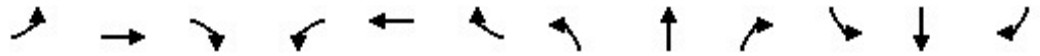


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	18	871	284	973	78	420	259	32	150
v/c Ratio	0.14	0.68	0.45	0.41	0.14	0.48	0.29	0.10	0.17
Control Delay	38.3	43.5	29.9	29.4	19.2	24.3	3.1	19.0	18.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.3	43.5	29.9	29.4	19.2	24.3	3.1	19.0	18.7
Queue Length 50th (m)	3.3	67.5	35.2	82.5	10.2	66.2	0.0	4.1	19.4
Queue Length 95th (m)	9.8	82.4	m36.5	m83.4	19.7	93.9	13.8	10.3	32.1
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	132	1280	636	2374	562	878	885	328	871
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.68	0.45	0.41	0.14	0.48	0.29	0.10	0.17

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis Future Background 2033 - With GTA West Highway
 15: 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)	17	753	49	261	805	90	72	386	238	29	128	10
Future Volume (vph)	17	753	49	261	805	90	72	386	238	29	128	10
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	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5095		3471	5064		1789	1883	1601	1789	1863	
Flt Permitted	0.28	1.00		0.95	1.00		0.64	1.00	1.00	0.37	1.00	
Satd. Flow (perm)	531	5095		3471	5064		1206	1883	1601	704	1863	
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)	18	818	53	284	875	98	78	420	259	32	139	11
RTOR Reduction (vph)	0	6	0	0	11	0	0	0	138	0	2	0
Lane Group Flow (vph)	18	865	0	284	962	0	78	420	121	32	148	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	30.0	30.0		22.0	56.0		56.0	56.0	56.0	56.0	56.0	
Effective Green, g (s)	30.0	30.0		22.0	56.0		56.0	56.0	56.0	56.0	56.0	
Actuated g/C Ratio	0.25	0.25		0.18	0.47		0.47	0.47	0.47	0.47	0.47	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	132	1273		636	2363		562	878	747	328	869	
v/s Ratio Prot		c0.17		c0.08	0.19			c0.22			0.08	
v/s Ratio Perm	0.03						0.06		0.08	0.05		
v/c Ratio	0.14	0.68		0.45	0.41		0.14	0.48	0.16	0.10	0.17	
Uniform Delay, d1	34.9	40.7		43.6	21.1		18.2	22.0	18.5	17.9	18.5	
Progression Factor	1.00	1.00		0.66	1.41		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.1	2.9		0.9	0.2		0.5	1.9	0.5	0.6	0.4	
Delay (s)	37.1	43.6		29.6	29.9		18.8	23.8	18.9	18.5	19.0	
Level of Service	D	D		C	C		B	C	B	B	B	
Approach Delay (s)		43.5			29.8			21.6			18.9	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	31.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		
c	Critical Lane Group		

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

Future Background 2033 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	42	1052	75	232	1165	254	104	482	193	131	199	75
Future Volume (vph)	42	1052	75	232	1165	254	104	482	193	131	199	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.973				0.850		0.959	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	5003	0	1789	1883	1601	1789	1806	0
Flt Permitted	0.129			0.114			0.483			0.211		
Satd. Flow (perm)	243	5142	1601	215	5003	0	910	1883	1601	397	1806	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118		41				210		20	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	1143	82	252	1266	276	113	524	210	142	216	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	1143	82	252	1542	0	113	524	210	142	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	15.0	35.0	35.0	20.0	40.0		11.0	52.0	52.0	13.0	54.0	
Total Split (%)	12.5%	29.2%	29.2%	16.7%	33.3%		9.2%	43.3%	43.3%	10.8%	45.0%	
Maximum Green (s)	11.0	31.0	31.0	16.0	36.0		7.0	48.0	48.0	9.0	50.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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)	42.0	31.0	31.0	51.0	36.0		55.0	48.0	48.0	59.0	50.0	
Actuated g/C Ratio	0.35	0.26	0.26	0.42	0.30		0.46	0.40	0.40	0.49	0.42	
v/c Ratio	0.20	0.86	0.16	0.84	1.01		0.24	0.70	0.27	0.47	0.39	

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

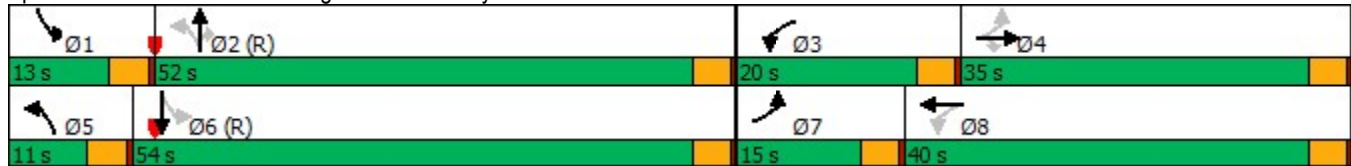
Future Background 2033 - With GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Control Delay	12.0	44.2	10.7	25.9	48.8		17.1	35.9	4.0	21.3	24.5		
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay	12.0	44.2	10.7	25.9	48.8		17.1	35.9	4.0	21.3	24.5		
LOS	B	D	B	C	D		B	D	A	C	C		
Approach Delay		40.9				45.5				25.5			
Approach LOS		D				D				C			

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Pretimed
Maximum v/c Ratio:	1.01
Intersection Signal Delay:	38.0
Intersection LOS:	D
Intersection Capacity Utilization	79.1%
ICU Level of Service	D
Analysis Period (min)	15

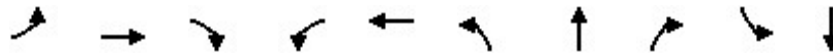
Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Background 2033 - With GTA West Highway

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	46	1143	82	252	1542	113	524	210	142	298
v/c Ratio	0.20	0.86	0.16	0.84	1.01	0.24	0.70	0.27	0.47	0.39
Control Delay	12.0	44.2	10.7	25.9	48.8	17.1	35.9	4.0	21.3	24.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	44.2	10.7	25.9	48.8	17.1	35.9	4.0	21.3	24.5
Queue Length 50th (m)	5.2	102.6	6.6	47.4	~135.3	13.5	101.2	0.0	17.3	44.7
Queue Length 95th (m)	m7.8	118.4	m16.1	m44.2	m121.7	23.5	140.6	14.4	28.7	67.6
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	226	1328	501	301	1529	468	753	766	299	764
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	0.20	0.86	0.16	0.84	1.01	0.24	0.70	0.27	0.47	0.39

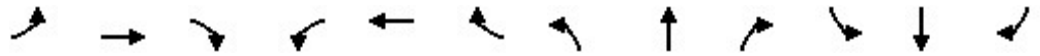
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

HCM Signalized Intersection Capacity Analysis - Future Background 2033 - With GTA West Highway
 16: 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)	42	1052	75	232	1165	254	104	482	193	131	199	75
Future Volume (vph)	42	1052	75	232	1165	254	104	482	193	131	199	75
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	5004		1789	1883	1601	1789	1806	
Flt Permitted	0.13	1.00	1.00	0.11	1.00		0.48	1.00	1.00	0.21	1.00	
Satd. Flow (perm)	243	5142	1601	215	5004		910	1883	1601	397	1806	
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)	46	1143	82	252	1266	276	113	524	210	142	216	82
RTOR Reduction (vph)	0	0	61	0	29	0	0	0	126	0	12	0
Lane Group Flow (vph)	46	1143	21	252	1513	0	113	524	84	142	286	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	42.0	31.0	31.0	51.0	36.0		55.0	48.0	48.0	59.0	50.0	
Effective Green, g (s)	42.0	31.0	31.0	51.0	36.0		55.0	48.0	48.0	59.0	50.0	
Actuated g/C Ratio	0.35	0.26	0.26	0.42	0.30		0.46	0.40	0.40	0.49	0.42	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	226	1328	413	301	1501		468	753	640	299	752	
v/s Ratio Prot	0.02	0.22		c0.11	c0.30		0.01	c0.28		c0.04	0.16	
v/s Ratio Perm	0.05		0.01	0.24			0.10		0.05	0.20		
v/c Ratio	0.20	0.86	0.05	0.84	1.01		0.24	0.70	0.13	0.47	0.38	
Uniform Delay, d1	29.1	42.4	33.4	30.6	42.0		19.1	29.9	22.8	20.6	24.3	
Progression Factor	0.48	0.88	4.39	0.76	0.97		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.8	6.7	0.2	2.7	9.1		1.2	5.3	0.4	5.3	1.5	
Delay (s)	15.8	43.9	146.9	25.8	49.8		20.3	35.2	23.2	25.9	25.7	
Level of Service	B	D	F	C	D		C	D	C	C	C	
Approach Delay (s)		49.5			46.4			30.2			25.8	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	42.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	79.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Background 2033 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  			 			 	
Traffic Volume (vph)	519	759	77	290	1181	171	275	753	48	214	811	765
Future Volume (vph)	519	759	77	290	1181	171	275	753	48	214	811	765
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.172			0.343		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	324	3579	1601	646	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			84			135			52			327
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	564	825	84	315	1284	186	299	818	52	233	882	832
Shared Lane Traffic (%)												
Lane Group Flow (vph)	564	825	84	315	1284	186	299	818	52	233	882	832
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2				6
Permitted Phases			4			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	19.0	30.0	30.0	18.0	29.0	29.0	19.0	72.0	72.0	53.0	53.0	53.0
Total Split (%)	15.8%	25.0%	25.0%	15.0%	24.2%	24.2%	15.8%	60.0%	60.0%	44.2%	44.2%	44.2%
Maximum Green (s)	15.0	26.0	26.0	14.0	25.0	25.0	15.0	68.0	68.0	49.0	49.0	49.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	Lag
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
Act Effct Green (s)	15.0	26.0	26.0	14.0	25.0	25.0	68.0	68.0	68.0	49.0	49.0	49.0
Actuated g/C Ratio	0.12	0.22	0.22	0.12	0.21	0.21	0.57	0.57	0.57	0.41	0.41	0.41
v/c Ratio	1.30	0.74	0.20	0.78	1.20	0.42	0.82	0.40	0.06	0.89	0.60	0.98

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

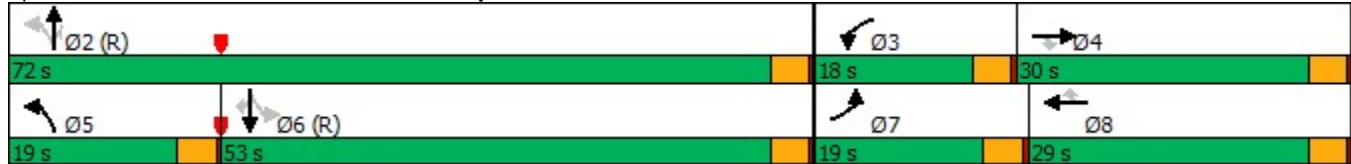
Future Background 2033 - With GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	175.0	44.4	19.9	65.7	140.0	16.1	35.1	15.3	3.3	67.4	30.0	48.9
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	175.0	44.4	19.9	65.7	140.0	16.1	35.1	15.3	3.3	67.4	30.0	48.9
LOS	F	D	B	E	F	B	D	B	A	E	C	D
Approach Delay	93.0			114.0			19.9			42.6		
Approach LOS	F			F			B			D		

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	110
Control Type:	Pretimed
Maximum v/c Ratio:	1.30
Intersection Signal Delay:	70.1
Intersection LOS:	E
Intersection Capacity Utilization	95.4%
ICU Level of Service	F
Analysis Period (min)	15

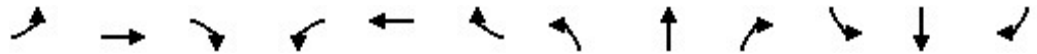
Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues
17: Hurontario Street & Mayfield Road

Future Background 2033 - With GTA West Highway

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	564	825	84	315	1284	186	299	818	52	233	882	832
v/c Ratio	1.30	0.74	0.20	0.78	1.20	0.42	0.82	0.40	0.06	0.89	0.60	0.98
Control Delay	175.0	44.4	19.9	65.7	140.0	16.1	35.1	15.3	3.3	67.4	30.0	48.9
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	175.0	44.4	19.9	65.7	140.0	16.1	35.1	15.3	3.3	67.4	30.0	48.9
Queue Length 50th (m)	~89.8	74.6	10.8	37.6	~134.3	9.9	34.9	54.2	0.0	50.1	84.5	135.9
Queue Length 95th (m)	m#115.0	m87.7	m15.8	#56.9	#163.4	30.5	#75.2	67.8	5.3	#99.0	105.1	#226.2
Internal Link Dist (m)		1381.8			725.9			357.1			585.4	
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	433	1114	412	404	1071	440	366	2028	929	263	1461	847
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	1.30	0.74	0.20	0.78	1.20	0.42	0.82	0.40	0.06	0.89	0.60	0.98

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.

















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

HCM Signalized Intersection Capacity Analysis Future Background 2033 - With GTA West Highway
 17: 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)	519	759	77	290	1181	171	275	753	48	214	811	765
Future Volume (vph)	519	759	77	290	1181	171	275	753	48	214	811	765
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	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.17	1.00	1.00	0.34	1.00	1.00
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	324	3579	1601	646	3579	1601
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)	564	825	84	315	1284	186	299	818	52	233	882	832
RTOR Reduction (vph)	0	0	66	0	0	107	0	0	23	0	0	193
Lane Group Flow (vph)	564	825	18	315	1284	79	299	818	29	233	882	639
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases			4			8	2		2	6		6
Actuated Green, G (s)	15.0	26.0	26.0	14.0	25.0	25.0	68.0	68.0	68.0	49.0	49.0	49.0
Effective Green, g (s)	15.0	26.0	26.0	14.0	25.0	25.0	68.0	68.0	68.0	49.0	49.0	49.0
Actuated g/C Ratio	0.12	0.22	0.22	0.12	0.21	0.21	0.57	0.57	0.57	0.41	0.41	0.41
Clearance Time (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
Lane Grp Cap (vph)	433	1114	346	404	1071	333	366	2028	907	263	1461	653
v/s Ratio Prot	c0.16	0.16		0.09	c0.25		c0.10	0.23			0.25	
v/s Ratio Perm			0.01			0.05	0.36		0.02	0.36		c0.40
v/c Ratio	1.30	0.74	0.05	0.78	1.20	0.24	0.82	0.40	0.03	0.89	0.60	0.98
Uniform Delay, d1	52.5	43.9	37.2	51.5	47.5	39.6	18.5	14.6	11.5	32.9	27.9	35.0
Progression Factor	0.55	0.94	2.35	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	146.9	2.9	0.2	13.8	98.7	1.7	18.0	0.6	0.1	32.5	1.9	30.2
Delay (s)	175.9	44.1	87.5	65.3	146.2	41.2	36.5	15.2	11.5	65.4	29.7	65.2
Level of Service	F	D	F	E	F	D	D	B	B	E	C	E
Approach Delay (s)		97.1			121.0			20.5			49.1	
Approach LOS		F			F			C			D	
Intersection Summary												
HCM 2000 Control Delay			75.1			HCM 2000 Level of Service		E				
HCM 2000 Volume to Capacity ratio			1.06									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)		16.0				
Intersection Capacity Utilization			95.4%			ICU Level of Service		F				
Analysis Period (min)			15									
c Critical Lane Group												

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

Future Total 2033 - With GTA West Highway
AM Peak Hour

















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	233	30	226	174	40	14	262	440	35	337	1
Future Volume (vph)	8	233	30	226	174	40	14	262	440	35	337	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.985			0.988			0.917				
Fl _t Protected		0.998			0.975			0.999			0.995	
Satd. Flow (prot)	0	1851	0	0	1814	0	0	1725	0	0	1874	0
Fl _t Permitted		0.998			0.975			0.999			0.995	
Satd. Flow (perm)	0	1851	0	0	1814	0	0	1725	0	0	1874	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	0.92	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)	9	253	33	246	189	43	15	285	478	38	366	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	295	0	0	478	0	0	778	0	0	405	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	92.6%											
Analysis Period (min)	15											
	ICU Level of Service F											

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - With GTA West Highway
 1: Chinguacousy Road & Old School Road 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)	8	233	30	226	174	40	14	262	440	35	337	1	
Future Volume (vph)	8	233	30	226	174	40	14	262	440	35	337	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	
Hourly flow rate (vph)	9	253	33	246	189	43	15	285	478	38	366	1	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1									
Volume Total (vph)	295	478	778	405									
Volume Left (vph)	9	246	15	38									
Volume Right (vph)	33	43	478	1									
Hadj (s)	-0.03	0.08	-0.33	0.05									
Departure Headway (s)	9.5	9.1	8.7	9.0									
Degree Utilization, x	0.78	1.21	1.87	1.02									
Capacity (veh/h)	372	400	421	405									
Control Delay (s)	39.3	142.5	422.5	80.6									
Approach Delay (s)	39.3	142.5	422.5	80.6									
Approach LOS	E	F	F	F									
Intersection Summary													
Delay			225.5										
Level of Service			F										
Intersection Capacity Utilization			92.6%	ICU Level of Service									F
Analysis Period (min)			15										

















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

Future Total 2033 - With GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	672	109	260	388	28	39	155	539	30	331	23
Future Volume (vph)	68	672	109	260	388	28	39	155	539	30	331	23
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		0.983			0.994			0.901			0.992	
Flt Protected		0.996			0.981			0.997			0.996	
Satd. Flow (prot)	0	1844	0	0	1837	0	0	1692	0	0	1861	0
Flt Permitted		0.996			0.981			0.997			0.996	
Satd. Flow (perm)	0	1844	0	0	1837	0	0	1692	0	0	1861	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	74	730	118	283	422	30	42	168	586	33	360	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	922	0	0	735	0	0	796	0	0	418	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	144.5%					ICU Level of Service H						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - With GTA West Highway
 4: McLaughlin Road & Old School Road

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)	68	672	109	260	388	28	39	155	539	30	331	23
Future Volume (vph)	68	672	109	260	388	28	39	155	539	30	331	23
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)	74	730	118	283	422	30	42	168	586	33	360	25
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	922	735	796	418								
Volume Left (vph)	74	283	42	33								
Volume Right (vph)	118	30	586	25								
Hadj (s)	-0.03	0.09	-0.40	0.01								
Departure Headway (s)	9.5	9.7	9.2	9.6								
Degree Utilization, x	2.44	1.97	2.03	1.11								
Capacity (veh/h)	386	379	399	386								
Control Delay (s)	677.5	468.1	491.9	111.5								
Approach Delay (s)	677.5	468.1	491.9	111.5								
Approach LOS	F	F	F	F								
Intersection Summary												
Delay			490.0									
Level of Service			F									
Intersection Capacity Utilization			144.5%	ICU Level of Service	H							
Analysis Period (min)			15									

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

Future Total 2033 - With GTA West Highway
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	569	111	569	323	93	124	156	1719	133	60	3128	312
Future Volume (vph)	569	111	569	323	93	124	156	1719	133	60	3128	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		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		0.875			0.914			0.989			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1648	0	1789	1721	0	1789	3539	0	1789	3528	0
Flt Permitted	0.340			0.154			0.070			0.070		
Satd. Flow (perm)	640	1648	0	290	1721	0	132	3539	0	132	3528	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		66			52			9			12	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	618	121	618	351	101	135	170	1868	145	65	3400	339
Shared Lane Traffic (%)												
Lane Group Flow (vph)	618	739	0	351	236	0	170	2013	0	65	3739	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	17.0	35.0		14.0	32.0		10.0	61.0		10.0	61.0	
Total Split (%)	14.2%	29.2%		11.7%	26.7%		8.3%	50.8%		8.3%	50.8%	
Maximum Green (s)	13.0	29.0		10.0	26.0		4.0	55.0		4.0	55.0	
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	
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)	44.0	31.0		38.0	28.0		63.0	57.0		63.0	57.0	
Actuated g/C Ratio	0.37	0.26		0.32	0.23		0.52	0.48		0.52	0.48	
v/c Ratio	1.72	1.56		1.62	0.54		1.12	1.19		0.43	2.22	

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

Future Total 2033 - With GTA West Highway
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	361.6	291.3		326.3	36.2		133.8	123.8		21.3	573.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	361.6	291.3		326.3	36.2		133.8	123.8		21.3	573.4	
LOS	F	F		F	D		F	F		C	F	
Approach Delay		323.3			209.6			124.6			564.0	
Approach LOS		F			F			F			F	

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:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.22
Intersection Signal Delay:	375.7
Intersection LOS:	F
Intersection Capacity Utilization	177.2%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Total 2033 - With GTA West Highway
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	618	739	351	236	170	2013	65	3739
v/c Ratio	1.72	1.56	1.62	0.54	1.12	1.19	0.43	2.22
Control Delay	361.6	291.3	326.3	36.2	133.8	123.8	21.3	573.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	361.6	291.3	326.3	36.2	133.8	123.8	21.3	573.4
Queue Length 50th (m)	~172.2	~235.6	~102.9	38.0	~30.3	~302.5	6.7	~755.5
Queue Length 95th (m)	#244.9	#308.9	#161.2	63.6	#74.2	#345.0	13.3	#787.5
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	359	474	216	441	152	1685	152	1682
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	1.72	1.56	1.63	0.54	1.12	1.19	0.43	2.22

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 Future Total 2033 - With GTA West Highway
 7: Hurontario Street & Old School Road AM Peak Hour

























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (vph)	569	111	569	323	93	124	156	1719	133	60	3128	312
Future Volume (vph)	569	111	569	323	93	124	156	1719	133	60	3128	312
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		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	0.87		1.00	0.91		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)	1789	1647		1789	1722		1789	3540		1789	3530	
Flt Permitted	0.34	1.00		0.15	1.00		0.07	1.00		0.07	1.00	
Satd. Flow (perm)	640	1647		290	1722		132	3540		132	3530	
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)	618	121	618	351	101	135	170	1868	145	65	3400	339
RTOR Reduction (vph)	0	49	0	0	40	0	0	5	0	0	6	0
Lane Group Flow (vph)	618	690	0	351	196	0	170	2008	0	65	3733	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.0	29.0		36.0	26.0		59.0	55.0		59.0	55.0	
Effective Green, g (s)	42.0	31.0		36.0	28.0		63.0	57.0		63.0	57.0	
Actuated g/C Ratio	0.35	0.26		0.30	0.23		0.52	0.48		0.52	0.48	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	348	425		211	401		152	1681		152	1676	
v/s Ratio Prot	c0.19	0.42		0.14	0.11		c0.06	0.57		0.02	c1.06	
v/s Ratio Perm	c0.43			0.36			0.53			0.20		
v/c Ratio	1.78	1.62		1.66	0.49		1.12	1.19		0.43	2.23	
Uniform Delay, d1	36.6	44.5		37.5	39.8		31.4	31.5		26.2	31.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	360.6	291.3		318.6	4.2		108.3	93.8		8.6	554.2	
Delay (s)	397.2	335.8		356.1	44.0		139.7	125.3		34.7	585.7	
Level of Service	F	F		F	D		F	F		C	F	
Approach Delay (s)		363.8			230.6			126.4			576.2	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	390.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.00		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	177.2%	ICU Level of Service	H
Analysis Period (min)	15		
c	Critical Lane Group		

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

Future Total 2033 - With GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	854	126	366	616	81	28	200	223	152	404	24
Future Volume (vph)	24	854	126	366	616	81	28	200	223	152	404	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.983				0.850		0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5044	0	3471	5054	0	1789	1883	1601	1789	1868	0
Flt Permitted	0.352			0.950			0.301			0.556		
Satd. Flow (perm)	663	5044	0	3471	5054	0	567	1883	1601	1047	1868	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			28				242			3
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	26	928	137	398	670	88	30	217	242	165	439	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	1065	0	398	758	0	30	217	242	165	465	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	39.0	39.0		26.0	65.0		55.0	55.0	55.0	55.0		55.0
Total Split (%)	32.5%	32.5%		21.7%	54.2%		45.8%	45.8%	45.8%	45.8%		45.8%
Maximum Green (s)	35.0	35.0		22.0	61.0		51.0	51.0	51.0	51.0		51.0
Yellow Time (s)	3.5	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		0.5
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)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	35.0	35.0		22.0	61.0		51.0	51.0	51.0	51.0		51.0
Actuated g/C Ratio	0.29	0.29		0.18	0.51		0.42	0.42	0.42	0.42		0.42
v/c Ratio	0.13	0.72		0.63	0.29		0.12	0.27	0.30	0.37		0.58

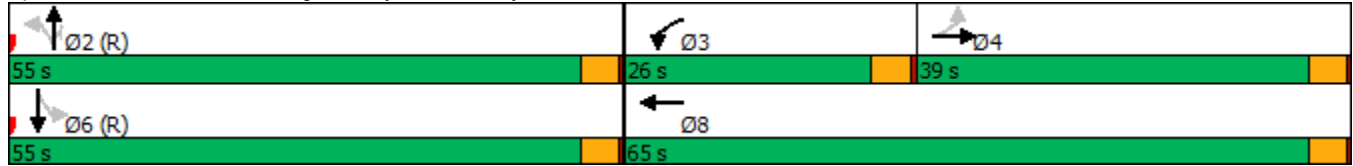
Lanes, Volumes, Timings
 15: Chinguacousy Road & Mayfield Road

Future Total 2033 - With GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	33.8	40.4		50.2	16.7		22.8	23.6	3.6	26.7	29.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	33.8	40.4		50.2	16.7		22.8	23.6	3.6	26.7	29.9	
LOS	C	D		D	B		C	C	A	C	C	
Approach Delay		40.3			28.2			13.7			29.1	
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:	55
Control Type:	Pretimed
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	30.2
Intersection LOS:	C
Intersection Capacity Utilization	69.1%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

Future Total 2033 - With GTA West Highway

15: Chinguacousy Road & Mayfield Road

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	26	1065	398	758	30	217	242	165	465
v/c Ratio	0.13	0.72	0.63	0.29	0.12	0.27	0.30	0.37	0.58
Control Delay	33.8	40.4	50.2	16.7	22.8	23.6	3.6	26.7	29.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	40.4	50.2	16.7	22.8	23.6	3.6	26.7	29.9
Queue Length 50th (m)	4.5	80.5	45.0	35.0	4.2	32.6	0.0	26.1	81.8
Queue Length 95th (m)	12.0	96.5	61.2	43.6	10.8	50.3	14.5	44.4	114.9
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	193	1487	636	2582	240	800	819	444	795
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.72	0.63	0.29	0.13	0.27	0.30	0.37	0.58

Intersection Summary

HCM Signalized Intersection Capacity Analysis Future Total 2033 - With GTA West Highway
 15: Chinguacousy Road & Mayfield Road AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↖↗	↑↑↑		↖	↑	↗	↖	↑	↗
Traffic Volume (vph)	24	854	126	366	616	81	28	200	223	152	404	24
Future Volume (vph)	24	854	126	366	616	81	28	200	223	152	404	24
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	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5043		3471	5052		1789	1883	1601	1789	1868	
Flt Permitted	0.35	1.00		0.95	1.00		0.30	1.00	1.00	0.56	1.00	
Satd. Flow (perm)	664	5043		3471	5052		567	1883	1601	1047	1868	
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)	26	928	137	398	670	88	30	217	242	165	439	26
RTOR Reduction (vph)	0	16	0	0	14	0	0	0	139	0	2	0
Lane Group Flow (vph)	26	1049	0	398	744	0	30	217	103	165	463	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	35.0	35.0		22.0	61.0		51.0	51.0	51.0	51.0	51.0	
Effective Green, g (s)	35.0	35.0		22.0	61.0		51.0	51.0	51.0	51.0	51.0	
Actuated g/C Ratio	0.29	0.29		0.18	0.51		0.42	0.42	0.42	0.42	0.42	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	193	1470		636	2568		240	800	680	444	793	
v/s Ratio Prot		c0.21		c0.11	0.15			0.12			c0.25	
v/s Ratio Perm	0.04						0.05		0.06	0.16		
v/c Ratio	0.13	0.71		0.63	0.29		0.12	0.27	0.15	0.37	0.58	
Uniform Delay, d1	31.3	38.0		45.2	17.0		21.0	22.4	21.2	23.6	26.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	3.0		4.6	0.3		1.1	0.8	0.5	2.4	3.1	
Delay (s)	32.8	41.0		49.8	17.3		22.0	23.3	21.7	25.9	29.5	
Level of Service	C	D		D	B		C	C	C	C	C	
Approach Delay (s)		40.8			28.5			22.4			28.6	
Approach LOS		D			C			C			C	

Intersection Summary		
HCM 2000 Control Delay	31.6	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.63	
Actuated Cycle Length (s)	120.0	Sum of lost time (s) 12.0
Intersection Capacity Utilization	69.1%	ICU Level of Service C
Analysis Period (min)	15	
c Critical Lane Group		

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

Future Total 2033 - With GTA West Highway
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	1110	133	212	856	111	64	319	164	338	639	211
Future Volume (vph)	77	1110	133	212	856	111	64	319	164	338	639	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.983				0.850		0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	5054	0	1789	3579	1601	1789	1814	0
Flt Permitted	0.131			0.108			0.082			0.443		
Satd. Flow (perm)	247	5142	1601	203	5054	0	154	3579	1601	834	1814	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		17				178		18	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	84	1207	145	230	930	121	70	347	178	367	695	229
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	1207	145	230	1051	0	70	347	178	367	924	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	12.0	37.0	37.0	18.0	43.0		8.0	53.0	53.0	28.0	73.0	
Total Split (%)	8.8%	27.2%	27.2%	13.2%	31.6%		5.9%	39.0%	39.0%	20.6%	53.7%	
Maximum Green (s)	8.0	33.0	33.0	14.0	39.0		4.0	49.0	49.0	24.0	69.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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	33.0	33.0	51.0	39.0		53.0	49.0	49.0	77.0	69.0	
Actuated g/C Ratio	0.30	0.24	0.24	0.38	0.29		0.39	0.36	0.36	0.57	0.51	
v/c Ratio	0.51	0.97	0.30	0.96	0.72		0.65	0.27	0.26	0.57	0.99	

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

Future Total 2033 - With GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	39.7	69.7	9.4	85.4	46.2		47.3	31.5	5.0	20.1	61.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	39.7	69.7	9.4	85.4	46.2		47.3	31.5	5.0	20.1	61.1	
LOS	D	E	A	F	D		D	C	A	C	E	
Approach Delay		61.9			53.2			25.4			49.5	
Approach LOS		E			D			C			D	

Intersection Summary

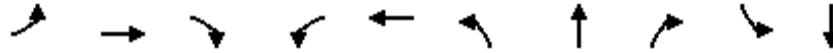
Area Type:	Other
Cycle Length:	136
Actuated Cycle Length:	136
Offset:	120 (88%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	100
Control Type:	Pretimed
Maximum v/c Ratio:	0.99
Intersection Signal Delay:	51.3
Intersection LOS:	D
Intersection Capacity Utilization	96.5%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Total 2033 - With GTA West Highway
AM Peak Hour

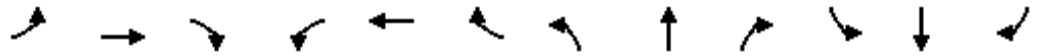


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	84	1207	145	230	1051	70	347	178	367	924
v/c Ratio	0.51	0.97	0.30	0.96	0.72	0.65	0.27	0.26	0.57	0.99
Control Delay	39.7	69.7	9.4	85.4	46.2	47.3	31.5	5.0	20.1	61.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.7	69.7	9.4	85.4	46.2	47.3	31.5	5.0	20.1	61.1
Queue Length 50th (m)	14.7	118.3	1.9	46.4	91.7	8.2	34.6	0.0	51.7	237.5
Queue Length 95th (m)	26.5	#148.4	18.6	#97.6	108.2	#20.6	46.8	15.2	72.6	#332.2
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	165	1247	491	239	1461	108	1289	690	640	929
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	0.51	0.97	0.30	0.96	0.72	0.65	0.27	0.26	0.57	0.99

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis Future Total 2033 - With GTA West Highway
 16: McLaughlin Road & Mayfield Road AM Peak Hour




































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑	↗	↘	↗	
Traffic Volume (vph)	77	1110	133	212	856	111	64	319	164	338	639	211
Future Volume (vph)	77	1110	133	212	856	111	64	319	164	338	639	211
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	5053		1789	3579	1601	1789	1813	
Flt Permitted	0.13	1.00	1.00	0.11	1.00		0.08	1.00	1.00	0.44	1.00	
Satd. Flow (perm)	247	5142	1601	204	5053		154	3579	1601	834	1813	
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)	84	1207	145	230	930	121	70	347	178	367	695	229
RTOR Reduction (vph)	0	0	103	0	12	0	0	0	114	0	9	0
Lane Group Flow (vph)	84	1207	42	230	1039	0	70	347	64	367	915	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	41.0	33.0	33.0	51.0	39.0		53.0	49.0	49.0	77.0	69.0	
Effective Green, g (s)	41.0	33.0	33.0	51.0	39.0		53.0	49.0	49.0	77.0	69.0	
Actuated g/C Ratio	0.30	0.24	0.24	0.38	0.29		0.39	0.36	0.36	0.57	0.51	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	165	1247	388	239	1449		108	1289	576	640	919	
v/s Ratio Prot	0.03	0.23		c0.10	0.21		0.02	0.10		c0.10	c0.50	
v/s Ratio Perm	0.12		0.03	c0.26			0.23		0.04	0.22		
v/c Ratio	0.51	0.97	0.11	0.96	0.72		0.65	0.27	0.11	0.57	1.00	
Uniform Delay, d1	36.0	51.0	40.1	38.1	43.5		34.1	30.8	29.0	16.7	33.4	
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	10.8	18.9	0.6	49.3	3.1		26.3	0.5	0.4	3.7	28.7	
Delay (s)	46.8	69.9	40.6	87.3	46.6		60.4	31.3	29.4	20.4	62.0	
Level of Service	D	E	D	F	D		E	C	C	C	E	
Approach Delay (s)		65.6			53.9			34.2			50.2	
Approach LOS		E			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	54.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Total 2033 - With GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 		 		 
Traffic Volume (vph)	175	1138	186	213	646	230	137	665	103	504	1162	194
Future Volume (vph)	175	1138	186	213	646	230	137	665	103	504	1162	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.183			0.117		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	345	3579	1601	220	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			155			250			112			211
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	190	1237	202	232	702	250	149	723	112	548	1263	211
Shared Lane Traffic (%)												
Lane Group Flow (vph)	190	1237	202	232	702	250	149	723	112	548	1263	211
Enter Blocked Intersection	No	No	No	No	No	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	Prot	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			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	16.0	36.0	36.0	13.0	33.0	33.0	13.0	37.0	37.0	42.0	66.0	66.0
Total Split (%)	12.5%	28.1%	28.1%	10.2%	25.8%	25.8%	10.2%	28.9%	28.9%	32.8%	51.6%	51.6%
Maximum Green (s)	12.0	32.0	32.0	9.0	29.0	29.0	9.0	33.0	33.0	38.0	62.0	62.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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
Act Effct Green (s)	12.0	32.0	32.0	9.0	29.0	29.0	42.0	33.0	33.0	75.0	62.0	62.0
Actuated g/C Ratio	0.09	0.25	0.25	0.07	0.23	0.23	0.33	0.26	0.26	0.59	0.48	0.48
v/c Ratio	0.58	0.96	0.39	0.95	0.60	0.45	0.70	0.78	0.23	0.92	0.73	0.24

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

Future Total 2033 - With GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	63.5	65.1	13.2	105.3	46.9	7.6	40.6	51.2	7.7	55.7	29.4	3.0
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	63.5	65.1	13.2	105.3	46.9	7.6	40.6	51.2	7.7	55.7	29.4	3.0
LOS	E	E	B	F	D	A	D	D	A	E	C	A
Approach Delay	58.5			50.0			44.7			33.8		
Approach LOS	E			D			D			C		

Intersection Summary	
Area Type:	Other
Cycle Length:	128
Actuated Cycle Length:	128
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Pretimed
Maximum v/c Ratio:	0.96
Intersection Signal Delay:	45.8
Intersection LOS:	D
Intersection Capacity Utilization	87.7%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues

Future Total 2033 - With GTA West Highway

17: Hurontario Street & Mayfield Road

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	190	1237	202	232	702	250	149	723	112	548	1263	211
v/c Ratio	0.58	0.96	0.39	0.95	0.60	0.45	0.70	0.78	0.23	0.92	0.73	0.24
Control Delay	63.5	65.1	13.2	105.3	46.9	7.6	40.6	51.2	7.7	55.7	29.4	3.0
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	63.5	65.1	13.2	105.3	46.9	7.6	40.6	51.2	7.7	55.7	29.4	3.0
Queue Length 50th (m)	24.0	113.4	9.2	30.5	58.4	0.0	16.2	89.6	0.0	115.3	130.1	0.0
Queue Length 95th (m)	36.3	#143.3	29.7	#55.8	72.1	20.8	#39.6	112.3	14.2	#182.4	156.3	12.5
Internal Link Dist (m)		1381.8			725.9			357.1			585.4	
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	325	1285	516	244	1164	556	214	922	495	594	1733	884
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	0.96	0.39	0.95	0.60	0.45	0.70	0.78	0.23	0.92	0.73	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 Future Total 2033 - With GTA West Highway
 17: Hurontario Street & Mayfield Road AM Peak Hour



















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖	↑↑	↖	↖	↑↑	↖
Traffic Volume (vph)	175	1138	186	213	646	230	137	665	103	504	1162	194
Future Volume (vph)	175	1138	186	213	646	230	137	665	103	504	1162	194
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	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.18	1.00	1.00	0.12	1.00	1.00
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	344	3579	1601	221	3579	1601
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)	190	1237	202	232	702	250	149	723	112	548	1263	211
RTOR Reduction (vph)	0	0	116	0	0	193	0	0	83	0	0	109
Lane Group Flow (vph)	190	1237	86	232	702	57	149	723	29	548	1263	102
Turn Type	Prot	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			8	2		2	6		6
Actuated Green, G (s)	12.0	32.0	32.0	9.0	29.0	29.0	42.0	33.0	33.0	75.0	62.0	62.0
Effective Green, g (s)	12.0	32.0	32.0	9.0	29.0	29.0	42.0	33.0	33.0	75.0	62.0	62.0
Actuated g/C Ratio	0.09	0.25	0.25	0.07	0.23	0.23	0.33	0.26	0.26	0.59	0.48	0.48
Clearance Time (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
Lane Grp Cap (vph)	325	1285	400	244	1164	362	214	922	412	594	1733	775
v/s Ratio Prot	0.05	c0.24		c0.07	0.14		0.05	0.20		c0.27	0.35	
v/s Ratio Perm			0.05			0.04	0.18		0.02	c0.27		0.06
v/c Ratio	0.58	0.96	0.21	0.95	0.60	0.16	0.70	0.78	0.07	0.92	0.73	0.13
Uniform Delay, d1	55.6	47.4	38.0	59.3	44.3	39.7	31.7	44.2	35.9	34.5	26.3	18.2
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	7.5	17.6	1.2	46.2	2.3	0.9	17.1	6.6	0.3	22.1	2.7	0.4
Delay (s)	63.1	65.0	39.3	105.5	46.7	40.6	48.8	50.8	36.2	56.6	29.0	18.5
Level of Service	E	E	D	F	D	D	D	D	D	E	C	B
Approach Delay (s)		61.6			56.9			48.9			35.4	
Approach LOS		E			E			D			D	

Intersection Summary		
HCM 2000 Control Delay	49.4	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.96	D
Actuated Cycle Length (s)	128.0	Sum of lost time (s)
Intersection Capacity Utilization	87.7%	16.0
Analysis Period (min)	15	ICU Level of Service
		E

















c Critical Lane Group

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

Future Total 2033 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	195	30	457	339	57	26	498	479	34	247	2
Future Volume (vph)	6	195	30	457	339	57	26	498	479	34	247	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.982			0.991			0.935			0.999	
Flt Protected		0.999			0.974			0.999			0.994	
Satd. Flow (prot)	0	1848	0	0	1818	0	0	1759	0	0	1870	0
Flt Permitted		0.999			0.974			0.999			0.994	
Satd. Flow (perm)	0	1848	0	0	1818	0	0	1759	0	0	1870	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	0.92	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)	7	212	33	497	368	62	28	541	521	37	268	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	252	0	0	927	0	0	1090	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)		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	129.5%					ICU Level of Service H						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - With GTA West Highway
 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)	6	195	30	457	339	57	26	498	479	34	247	2
Future Volume (vph)	6	195	30	457	339	57	26	498	479	34	247	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	212	33	497	368	62	28	541	521	37	268	2
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	252	927	1090	307								
Volume Left (vph)	7	497	28	37								
Volume Right (vph)	33	62	521	2								
Hadj (s)	-0.04	0.10	-0.25	0.05								
Departure Headway (s)	8.8	8.1	7.8	8.6								
Degree Utilization, x	0.62	2.09	2.36	0.74								
Capacity (veh/h)	387	448	472	407								
Control Delay (s)	25.1	518.4	634.5	32.1								
Approach Delay (s)	25.1	518.4	634.5	32.1								
Approach LOS	D	F	F	D								
Intersection Summary												
Delay			461.3									
Level of Service			F									
Intersection Capacity Utilization			129.5%	ICU Level of Service	H							
Analysis Period (min)			15									

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

Future Total 2033 - With GTA West Highway
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	↗
Traffic Volume (vph)	695	63	90	845	50	25
Future Volume (vph)	695	63	90	845	50	25
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.989			0.955		
Flt Protected				0.995	0.968	
Satd. Flow (prot)	1863	0	0	1874	1741	0
Flt Permitted				0.995	0.968	
Satd. Flow (perm)	1863	0	0	1874	1741	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			521.8	121.9	
Travel Time (s)	25.2			26.8	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	755	68	98	918	54	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	823	0	0	1016	81	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	104.1%			ICU Level of Service G		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - With GTA West Highway
2: Street B & Old School Road

PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	↘	↙
Traffic Volume (veh/h)	695	63	90	845	50	25
Future Volume (Veh/h)	695	63	90	845	50	25
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)	755	68	98	918	54	27
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			823		1903	789
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			823		1903	789
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			88		19	93
cM capacity (veh/h)			807		67	391
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	823	1016	81			
Volume Left	0	98	54			
Volume Right	68	0	27			
cSH	1700	807	92			
Volume to Capacity	0.48	0.12	0.88			
Queue Length 95th (m)	0.0	3.1	37.0			
Control Delay (s)	0.0	3.4	144.8			
Lane LOS		A	F			
Approach Delay (s)	0.0	3.4	144.8			
Approach LOS			F			
Intersection Summary						
Average Delay			7.9			
Intersection Capacity Utilization			104.1%	ICU Level of Service	G	
Analysis Period (min)			15			

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

Future Total 2033 - With GTA West Highway
PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	659	45	168	888	47	70
Future Volume (vph)	659	45	168	888	47	70
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.991			0.919		
Flt Protected				0.992	0.980	
Satd. Flow (prot)	1866	0	0	1868	1696	0
Flt Permitted				0.992	0.980	
Satd. Flow (perm)	1866	0	0	1868	1696	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	521.8			371.6	309.0	
Travel Time (s)	26.8			19.1	23.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	716	49	183	965	51	76
Shared Lane Traffic (%)						
Lane Group Flow (vph)	765	0	0	1148	127	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	110.3%
Analysis Period (min)	15
	ICU Level of Service H

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - With GTA West Highway
 3: Street D & Old School Road

















PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	659	45	168	888	47	70
Future Volume (Veh/h)	659	45	168	888	47	70
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)	716	49	183	965	51	76
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			765		2072	740
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			765		2072	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 %			78		0	82
cM capacity (veh/h)			848		47	416
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	765	1148	127			
Volume Left	0	183	51			
Volume Right	49	0	76			
cSH	1700	848	99			
Volume to Capacity	0.45	0.22	1.28			
Queue Length 95th (m)	0.0	6.2	67.2			
Control Delay (s)	0.0	6.0	261.2			
Lane LOS		A	F			
Approach Delay (s)	0.0	6.0	261.2			
Approach LOS			F			
Intersection Summary						
Average Delay			19.6			
Intersection Capacity Utilization			110.3%	ICU Level of Service		H
Analysis Period (min)			15			

















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

Future Total 2033 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	619	64	544	957	43	74	347	556	26	154	24
Future Volume (vph)	44	619	64	544	957	43	74	347	556	26	154	24
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 _t		0.988			0.996			0.923			0.984	
Fl _t Protected		0.997			0.983			0.996			0.994	
Satd. Flow (prot)	0	1855	0	0	1844	0	0	1731	0	0	1842	0
Fl _t Permitted		0.997			0.983			0.996			0.994	
Satd. Flow (perm)	0	1855	0	0	1844	0	0	1731	0	0	1842	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	48	673	70	591	1040	47	80	377	604	28	167	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	791	0	0	1678	0	0	1061	0	0	221	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	198.7%					ICU Level of Service H						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - With GTA West Highway
 4: 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)	44	619	64	544	957	43	74	347	556	26	154	24			
Future Volume (vph)	44	619	64	544	957	43	74	347	556	26	154	24			
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)	48	673	70	591	1040	47	80	377	604	28	167	26			
Direction, Lane #	EB 1	WB 1	NB 1	SB 1											
Volume Total (vph)	791	1678	1061	221											
Volume Left (vph)	48	591	80	28											
Volume Right (vph)	70	47	604	26											
Hadj (s)	-0.01	0.09	-0.29	-0.01											
Departure Headway (s)	8.5	8.6	8.2	9.6											
Degree Utilization, x	1.87	4.00	2.42	0.59											
Capacity (veh/h)	428	424	448	367											
Control Delay (s)	418.7	1373.9	663.4	25.2											
Approach Delay (s)	418.7	1373.9	663.4	25.2											
Approach LOS	F	F	F	D											
Intersection Summary															
Delay			892.1												
Level of Service			F												
Intersection Capacity Utilization			198.7%				ICU Level of Service				H				
Analysis Period (min)			15												

Lanes, Volumes, Timings
5: Street G & Old School Road

Future Total 2033 - With GTA West Highway
PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1145	50	11	1466	41	16
Future Volume (vph)	1145	50	11	1466	41	16
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994			0.963		
Flt Protected				0.965		
Satd. Flow (prot)	1872	0	0	1883	1750	0
Flt Permitted				0.965		
Satd. Flow (perm)	1872	0	0	1883	1750	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			794.6	134.3	
Travel Time (s)	18.0			40.9	10.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1245	54	12	1593	45	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1299	0	0	1605	62	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	95.9%
Analysis Period (min)	15
	ICU Level of Service F

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - With GTA West Highway
5: Street G & Old School Road

PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1145	50	11	1466	41	16
Future Volume (Veh/h)	1145	50	11	1466	41	16
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)	1245	54	12	1593	45	17
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			1299		2889	1272
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1299		2889	1272
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		0	92
cM capacity (veh/h)			533		17	205
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	1299	1605	62			
Volume Left	0	12	45			
Volume Right	54	0	17			
cSH	1700	533	23			
Volume to Capacity	0.76	0.02	2.67			
Queue Length 95th (m)	0.0	0.5	59.5			
Control Delay (s)	0.0	4.3	1109.6			
Lane LOS		A	F			
Approach Delay (s)	0.0	4.3	1109.6			
Approach LOS			F			
Intersection Summary						
Average Delay			25.5			
Intersection Capacity Utilization			95.9%	ICU Level of Service	F	
Analysis Period (min)			15			

Lanes, Volumes, Timings
6: Street H & Old School Road

Future Total 2033 - With GTA West Highway
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↗	
Traffic Volume (vph)	1107	42	0	2241	33	0
Future Volume (vph)	1107	42	0	2241	33	0
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t	0.995					
Fl _t Protected					0.950	
Satd. Flow (prot)	1874	0	0	1883	1789	0
Fl _t Permitted					0.950	
Satd. Flow (perm)	1874	0	0	1883	1789	0
Link Speed (k/h)	70		70		48	
Link Distance (m)	794.6		213.2		410.2	
Travel Time (s)	40.9		11.0		30.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1203	46	0	2436	36	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1249	0	0	2436	36	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		14	
Sign Control	Free		Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	127.9%			ICU Level of Service H		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - With GTA West Highway
6: Street H & Old School Road

PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1107	42	0	2241	33	0
Future Volume (Veh/h)	1107	42	0	2241	33	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)	1203	46	0	2436	36	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)	213					
pX, platoon unblocked					0.43	
vC, conflicting volume			1249		3662	1226
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1249		6502	1226
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		0	100
cM capacity (veh/h)			557		0	218
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	1249	2436	36			
Volume Left	0	0	36			
Volume Right	46	0	0			
cSH	1700	557	0			
Volume to Capacity	0.73	0.00	1389.06			
Queue Length 95th (m)	0.0	0.0	Err			
Control Delay (s)	0.0	0.0	Err			
Lane LOS			F			
Approach Delay (s)	0.0	0.0	Err			
Approach LOS			F			
Intersection Summary						
Average Delay			96.7			
Intersection Capacity Utilization			127.9%	ICU Level of Service		H
Analysis Period (min)			15			

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

Future Total 2033 - With GTA West Highway
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	667	101	321	343	877	138	584	3801	328	162	1917	626
Future Volume (vph)	667	101	321	343	877	138	584	3801	328	162	1917	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		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		0.886			0.980			0.988			0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1669	0	1789	1846	0	1789	3536	0	1789	3446	0
Flt Permitted	0.114			0.105			0.065			0.069		
Satd. Flow (perm)	215	1669	0	198	1846	0	122	3536	0	130	3446	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		101			5			8			34	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	725	110	349	373	953	150	635	4132	357	176	2084	680
Shared Lane Traffic (%)												
Lane Group Flow (vph)	725	459	0	373	1103	0	635	4489	0	176	2764	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	23.0	41.0		26.0	44.0		21.0	73.0		10.0	62.0	
Total Split (%)	15.3%	27.3%		17.3%	29.3%		14.0%	48.7%		6.7%	41.3%	
Maximum Green (s)	19.0	35.0		22.0	38.0		15.0	67.0		4.0	56.0	
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	
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)	56.0	37.0		62.0	40.0		79.0	69.0		64.0	58.0	
Actuated g/C Ratio	0.37	0.25		0.41	0.27		0.53	0.46		0.43	0.39	
v/c Ratio	2.60	0.94		1.18	2.23		2.51	2.75		1.45	2.04	

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

Future Total 2033 - With GTA West Highway
PM Peak Hour

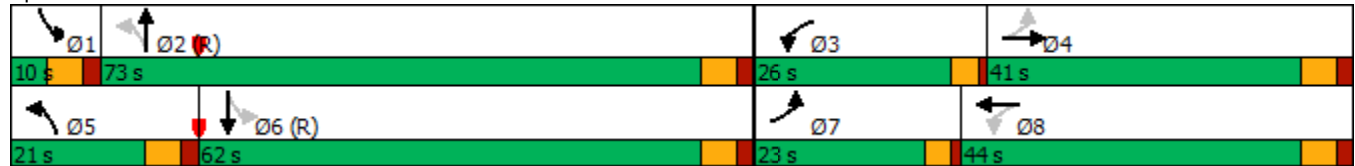


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	750.4	71.6		149.5	585.0		712.5	810.2		271.1	497.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	750.4	71.6		149.5	585.0		712.5	810.2		271.1	497.6	
LOS	F	E		F	F		F	F		F	F	
Approach Delay		487.2			475.0			798.1			484.1	
Approach LOS		F			F			F			F	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.75
Intersection Signal Delay:	633.2
Intersection LOS:	F
Intersection Capacity Utilization	229.3%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Total 2033 - With GTA West Highway
PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	725	459	373	1103	635	4489	176	2764
v/c Ratio	2.60	0.94	1.18	2.23	2.51	2.75	1.45	2.04
Control Delay	750.4	71.6	149.5	585.0	712.5	810.2	271.1	497.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	750.4	71.6	149.5	585.0	712.5	810.2	271.1	497.6
Queue Length 50th (m)	~347.8	109.9	~116.6	~531.2	~300.7	~1204.1	~55.5	~680.2
Queue Length 95th (m)	#424.7	#177.1	#181.0	#613.0	#375.1	#1216.2	#104.9	#714.7
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	279	487	315	495	253	1630	121	1353
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	2.60	0.94	1.18	2.23	2.51	2.75	1.45	2.04

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 Future Total 2033 - With GTA West Highway
 7: 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)	667	101	321	343	877	138	584	3801	328	162	1917	626
Future Volume (vph)	667	101	321	343	877	138	584	3801	328	162	1917	626
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		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	0.89		1.00	0.98		1.00	0.99		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)	1789	1669		1789	1845		1789	3536		1789	3446	
Flt Permitted	0.11	1.00		0.11	1.00		0.06	1.00		0.07	1.00	
Satd. Flow (perm)	215	1669		198	1845		122	3536		130	3446	
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)	725	110	349	373	953	150	635	4132	357	176	2084	680
RTOR Reduction (vph)	0	76	0	0	4	0	0	4	0	0	21	0
Lane Group Flow (vph)	725	383	0	373	1099	0	635	4485	0	176	2743	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	54.0	35.0		60.0	38.0		77.0	67.0		60.0	56.0	
Effective Green, g (s)	54.0	37.0		60.0	40.0		79.0	69.0		64.0	58.0	
Actuated g/C Ratio	0.36	0.25		0.40	0.27		0.53	0.46		0.43	0.39	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	276	411		312	492		253	1626		121	1332	
v/s Ratio Prot	c0.33	0.23		c0.18	0.60		c0.28	c1.27		0.06	0.80	
v/s Ratio Perm	c0.61			0.30			1.04			0.56		
v/c Ratio	2.63	0.93		1.20	2.23		2.51	2.76		1.45	2.06	
Uniform Delay, d1	45.9	55.3		47.4	55.0		50.3	40.5		38.1	46.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	742.4	30.1		115.0	562.0		691.1	792.9		244.4	479.4	
Delay (s)	788.4	85.4		162.4	617.0		741.4	833.4		282.5	525.4	
Level of Service	F	F		F	F		F	F		F	F	
Approach Delay (s)		515.8			502.1			822.0			510.8	
Approach LOS		F			F			F			F	










Intersection Summary			
HCM 2000 Control Delay	658.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.63		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	229.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
8: Chinguacousy Road & Street A (North)

Future Total 2033 - With GTA West Highway
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	76	969	62	98	688
Future Volume (vph)	29	76	969	62	98	688
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.903		0.992			
Flt Protected	0.986					0.994
Satd. Flow (prot)	1677	0	1868	0	0	1872
Flt Permitted	0.986					0.994
Satd. Flow (perm)	1677	0	1868	0	0	1872
Link Speed (k/h)	48		80			80
Link Distance (m)	81.3		401.8			298.8
Travel Time (s)	6.1		18.1			13.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	83	1053	67	107	748
Shared Lane Traffic (%)						
Lane Group Flow (vph)	115	0	1120	0	0	855
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	112.7%		ICU Level of Service H			
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - With GTA West Highway
 8: Chinguacousy Road & Street A (North) PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	76	969	62	98	688
Future Volume (Veh/h)	29	76	969	62	98	688
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)	32	83	1053	67	107	748
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	2048	1086			1120	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2048	1086			1120	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	37	68			83	
cM capacity (veh/h)	51	263			624	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	115	1120	855			
Volume Left	32	0	107			
Volume Right	83	67	0			
cSH	122	1700	624			
Volume to Capacity	0.95	0.66	0.17			
Queue Length 95th (m)	46.8	0.0	4.7			
Control Delay (s)	135.2	0.0	4.7			
Lane LOS	F		A			
Approach Delay (s)	135.2	0.0	4.7			
Approach LOS	F					
Intersection Summary						
Average Delay			9.4			
Intersection Capacity Utilization			112.7%	ICU Level of Service	H	
Analysis Period (min)			15			

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

Future Total 2033 - With GTA West Highway
 PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	64	68	99	915	740	23
Future Volume (vph)	64	68	99	915	740	23
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.931				0.996	
Flt Protected	0.976			0.995		
Satd. Flow (prot)	1711	0	0	1874	1876	0
Flt Permitted	0.976			0.995		
Satd. Flow (perm)	1711	0	0	1874	1876	0
Link Speed (k/h)	48			80	80	
Link Distance (m)	150.6			276.3	311.8	
Travel Time (s)	11.3			12.4	14.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	70	74	108	995	804	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	0	1103	829	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	111.7%
ICU Level of Service	H
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - With GTA West Highway 9: McLaughlin Road & Street C

PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	64	68	99	915	740	23
Future Volume (Veh/h)	64	68	99	915	740	23
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)	70	74	108	995	804	25
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	2028	816	829			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2028	816	829			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	80	87			
cM capacity (veh/h)	55	377	803			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	144	1103	829			
Volume Left	70	108	0			
Volume Right	74	0	25			
cSH	98	803	1700			
Volume to Capacity	1.48	0.13	0.49			
Queue Length 95th (m)	82.1	3.5	0.0			
Control Delay (s)	338.3	4.0	0.0			
Lane LOS	F	A				
Approach Delay (s)	338.3	4.0	0.0			
Approach LOS	F					
Intersection Summary						
Average Delay			25.6			
Intersection Capacity Utilization			111.7%	ICU Level of Service	H	
Analysis Period (min)			15			

Lanes, Volumes, Timings
10: Hurontario Street & Street H

Future Total 2033 - With GTA West Highway
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	23	43	5099	2760	3
Future Volume (vph)	3	23	43	5099	2760	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.879					
Flt Protected	0.995					
Satd. Flow (prot)	1647	0	0	3579	3579	0
Flt Permitted	0.995					
Satd. Flow (perm)	1647	0	0	3579	3579	0
Link Speed (k/h)	48			70	70	
Link Distance (m)	410.2			640.1	215.3	
Travel Time (s)	30.8			32.9	11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	25	47	5542	3000	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	28	0	0	5589	3003	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)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	181.1%
Analysis Period (min)	15
	ICU Level of Service H

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - With GTA West Highway
 10: Hurontario Street & Street H










PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	23	43	5099	2760	3
Future Volume (Veh/h)	3	23	43	5099	2760	3
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)	3	25	47	5542	3000	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					215	
pX, platoon unblocked	0.62	0.62	0.62			
vC, conflicting volume	5866	1502	3003			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	7619	585	3005			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	91	33			
cM capacity (veh/h)	0	282	70			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	28	1894	3695	2000	1003	
Volume Left	3	47	0	0	0	
Volume Right	25	0	0	0	3	
cSH	0	70	1700	1700	1700	
Volume to Capacity	3756.99	0.67	2.17	1.18	0.59	
Queue Length 95th (m)	Err	22.9	0.0	0.0	0.0	
Control Delay (s)	Err	3.2	0.0	0.0	0.0	
Lane LOS	F	A				
Approach Delay (s)	Err	1.1		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay			33.2			
Intersection Capacity Utilization			181.1%	ICU Level of Service	H	
Analysis Period (min)			15			

Lanes, Volumes, Timings
 11: Chinguacousy Road & Street A (South)

Future Total 2033 - With GTA West Highway
 PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	62	969	62	82	635
Future Volume (vph)	29	62	969	62	82	635
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.909		0.992			
Flt Protected	0.984					0.994
Satd. Flow (prot)	1685	0	1868	0	0	1872
Flt Permitted	0.984					0.994
Satd. Flow (perm)	1685	0	1868	0	0	1872
Link Speed (k/h)	48		80			80
Link Distance (m)	156.3		2383.0			401.8
Travel Time (s)	11.7		107.2			18.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	67	1053	67	89	690
Shared Lane Traffic (%)						
Lane Group Flow (vph)	99	0	1120	0	0	779
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	108.1%			ICU Level of Service G		
Analysis Period (min)	15					

















HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - With GTA West Highway
 11: Chinguacousy Road & Street A (South) PM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	62	969	62	82	635
Future Volume (Veh/h)	29	62	969	62	82	635
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)	32	67	1053	67	89	690
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	1954	1086			1120	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1954	1086			1120	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	47	75			86	
cM capacity (veh/h)	60	263			624	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	99	1120	779			
Volume Left	32	0	89			
Volume Right	67	67	0			
cSH	126	1700	624			
Volume to Capacity	0.79	0.66	0.14			
Queue Length 95th (m)	35.2	0.0	3.8			
Control Delay (s)	96.9	0.0	3.8			
Lane LOS	F		A			
Approach Delay (s)	96.9	0.0	3.8			
Approach LOS	F					
Intersection Summary						
Average Delay			6.3			
Intersection Capacity Utilization			108.1%	ICU Level of Service	G	
Analysis Period (min)			15			

















Lanes, Volumes, Timings
12: McLaughlin Road & Street E

Future Total 2033 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	0	52	172	0	27	74	944	239	34	709	65
Future Volume (vph)	42	0	52	172	0	27	74	944	239	34	709	65
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 _t		0.925			0.982			0.974			0.989	
Fl _t Protected		0.978			0.959			0.997			0.998	
Satd. Flow (prot)	0	1704	0	0	1774	0	0	1829	0	0	1859	0
Fl _t Permitted		0.978			0.959			0.997			0.998	
Satd. Flow (perm)	0	1704	0	0	1774	0	0	1829	0	0	1859	0
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			1359.2			391.4			276.3	
Travel Time (s)		15.4			101.9			17.6			12.4	
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)	46	0	57	187	0	29	80	1026	260	37	771	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	0	0	216	0	0	1366	0	0	879	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	117.2%					ICU Level of Service H						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - With GTA West Highway
 12: McLaughlin Road & Street E

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	0	52	172	0	27	74	944	239	34	709	65
Future Volume (Veh/h)	42	0	52	172	0	27	74	944	239	34	709	65
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)	46	0	57	187	0	29	80	1026	260	37	771	71
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	2226	2326	806	2254	2232	1156	842			1286		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2226	2326	806	2254	2232	1156	842			1286		
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 %	0	100	85	0	100	88	90			93		
cM capacity (veh/h)	24	31	382	22	36	239	794			539		
Direction, Lane #												
	EB 1	WB 1	NB 1	SB 1								
Volume Total	103	216	1366	879								
Volume Left	46	187	80	37								
Volume Right	57	29	260	71								
cSH	49	25	794	539								
Volume to Capacity	2.09	8.67	0.10	0.07								
Queue Length 95th (m)	79.2	Err	2.5	1.7								
Control Delay (s)	683.4	Err	4.5	2.1								
Lane LOS	F	F	A	A								
Approach Delay (s)	683.4	Err	4.5	2.1								
Approach LOS	F	F										
Intersection Summary												
Average Delay			872.9									
Intersection Capacity Utilization			117.2%	ICU Level of Service	H							
Analysis Period (min)			15									

Lanes, Volumes, Timings
13: Hurontario Street & Street E

Future Total 2033 - With GTA West Highway
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	273	512	4890	2760	23
Future Volume (vph)	22	273	512	4890	2760	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.875				0.999	
Flt Protected	0.996			0.995		
Satd. Flow (prot)	1641	0	0	3561	3575	0
Flt Permitted	0.996			0.995		
Satd. Flow (perm)	1641	0	0	3561	3575	0
Link Speed (k/h)	48			70	70	
Link Distance (m)	1359.2			928.0	640.1	
Travel Time (s)	101.9			47.7	32.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	297	557	5315	3000	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	321	0	0	5872	3025	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	255.2%
ICU Level of Service	H
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - With GTA West Highway
 13: Hurontario Street & Street E

PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	273	512	4890	2760	23
Future Volume (Veh/h)	22	273	512	4890	2760	23
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)	24	297	557	5315	3000	25
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	6784	1512	3025			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	6784	1512	3025			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	0	0			
cM capacity (veh/h)	0	109	110			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	321	2329	3543	2000	1025	
Volume Left	24	557	0	0	0	
Volume Right	297	0	0	0	25	
cSH	0	110	1700	1700	1700	
Volume to Capacity	Err	5.05	2.08	1.18	0.60	
Queue Length 95th (m)	Err	Err	0.0	0.0	0.0	
Control Delay (s)	Err	453.9	0.0	0.0	0.0	
Lane LOS	F	F				
Approach Delay (s)	Err	180.0		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay				Err		
Intersection Capacity Utilization				255.2%	ICU Level of Service	H
Analysis Period (min)				15		

Lanes, Volumes, Timings
14: McLaughlin Road & Street F

Future Total 2033 - With GTA West Highway
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	42	52	74	1215	868	65
Future Volume (vph)	42	52	74	1215	868	65
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.925				0.991	
Flt Protected	0.978			0.997		
Satd. Flow (prot)	1704	0	0	1878	1866	0
Flt Permitted	0.978			0.997		
Satd. Flow (perm)	1704	0	0	1878	1866	0
Link Speed (k/h)	48			80	80	
Link Distance (m)	171.6			2104.9	391.4	
Travel Time (s)	12.9			94.7	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	57	80	1321	943	71
Shared Lane Traffic (%)						
Lane Group Flow (vph)	103	0	0	1401	1014	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)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	133.2%
ICU Level of Service	H
Analysis Period (min)	15























HCM Unsignalized Intersection Capacity Analysis Future Total 2033 - With GTA West Highway
 14: McLaughlin Road & Street F PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	42	52	74	1215	868	65
Future Volume (Veh/h)	42	52	74	1215	868	65
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)	46	57	80	1321	943	71
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	2460	978	1014			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2460	978	1014			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	81	88			
cM capacity (veh/h)	30	304	684			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	103	1401	1014			
Volume Left	46	80	0			
Volume Right	57	0	71			
cSH	59	684	1700			
Volume to Capacity	1.74	0.12	0.60			
Queue Length 95th (m)	72.3	3.0	0.0			
Control Delay (s)	504.5	6.0	0.0			
Lane LOS	F	A				
Approach Delay (s)	504.5	6.0	0.0			
Approach LOS	F					
Intersection Summary						
Average Delay	24.0					
Intersection Capacity Utilization	133.2%			ICU Level of Service	H	
Analysis Period (min)	15					

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

Future Total 2033 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	753	49	381	805	202	72	498	405	90	214	26
Future Volume (vph)	31	753	49	381	805	202	72	498	405	90	214	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.970				0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5096	0	3471	4988	0	1789	1883	1601	1789	1853	0
Flt Permitted	0.248			0.950			0.525			0.268		
Satd. Flow (perm)	467	5096	0	3471	4988	0	989	1883	1601	505	1853	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			68				440			7
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	34	818	53	414	875	220	78	541	440	98	233	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	871	0	414	1095	0	78	541	440	98	261	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	34.0	34.0		26.0	60.0		60.0	60.0	60.0	60.0		60.0
Total Split (%)	28.3%	28.3%		21.7%	50.0%		50.0%	50.0%	50.0%	50.0%		50.0%
Maximum Green (s)	30.0	30.0		22.0	56.0		56.0	56.0	56.0	56.0		56.0
Yellow Time (s)	3.5	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		0.5
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)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	30.0	30.0		22.0	56.0		56.0	56.0	56.0	56.0		56.0
Actuated g/C Ratio	0.25	0.25		0.18	0.47		0.47	0.47	0.47	0.47		0.47
v/c Ratio	0.29	0.68		0.65	0.46		0.17	0.62	0.45	0.42		0.30

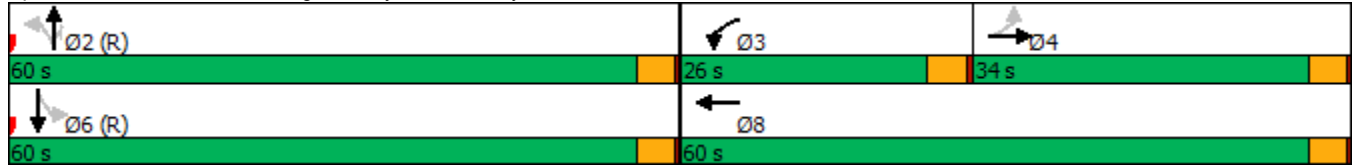
Lanes, Volumes, Timings
 15: Chinguacousy Road & Mayfield Road

Future Total 2033 - With GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	44.6	43.5		35.2	25.7		19.8	27.8	3.3	28.1	20.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	44.6	43.5		35.2	25.7		19.8	27.8	3.3	28.1	20.5	
LOS	D	D		D	C		B	C	A	C	C	
Approach Delay		43.5			28.3			17.0			22.5	
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:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	28.2
Intersection LOS:	C
Intersection Capacity Utilization	71.0%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

15: Chinguacousy Road & Mayfield Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	34	871	414	1095	78	541	440	98	261
v/c Ratio	0.29	0.68	0.65	0.46	0.17	0.62	0.45	0.42	0.30
Control Delay	44.6	43.5	35.2	25.7	19.8	27.8	3.3	28.1	20.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.6	43.5	35.2	25.7	19.8	27.8	3.3	28.1	20.5
Queue Length 50th (m)	6.5	67.5	51.4	81.4	10.4	93.0	0.0	14.9	36.1
Queue Length 95th (m)	16.6	82.4	m50.6	m77.9	20.3	129.2	16.7	30.8	54.7
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	116	1280	636	2364	461	878	981	235	868
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.68	0.65	0.46	0.17	0.62	0.45	0.42	0.30

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis Future Total 2033 - With GTA West Highway
 15: 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)	31	753	49	381	805	202	72	498	405	90	214	26
Future Volume (vph)	31	753	49	381	805	202	72	498	405	90	214	26
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	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5095		3471	4987		1789	1883	1601	1789	1853	
Flt Permitted	0.25	1.00		0.95	1.00		0.52	1.00	1.00	0.27	1.00	
Satd. Flow (perm)	468	5095		3471	4987		988	1883	1601	505	1853	
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	818	53	414	875	220	78	541	440	98	233	28
RTOR Reduction (vph)	0	6	0	0	36	0	0	0	235	0	4	0
Lane Group Flow (vph)	34	865	0	414	1059	0	78	541	205	98	257	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	30.0	30.0		22.0	56.0		56.0	56.0	56.0	56.0	56.0	
Effective Green, g (s)	30.0	30.0		22.0	56.0		56.0	56.0	56.0	56.0	56.0	
Actuated g/C Ratio	0.25	0.25		0.18	0.47		0.47	0.47	0.47	0.47	0.47	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	117	1273		636	2327		461	878	747	235	864	
v/s Ratio Prot		c0.17		c0.12	0.21			c0.29			0.14	
v/s Ratio Perm	0.07						0.08		0.13	0.19		
v/c Ratio	0.29	0.68		0.65	0.45		0.17	0.62	0.27	0.42	0.30	
Uniform Delay, d1	36.4	40.7		45.4	21.7		18.5	24.0	19.6	21.2	19.8	
Progression Factor	1.00	1.00		0.76	1.26		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.2	2.9		0.5	0.1		0.8	3.2	0.9	5.4	0.9	
Delay (s)	42.6	43.6		34.9	27.3		19.3	27.2	20.5	26.6	20.7	
Level of Service	D	D		C	C		B	C	C	C	C	
Approach Delay (s)		43.6			29.4			23.8			22.3	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		
c	Critical Lane Group		

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

Future Total 2033 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	209	1081	75	232	1208	357	144	735	193	200	392	195
Future Volume (vph)	209	1081	75	232	1208	357	144	735	193	200	392	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.966				0.850		0.950	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	4967	0	1789	1883	1601	1789	1789	0
Flt Permitted	0.129			0.114			0.137			0.080		
Satd. Flow (perm)	243	5142	1601	215	4967	0	258	1883	1601	151	1789	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118		63				145		26	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	227	1175	82	252	1313	388	157	799	210	217	426	212
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	1175	82	252	1701	0	157	799	210	217	638	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	15.0	35.0	35.0	20.0	40.0		11.0	52.0	52.0	13.0	54.0	
Total Split (%)	12.5%	29.2%	29.2%	16.7%	33.3%		9.2%	43.3%	43.3%	10.8%	45.0%	
Maximum Green (s)	11.0	31.0	31.0	16.0	36.0		7.0	48.0	48.0	9.0	50.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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)	42.0	31.0	31.0	51.0	36.0		55.0	48.0	48.0	59.0	50.0	
Actuated g/C Ratio	0.35	0.26	0.26	0.42	0.30		0.46	0.40	0.40	0.49	0.42	
v/c Ratio	1.00	0.88	0.16	0.84	1.11		0.76	1.06	0.29	1.10	0.84	

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

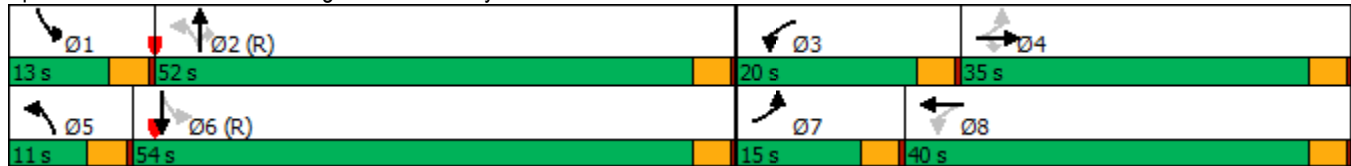
Future Total 2033 - With GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Control Delay	78.1	45.3	8.7	24.5	86.2		41.8	85.7	9.1	122.5	41.7		
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay	78.1	45.3	8.7	24.5	86.2		41.8	85.7	9.1	122.5	41.7		
LOS	E	D	A	C	F		D	F	A	F	D		
Approach Delay		48.3				78.3				66.0			62.2
Approach LOS		D				E				E			

Intersection Summary

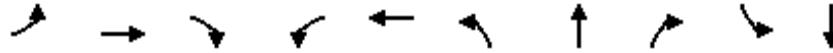
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Pretimed
Maximum v/c Ratio:	1.11
Intersection Signal Delay:	65.0
Intersection LOS:	E
Intersection Capacity Utilization	106.0%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Total 2033 - With GTA West Highway
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	227	1175	82	252	1701	157	799	210	217	638
v/c Ratio	1.00	0.88	0.16	0.84	1.11	0.76	1.06	0.29	1.10	0.84
Control Delay	78.1	45.3	8.7	24.5	86.2	41.8	85.7	9.1	122.5	41.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.1	45.3	8.7	24.5	86.2	41.8	85.7	9.1	122.5	41.7
Queue Length 50th (m)	~43.2	104.6	5.2	45.1	~165.6	19.3	~207.0	9.4	~42.3	128.1
Queue Length 95th (m)	#84.4	#120.5	m12.3	m37.9	m123.4	#41.8	#280.5	25.7	#91.1	#191.7
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	226	1328	501	301	1534	207	753	727	197	760
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	1.00	0.88	0.16	0.84	1.11	0.76	1.06	0.29	1.10	0.84

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.

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


































HCM Signalized Intersection Capacity Analysis Future Total 2033 - With GTA West Highway
 16: 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)	209	1081	75	232	1208	357	144	735	193	200	392	195
Future Volume (vph)	209	1081	75	232	1208	357	144	735	193	200	392	195
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	4966		1789	1883	1601	1789	1790	
Flt Permitted	0.13	1.00	1.00	0.11	1.00		0.14	1.00	1.00	0.08	1.00	
Satd. Flow (perm)	243	5142	1601	215	4966		258	1883	1601	151	1790	
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)	227	1175	82	252	1313	388	157	799	210	217	426	212
RTOR Reduction (vph)	0	0	61	0	44	0	0	0	87	0	15	0
Lane Group Flow (vph)	227	1175	21	252	1657	0	157	799	123	217	623	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	42.0	31.0	31.0	51.0	36.0		55.0	48.0	48.0	59.0	50.0	
Effective Green, g (s)	42.0	31.0	31.0	51.0	36.0		55.0	48.0	48.0	59.0	50.0	
Actuated g/C Ratio	0.35	0.26	0.26	0.42	0.30		0.46	0.40	0.40	0.49	0.42	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	226	1328	413	301	1489		207	753	640	197	745	
v/s Ratio Prot	c0.09	0.23		c0.11	c0.33		0.04	0.42		c0.08	0.35	
v/s Ratio Perm	0.26		0.01	0.24			0.30		0.08	c0.46		
v/c Ratio	1.00	0.88	0.05	0.84	1.11		0.76	1.06	0.19	1.10	0.84	
Uniform Delay, d1	33.0	42.8	33.4	30.8	42.0		24.8	36.0	23.4	34.0	31.3	
Progression Factor	0.58	0.87	3.53	0.70	0.94		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	56.5	7.7	0.2	2.7	51.8		22.6	50.2	0.7	93.9	10.8	
Delay (s)	75.6	44.9	118.4	24.3	91.3		47.4	86.2	24.1	127.9	42.1	
Level of Service	E	D	F	C	F		D	F	C	F	D	
Approach Delay (s)		53.7			82.7			69.8			63.9	
Approach LOS		D			F			E			E	

Intersection Summary		
HCM 2000 Control Delay	69.1	HCM 2000 Level of Service E
HCM 2000 Volume to Capacity ratio	1.12	
Actuated Cycle Length (s)	120.0	Sum of lost time (s) 16.0
Intersection Capacity Utilization	106.0%	ICU Level of Service G
Analysis Period (min)	15	
c Critical Lane Group		

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

Future Total 2033 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 		 	 	
Traffic Volume (vph)	519	759	146	290	1181	171	421	920	48	214	964	765
Future Volume (vph)	519	759	146	290	1181	171	421	920	48	214	964	765
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.112			0.287		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	211	3579	1601	541	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			159			87			52			292
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	564	825	159	315	1284	186	458	1000	52	233	1048	832
Shared Lane Traffic (%)												
Lane Group Flow (vph)	564	825	159	315	1284	186	458	1000	52	233	1048	832
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2				6
Permitted Phases			4			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	19.0	30.0	30.0	18.0	29.0	29.0	19.0	72.0	72.0	53.0	53.0	53.0
Total Split (%)	15.8%	25.0%	25.0%	15.0%	24.2%	24.2%	15.8%	60.0%	60.0%	44.2%	44.2%	44.2%
Maximum Green (s)	15.0	26.0	26.0	14.0	25.0	25.0	15.0	68.0	68.0	49.0	49.0	49.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	Lag
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
Act Effct Green (s)	15.0	26.0	26.0	14.0	25.0	25.0	68.0	68.0	68.0	49.0	49.0	49.0
Actuated g/C Ratio	0.12	0.22	0.22	0.12	0.21	0.21	0.57	0.57	0.57	0.41	0.41	0.41
v/c Ratio	1.30	0.74	0.34	0.78	1.20	0.46	1.45	0.49	0.06	1.06	0.72	1.01

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

Future Total 2033 - With GTA West Highway
 PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	173.0	42.1	19.4	65.7	140.0	25.9	244.9	16.7	3.3	113.0	33.1	56.8
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	173.0	42.1	19.4	65.7	140.0	25.9	244.9	16.7	3.3	113.0	33.1	56.8
LOS	F	D	B	E	F	C	F	B	A	F	C	E
Approach Delay	87.4			115.0			85.4			51.3		
Approach LOS	F			F			F			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:	130
Control Type:	Pretimed
Maximum v/c Ratio:	1.45
Intersection Signal Delay:	83.1
Intersection LOS:	F
Intersection Capacity Utilization	103.5%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues
17: Hurontario Street & Mayfield Road

Future Total 2033 - With GTA West Highway
PM Peak Hour




































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	564	825	159	315	1284	186	458	1000	52	233	1048	832
v/c Ratio	1.30	0.74	0.34	0.78	1.20	0.46	1.45	0.49	0.06	1.06	0.72	1.01
Control Delay	173.0	42.1	19.4	65.7	140.0	25.9	244.9	16.7	3.3	113.0	33.1	56.8
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	173.0	42.1	19.4	65.7	140.0	25.9	244.9	16.7	3.3	113.0	33.1	56.8
Queue Length 50th (m)	~87.4	74.6	20.9	37.6	~134.3	19.8	~124.4	70.9	0.0	~60.1	106.9	~149.7
Queue Length 95th (m)	m#104.2	m82.9	m24.9	#56.9	#163.4	42.2	#188.2	87.4	5.3	#109.5	131.3	#236.7
Internal Link Dist (m)		1381.8			725.9			357.1				585.4
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	433	1114	471	404	1071	402	316	2028	929	220	1461	826
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	1.30	0.74	0.34	0.78	1.20	0.46	1.45	0.49	0.06	1.06	0.72	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.
- m Volume for 95th percentile queue is metered by upstream signal.

















HCM Signalized Intersection Capacity Analysis Future Total 2033 - With GTA West Highway
 17: 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)	519	759	146	290	1181	171	421	920	48	214	964	765
Future Volume (vph)	519	759	146	290	1181	171	421	920	48	214	964	765
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	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.11	1.00	1.00	0.29	1.00	1.00
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	210	3579	1601	540	3579	1601
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)	564	825	159	315	1284	186	458	1000	52	233	1048	832
RTOR Reduction (vph)	0	0	125	0	0	69	0	0	23	0	0	173
Lane Group Flow (vph)	564	825	34	315	1284	117	458	1000	29	233	1048	659
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases			4			8	2		2	6		6
Actuated Green, G (s)	15.0	26.0	26.0	14.0	25.0	25.0	68.0	68.0	68.0	49.0	49.0	49.0
Effective Green, g (s)	15.0	26.0	26.0	14.0	25.0	25.0	68.0	68.0	68.0	49.0	49.0	49.0
Actuated g/C Ratio	0.12	0.22	0.22	0.12	0.21	0.21	0.57	0.57	0.57	0.41	0.41	0.41
Clearance Time (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
Lane Grp Cap (vph)	433	1114	346	404	1071	333	316	2028	907	220	1461	653
v/s Ratio Prot	c0.16	0.16		0.09	c0.25		c0.18	0.28			0.29	
v/s Ratio Perm			0.02			0.07	c0.64		0.02	0.43		0.41
v/c Ratio	1.30	0.74	0.10	0.78	1.20	0.35	1.45	0.49	0.03	1.06	0.72	1.01
Uniform Delay, d1	52.5	43.9	37.6	51.5	47.5	40.6	31.8	15.6	11.5	35.5	29.7	35.5
Progression Factor	0.55	0.90	3.01	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	144.9	2.3	0.3	13.8	98.7	2.9	219.2	0.9	0.1	77.1	3.1	37.6
Delay (s)	173.9	41.8	113.6	65.3	146.2	43.5	251.0	16.5	11.5	112.6	32.8	73.1
Level of Service	F	D	F	E	F	D	F	B	B	F	C	E
Approach Delay (s)		97.3			121.2			87.5			57.5	
Approach LOS		F			F			F			E	
Intersection Summary												
HCM 2000 Control Delay			89.2			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)					16.0			
Intersection Capacity Utilization			103.5%	ICU Level of Service			G					
Analysis Period (min)			15									
c Critical Lane Group												

















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

Future Background 2038 - With GTA West Highway

AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	231	20	131	123	40	10	254	229	36	350	1
Future Volume (vph)	8	231	20	131	123	40	10	254	229	36	350	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.989			0.982			0.937				
Fl _t Protected		0.998			0.978			0.999			0.995	
Satd. Flow (prot)	0	1859	0	0	1809	0	0	1763	0	0	1874	0
Fl _t Permitted		0.998			0.978			0.999			0.995	
Satd. Flow (perm)	0	1859	0	0	1809	0	0	1763	0	0	1874	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	0.92	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)	9	251	22	142	134	43	11	276	249	39	380	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	282	0	0	319	0	0	536	0	0	420	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	77.7%						ICU Level of Service D					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Background 2038 - With GTA West Highway
 1: Chinguacousy Road & Old School Road 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)	8	231	20	131	123	40	10	254	229	36	350	1
Future Volume (vph)	8	231	20	131	123	40	10	254	229	36	350	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
Hourly flow rate (vph)	9	251	22	142	134	43	11	276	249	39	380	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	282	319	536	420								
Volume Left (vph)	9	142	11	39								
Volume Right (vph)	22	43	249	1								
Hadj (s)	-0.01	0.04	-0.24	0.05								
Departure Headway (s)	8.9	8.8	8.1	8.3								
Degree Utilization, x	0.70	0.78	1.20	0.97								
Capacity (veh/h)	388	394	451	420								
Control Delay (s)	30.1	36.2	137.1	64.7								
Approach Delay (s)	30.1	36.2	137.1	64.7								
Approach LOS	D	E	F	F								
Intersection Summary												
Delay			77.5									
Level of Service			F									
Intersection Capacity Utilization			77.7%		ICU Level of Service				D			
Analysis Period (min)			15									

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

Future Background 2038 - With GTA West Highway
AM Peak Hour



















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	52	332	118	207	243	22	39	101	339	22	323	11
Future Volume (vph)	52	332	118	207	243	22	39	101	339	22	323	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
Frt		0.968			0.994			0.904			0.996	
Flt Protected		0.995			0.979			0.996			0.997	
Satd. Flow (prot)	0	1814	0	0	1833	0	0	1696	0	0	1870	0
Flt Permitted		0.995			0.979			0.996			0.997	
Satd. Flow (perm)	0	1814	0	0	1833	0	0	1696	0	0	1870	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	57	361	128	225	264	24	42	110	368	24	351	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	546	0	0	513	0	0	520	0	0	387	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	102.4%
ICU Level of Service	G
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis Background 2038 - With GTA West Highway
 4: McLaughlin Road & Old School Road 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)	52	332	118	207	243	22	39	101	339	22	323	11
Future Volume (vph)	52	332	118	207	243	22	39	101	339	22	323	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	57	361	128	225	264	24	42	110	368	24	351	12
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	546	513	520	387								
Volume Left (vph)	57	225	42	24								
Volume Right (vph)	128	24	368	12								
Hadj (s)	-0.09	0.09	-0.37	0.03								
Departure Headway (s)	9.5	9.7	9.2	9.6								
Degree Utilization, x	1.44	1.38	1.33	1.03								
Capacity (veh/h)	390	382	400	387								
Control Delay (s)	236.8	212.0	190.4	86.7								
Approach Delay (s)	236.8	212.0	190.4	86.7								
Approach LOS	F	F	F	F								
Intersection Summary												
Delay			188.5									
Level of Service			F									
Intersection Capacity Utilization			102.4%	ICU Level of Service	G							
Analysis Period (min)			15									

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

Future Background 2038 - With GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	514	134	142	333	102	126	42	1733	135	61	3223	270
Future Volume (vph)	514	134	142	333	102	126	42	1733	135	61	3223	270
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		0.923			0.917			0.989			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1738	0	1789	1727	0	1789	3539	0	1789	3536	0
Flt Permitted	0.355			0.338			0.071			0.071		
Satd. Flow (perm)	669	1738	0	637	1727	0	134	3539	0	134	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			49			9			10	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	559	146	154	362	111	137	46	1884	147	66	3503	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	559	300	0	362	248	0	46	2031	0	66	3796	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	16.0	36.0		14.0	34.0		10.0	60.0		10.0	60.0	
Total Split (%)	13.3%	30.0%		11.7%	28.3%		8.3%	50.0%		8.3%	50.0%	
Maximum Green (s)	12.0	30.0		10.0	28.0		4.0	54.0		4.0	54.0	
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	
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)	44.0	32.0		40.0	30.0		62.0	56.0		62.0	56.0	
Actuated g/C Ratio	0.37	0.27		0.33	0.25		0.52	0.47		0.52	0.47	
v/c Ratio	1.57	0.61		1.18	0.53		0.30	1.23		0.44	2.29	

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

Future Background 2038 - With GTA West Highway
AM Peak Hour

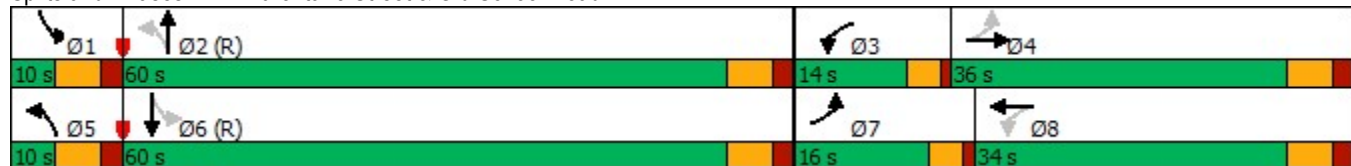


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	294.8	38.7		139.1	35.6		17.9	137.7		22.1	604.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	294.8	38.7		139.1	35.6		17.9	137.7		22.1	604.9	
LOS	F	D		F	D		B	F		C	F	
Approach Delay		205.3			97.1			135.0			594.9	
Approach LOS		F			F			F			F	

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:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.29
Intersection Signal Delay:	379.8
Intersection LOS:	F
Intersection Capacity Utilization	149.2%
ICU Level of Service	H
Analysis Period (min)	15

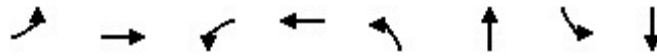
Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Background 2038 - With GTA West Highway

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	559	300	362	248	46	2031	66	3796
v/c Ratio	1.57	0.61	1.18	0.53	0.30	1.23	0.44	2.29
Control Delay	294.8	38.7	139.1	35.6	17.9	137.7	22.1	604.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	294.8	38.7	139.1	35.6	17.9	137.7	22.1	604.9
Queue Length 50th (m)	~140.8	53.2	~80.8	40.5	4.8	~311.2	7.0	~774.1
Queue Length 95th (m)	#210.6	82.5	#148.8	66.5	10.3	#353.6	13.6	#805.6
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	357	495	308	468	151	1656	151	1655
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	1.57	0.61	1.18	0.53	0.30	1.23	0.44	2.29

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 - Future Background 2038 - With GTA West Highway
 7: Hurontario Street & Old School Road

AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	514	134	142	333	102	126	42	1733	135	61	3223	270
Future Volume (vph)	514	134	142	333	102	126	42	1733	135	61	3223	270
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		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	0.92		1.00	0.92		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)	1789	1738		1789	1727		1789	3540		1789	3537	
Flt Permitted	0.36	1.00		0.34	1.00		0.07	1.00		0.07	1.00	
Satd. Flow (perm)	669	1738		637	1727		135	3540		135	3537	
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)	559	146	154	362	111	137	46	1884	147	66	3503	293
RTOR Reduction (vph)	0	32	0	0	37	0	0	5	0	0	5	0
Lane Group Flow (vph)	559	268	0	362	211	0	46	2026	0	66	3791	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.0	30.0		38.0	28.0		58.0	54.0		58.0	54.0	
Effective Green, g (s)	42.0	32.0		38.0	30.0		62.0	56.0		62.0	56.0	
Actuated g/C Ratio	0.35	0.27		0.32	0.25		0.52	0.47		0.52	0.47	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	346	463		297	431		152	1652		152	1650	
v/s Ratio Prot	c0.16	0.15		0.10	0.12		0.02	0.57		c0.02	c1.07	
v/s Ratio Perm	c0.40			0.28			0.14			0.20		
v/c Ratio	1.62	0.58		1.22	0.49		0.30	1.23		0.43	2.30	
Uniform Delay, d1	37.1	38.2		39.3	38.5		25.9	32.0		26.2	32.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	290.1	5.2		125.1	3.9		5.1	107.5		8.8	585.7	
Delay (s)	327.2	43.4		164.4	42.4		31.0	139.5		35.0	617.7	
Level of Service	F	D		F	D		C	F		D	F	
Approach Delay (s)		228.1			114.8			137.1			607.8	
Approach LOS		F			F			F			F	

Intersection Summary

HCM 2000 Control Delay	391.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.91		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	149.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Background 2038 - With GTA West Highway
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	942	139	241	680	35	31	161	172	109	333	20
Future Volume (vph)	16	942	139	241	680	35	31	161	172	109	333	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.993				0.850		0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5044	0	3471	5106	0	1789	1883	1601	1789	1866	0
Flt Permitted	0.346			0.950			0.368			0.599		
Satd. Flow (perm)	652	5044	0	3471	5106	0	693	1883	1601	1128	1866	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			10				187			3
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	17	1024	151	262	739	38	34	175	187	118	362	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	1175	0	262	777	0	34	175	187	118	384	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	41.0	41.0		26.0	67.0		53.0	53.0	53.0	53.0		53.0
Total Split (%)	34.2%	34.2%		21.7%	55.8%		44.2%	44.2%	44.2%	44.2%		44.2%
Maximum Green (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0		49.0
Yellow Time (s)	3.5	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		0.5
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)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0		49.0
Actuated g/C Ratio	0.31	0.31		0.18	0.52		0.41	0.41	0.41	0.41		0.41
v/c Ratio	0.08	0.75		0.41	0.29		0.12	0.23	0.24	0.26		0.50

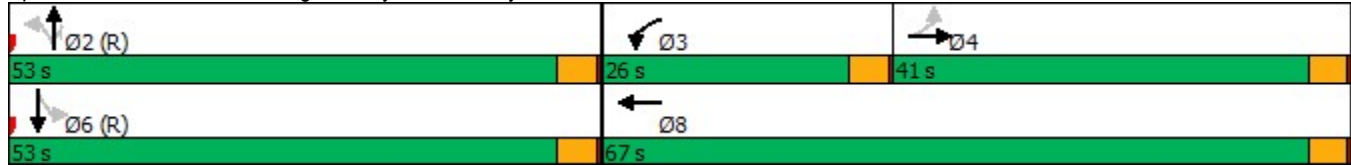
Lanes, Volumes, Timings
 15: Chinguacousy Road & Mayfield Road

Future Background 2038 - With GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	31.1	40.1		45.6	16.1		23.7	24.2	4.0	25.4	29.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	31.1	40.1		45.6	16.1		23.7	24.2	4.0	25.4	29.1	
LOS	C	D		D	B		C	C	A	C	C	
Approach Delay		40.0			23.5			14.6			28.2	
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:	0.75
Intersection Signal Delay:	29.4
Intersection LOS:	C
Intersection Capacity Utilization	63.6%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

Future Background 2038 - With GTA West Highway

15: Chinguacousy Road & Mayfield Road

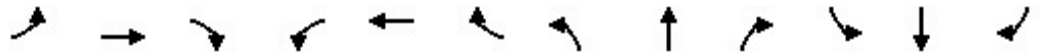
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	17	1175	262	777	34	175	187	118	384
v/c Ratio	0.08	0.75	0.41	0.29	0.12	0.23	0.24	0.26	0.50
Control Delay	31.1	40.1	45.6	16.1	23.7	24.2	4.0	25.4	29.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.1	40.1	45.6	16.1	23.7	24.2	4.0	25.4	29.1
Queue Length 50th (m)	2.8	89.3	28.4	35.6	4.9	26.5	0.0	18.1	65.8
Queue Length 95th (m)	8.6	106.2	41.0	44.0	12.1	42.3	13.4	32.2	94.4
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	201	1571	636	2685	282	768	764	460	763
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.75	0.41	0.29	0.12	0.23	0.24	0.26	0.50

Intersection Summary

HCM Signalized Intersection Capacity Analysis Future Background 2038 - With GTA West Highway
 15: Chinguacousy Road & Mayfield Road AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑		↘↘	↑↑↑		↘	↑	↗	↘	↑	↗
Traffic Volume (vph)	16	942	139	241	680	35	31	161	172	109	333	20
Future Volume (vph)	16	942	139	241	680	35	31	161	172	109	333	20
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	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5043		3471	5104		1789	1883	1601	1789	1867	
Flt Permitted	0.35	1.00		0.95	1.00		0.37	1.00	1.00	0.60	1.00	
Satd. Flow (perm)	651	5043		3471	5104		693	1883	1601	1127	1867	
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)	17	1024	151	262	739	38	34	175	187	118	362	22
RTOR Reduction (vph)	0	16	0	0	5	0	0	0	111	0	2	0
Lane Group Flow (vph)	17	1159	0	262	772	0	34	175	76	118	382	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2		2	6	
Permitted Phases	4						2		2		6	
Actuated Green, G (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0	49.0	
Effective Green, g (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0	49.0	
Actuated g/C Ratio	0.31	0.31		0.18	0.52		0.41	0.41	0.41	0.41	0.41	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	200	1554		636	2679		282	768	653	460	762	
v/s Ratio Prot		c0.23		c0.08	0.15			0.09			c0.20	
v/s Ratio Perm	0.03						0.05		0.05	0.10		
v/c Ratio	0.09	0.75		0.41	0.29		0.12	0.23	0.12	0.26	0.50	
Uniform Delay, d1	29.5	37.3		43.3	16.0		22.1	23.2	22.1	23.5	26.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	3.3		2.0	0.3		0.9	0.7	0.4	1.3	2.4	
Delay (s)	30.3	40.6		45.3	16.2		23.0	23.8	22.4	24.8	28.8	
Level of Service	C	D		D	B		C	C	C	C	C	
Approach Delay (s)		40.4			23.5			23.1			27.8	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.6	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	63.6%	ICU Level of Service	B
Analysis Period (min)	15		
c	Critical Lane Group		

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

Future Background 2038 - With GTA West Highway
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	1171	142	234	923	77	51	224	180	250	462	66
Future Volume (vph)	12	1171	142	234	923	77	51	224	180	250	462	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.988				0.850		0.981	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	5080	0	1789	3579	1601	1789	1848	0
Flt Permitted	0.133			0.105			0.377			0.518		
Satd. Flow (perm)	250	5142	1601	198	5080	0	710	3579	1601	976	1848	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		10				196		7	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	1273	154	254	1003	84	55	243	196	272	502	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	1273	154	254	1087	0	55	243	196	272	574	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	12.0	38.0	38.0	19.0	45.0		8.0	50.0	50.0	29.0	71.0	
Total Split (%)	8.8%	27.9%	27.9%	14.0%	33.1%		5.9%	36.8%	36.8%	21.3%	52.2%	
Maximum Green (s)	8.0	34.0	34.0	15.0	41.0		4.0	46.0	46.0	25.0	67.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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)	42.0	34.0	34.0	53.0	41.0		50.0	46.0	46.0	75.0	67.0	
Actuated g/C Ratio	0.31	0.25	0.25	0.39	0.30		0.37	0.34	0.34	0.55	0.49	
v/c Ratio	0.08	0.99	0.31	1.01	0.71		0.19	0.20	0.29	0.40	0.63	

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

Future Background 2038 - With GTA West Highway
 AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Control Delay	27.1	73.6	10.5	95.7	44.8		18.3	32.5	5.3	18.1	28.8		
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay	27.1	73.6	10.5	95.7	44.8		18.3	32.5	5.3	18.1	28.8		
LOS	C	E	B	F	D		B	C	A	B	C		
Approach Delay		66.4				54.4				20.1			25.4
Approach LOS		E				D				C			

Intersection Summary

Area Type:	Other
Cycle Length:	136
Actuated Cycle Length:	136
Offset:	120 (88%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	65
Control Type:	Pretimed
Maximum v/c Ratio:	1.01
Intersection Signal Delay:	48.5
Intersection LOS:	D
Intersection Capacity Utilization	80.6%
ICU Level of Service	D
Analysis Period (min)	15

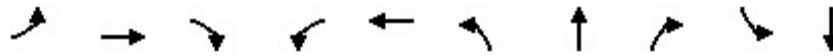
Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Background 2038 - With GTA West Highway

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	13	1273	154	254	1087	55	243	196	272	574
v/c Ratio	0.08	0.99	0.31	1.01	0.71	0.19	0.20	0.29	0.40	0.63
Control Delay	27.1	73.6	10.5	95.7	44.8	18.3	32.5	5.3	18.1	28.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	73.6	10.5	95.7	44.8	18.3	32.5	5.3	18.1	28.8
Queue Length 50th (m)	2.1	125.6	3.7	~53.9	94.2	6.6	24.3	0.0	37.3	109.3
Queue Length 95th (m)	6.7	#158.3	21.0	#109.6	110.6	13.1	34.8	16.3	54.3	148.0
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	167	1285	502	252	1538	292	1210	671	687	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	0.08	0.99	0.31	1.01	0.71	0.19	0.20	0.29	0.40	0.63

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

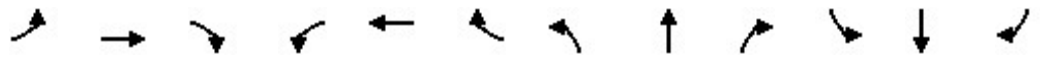
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis - Future Background 2038 - With GTA West Highway
 16: McLaughlin Road & Mayfield Road

AM Peak Hour




































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	1171	142	234	923	77	51	224	180	250	462	66
Future Volume (vph)	12	1171	142	234	923	77	51	224	180	250	462	66
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	5082		1789	3579	1601	1789	1848	
Flt Permitted	0.13	1.00	1.00	0.11	1.00		0.38	1.00	1.00	0.52	1.00	
Satd. Flow (perm)	250	5142	1601	198	5082		710	3579	1601	976	1848	
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)	13	1273	154	254	1003	84	55	243	196	272	502	72
RTOR Reduction (vph)	0	0	102	0	7	0	0	0	130	0	4	0
Lane Group Flow (vph)	13	1273	52	254	1080	0	55	243	66	272	570	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	42.0	34.0	34.0	53.0	41.0		50.0	46.0	46.0	75.0	67.0	
Effective Green, g (s)	42.0	34.0	34.0	53.0	41.0		50.0	46.0	46.0	75.0	67.0	
Actuated g/C Ratio	0.31	0.25	0.25	0.39	0.30		0.37	0.34	0.34	0.55	0.49	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	167	1285	400	252	1532		292	1210	541	687	910	
v/s Ratio Prot	0.00	0.25		c0.11	0.21		0.01	0.07		c0.07	c0.31	
v/s Ratio Perm	0.02		0.03	c0.28			0.06		0.04	0.15		
v/c Ratio	0.08	0.99	0.13	1.01	0.70		0.19	0.20	0.12	0.40	0.63	
Uniform Delay, d1	33.7	50.8	39.5	40.1	42.1		28.3	31.9	31.1	16.4	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	0.9	23.0	0.7	58.7	2.8		1.4	0.4	0.5	1.7	3.3	
Delay (s)	34.6	73.8	40.2	98.9	44.9		29.7	32.3	31.5	18.1	28.6	
Level of Service	C	E	D	F	D		C	C	C	B	C	
Approach Delay (s)		69.9			55.1			31.7			25.2	
Approach LOS		E			E			C			C	

Intersection Summary

HCM 2000 Control Delay	51.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	136.0	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
17: Hurontario Street & Mayfield Road

Future Background 2038 - With GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			 		 	 	
Traffic Volume (vph)	192	1223	99	236	703	243	95	664	114	527	1086	213
Future Volume (vph)	192	1223	99	236	703	243	95	664	114	527	1086	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.188			0.111		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	354	3579	1601	209	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			111			264			124			232
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	209	1329	108	257	764	264	103	722	124	573	1180	232
Shared Lane Traffic (%)												
Lane Group Flow (vph)	209	1329	108	257	764	264	103	722	124	573	1180	232
Enter Blocked Intersection	No	No	No	No	No	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	Prot	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			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	17.0	38.0	38.0	14.0	35.0	35.0	14.0	36.0	36.0	40.0	62.0	62.0
Total Split (%)	13.3%	29.7%	29.7%	10.9%	27.3%	27.3%	10.9%	28.1%	28.1%	31.3%	48.4%	48.4%
Maximum Green (s)	13.0	34.0	34.0	10.0	31.0	31.0	10.0	32.0	32.0	36.0	58.0	58.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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
Act Effct Green (s)	13.0	34.0	34.0	10.0	31.0	31.0	42.0	32.0	32.0	72.0	58.0	58.0
Actuated g/C Ratio	0.10	0.27	0.27	0.08	0.24	0.24	0.33	0.25	0.25	0.56	0.45	0.45
v/c Ratio	0.59	0.97	0.21	0.95	0.61	0.45	0.45	0.81	0.25	1.02	0.73	0.27

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

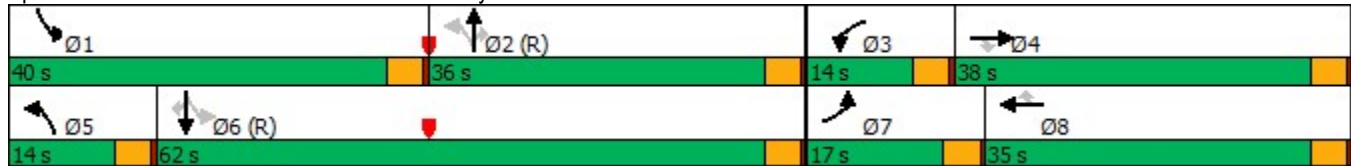
Future Background 2038 - With GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	62.5	65.4	7.2	101.5	45.7	7.1	25.1	53.3	7.7	79.7	31.8	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	62.5	65.4	7.2	101.5	45.7	7.1	25.1	53.3	7.7	79.7	31.8	3.4
LOS	E	E	A	F	D	A	C	D	A	E	C	A
Approach Delay	61.2			48.9			44.2			42.3		
Approach LOS	E			D			D			D		

Intersection Summary

Area Type:	Other
Cycle Length:	128
Actuated Cycle Length:	128
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	90
Control Type:	Pretimed
Maximum v/c Ratio:	1.02
Intersection Signal Delay:	49.4
Intersection LOS:	D
Intersection Capacity Utilization	91.2%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues
17: Hurontario Street & Mayfield Road

Future Background 2038 - With GTA West Highway

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	209	1329	108	257	764	264	103	722	124	573	1180	232
v/c Ratio	0.59	0.97	0.21	0.95	0.61	0.45	0.45	0.81	0.25	1.02	0.73	0.27
Control Delay	62.5	65.4	7.2	101.5	45.7	7.1	25.1	53.3	7.7	79.7	31.8	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	62.5	65.4	7.2	101.5	45.7	7.1	25.1	53.3	7.7	79.7	31.8	3.4
Queue Length 50th (m)	26.3	121.9	0.0	33.8	63.1	0.0	11.5	90.4	0.0	~137.2	125.2	0.0
Queue Length 95th (m)	39.2	#153.2	13.2	#59.7	77.2	20.9	20.2	113.2	15.0	#206.9	150.8	14.0
Internal Link Dist (m)		1381.8			725.9			357.1			585.4	
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	352	1365	506	271	1245	587	228	894	493	561	1621	852
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	0.59	0.97	0.21	0.95	0.61	0.45	0.45	0.81	0.25	1.02	0.73	0.27

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 Future Background 2038 - With GTA West Highway
 17: Hurontario Street & Mayfield Road AM Peak Hour

















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	192	1223	99	236	703	243	95	664	114	527	1086	213	
Future Volume (vph)	192	1223	99	236	703	243	95	664	114	527	1086	213	
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	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.19	1.00	1.00	0.11	1.00	1.00	
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	354	3579	1601	209	3579	1601	
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)	209	1329	108	257	764	264	103	722	124	573	1180	232	
RTOR Reduction (vph)	0	0	79	0	0	200	0	0	93	0	0	127	
Lane Group Flow (vph)	209	1329	29	257	764	64	103	722	31	573	1180	105	
Turn Type	Prot	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			8	2		2	6		6	
Actuated Green, G (s)	13.0	34.0	34.0	10.0	31.0	31.0	42.0	32.0	32.0	72.0	58.0	58.0	
Effective Green, g (s)	13.0	34.0	34.0	10.0	31.0	31.0	42.0	32.0	32.0	72.0	58.0	58.0	
Actuated g/C Ratio	0.10	0.27	0.27	0.08	0.24	0.24	0.33	0.25	0.25	0.56	0.45	0.45	
Clearance Time (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	
Lane Grp Cap (vph)	352	1365	425	271	1245	387	228	894	400	561	1621	725	
v/s Ratio Prot	0.06	c0.26		c0.07	0.15		0.04	0.20		c0.29	0.33		
v/s Ratio Perm			0.02			0.04	0.11		0.02	c0.29		0.07	
v/c Ratio	0.59	0.97	0.07	0.95	0.61	0.17	0.45	0.81	0.08	1.02	0.73	0.14	
Uniform Delay, d1	55.0	46.6	35.1	58.7	43.2	38.3	30.9	45.1	36.7	37.7	28.6	20.5	
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	7.2	18.8	0.3	42.9	2.3	0.9	6.3	7.8	0.4	43.5	2.9	0.4	
Delay (s)	62.2	65.4	35.5	101.6	45.4	39.2	37.2	52.9	37.1	81.2	31.5	20.9	
Level of Service	E	E	D	F	D	D	D	D	D	F	C	C	
Approach Delay (s)		63.0			55.4			49.1			44.6		
Approach LOS		E			E			D			D		
Intersection Summary													
HCM 2000 Control Delay			52.9									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			1.02										
Actuated Cycle Length (s)			128.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			91.2%									ICU Level of Service	F
Analysis Period (min)			15										
c Critical Lane Group													

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

Future Background 2038 - With GTA West Highway
PM Peak Hour

















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	140	4	267	316	58	11	491	312	34	239	2
Future Volume (vph)	7	140	4	267	316	58	11	491	312	34	239	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.997			0.988			0.948			0.999	
Fl _t Protected		0.998			0.980			0.999			0.994	
Satd. Flow (prot)	0	1874	0	0	1824	0	0	1784	0	0	1870	0
Fl _t Permitted		0.998			0.980			0.999			0.994	
Satd. Flow (perm)	0	1874	0	0	1824	0	0	1784	0	0	1870	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	0.92	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)	8	152	4	290	343	63	12	534	339	37	260	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	164	0	0	696	0	0	885	0	0	299	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	99.8%						ICU Level of Service F					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Background 2038 - With GTA West Highway
 1: Chinguacousy Road & Old School Road PM Peak Hour

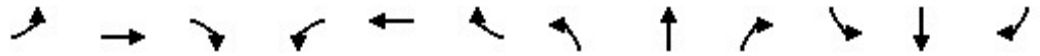
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	7	140	4	267	316	58	11	491	312	34	239	2
Future Volume (vph)	7	140	4	267	316	58	11	491	312	34	239	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	152	4	290	343	63	12	534	339	37	260	2
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	164	696	885	299								
Volume Left (vph)	8	290	12	37								
Volume Right (vph)	4	63	339	2								
Hadj (s)	0.03	0.06	-0.19	0.05								
Departure Headway (s)	8.7	7.5	7.2	8.1								
Degree Utilization, x	0.40	1.45	1.78	0.67								
Capacity (veh/h)	394	471	503	434								
Control Delay (s)	17.4	233.7	376.1	25.9								
Approach Delay (s)	17.4	233.7	376.1	25.9								
Approach LOS	C	F	F	D								
Intersection Summary												
Delay			247.6									
Level of Service			F									
Intersection Capacity Utilization			99.8%	ICU Level of Service	F							
Analysis Period (min)			15									

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

Future Background 2038 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	386	67	375	558	28	78	335	389	10	109	5
Future Volume (vph)	34	386	67	375	558	28	78	335	389	10	109	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
Frt		0.981			0.996			0.935			0.995	
Flt Protected		0.997			0.981			0.995			0.996	
Satd. Flow (prot)	0	1842	0	0	1840	0	0	1752	0	0	1867	0
Flt Permitted		0.997			0.981			0.995			0.996	
Satd. Flow (perm)	0	1842	0	0	1840	0	0	1752	0	0	1867	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	37	420	73	408	607	30	85	364	423	11	118	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	530	0	0	1045	0	0	872	0	0	134	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	140.5%						ICU Level of Service H					
Analysis Period (min)	15											























HCM Unsignalized Intersection Capacity Analysis Background 2038 - With GTA West Highway
 4: 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)	34	386	67	375	558	28	78	335	389	10	109	5
Future Volume (vph)	34	386	67	375	558	28	78	335	389	10	109	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
Hourly flow rate (vph)	37	420	73	408	607	30	85	364	423	11	118	5
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	530	1045	872	134								
Volume Left (vph)	37	408	85	11								
Volume Right (vph)	73	30	423	5								
Hadj (s)	-0.03	0.09	-0.24	0.03								
Departure Headway (s)	7.9	8.0	7.7	9.6								
Degree Utilization, x	1.16	2.32	1.86	0.36								
Capacity (veh/h)	448	459	476	372								
Control Delay (s)	120.0	619.9	412.6	17.8								
Approach Delay (s)	120.0	619.9	412.6	17.8								
Approach LOS	F	F	F	C								
Intersection Summary												
Delay			416.0									
Level of Service			F									
Intersection Capacity Utilization			140.5%	ICU Level of Service	H							
Analysis Period (min)			15									

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

Future Background 2038 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	625	101	59	357	1108	144	124	3892	330	163	1944	576
Future Volume (vph)	625	101	59	357	1108	144	124	3892	330	163	1944	576
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		0.945			0.983			0.988			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1780	0	1789	1851	0	1789	3536	0	1789	3457	0
Flt Permitted	0.143			0.453			0.082			0.089		
Satd. Flow (perm)	269	1780	0	853	1851	0	154	3536	0	168	3457	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			6			9			37	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	679	110	64	388	1204	157	135	4230	359	177	2113	626
Shared Lane Traffic (%)												
Lane Group Flow (vph)	679	174	0	388	1361	0	135	4589	0	177	2739	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	16.0	34.0		22.0	40.0		15.0	54.0		10.0	49.0	
Total Split (%)	13.3%	28.3%		18.3%	33.3%		12.5%	45.0%		8.3%	40.8%	
Maximum Green (s)	12.0	28.0		18.0	34.0		9.0	48.0		4.0	43.0	
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	
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)	42.0	30.0		52.0	36.0		60.0	50.0		51.0	45.0	
Actuated g/C Ratio	0.35	0.25		0.43	0.30		0.50	0.42		0.42	0.38	
v/c Ratio	2.76	0.38		0.76	2.43		0.60	3.10		1.16	2.08	

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

Future Background 2038 - With GTA West Highway
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	821.1	35.0		36.3	672.6		31.9	965.7		149.4	510.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	821.1	35.0		36.3	672.6		31.9	965.7		149.4	510.5	
LOS	F	C		D	F		C	F		F	F	
Approach Delay	660.8			531.4			939.0			488.6		
Approach LOS	F			F			F			F		

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:	150
Control Type:	Pretimed
Maximum v/c Ratio:	3.10
Intersection Signal Delay:	718.0
Intersection LOS:	F
Intersection Capacity Utilization	242.1%
ICU Level of Service	H
Analysis Period (min)	15

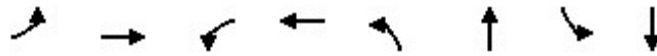
Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Background 2038 - With GTA West Highway

PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	679	174	388	1361	135	4589	177	2739
v/c Ratio	2.76	0.38	0.76	2.43	0.60	3.10	1.16	2.08
Control Delay	821.1	35.0	36.3	672.6	31.9	965.7	149.4	510.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	821.1	35.0	36.3	672.6	31.9	965.7	149.4	510.5
Queue Length 50th (m)	~259.0	29.4	64.9	~535.4	16.6	~1005.7	~33.6	~539.3
Queue Length 95th (m)	#330.7	49.9	93.2	#616.7	35.3	#1029.3	#78.5	#578.9
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	246	462	510	559	226	1478	152	1319
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	2.76	0.38	0.76	2.43	0.60	3.10	1.16	2.08

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 - Future Background 2038 - With GTA West Highway
 7: 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)	625	101	59	357	1108	144	124	3892	330	163	1944	576
Future Volume (vph)	625	101	59	357	1108	144	124	3892	330	163	1944	576
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		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	0.98		1.00	0.99		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)	1789	1780		1789	1851		1789	3537		1789	3456	
Flt Permitted	0.14	1.00		0.45	1.00		0.08	1.00		0.09	1.00	
Satd. Flow (perm)	269	1780		852	1851		154	3537		167	3456	
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)	679	110	64	388	1204	157	135	4230	359	177	2113	626
RTOR Reduction (vph)	0	17	0	0	4	0	0	5	0	0	23	0
Lane Group Flow (vph)	679	157	0	388	1357	0	135	4584	0	177	2716	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	40.0	28.0		50.0	34.0		57.0	48.0		47.0	43.0	
Effective Green, g (s)	40.0	30.0		50.0	36.0		60.0	50.0		51.0	45.0	
Actuated g/C Ratio	0.33	0.25		0.42	0.30		0.50	0.42		0.42	0.38	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	241	445		495	555		226	1473		152	1296	
v/s Ratio Prot	c0.28	0.09		0.12	c0.73		0.05	c1.30		c0.06	0.79	
v/s Ratio Perm	0.66			0.21			0.24			0.44		
v/c Ratio	2.82	0.35		0.78	2.44		0.60	3.11		1.16	2.10	
Uniform Delay, d1	34.2	37.0		27.2	42.0		25.3	35.0		30.9	37.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	829.3	2.2		11.8	655.6		11.1	952.1		124.0	495.7	
Delay (s)	863.5	39.2		39.0	697.6		36.4	987.1		155.0	533.2	
Level of Service	F	D		D	F		D	F		F	F	
Approach Delay (s)		695.4			551.5			960.0			510.2	
Approach LOS		F			F			F			F	

Intersection Summary

HCM 2000 Control Delay	740.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	242.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Background 2038 - With GTA West Highway
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	830	54	287	889	93	80	406	258	30	136	10
Future Volume (vph)	18	830	54	287	889	93	80	406	258	30	136	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.986				0.850		0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5096	0	3471	5070	0	1789	1883	1601	1789	1865	0
Flt Permitted	0.256			0.950			0.629			0.349		
Satd. Flow (perm)	482	5096	0	3471	5070	0	1185	1883	1601	657	1865	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			20				280			4
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	20	902	59	312	966	101	87	441	280	33	148	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	961	0	312	1067	0	87	441	280	33	159	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	36.0	36.0		25.0	61.0		59.0	59.0	59.0	59.0		59.0
Total Split (%)	30.0%	30.0%		20.8%	50.8%		49.2%	49.2%	49.2%	49.2%		49.2%
Maximum Green (s)	32.0	32.0		21.0	57.0		55.0	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		3.5
All-Red Time (s)	0.5	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	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	32.0	32.0		21.0	57.0		55.0	55.0	55.0	55.0		55.0
Actuated g/C Ratio	0.27	0.27		0.18	0.48		0.46	0.46	0.46	0.46		0.46
v/c Ratio	0.16	0.70		0.51	0.44		0.16	0.51	0.32	0.11		0.19

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

Future Background 2038 - With GTA West Highway

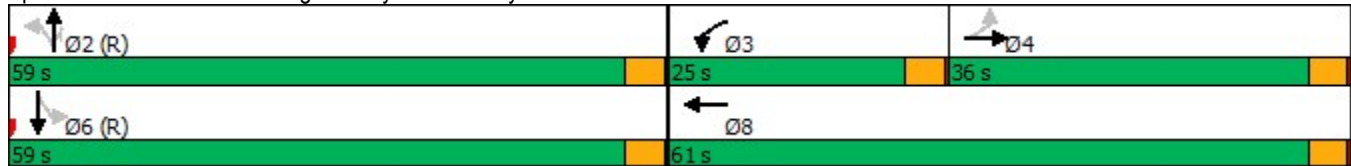
PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	37.6	42.7		30.3	29.6		20.1	25.6	3.2	19.9	19.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	37.6	42.7		30.3	29.6		20.1	25.6	3.2	19.9	19.5	
LOS	D	D		C	C		C	C	A	B	B	
Approach Delay		42.6			29.8			17.2				19.6
Approach LOS		D			C			B				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:	50
Control Type:	Pretimed
Maximum v/c Ratio:	0.70
Intersection Signal Delay:	29.9
Intersection LOS:	C
Intersection Capacity Utilization	63.5%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

15: Chinguacousy Road & Mayfield Road

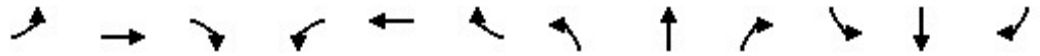


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	20	961	312	1067	87	441	280	33	159
v/c Ratio	0.16	0.70	0.51	0.44	0.16	0.51	0.32	0.11	0.19
Control Delay	37.6	42.7	30.3	29.6	20.1	25.6	3.2	19.9	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.6	42.7	30.3	29.6	20.1	25.6	3.2	19.9	19.5
Queue Length 50th (m)	3.6	74.3	38.7	91.2	11.7	71.7	0.0	4.3	21.1
Queue Length 95th (m)	10.6	89.8	m39.5	m90.5	22.1	101.2	14.4	10.9	34.7
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	128	1364	607	2418	543	863	885	301	856
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.70	0.51	0.44	0.16	0.51	0.32	0.11	0.19

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis Future Background 2038 - With GTA West Highway
 15: 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)	18	830	54	287	889	93	80	406	258	30	136	10
Future Volume (vph)	18	830	54	287	889	93	80	406	258	30	136	10
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	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5094		3471	5069		1789	1883	1601	1789	1864	
Flt Permitted	0.26	1.00		0.95	1.00		0.63	1.00	1.00	0.35	1.00	
Satd. Flow (perm)	482	5094		3471	5069		1184	1883	1601	658	1864	
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)	20	902	59	312	966	101	87	441	280	33	148	11
RTOR Reduction (vph)	0	6	0	0	11	0	0	0	152	0	2	0
Lane Group Flow (vph)	20	955	0	312	1057	0	87	441	128	33	157	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	32.0	32.0		21.0	57.0		55.0	55.0	55.0	55.0	55.0	
Effective Green, g (s)	32.0	32.0		21.0	57.0		55.0	55.0	55.0	55.0	55.0	
Actuated g/C Ratio	0.27	0.27		0.18	0.48		0.46	0.46	0.46	0.46	0.46	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	128	1358		607	2407		542	863	733	301	854	
v/s Ratio Prot		c0.19		c0.09	0.21			c0.23			0.08	
v/s Ratio Perm	0.04						0.07		0.08	0.05		
v/c Ratio	0.16	0.70		0.51	0.44		0.16	0.51	0.18	0.11	0.18	
Uniform Delay, d1	33.7	39.7		44.9	20.9		19.0	23.0	19.1	18.5	19.2	
Progression Factor	1.00	1.00		0.65	1.43		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.6	3.1		1.1	0.2		0.6	2.2	0.5	0.7	0.5	
Delay (s)	36.3	42.8		30.0	30.1		19.6	25.1	19.7	19.3	19.7	
Level of Service	D	D		C	C		B	C	B	B	B	
Approach Delay (s)		42.7			30.1			22.7			19.6	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	31.4	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	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Background 2038 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	44	1150	80	256	1267	258	109	509	213	135	210	76
Future Volume (vph)	44	1150	80	256	1267	258	109	509	213	135	210	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.975				0.850		0.960	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	5013	0	1789	1883	1601	1789	1808	0
Flt Permitted	0.121			0.108			0.459			0.197		
Satd. Flow (perm)	228	5142	1601	203	5013	0	864	1883	1601	371	1808	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118		38				232		19	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	48	1250	87	278	1377	280	118	553	232	147	228	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	1250	87	278	1657	0	118	553	232	147	311	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	13.0	37.0	37.0	18.0	42.0		11.0	53.0	53.0	12.0	54.0	
Total Split (%)	10.8%	30.8%	30.8%	15.0%	35.0%		9.2%	44.2%	44.2%	10.0%	45.0%	
Maximum Green (s)	9.0	33.0	33.0	14.0	38.0		7.0	49.0	49.0	8.0	50.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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)	42.0	33.0	33.0	51.0	38.0		56.0	49.0	49.0	58.0	50.0	
Actuated g/C Ratio	0.35	0.28	0.28	0.42	0.32		0.47	0.41	0.41	0.48	0.42	
v/c Ratio	0.24	0.88	0.17	1.03	1.03		0.26	0.72	0.29	0.54	0.41	

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

Future Background 2038 - With GTA West Highway
 PM Peak Hour

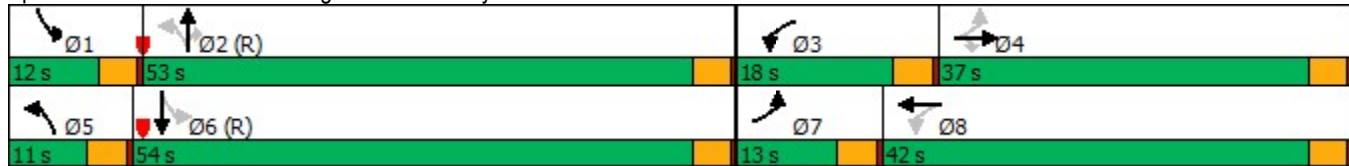


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	14.0	45.3	10.7	48.7	54.1		17.3	36.2	3.9	23.7	25.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	14.0	45.3	10.7	48.7	54.1		17.3	36.2	3.9	23.7	25.0	
LOS	B	D	B	D	D		B	D	A	C	C	
Approach Delay		42.1			53.3			25.4			24.6	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Pretimed
Maximum v/c Ratio:	1.03
Intersection Signal Delay:	41.8
Intersection LOS:	D
Intersection Capacity Utilization	84.0%
ICU Level of Service	E
Analysis Period (min)	15

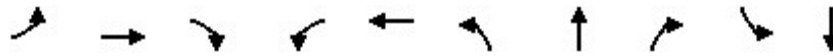
Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Background 2038 - With GTA West Highway

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	48	1250	87	278	1657	118	553	232	147	311
v/c Ratio	0.24	0.88	0.17	1.03	1.03	0.26	0.72	0.29	0.54	0.41
Control Delay	14.0	45.3	10.7	48.7	54.1	17.3	36.2	3.9	23.7	25.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	45.3	10.7	48.7	54.1	17.3	36.2	3.9	23.7	25.0
Queue Length 50th (m)	6.3	112.4	7.3	~54.7	~151.9	14.2	107.5	0.0	17.9	47.4
Queue Length 95th (m)	m9.0	128.6	m16.4	m45.9	m123.1	24.4	149.2	14.6	29.6	71.0
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	196	1414	525	271	1613	457	768	791	273	764
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	0.24	0.88	0.17	1.03	1.03	0.26	0.72	0.29	0.54	0.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.



































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

HCM Signalized Intersection Capacity Analysis Future Background 2038 - With GTA West Highway
 16: 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)	44	1150	80	256	1267	258	109	509	213	135	210	76
Future Volume (vph)	44	1150	80	256	1267	258	109	509	213	135	210	76
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	5011		1789	1883	1601	1789	1808	
Flt Permitted	0.12	1.00	1.00	0.11	1.00		0.46	1.00	1.00	0.20	1.00	
Satd. Flow (perm)	228	5142	1601	204	5011		865	1883	1601	371	1808	
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)	48	1250	87	278	1377	280	118	553	232	147	228	83
RTOR Reduction (vph)	0	0	63	0	26	0	0	0	137	0	11	0
Lane Group Flow (vph)	48	1250	24	278	1631	0	118	553	95	147	300	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	42.0	33.0	33.0	51.0	38.0		56.0	49.0	49.0	58.0	50.0	
Effective Green, g (s)	42.0	33.0	33.0	51.0	38.0		56.0	49.0	49.0	58.0	50.0	
Actuated g/C Ratio	0.35	0.28	0.28	0.42	0.32		0.47	0.41	0.41	0.48	0.42	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	196	1414	440	271	1586		457	768	653	273	753	
v/s Ratio Prot	0.02	0.24		c0.12	c0.33		0.02	c0.29		c0.04	0.17	
v/s Ratio Perm	0.07		0.01	0.32			0.11		0.06	0.22		
v/c Ratio	0.24	0.88	0.05	1.03	1.03		0.26	0.72	0.15	0.54	0.40	
Uniform Delay, d1	29.6	41.7	32.0	34.5	41.0		18.7	29.8	22.3	21.5	24.5	
Progression Factor	0.54	0.90	4.01	0.71	0.98		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.5	7.3	0.2	23.4	15.8		1.4	5.8	0.5	7.4	1.6	
Delay (s)	18.6	45.0	128.7	48.1	55.8		20.1	35.5	22.8	29.0	26.1	
Level of Service	B	D	F	D	E		C	D	C	C	C	
Approach Delay (s)		49.3			54.7			30.2			27.0	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			45.7			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			84.0%			ICU Level of Service				E		
Analysis Period (min)			15									
c	Critical Lane Group											

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

Future Background 2038 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  			 		 	 	
Traffic Volume (vph)	537	832	81	320	1288	178	293	823	53	227	888	794
Future Volume (vph)	537	832	81	320	1288	178	293	823	53	227	888	794
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.150			0.318		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	283	3579	1601	599	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			88			116			58			319
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	584	904	88	348	1400	193	318	895	58	247	965	863
Shared Lane Traffic (%)												
Lane Group Flow (vph)	584	904	88	348	1400	193	318	895	58	247	965	863
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2				6
Permitted Phases			4			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	18.0	29.0	29.0	18.0	29.0	29.0	18.0	73.0	73.0	55.0	55.0	55.0
Total Split (%)	15.0%	24.2%	24.2%	15.0%	24.2%	24.2%	15.0%	60.8%	60.8%	45.8%	45.8%	45.8%
Maximum Green (s)	14.0	25.0	25.0	14.0	25.0	25.0	14.0	69.0	69.0	51.0	51.0	51.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	Lag
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
Act Effct Green (s)	14.0	25.0	25.0	14.0	25.0	25.0	69.0	69.0	69.0	51.0	51.0	51.0
Actuated g/C Ratio	0.12	0.21	0.21	0.12	0.21	0.21	0.58	0.58	0.58	0.42	0.42	0.42
v/c Ratio	1.45	0.84	0.22	0.86	1.31	0.45	0.94	0.44	0.06	0.97	0.63	1.00

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

Future Background 2038 - With GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	236.3	49.3	20.6	73.2	183.6	20.8	56.9	15.3	3.0	85.3	29.5	53.1
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	236.3	49.3	20.6	73.2	183.6	20.8	56.9	15.3	3.0	85.3	29.5	53.1
LOS	F	D	C	E	F	C	E	B	A	F	C	D
Approach Delay	117.0			147.6			25.1			46.0		
Approach LOS	F			F			C			D		

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	110
Control Type:	Pretimed
Maximum v/c Ratio:	1.45
Intersection Signal Delay:	87.2
Intersection LOS:	F
Intersection Capacity Utilization	100.3%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues
17: Hurontario Street & Mayfield Road

Future Background 2038 - With GTA West Highway
PM Peak Hour



































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	584	904	88	348	1400	193	318	895	58	247	965	863
v/c Ratio	1.45	0.84	0.22	0.86	1.31	0.45	0.94	0.44	0.06	0.97	0.63	1.00
Control Delay	236.3	49.3	20.6	73.2	183.6	20.8	56.9	15.3	3.0	85.3	29.5	53.1
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	236.3	49.3	20.6	73.2	183.6	20.8	56.9	15.3	3.0	85.3	29.5	53.1
Queue Length 50th (m)	~98.8	82.3	11.2	42.1	~155.1	15.2	41.7	59.7	0.0	55.9	92.4	148.4
Queue Length 95th (m)	m#121.4	m94.3	m15.8	#66.0	#184.3	37.1	#96.2	74.2	5.5	#109.1	114.2	#240.5
Internal Link Dist (m)		1381.8			725.9			357.1				585.4
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	404	1071	403	404	1071	425	338	2057	945	254	1521	863
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	1.45	0.84	0.22	0.86	1.31	0.45	0.94	0.44	0.06	0.97	0.63	1.00

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

HCM Signalized Intersection Capacity Analysis Future Background 2038 - With GTA West Highway
 17: 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)	537	832	81	320	1288	178	293	823	53	227	888	794	
Future Volume (vph)	537	832	81	320	1288	178	293	823	53	227	888	794	
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	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601	
Flt Permitted	0.95	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)	3471	5142	1601	3471	5142	1601	283	3579	1601	599	3579	1601	
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)	584	904	88	348	1400	193	318	895	58	247	965	863	
RTOR Reduction (vph)	0	0	70	0	0	92	0	0	25	0	0	183	
Lane Group Flow (vph)	584	904	18	348	1400	101	318	895	33	247	965	680	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	
Protected Phases	7	4		3	8		5	2		6		6	
Permitted Phases			4			8	2		2	6		6	
Actuated Green, G (s)	14.0	25.0	25.0	14.0	25.0	25.0	69.0	69.0	69.0	51.0	51.0	51.0	
Effective Green, g (s)	14.0	25.0	25.0	14.0	25.0	25.0	69.0	69.0	69.0	51.0	51.0	51.0	
Actuated g/C Ratio	0.12	0.21	0.21	0.12	0.21	0.21	0.58	0.58	0.58	0.42	0.42	0.42	
Clearance Time (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	
Lane Grp Cap (vph)	404	1071	333	404	1071	333	338	2057	920	254	1521	680	
v/s Ratio Prot	c0.17	0.18		0.10	c0.27		c0.11	0.25			0.27		
v/s Ratio Perm			0.01			0.06	0.43		0.02	0.41		c0.42	
v/c Ratio	1.45	0.84	0.06	0.86	1.31	0.30	0.94	0.44	0.04	0.97	0.63	1.00	
Uniform Delay, d1	53.0	45.6	38.0	52.0	47.5	40.1	23.2	14.5	11.1	33.8	27.2	34.5	
Progression Factor	0.57	0.96	2.41	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	209.0	5.2	0.2	20.8	145.1	2.3	36.0	0.7	0.1	49.8	2.0	34.4	
Delay (s)	239.4	49.0	91.8	72.8	192.6	42.5	59.2	15.1	11.1	83.6	29.2	68.8	
Level of Service	F	D	F	E	F	D	E	B	B	F	C	E	
Approach Delay (s)		122.0			156.2			26.0			52.2		
Approach LOS		F			F			C			D		
Intersection Summary													
HCM 2000 Control Delay			92.8									HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			1.13										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			100.3%									ICU Level of Service	G
Analysis Period (min)			15										
c	Critical Lane Group												

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

Future Total 2038 - With GTA West Highway
AM Peak Hour

















												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	254	32	230	184	40	15	270	440	36	358	1
Future Volume (vph)	8	254	32	230	184	40	15	270	440	36	358	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.985			0.988			0.918				
Fl _t Protected		0.999			0.975			0.999			0.995	
Satd. Flow (prot)	0	1853	0	0	1814	0	0	1727	0	0	1874	0
Fl _t Permitted		0.999			0.975			0.999			0.995	
Satd. Flow (perm)	0	1853	0	0	1814	0	0	1727	0	0	1874	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	0.92	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)	9	276	35	250	200	43	16	293	478	39	389	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	320	0	0	493	0	0	787	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)		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	95.3%					ICU Level of Service F						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - With GTA West Highway
 1: Chinguacousy Road & Old School Road 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)	8	254	32	230	184	40	15	270	440	36	358	1
Future Volume (vph)	8	254	32	230	184	40	15	270	440	36	358	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
Hourly flow rate (vph)	9	276	35	250	200	43	16	293	478	39	389	1
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	320	493	787	429								
Volume Left (vph)	9	250	16	39								
Volume Right (vph)	35	43	478	1								
Hadj (s)	-0.03	0.08	-0.33	0.05								
Departure Headway (s)	9.5	9.3	8.8	9.2								
Degree Utilization, x	0.85	1.27	1.93	1.10								
Capacity (veh/h)	374	393	413	400								
Control Delay (s)	47.7	166.9	449.9	105.7								
Approach Delay (s)	47.7	166.9	449.9	105.7								
Approach LOS	E	F	F	F								
Intersection Summary												
Delay			244.9									
Level of Service			F									
Intersection Capacity Utilization			95.3%		ICU Level of Service				F			
Analysis Period (min)			15									

















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

Future Total 2038 - With GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	683	118	264	399	30	39	165	542	32	361	24
Future Volume (vph)	73	683	118	264	399	30	39	165	542	32	361	24
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 _t		0.982			0.994			0.902			0.992	
Fl _t Protected		0.996			0.981			0.997			0.996	
Satd. Flow (prot)	0	1842	0	0	1837	0	0	1694	0	0	1861	0
Fl _t Permitted		0.996			0.981			0.997			0.996	
Satd. Flow (perm)	0	1842	0	0	1837	0	0	1694	0	0	1861	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	79	742	128	287	434	33	42	179	589	35	392	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	949	0	0	754	0	0	810	0	0	453	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	147.6%						ICU Level of Service H					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - With GTA West Highway
 4: McLaughlin Road & Old School Road

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)	73	683	118	264	399	30	39	165	542	32	361	24
Future Volume (vph)	73	683	118	264	399	30	39	165	542	32	361	24
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)	79	742	128	287	434	33	42	179	589	35	392	26
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	949	754	810	453								
Volume Left (vph)	79	287	42	35								
Volume Right (vph)	128	33	589	26								
Hadj (s)	-0.03	0.08	-0.39	0.02								
Departure Headway (s)	9.5	9.6	9.2	9.6								
Degree Utilization, x	2.51	2.02	2.06	1.21								
Capacity (veh/h)	387	379	399	381								
Control Delay (s)	709.0	490.3	508.2	144.4								
Approach Delay (s)	709.0	490.3	508.2	144.4								
Approach LOS	F	F	F	F								
Intersection Summary												
Delay			512.4									
Level of Service			F									
Intersection Capacity Utilization			147.6%	ICU Level of Service	H							
Analysis Period (min)			15									

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

Future Total 2038 - With GTA West Highway
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	572	134	600	333	108	126	158	1763	135	61	3246	313
Future Volume (vph)	572	134	600	333	108	126	158	1763	135	61	3246	313
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		0.877			0.919			0.989			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1652	0	1789	1731	0	1789	3539	0	1789	3532	0
Flt Permitted	0.345			0.143			0.071			0.071		
Satd. Flow (perm)	650	1652	0	269	1731	0	134	3539	0	134	3532	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		67			47			9			11	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	622	146	652	362	117	137	172	1916	147	66	3528	340
Shared Lane Traffic (%)												
Lane Group Flow (vph)	622	798	0	362	254	0	172	2063	0	66	3868	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	16.0	36.0		14.0	34.0		10.0	60.0		10.0	60.0	
Total Split (%)	13.3%	30.0%		11.7%	28.3%		8.3%	50.0%		8.3%	50.0%	
Maximum Green (s)	12.0	30.0		10.0	28.0		4.0	54.0		4.0	54.0	
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	
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)	44.0	32.0		40.0	30.0		62.0	56.0		62.0	56.0	
Actuated g/C Ratio	0.37	0.27		0.33	0.25		0.52	0.47		0.52	0.47	
v/c Ratio	1.77	1.63		1.68	0.54		1.14	1.25		0.44	2.34	

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

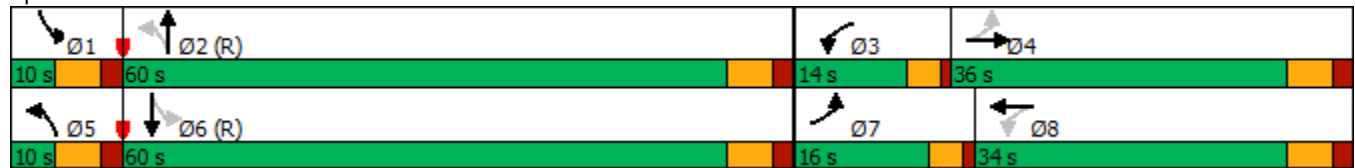
Future Total 2038 - With GTA West Highway
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	381.5	322.0		347.7	36.5		140.8	145.8		22.1	624.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	381.5	322.0		347.7	36.5		140.8	145.8		22.1	624.7	
LOS	F	F		F	D		F	F		C	F	
Approach Delay		348.1			219.4			145.5				614.6
Approach LOS		F			F			F				F

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:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.34
Intersection Signal Delay:	411.0
Intersection LOS:	F
Intersection Capacity Utilization	184.3%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Total 2038 - With GTA West Highway
AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	622	798	362	254	172	2063	66	3868
v/c Ratio	1.77	1.63	1.68	0.54	1.14	1.25	0.44	2.34
Control Delay	381.5	322.0	347.7	36.5	140.8	145.8	22.1	624.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	381.5	322.0	347.7	36.5	140.8	145.8	22.1	624.7
Queue Length 50th (m)	~173.7	~261.2	~108.6	42.4	~31.4	~319.5	7.0	~793.1
Queue Length 95th (m)	#246.6	#335.9	#167.4	68.7	#75.7	#362.1	13.6	#823.8
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	352	489	216	468	151	1656	151	1654
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	1.77	1.63	1.68	0.54	1.14	1.25	0.44	2.34

Intersection Summary

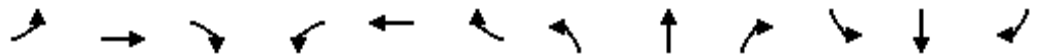
~ Volume exceeds capacity, queue is theoretically infinite.

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 Future Total 2038 - With GTA West Highway
 7: Hurontario Street & Old School Road AM Peak Hour




























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↕		↖	↗	
Traffic Volume (vph)	572	134	600	333	108	126	158	1763	135	61	3246	313
Future Volume (vph)	572	134	600	333	108	126	158	1763	135	61	3246	313
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		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	0.88		1.00	0.92		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)	1789	1653		1789	1731		1789	3540		1789	3531	
Flt Permitted	0.35	1.00		0.14	1.00		0.07	1.00		0.07	1.00	
Satd. Flow (perm)	650	1653		269	1731		135	3540		135	3531	
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)	622	146	652	362	117	137	172	1916	147	66	3528	340
RTOR Reduction (vph)	0	49	0	0	35	0	0	5	0	0	6	0
Lane Group Flow (vph)	622	749	0	362	219	0	172	2058	0	66	3862	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	42.0	30.0		38.0	28.0		58.0	54.0		58.0	54.0	
Effective Green, g (s)	42.0	32.0		38.0	30.0		62.0	56.0		62.0	56.0	
Actuated g/C Ratio	0.35	0.27		0.32	0.25		0.52	0.47		0.52	0.47	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	341	440		211	432		152	1652		152	1647	
v/s Ratio Prot	c0.18	0.45		0.14	0.13		c0.06	0.58		0.02	c1.09	
v/s Ratio Perm	c0.46			0.40			0.53			0.20		
v/c Ratio	1.82	1.70		1.72	0.51		1.13	1.25		0.43	2.34	
Uniform Delay, d1	37.0	44.0		36.1	38.6		31.0	32.0		26.2	32.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	382.2	325.5		341.3	4.2		112.7	115.9		8.8	607.1	
Delay (s)	419.2	369.5		377.4	42.8		143.7	147.9		35.0	639.1	
Level of Service	F	F		F	D		F	F		D	F	
Approach Delay (s)		391.3			239.5			147.6			629.0	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	427.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.06		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	184.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Total 2038 - With GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		 	 							
Traffic Volume (vph)	24	942	139	386	680	82	31	208	238	154	423	25
Future Volume (vph)	24	942	139	386	680	82	31	208	238	154	423	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.984				0.850		0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5044	0	3471	5060	0	1789	1883	1601	1789	1868	0
Flt Permitted	0.328			0.950			0.264			0.539		
Satd. Flow (perm)	618	5044	0	3471	5060	0	497	1883	1601	1015	1868	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			26				259			3
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	26	1024	151	420	739	89	34	226	259	167	460	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	1175	0	420	828	0	34	226	259	167	487	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	41.0	41.0		26.0	67.0		53.0	53.0	53.0	53.0		53.0
Total Split (%)	34.2%	34.2%		21.7%	55.8%		44.2%	44.2%	44.2%	44.2%		44.2%
Maximum Green (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0		49.0
Yellow Time (s)	3.5	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		0.5
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)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0		49.0
Actuated g/C Ratio	0.31	0.31		0.18	0.52		0.41	0.41	0.41	0.41		0.41
v/c Ratio	0.14	0.75		0.66	0.31		0.17	0.29	0.32	0.40		0.64

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

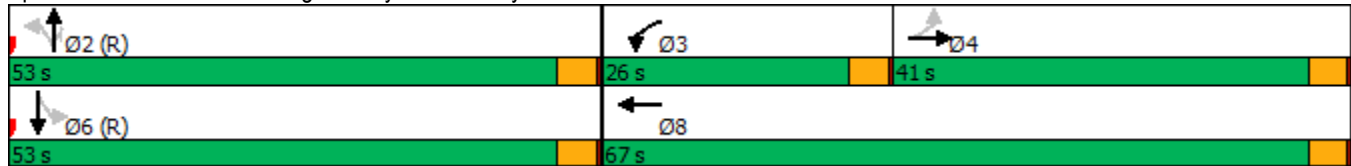
Future Total 2038 - With GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	32.5	40.1		51.2	16.0		25.4	25.2	3.8	28.9	32.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	32.5	40.1		51.2	16.0		25.4	25.2	3.8	28.9	32.9	
LOS	C	D		D	B		C	C	A	C	C	
Approach Delay		39.9			27.8			14.6			31.8	
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:	55
Control Type:	Pretimed
Maximum v/c Ratio:	0.75
Intersection Signal Delay:	30.7
Intersection LOS:	C
Intersection Capacity Utilization	72.8%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

Future Total 2038 - With GTA West Highway

15: Chinguacousy Road & Mayfield Road

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	26	1175	420	828	34	226	259	167	487
v/c Ratio	0.14	0.75	0.66	0.31	0.17	0.29	0.32	0.40	0.64
Control Delay	32.5	40.1	51.2	16.0	25.4	25.2	3.8	28.9	32.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.5	40.1	51.2	16.0	25.4	25.2	3.8	28.9	32.9
Queue Length 50th (m)	4.4	89.3	47.8	37.6	5.0	35.2	0.0	27.4	89.8
Queue Length 95th (m)	11.8	106.2	64.7	46.4	12.7	54.0	15.4	46.8	125.8
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	190	1571	636	2668	202	768	806	414	764
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.75	0.66	0.31	0.17	0.29	0.32	0.40	0.64

Intersection Summary

HCM Signalized Intersection Capacity Analysis Future Total 2038 - With GTA West Highway
 15: Chinguacousy Road & Mayfield Road AM Peak Hour






























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↑↑↑		↘↗	↑↑↑		↗	↑	↗	↘	↓	↘
Traffic Volume (vph)	24	942	139	386	680	82	31	208	238	154	423	25
Future Volume (vph)	24	942	139	386	680	82	31	208	238	154	423	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		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5043		3471	5059		1789	1883	1601	1789	1868	
Flt Permitted	0.33	1.00		0.95	1.00		0.26	1.00	1.00	0.54	1.00	
Satd. Flow (perm)	617	5043		3471	5059		498	1883	1601	1016	1868	
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)	26	1024	151	420	739	89	34	226	259	167	460	27
RTOR Reduction (vph)	0	16	0	0	12	0	0	0	153	0	2	0
Lane Group Flow (vph)	26	1159	0	420	816	0	34	226	106	167	485	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0	49.0	
Effective Green, g (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0	49.0	
Actuated g/C Ratio	0.31	0.31		0.18	0.52		0.41	0.41	0.41	0.41	0.41	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	190	1554		636	2655		203	768	653	414	762	
v/s Ratio Prot		c0.23		c0.12	0.16			0.12			c0.26	
v/s Ratio Perm	0.04						0.07		0.07	0.16		
v/c Ratio	0.14	0.75		0.66	0.31		0.17	0.29	0.16	0.40	0.64	
Uniform Delay, d1	30.0	37.3		45.5	16.1		22.5	23.9	22.5	25.1	28.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	3.3		5.3	0.3		1.8	1.0	0.5	2.9	4.0	
Delay (s)	31.5	40.6		50.8	16.4		24.3	24.8	23.0	28.1	32.4	
Level of Service	C	D		D	B		C	C	C	C	C	
Approach Delay (s)		40.4			28.0			23.9			31.3	
Approach LOS		D			C			C			C	

Intersection Summary		
HCM 2000 Control Delay	32.1	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.68	
Actuated Cycle Length (s)	120.0	Sum of lost time (s) 12.0
Intersection Capacity Utilization	72.8%	ICU Level of Service C
Analysis Period (min)	15	
c Critical Lane Group		

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

Future Total 2038 - With GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  				 			
Traffic Volume (vph)	78	1206	142	234	938	113	67	329	180	346	667	211
Future Volume (vph)	78	1206	142	234	938	113	67	329	180	346	667	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850		0.984				0.850		0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	5060	0	1789	3579	1601	1789	1816	0
Flt Permitted	0.118			0.105			0.087			0.425		
Satd. Flow (perm)	222	5142	1601	198	5060	0	164	3579	1601	800	1816	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		16				196		16	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	1311	154	254	1020	123	73	358	196	376	725	229
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	1311	154	254	1143	0	73	358	196	376	954	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	12.0	38.0	38.0	19.0	45.0		8.0	50.0	50.0	29.0	71.0	
Total Split (%)	8.8%	27.9%	27.9%	14.0%	33.1%		5.9%	36.8%	36.8%	21.3%	52.2%	
Maximum Green (s)	8.0	34.0	34.0	15.0	41.0		4.0	46.0	46.0	25.0	67.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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)	42.0	34.0	34.0	53.0	41.0		50.0	46.0	46.0	75.0	67.0	
Actuated g/C Ratio	0.31	0.25	0.25	0.39	0.30		0.37	0.34	0.34	0.55	0.49	
v/c Ratio	0.53	1.02	0.31	1.01	0.74		0.68	0.30	0.29	0.60	1.06	

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

Future Total 2038 - With GTA West Highway
 AM Peak Hour

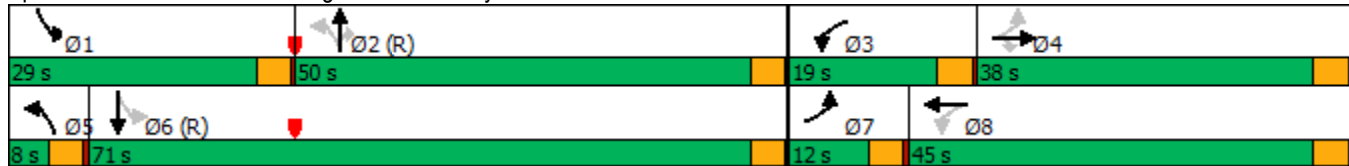


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Control Delay	39.9	80.2	10.5	95.7	45.7		51.0	33.9	5.3	21.9	79.8		
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total Delay	39.9	80.2	10.5	95.7	45.7		51.0	33.9	5.3	21.9	79.8		
LOS	D	F	B	F	D		D	C	A	C	E		
Approach Delay		71.1				54.8				27.0			63.4
Approach LOS		E				D				C			E

Intersection Summary

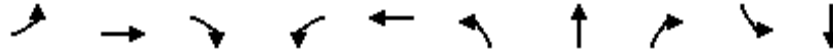
Area Type:	Other
Cycle Length:	136
Actuated Cycle Length:	136
Offset:	120 (88%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	120
Control Type:	Pretimed
Maximum v/c Ratio:	1.06
Intersection Signal Delay:	58.7
Intersection LOS:	E
Intersection Capacity Utilization	101.2%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Total 2038 - With GTA West Highway
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	85	1311	154	254	1143	73	358	196	376	954
v/c Ratio	0.53	1.02	0.31	1.01	0.74	0.68	0.30	0.29	0.60	1.06
Control Delay	39.9	80.2	10.5	95.7	45.7	51.0	33.9	5.3	21.9	79.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.9	80.2	10.5	95.7	45.7	51.0	33.9	5.3	21.9	79.8
Queue Length 50th (m)	14.5	~136.4	3.7	~53.9	100.1	8.9	37.1	0.0	55.3	~278.3
Queue Length 95th (m)	26.1	#165.8	21.0	#109.6	117.1	#22.8	50.0	16.3	77.5	#357.6
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	160	1285	502	252	1536	108	1210	671	622	902
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	0.53	1.02	0.31	1.01	0.74	0.68	0.30	0.29	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 Future Total 2038 - With GTA West Highway
 16: McLaughlin Road & Mayfield Road AM Peak Hour



























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑	↗	↘	↗	
Traffic Volume (vph)	78	1206	142	234	938	113	67	329	180	346	667	211
Future Volume (vph)	78	1206	142	234	938	113	67	329	180	346	667	211
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	5059		1789	3579	1601	1789	1816	
Flt Permitted	0.12	1.00	1.00	0.11	1.00		0.09	1.00	1.00	0.42	1.00	
Satd. Flow (perm)	222	5142	1601	198	5059		164	3579	1601	800	1816	
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)	85	1311	154	254	1020	123	73	358	196	376	725	229
RTOR Reduction (vph)	0	0	102	0	11	0	0	0	130	0	8	0
Lane Group Flow (vph)	85	1311	52	254	1132	0	73	358	66	376	946	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	42.0	34.0	34.0	53.0	41.0		50.0	46.0	46.0	75.0	67.0	
Effective Green, g (s)	42.0	34.0	34.0	53.0	41.0		50.0	46.0	46.0	75.0	67.0	
Actuated g/C Ratio	0.31	0.25	0.25	0.39	0.30		0.37	0.34	0.34	0.55	0.49	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	160	1285	400	252	1525		108	1210	541	622	894	
v/s Ratio Prot	0.03	0.25		c0.11	0.22		0.02	0.10		c0.11	c0.52	
v/s Ratio Perm	0.13		0.03	c0.28			0.23		0.04	0.22		
v/c Ratio	0.53	1.02	0.13	1.01	0.74		0.68	0.30	0.12	0.60	1.06	
Uniform Delay, d1	35.5	51.0	39.5	40.1	42.7		35.1	33.1	31.1	18.0	34.5	
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	12.1	30.3	0.7	58.7	3.3		29.0	0.6	0.5	4.3	46.7	
Delay (s)	47.6	81.3	40.2	98.9	46.0		64.1	33.7	31.5	22.3	81.2	
Level of Service	D	F	D	F	D		E	C	C	C	F	
Approach Delay (s)		75.4			55.7			36.6			64.5	
Approach LOS		E			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	61.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	101.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Total 2038 - With GTA West Highway
AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	192	1223	195	236	703	243	146	728	114	527	1265	213
Future Volume (vph)	192	1223	195	236	703	243	146	728	114	527	1265	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.125			0.111		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	235	3579	1601	209	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			162			264			124			232
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	209	1329	212	257	764	264	159	791	124	573	1375	232
Shared Lane Traffic (%)												
Lane Group Flow (vph)	209	1329	212	257	764	264	159	791	124	573	1375	232
Enter Blocked Intersection	No	No	No	No	No	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	Prot	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			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	17.0	38.0	38.0	14.0	35.0	35.0	14.0	36.0	36.0	40.0	62.0	62.0
Total Split (%)	13.3%	29.7%	29.7%	10.9%	27.3%	27.3%	10.9%	28.1%	28.1%	31.3%	48.4%	48.4%
Maximum Green (s)	13.0	34.0	34.0	10.0	31.0	31.0	10.0	32.0	32.0	36.0	58.0	58.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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
Act Effct Green (s)	13.0	34.0	34.0	10.0	31.0	31.0	42.0	32.0	32.0	72.0	58.0	58.0
Actuated g/C Ratio	0.10	0.27	0.27	0.08	0.24	0.24	0.33	0.25	0.25	0.56	0.45	0.45
v/c Ratio	0.59	0.97	0.39	0.95	0.61	0.45	0.80	0.88	0.25	1.02	0.85	0.27

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

Future Total 2038 - With GTA West Highway
 AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	62.5	65.4	12.6	101.5	45.7	7.1	60.2	59.0	7.7	79.7	37.3	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	62.5	65.4	12.6	101.5	45.7	7.1	60.2	59.0	7.7	79.7	37.3	3.4
LOS	E	E	B	F	D	A	E	E	A	E	D	A
Approach Delay	58.7			48.9			53.2			44.8		
Approach LOS	E			D			D			D		

Intersection Summary	
Area Type:	Other
Cycle Length:	128
Actuated Cycle Length:	128
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	90
Control Type:	Pretimed
Maximum v/c Ratio:	1.02
Intersection Signal Delay:	50.9
Intersection LOS:	D
Intersection Capacity Utilization	93.0%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road



Queues
17: Hurontario Street & Mayfield Road

Future Total 2038 - With GTA West Highway
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	209	1329	212	257	764	264	159	791	124	573	1375	232
v/c Ratio	0.59	0.97	0.39	0.95	0.61	0.45	0.80	0.88	0.25	1.02	0.85	0.27
Control Delay	62.5	65.4	12.6	101.5	45.7	7.1	60.2	59.0	7.7	79.7	37.3	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	62.5	65.4	12.6	101.5	45.7	7.1	60.2	59.0	7.7	79.7	37.3	3.4
Queue Length 50th (m)	26.3	121.9	9.6	33.8	63.1	0.0	23.3	101.5	0.0	~137.2	158.8	0.0
Queue Length 95th (m)	39.2	#153.2	30.3	#59.7	77.2	20.9	#59.3	#133.5	15.0	#206.9	189.7	14.0
Internal Link Dist (m)		1381.8			725.9			357.1			585.4	
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	352	1365	544	271	1245	587	198	894	493	561	1621	852
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	0.59	0.97	0.39	0.95	0.61	0.45	0.80	0.88	0.25	1.02	0.85	0.27

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 Future Total 2038 - With GTA West Highway
 17: Hurontario Street & Mayfield Road AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	 	  		 	  			 			 		
Traffic Volume (vph)	192	1223	195	236	703	243	146	728	114	527	1265	213	
Future Volume (vph)	192	1223	195	236	703	243	146	728	114	527	1265	213	
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	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.12	1.00	1.00	0.11	1.00	1.00	
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	235	3579	1601	209	3579	1601	
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)	209	1329	212	257	764	264	159	791	124	573	1375	232	
RTOR Reduction (vph)	0	0	119	0	0	200	0	0	93	0	0	127	
Lane Group Flow (vph)	209	1329	93	257	764	64	159	791	31	573	1375	105	
Turn Type	Prot	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			8	2		2	6		6	
Actuated Green, G (s)	13.0	34.0	34.0	10.0	31.0	31.0	42.0	32.0	32.0	72.0	58.0	58.0	
Effective Green, g (s)	13.0	34.0	34.0	10.0	31.0	31.0	42.0	32.0	32.0	72.0	58.0	58.0	
Actuated g/C Ratio	0.10	0.27	0.27	0.08	0.24	0.24	0.33	0.25	0.25	0.56	0.45	0.45	
Clearance Time (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	
Lane Grp Cap (vph)	352	1365	425	271	1245	387	198	894	400	561	1621	725	
v/s Ratio Prot	0.06	c0.26		c0.07	0.15		0.06	0.22		c0.29	0.38		
v/s Ratio Perm			0.06			0.04	0.20		0.02	c0.29		0.07	
v/c Ratio	0.59	0.97	0.22	0.95	0.61	0.17	0.80	0.88	0.08	1.02	0.85	0.14	
Uniform Delay, d1	55.0	46.6	36.6	58.7	43.2	38.3	33.4	46.2	36.7	37.8	31.1	20.5	
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	7.2	18.8	1.2	42.9	2.3	0.9	28.1	12.5	0.4	43.5	5.7	0.4	
Delay (s)	62.2	65.4	37.8	101.6	45.4	39.2	61.5	58.7	37.1	81.3	36.8	20.9	
Level of Service	E	E	D	F	D	D	E	E	D	F	D	C	
Approach Delay (s)		61.7			55.4			56.6			46.8		
Approach LOS		E			E			E			D		
Intersection Summary													
HCM 2000 Control Delay			54.4									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			1.02										
Actuated Cycle Length (s)			128.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			93.0%									ICU Level of Service	F
Analysis Period (min)			15										
c Critical Lane Group													

















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

Future Total 2038 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	205	30	461	367	58	27	516	484	34	253	2
Future Volume (vph)	7	205	30	461	367	58	27	516	484	34	253	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.983			0.991			0.936			0.999	
Fl _t Protected		0.998			0.975			0.999			0.994	
Satd. Flow (prot)	0	1848	0	0	1820	0	0	1761	0	0	1870	0
Fl _t Permitted		0.998			0.975			0.999			0.994	
Satd. Flow (perm)	0	1848	0	0	1820	0	0	1761	0	0	1870	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	0.92	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)	8	223	33	501	399	63	29	561	526	37	275	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	264	0	0	963	0	0	1116	0	0	314	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	133.3%					ICU Level of Service H						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - With GTA West Highway
 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)	7	205	30	461	367	58	27	516	484	34	253	2
Future Volume (vph)	7	205	30	461	367	58	27	516	484	34	253	2
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)	8	223	33	501	399	63	29	561	526	37	275	2
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	264	963	1116	314								
Volume Left (vph)	8	501	29	37								
Volume Right (vph)	33	63	526	2								
Hadj (s)	-0.03	0.10	-0.24	0.05								
Departure Headway (s)	8.9	8.3	7.9	8.7								
Degree Utilization, x	0.65	2.21	2.45	0.76								
Capacity (veh/h)	386	442	465	403								
Control Delay (s)	27.2	569.8	678.1	34.5								
Approach Delay (s)	27.2	569.8	678.1	34.5								
Approach LOS	D	F	F	D								
Intersection Summary												
Delay			498.1									
Level of Service			F									
Intersection Capacity Utilization			133.3%	ICU Level of Service	H							
Analysis Period (min)			15									

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

Future Total 2038 - With GTA West Highway
PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↘	
Traffic Volume (vph)	709	63	90	878	50	25
Future Volume (vph)	709	63	90	878	50	25
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.989			0.955		
Flt Protected				0.995	0.968	
Satd. Flow (prot)	1863	0	0	1874	1741	0
Flt Permitted				0.995	0.968	
Satd. Flow (perm)	1863	0	0	1874	1741	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			521.8	121.9	
Travel Time (s)	25.2			26.8	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	771	68	98	954	54	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	839	0	0	1052	81	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	106.6%			ICU Level of Service G		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - With GTA West Highway
2: Street B & Old School Road

PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→	↘	↙	←	↘	↙
Traffic Volume (veh/h)	709	63	90	878	50	25
Future Volume (Veh/h)	709	63	90	878	50	25
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)	771	68	98	954	54	27
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			839		1955	805
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			839		1955	805
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			88		12	93
cM capacity (veh/h)			796		62	382
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	839	1052	81			
Volume Left	0	98	54			
Volume Right	68	0	27			
cSH	1700	796	85			
Volume to Capacity	0.49	0.12	0.95			
Queue Length 95th (m)	0.0	3.2	39.8			
Control Delay (s)	0.0	3.5	169.8			
Lane LOS		A	F			
Approach Delay (s)	0.0	3.5	169.8			
Approach LOS			F			
Intersection Summary						
Average Delay			8.9			
Intersection Capacity Utilization			106.6%	ICU Level of Service	G	
Analysis Period (min)			15			

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

Future Total 2038 - With GTA West Highway
PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	673	45	168	921	47	70
Future Volume (vph)	673	45	168	921	47	70
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.992			0.919		
Flt Protected				0.992	0.980	
Satd. Flow (prot)	1868	0	0	1868	1696	0
Flt Permitted				0.992	0.980	
Satd. Flow (perm)	1868	0	0	1868	1696	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	521.8			371.6	309.0	
Travel Time (s)	26.8			19.1	23.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	732	49	183	1001	51	76
Shared Lane Traffic (%)						
Lane Group Flow (vph)	781	0	0	1184	127	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	112.8%
ICU Level of Service	H
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - With GTA West Highway
 3: Street D & Old School Road

















PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	673	45	168	921	47	70
Future Volume (Veh/h)	673	45	168	921	47	70
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)	732	49	183	1001	51	76
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			781		2124	756
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			781		2124	756
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			78		0	81
cM capacity (veh/h)			837		43	408
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	781	1184	127			
Volume Left	0	183	51			
Volume Right	49	0	76			
cSH	1700	837	93			
Volume to Capacity	0.46	0.22	1.37			
Queue Length 95th (m)	0.0	6.3	71.3			
Control Delay (s)	0.0	6.3	303.9			
Lane LOS		A	F			
Approach Delay (s)	0.0	6.3	303.9			
Approach LOS			F			
Intersection Summary						
Average Delay			22.0			
Intersection Capacity Utilization			112.8%	ICU Level of Service	H	
Analysis Period (min)			15			

















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

Future Total 2038 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	628	67	546	986	46	78	378	560	27	164	24
Future Volume (vph)	48	628	67	546	986	46	78	378	560	27	164	24
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 _t		0.988			0.996			0.926			0.985	
Fl _t Protected		0.997			0.983			0.996			0.994	
Satd. Flow (prot)	0	1855	0	0	1844	0	0	1737	0	0	1844	0
Fl _t Permitted		0.997			0.983			0.996			0.994	
Satd. Flow (perm)	0	1855	0	0	1844	0	0	1737	0	0	1844	0
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		371.6			349.1			311.8			263.1	
Travel Time (s)		19.1			18.0			14.0			11.8	
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)	52	683	73	593	1072	50	85	411	609	29	178	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	808	0	0	1715	0	0	1105	0	0	233	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	204.3%											
Analysis Period (min)	15											
	ICU Level of Service H											

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - With GTA West Highway
 4: 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)	48	628	67	546	986	46	78	378	560	27	164	24			
Future Volume (vph)	48	628	67	546	986	46	78	378	560	27	164	24			
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)	52	683	73	593	1072	50	85	411	609	29	178	26			
Direction, Lane #	EB 1	WB 1	NB 1	SB 1											
Volume Total (vph)	808	1715	1105	233											
Volume Left (vph)	52	593	85	29											
Volume Right (vph)	73	50	609	26											
Hadj (s)	-0.01	0.09	-0.28	-0.01											
Departure Headway (s)	8.6	8.7	8.3	9.6											
Degree Utilization, x	1.92	4.13	2.55	0.62											
Capacity (veh/h)	424	420	444	368											
Control Delay (s)	444.7	1431.0	721.3	26.9											
Approach Delay (s)	444.7	1431.0	721.3	26.9											
Approach LOS	F	F	F	D											
Intersection Summary															
Delay			936.8												
Level of Service			F												
Intersection Capacity Utilization			204.3%				ICU Level of Service				H				
Analysis Period (min)			15												

Lanes, Volumes, Timings
5: Street G & Old School Road

Future Total 2038 - With GTA West Highway
PM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1157	50	11	1500	41	16
Future Volume (vph)	1157	50	11	1500	41	16
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994			0.963		
Flt Protected				0.965		
Satd. Flow (prot)	1872	0	0	1883	1750	0
Flt Permitted				0.965		
Satd. Flow (perm)	1872	0	0	1883	1750	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			794.6	134.3	
Travel Time (s)	18.0			40.9	10.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1258	54	12	1630	45	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1312	0	0	1642	62	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	97.7%
ICU Level of Service	F
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - With GTA West Highway
5: Street G & Old School Road











PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1157	50	11	1500	41	16
Future Volume (Veh/h)	1157	50	11	1500	41	16
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)	1258	54	12	1630	45	17
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			1312		2939	1285
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1312		2939	1285
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		0	92
cM capacity (veh/h)			527		16	201
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	1312	1642	62			
Volume Left	0	12	45			
Volume Right	54	0	17			
cSH	1700	527	22			
Volume to Capacity	0.77	0.02	2.88			
Queue Length 95th (m)	0.0	0.5	60.6			
Control Delay (s)	0.0	6.7	1222.4			
Lane LOS		A	F			
Approach Delay (s)	0.0	6.7	1222.4			
Approach LOS			F			
Intersection Summary						
Average Delay			28.8			
Intersection Capacity Utilization			97.7%	ICU Level of Service	F	
Analysis Period (min)			15			

Lanes, Volumes, Timings
6: Street H & Old School Road

Future Total 2038 - With GTA West Highway
PM Peak Hour

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1119	42	0	2357	33	0
Future Volume (vph)	1119	42	0	2357	33	0
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995					
Flt Protected					0.950	
Satd. Flow (prot)	1874	0	0	1883	1789	0
Flt Permitted					0.950	
Satd. Flow (perm)	1874	0	0	1883	1789	0
Link Speed (k/h)	70			70	48	
Link Distance (m)	794.6			213.2	410.2	
Travel Time (s)	40.9			11.0	30.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1216	46	0	2562	36	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1262	0	0	2562	36	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	134.1%			ICU Level of Service H		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - With GTA West Highway
6: Street H & Old School Road

PM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	→			←	←	→
Traffic Volume (veh/h)	1119	42	0	2357	33	0
Future Volume (Veh/h)	1119	42	0	2357	33	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)	1216	46	0	2562	36	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)	213					
pX, platoon unblocked					0.37	
vC, conflicting volume			1262		3801	1239
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1262		7739	1239
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		0	100
cM capacity (veh/h)			551		0	214
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	1262	2562	36			
Volume Left	0	0	36			
Volume Right	46	0	0			
cSH	1700	551	0			
Volume to Capacity	0.74	0.00	Err			
Queue Length 95th (m)	0.0	0.0	Err			
Control Delay (s)	0.0	0.0	Err			
Lane LOS			F			
Approach Delay (s)	0.0	0.0	Err			
Approach LOS			F			
Intersection Summary						
Average Delay			93.3			
Intersection Capacity Utilization			134.1%	ICU Level of Service	H	
Analysis Period (min)			15			

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

Future Total 2038 - With GTA West Highway
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	672	113	334	357	1108	144	590	3917	330	163	1970	627
Future Volume (vph)	672	113	334	357	1108	144	590	3917	330	163	1970	627
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		0.888			0.983			0.988			0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1672	0	1789	1851	0	1789	3536	0	1789	3450	0
Flt Permitted	0.143			0.125			0.082			0.089		
Satd. Flow (perm)	269	1672	0	235	1851	0	154	3536	0	168	3450	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		87			6			9			41	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	730	123	363	388	1204	157	641	4258	359	177	2141	682
Shared Lane Traffic (%)												
Lane Group Flow (vph)	730	486	0	388	1361	0	641	4617	0	177	2823	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	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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	16.0	34.0		22.0	40.0		15.0	54.0		10.0	49.0	
Total Split (%)	13.3%	28.3%		18.3%	33.3%		12.5%	45.0%		8.3%	40.8%	
Maximum Green (s)	12.0	28.0		18.0	34.0		9.0	48.0		4.0	43.0	
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	
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)	42.0	30.0		52.0	36.0		60.0	50.0		51.0	45.0	
Actuated g/C Ratio	0.35	0.25		0.43	0.30		0.50	0.42		0.42	0.38	
v/c Ratio	2.97	1.01		1.16	2.43		2.84	3.12		1.16	2.14	

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

Future Total 2038 - With GTA West Highway
PM Peak Hour

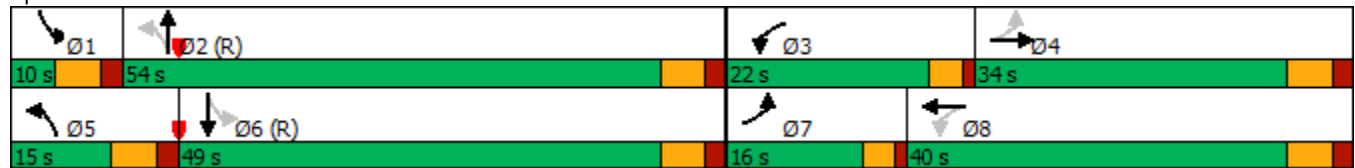


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	913.0	79.8		131.9	672.6		855.8	974.1		149.4	538.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	913.0	79.8		131.9	672.6		855.8	974.1		149.4	538.5	
LOS	F	E		F	F		F	F		F	F	
Approach Delay		580.0			552.6			959.7			515.6	
Approach LOS		F			F			F			F	

Intersection Summary

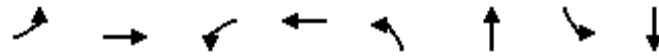
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	150
Control Type:	Pretimed
Maximum v/c Ratio:	3.12
Intersection Signal Delay:	736.4
Intersection LOS:	F
Intersection Capacity Utilization	245.4%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road



Queues
7: Hurontario Street & Old School Road

Future Total 2038 - With GTA West Highway
PM Peak Hour


























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	730	486	388	1361	641	4617	177	2823
v/c Ratio	2.97	1.01	1.16	2.43	2.84	3.12	1.16	2.14
Control Delay	913.0	79.8	131.9	672.6	855.8	974.1	149.4	538.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	913.0	79.8	131.9	672.6	855.8	974.1	149.4	538.5
Queue Length 50th (m)	~284.4	~99.2	~91.6	~535.4	~246.0	~1013.1	~33.6	~561.0
Queue Length 95th (m)	#357.1	#168.5	#151.9	#616.7	#316.3	#1036.4	#78.5	#600.1
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	246	483	334	559	226	1478	152	1319
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	2.97	1.01	1.16	2.43	2.84	3.12	1.16	2.14

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 Future Total 2038 - With GTA West Highway
 7: 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)	672	113	334	357	1108	144	590	3917	330	163	1970	627	
Future Volume (vph)	672	113	334	357	1108	144	590	3917	330	163	1970	627	
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		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	0.89		1.00	0.98		1.00	0.99		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)	1789	1672		1789	1851		1789	3537		1789	3449		
Flt Permitted	0.14	1.00		0.12	1.00		0.08	1.00		0.09	1.00		
Satd. Flow (perm)	269	1672		235	1851		154	3537		167	3449		
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)	730	123	363	388	1204	157	641	4258	359	177	2141	682	
RTOR Reduction (vph)	0	65	0	0	4	0	0	5	0	0	26	0	
Lane Group Flow (vph)	730	421	0	388	1357	0	641	4612	0	177	2797	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		
Permitted Phases	4			8			2			6			
Actuated Green, G (s)	40.0	28.0		50.0	34.0		57.0	48.0		47.0	43.0		
Effective Green, g (s)	40.0	30.0		50.0	36.0		60.0	50.0		51.0	45.0		
Actuated g/C Ratio	0.33	0.25		0.42	0.30		0.50	0.42		0.42	0.38		
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0		
Lane Grp Cap (vph)	241	418		331	555		226	1473		152	1293		
v/s Ratio Prot	c0.30	0.25		0.18	c0.73		c0.26	c1.30		0.06	0.81		
v/s Ratio Perm	c0.70			0.31			1.16			0.44			
v/c Ratio	3.03	1.01		1.17	2.44		2.84	3.13		1.16	2.16		
Uniform Delay, d1	34.2	45.0		35.6	42.0		35.7	35.0		30.9	37.5		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00		
Incremental Delay, d2	924.1	45.7		104.9	655.6		838.5	960.7		124.0	526.1		
Delay (s)	958.3	90.7		140.5	697.6		874.2	995.7		155.0	563.6		
Level of Service	F	F		F	F		F	F		F	F		
Approach Delay (s)		611.5			574.0			980.9			539.5		
Approach LOS		F			F			F			F		

Intersection Summary			
HCM 2000 Control Delay	759.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	245.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
8: Chinguacousy Road & Street A (North)

Future Total 2038 - With GTA West Highway
PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	76	993	62	98	698
Future Volume (vph)	29	76	993	62	98	698
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.903		0.992			
Flt Protected	0.986					0.994
Satd. Flow (prot)	1677	0	1868	0	0	1872
Flt Permitted	0.986					0.994
Satd. Flow (perm)	1677	0	1868	0	0	1872
Link Speed (k/h)	48		80			80
Link Distance (m)	81.3		401.8			298.8
Travel Time (s)	6.1		18.1			13.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	83	1079	67	107	759
Shared Lane Traffic (%)						
Lane Group Flow (vph)	115	0	1146	0	0	866
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	114.5%		ICU Level of Service H			
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - With GTA West Highway
 8: Chinguacousy Road & Street A (North) PM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	76	993	62	98	698
Future Volume (Veh/h)	29	76	993	62	98	698
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)	32	83	1079	67	107	759
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	2086	1112			1146	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2086	1112			1146	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	33	67			82	
cM capacity (veh/h)	48	254			610	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	115	1146	866			
Volume Left	32	0	107			
Volume Right	83	67	0			
cSH	116	1700	610			
Volume to Capacity	0.99	0.67	0.18			
Queue Length 95th (m)	49.6	0.0	4.8			
Control Delay (s)	152.9	0.0	4.9			
Lane LOS	F		A			
Approach Delay (s)	152.9	0.0	4.9			
Approach LOS	F					
Intersection Summary						
Average Delay			10.3			
Intersection Capacity Utilization			114.5%	ICU Level of Service	H	
Analysis Period (min)			15			

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

Future Total 2038 - With GTA West Highway
 PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	64	68	99	953	756	23
Future Volume (vph)	64	68	99	953	756	23
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.931				0.996	
Flt Protected	0.976			0.995		
Satd. Flow (prot)	1711	0	0	1874	1876	0
Flt Permitted	0.976			0.995		
Satd. Flow (perm)	1711	0	0	1874	1876	0
Link Speed (k/h)	48			80	80	
Link Distance (m)	150.6			276.3	311.8	
Travel Time (s)	11.3			12.4	14.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	70	74	108	1036	822	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	0	1144	847	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	114.5%
Analysis Period (min)	15
	ICU Level of Service H

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - With GTA West Highway
 9: McLaughlin Road & Street C










PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	64	68	99	953	756	23
Future Volume (Veh/h)	64	68	99	953	756	23
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)	70	74	108	1036	822	25
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	2086	834	847			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2086	834	847			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	80	86			
cM capacity (veh/h)	50	368	790			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	144	1144	847			
Volume Left	70	108	0			
Volume Right	74	0	25			
cSH	90	790	1700			
Volume to Capacity	1.60	0.14	0.50			
Queue Length 95th (m)	87.0	3.6	0.0			
Control Delay (s)	395.6	4.2	0.0			
Lane LOS	F	A				
Approach Delay (s)	395.6	4.2	0.0			
Approach LOS	F					
Intersection Summary						
Average Delay			28.9			
Intersection Capacity Utilization			114.5%	ICU Level of Service	H	
Analysis Period (min)			15			

Lanes, Volumes, Timings
10: Hurontario Street & Street H

Future Total 2038 - With GTA West Highway
PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	23	43	4835	2636	3
Future Volume (vph)	3	23	43	4835	2636	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.879					
Flt Protected	0.995					
Satd. Flow (prot)	1647	0	0	3579	3579	0
Flt Permitted	0.995					
Satd. Flow (perm)	1647	0	0	3579	3579	0
Link Speed (k/h)	48			70	70	
Link Distance (m)	410.2			640.1	215.3	
Travel Time (s)	30.8			32.9	11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	25	47	5255	2865	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	28	0	0	5302	2868	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)	24	14	24			14
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	173.8%			ICU Level of Service H		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - With GTA West Highway
 10: Hurontario Street & Street H










PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	23	43	4835	2636	3
Future Volume (Veh/h)	3	23	43	4835	2636	3
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)	3	25	47	5255	2865	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)					215	
pX, platoon unblocked	0.63	0.63	0.63			
vC, conflicting volume	5588	1434	2868			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	7082	530	2792			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	92	46			
cM capacity (veh/h)	0	313	87			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	28	1799	3503	1910	958	
Volume Left	3	47	0	0	0	
Volume Right	25	0	0	0	3	
cSH	0	87	1700	1700	1700	
Volume to Capacity	1014.44	0.54	2.06	1.12	0.56	
Queue Length 95th (m)	Err	18.2	0.0	0.0	0.0	
Control Delay (s)	Err	2.3	0.0	0.0	0.0	
Lane LOS	F	A				
Approach Delay (s)	Err	0.8		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay	34.7					
Intersection Capacity Utilization	173.8%		ICU Level of Service	H		
Analysis Period (min)	15					

Lanes, Volumes, Timings
 11: Chinguacousy Road & Street A (South)

Future Total 2038 - With GTA West Highway
 PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	62	993	62	82	645
Future Volume (vph)	29	62	993	62	82	645
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.909		0.992			
Flt Protected	0.984					0.994
Satd. Flow (prot)	1685	0	1868	0	0	1872
Flt Permitted	0.984					0.994
Satd. Flow (perm)	1685	0	1868	0	0	1872
Link Speed (k/h)	48		80			80
Link Distance (m)	156.3		2383.0			401.8
Travel Time (s)	11.7		107.2			18.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	67	1079	67	89	701
Shared Lane Traffic (%)						
Lane Group Flow (vph)	99	0	1146	0	0	790
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	109.9%			ICU Level of Service H		
Analysis Period (min)	15					

















HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - With GTA West Highway
 11: Chinguacousy Road & Street A (South) PM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	29	62	993	62	82	645
Future Volume (Veh/h)	29	62	993	62	82	645
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)	32	67	1079	67	89	701
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	1992	1112			1146	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1992	1112			1146	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	44	74			85	
cM capacity (veh/h)	57	254			610	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	99	1146	790			
Volume Left	32	0	89			
Volume Right	67	67	0			
cSH	120	1700	610			
Volume to Capacity	0.83	0.67	0.15			
Queue Length 95th (m)	37.5	0.0	3.9			
Control Delay (s)	108.7	0.0	4.0			
Lane LOS	F		A			
Approach Delay (s)	108.7	0.0	4.0			
Approach LOS	F					
Intersection Summary						
Average Delay			6.8			
Intersection Capacity Utilization			109.9%	ICU Level of Service	H	
Analysis Period (min)			15			

















Lanes, Volumes, Timings
12: McLaughlin Road & Street E

Future Total 2038 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	0	52	172	0	27	74	982	239	34	725	65
Future Volume (vph)	42	0	52	172	0	27	74	982	239	34	725	65
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 _t		0.925			0.982			0.975			0.989	
Fl _t Protected		0.978			0.959			0.997			0.998	
Satd. Flow (prot)	0	1704	0	0	1774	0	0	1831	0	0	1859	0
Fl _t Permitted		0.978			0.959			0.997			0.998	
Satd. Flow (perm)	0	1704	0	0	1774	0	0	1831	0	0	1859	0
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			1359.2			391.4			276.3	
Travel Time (s)		15.4			101.9			17.6			12.4	
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)	46	0	57	187	0	29	80	1067	260	37	788	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	0	0	216	0	0	1407	0	0	896	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	119.4%					ICU Level of Service H						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - With GTA West Highway
 12: McLaughlin Road & Street E

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	0	52	172	0	27	74	982	239	34	725	65
Future Volume (Veh/h)	42	0	52	172	0	27	74	982	239	34	725	65
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)	46	0	57	187	0	29	80	1067	260	37	788	71
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	2284	2384	824	2312	2290	1197	859			1327		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2284	2384	824	2312	2290	1197	859			1327		
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 %	0	100	85	0	100	87	90			93		
cM capacity (veh/h)	21	28	373	20	33	226	782			520		
Direction, Lane #												
	EB 1	WB 1	NB 1	SB 1								
Volume Total	103	216	1407	896								
Volume Left	46	187	80	37								
Volume Right	57	29	260	71								
cSH	44	22	782	520								
Volume to Capacity	2.32	9.61	0.10	0.07								
Queue Length 95th (m)	82.6	Err	2.6	1.7								
Control Delay (s)	796.5	Err	5.0	2.2								
Lane LOS	F	F	A	A								
Approach Delay (s)	796.5	Err	5.0	2.2								
Approach LOS	F	F										
Intersection Summary												
Average Delay			858.5									
Intersection Capacity Utilization			119.4%		ICU Level of Service					H		
Analysis Period (min)			15									

Lanes, Volumes, Timings
13: Hurontario Street & Street E

Future Total 2038 - With GTA West Highway
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	273	512	4626	2636	23
Future Volume (vph)	22	273	512	4626	2636	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt	0.875				0.999	
Flt Protected	0.996			0.995		
Satd. Flow (prot)	1641	0	0	3561	3575	0
Flt Permitted	0.996			0.995		
Satd. Flow (perm)	1641	0	0	3561	3575	0
Link Speed (k/h)	48			70	70	
Link Distance (m)	1359.2			928.0	640.1	
Travel Time (s)	101.9			47.7	32.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	297	557	5028	2865	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	321	0	0	5585	2890	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	244.4%
ICU Level of Service	H
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - With GTA West Highway
 13: Hurontario Street & Street E

PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	273	512	4626	2636	23
Future Volume (Veh/h)	22	273	512	4626	2636	23
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)	24	297	557	5028	2865	25
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	6506	1445	2890			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	6506	1445	2890			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	0	0			
cM capacity (veh/h)	0	121	125			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	321	2233	3352	1910	980	
Volume Left	24	557	0	0	0	
Volume Right	297	0	0	0	25	
cSH	0	125	1700	1700	1700	
Volume to Capacity	Err	4.45	1.97	1.12	0.58	
Queue Length 95th (m)	Err	Err	0.0	0.0	0.0	
Control Delay (s)	Err	1622.3	0.0	0.0	0.0	
Lane LOS	F	F				
Approach Delay (s)	Err	648.6		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay				Err		
Intersection Capacity Utilization				244.4%	ICU Level of Service	H
Analysis Period (min)				15		

Lanes, Volumes, Timings
14: McLaughlin Road & Street F

Future Total 2038 - With GTA West Highway
PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	42	52	74	1253	884	65
Future Volume (vph)	42	52	74	1253	884	65
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.925				0.991	
Flt Protected	0.978			0.997		
Satd. Flow (prot)	1704	0	0	1878	1866	0
Flt Permitted	0.978			0.997		
Satd. Flow (perm)	1704	0	0	1878	1866	0
Link Speed (k/h)	48			80	80	
Link Distance (m)	171.6			2104.9	391.4	
Travel Time (s)	12.9			94.7	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	57	80	1362	961	71
Shared Lane Traffic (%)						
Lane Group Flow (vph)	103	0	0	1442	1032	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)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	136.0%
ICU Level of Service	H
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis Future Total 2038 - With GTA West Highway
 14: McLaughlin Road & Street F


























PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	42	52	74	1253	884	65
Future Volume (Veh/h)	42	52	74	1253	884	65
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)	46	57	80	1362	961	71
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	2518	996	1032			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2518	996	1032			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	81	88			
cM capacity (veh/h)	27	296	673			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	103	1442	1032			
Volume Left	46	80	0			
Volume Right	57	0	71			
cSH	55	673	1700			
Volume to Capacity	1.88	0.12	0.61			
Queue Length 95th (m)	75.5	3.1	0.0			
Control Delay (s)	578.7	6.9	0.0			
Lane LOS	F	A				
Approach Delay (s)	578.7	6.9	0.0			
Approach LOS	F					
Intersection Summary						
Average Delay			27.0			
Intersection Capacity Utilization			136.0%	ICU Level of Service	H	
Analysis Period (min)			15			

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

Future Total 2038 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		 	 							
Traffic Volume (vph)	32	830	54	407	889	205	80	518	425	91	222	26
Future Volume (vph)	32	830	54	407	889	205	80	518	425	91	222	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	100.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.972				0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5096	0	3471	4998	0	1789	1883	1601	1789	1853	0
Flt Permitted	0.225			0.950			0.514			0.242		
Satd. Flow (perm)	424	5096	0	3471	4998	0	968	1883	1601	456	1853	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			60				439			6
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5			2383.0	
Travel Time (s)		14.1			73.0			15.5			107.2	
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)	35	902	59	442	966	223	87	563	462	99	241	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	961	0	442	1189	0	87	563	462	99	269	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)		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	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	36.0	36.0		25.0	61.0		59.0	59.0	59.0	59.0	59.0	59.0
Total Split (%)	30.0%	30.0%		20.8%	50.8%		49.2%	49.2%	49.2%	49.2%	49.2%	49.2%
Maximum Green (s)	32.0	32.0		21.0	57.0		55.0	55.0	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	3.5	3.5
All-Red Time (s)	0.5	0.5		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	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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
Act Effct Green (s)	32.0	32.0		21.0	57.0		55.0	55.0	55.0	55.0	55.0	55.0
Actuated g/C Ratio	0.27	0.27		0.18	0.48		0.46	0.46	0.46	0.46	0.46	0.46
v/c Ratio	0.31	0.70		0.73	0.49		0.20	0.65	0.48	0.47	0.32	

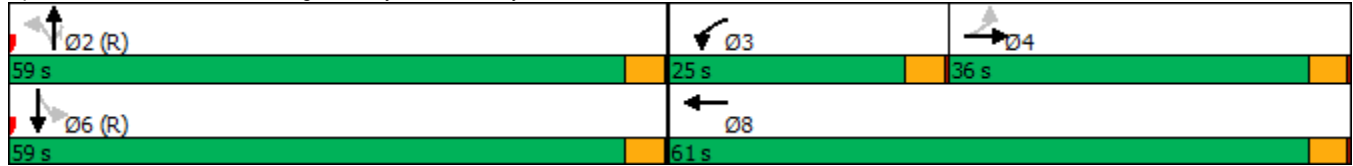
Lanes, Volumes, Timings
 15: Chinguacousy Road & Mayfield Road

Future Total 2038 - With GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	44.3	42.7		35.7	26.5		20.9	29.6	4.1	31.9	21.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	44.3	42.7		35.7	26.5		20.9	29.6	4.1	31.9	21.4	
LOS	D	D		D	C		C	C	A	C	C	
Approach Delay		42.8			29.0			18.3			24.2	
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:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.73
Intersection Signal Delay:	29.0
Intersection LOS:	C
Intersection Capacity Utilization	74.5%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

Future Total 2038 - With GTA West Highway

15: Chinguacousy Road & Mayfield Road

PM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	35	961	442	1189	87	563	462	99	269
v/c Ratio	0.31	0.70	0.73	0.49	0.20	0.65	0.48	0.47	0.32
Control Delay	44.3	42.7	35.7	26.5	20.9	29.6	4.1	31.9	21.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.3	42.7	35.7	26.5	20.9	29.6	4.1	31.9	21.4
Queue Length 50th (m)	6.6	74.3	55.8	91.2	11.9	100.2	2.9	15.8	38.2
Queue Length 95th (m)	16.8	89.8	m53.2	m85.9	22.8	138.5	21.0	33.8	57.6
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0			100.0	
Base Capacity (vph)	113	1364	607	2405	443	863	971	209	852
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.70	0.73	0.49	0.20	0.65	0.48	0.47	0.32

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis Future Total 2038 - With GTA West Highway
 15: 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)	32	830	54	407	889	205	80	518	425	91	222	26
Future Volume (vph)	32	830	54	407	889	205	80	518	425	91	222	26
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	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5094		3471	4997		1789	1883	1601	1789	1854	
Flt Permitted	0.23	1.00		0.95	1.00		0.51	1.00	1.00	0.24	1.00	
Satd. Flow (perm)	424	5094		3471	4997		967	1883	1601	456	1854	
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)	35	902	59	442	966	223	87	563	462	99	241	28
RTOR Reduction (vph)	0	6	0	0	32	0	0	0	238	0	3	0
Lane Group Flow (vph)	35	955	0	442	1158	0	87	563	224	99	266	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	32.0	32.0		21.0	57.0		55.0	55.0	55.0	55.0	55.0	
Effective Green, g (s)	32.0	32.0		21.0	57.0		55.0	55.0	55.0	55.0	55.0	
Actuated g/C Ratio	0.27	0.27		0.18	0.48		0.46	0.46	0.46	0.46	0.46	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	113	1358		607	2373		443	863	733	209	849	
v/s Ratio Prot		c0.19		c0.13	0.23			c0.30			0.14	
v/s Ratio Perm	0.08						0.09		0.14	0.22		
v/c Ratio	0.31	0.70		0.73	0.49		0.20	0.65	0.31	0.47	0.31	
Uniform Delay, d1	35.2	39.7		46.8	21.5		19.3	25.1	20.5	22.5	20.6	
Progression Factor	1.00	1.00		0.74	1.29		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.0	3.1		0.7	0.1		1.0	3.8	1.1	7.5	1.0	
Delay (s)	42.2	42.8		35.4	27.8		20.3	28.9	21.6	30.0	21.5	
Level of Service	D	D		D	C		C	C	C	C	C	
Approach Delay (s)		42.8			29.9			25.2			23.8	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
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
16: McLaughlin Road & Mayfield Road

Future Total 2038 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (vph)	211	1179	80	256	1310	361	149	762	213	204	403	196
Future Volume (vph)	211	1179	80	256	1310	361	149	762	213	204	403	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		0.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.968				0.850		0.951	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	4977	0	1789	1883	1601	1789	1791	0
Flt Permitted	0.121			0.108			0.122			0.080		
Satd. Flow (perm)	228	5142	1601	203	4977	0	230	1883	1601	151	1791	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			118		61				156			25
Link Speed (k/h)		70			70			80				80
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	229	1282	87	278	1424	392	162	828	232	222	438	213
Shared Lane Traffic (%)												
Lane Group Flow (vph)	229	1282	87	278	1816	0	162	828	232	222	651	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)		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	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	13.0	37.0	37.0	18.0	42.0		11.0	53.0	53.0	12.0	54.0	
Total Split (%)	10.8%	30.8%	30.8%	15.0%	35.0%		9.2%	44.2%	44.2%	10.0%	45.0%	
Maximum Green (s)	9.0	33.0	33.0	14.0	38.0		7.0	49.0	49.0	8.0	50.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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)	42.0	33.0	33.0	51.0	38.0		56.0	49.0	49.0	58.0	50.0	
Actuated g/C Ratio	0.35	0.28	0.28	0.42	0.32		0.47	0.41	0.41	0.48	0.42	
v/c Ratio	1.17	0.91	0.17	1.03	1.12		0.82	1.08	0.31	1.22	0.86	

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

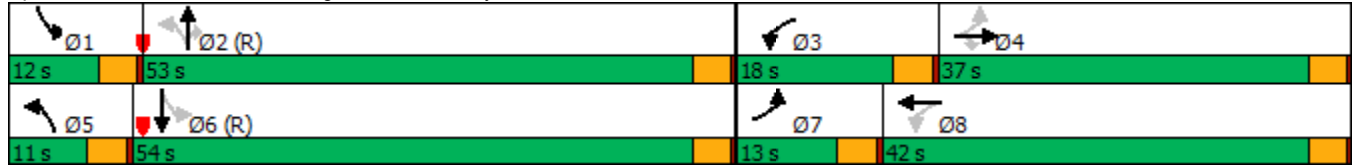
Future Total 2038 - With GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	134.4	46.3	8.9	47.8	91.8		49.9	90.4	9.3	165.0	43.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	134.4	46.3	8.9	47.8	91.8		49.9	90.4	9.3	165.0	43.3	
LOS	F	D	A	D	F		D	F	A	F	D	
Approach Delay		56.9			86.0			69.6			74.2	
Approach LOS		E			F			E			E	

Intersection Summary

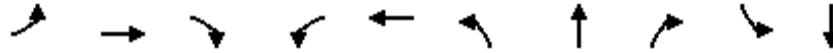
Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	120
Control Type:	Pretimed
Maximum v/c Ratio:	1.22
Intersection Signal Delay:	72.7
Intersection LOS:	E
Intersection Capacity Utilization	109.8%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 16: McLaughlin Road & Mayfield Road



Queues
16: McLaughlin Road & Mayfield Road

Future Total 2038 - With GTA West Highway
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	229	1282	87	278	1816	162	828	232	222	651
v/c Ratio	1.17	0.91	0.17	1.03	1.12	0.82	1.08	0.31	1.22	0.86
Control Delay	134.4	46.3	8.9	47.8	91.8	49.9	90.4	9.3	165.0	43.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	134.4	46.3	8.9	47.8	91.8	49.9	90.4	9.3	165.0	43.3
Queue Length 50th (m)	~48.4	114.6	5.9	~53.6	~179.5	19.9	~217.3	11.0	~48.6	132.4
Queue Length 95th (m)	m#92.7	#135.0	m14.5	m40.1	m122.7	#50.1	#290.9	28.0	#97.4	#198.7
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0			30.0	
Base Capacity (vph)	196	1414	525	271	1617	198	768	746	182	760
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	1.17	0.91	0.17	1.03	1.12	0.82	1.08	0.31	1.22	0.86

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.

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

HCM Signalized Intersection Capacity Analysis Future Total 2038 - With GTA West Highway
 16: 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)	211	1179	80	256	1310	361	149	762	213	204	403	196
Future Volume (vph)	211	1179	80	256	1310	361	149	762	213	204	403	196
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	4975		1789	1883	1601	1789	1791	
Flt Permitted	0.12	1.00	1.00	0.11	1.00		0.12	1.00	1.00	0.08	1.00	
Satd. Flow (perm)	228	5142	1601	204	4975		230	1883	1601	151	1791	
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)	229	1282	87	278	1424	392	162	828	232	222	438	213
RTOR Reduction (vph)	0	0	63	0	42	0	0	0	92	0	15	0
Lane Group Flow (vph)	229	1282	24	278	1774	0	162	828	140	222	636	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	42.0	33.0	33.0	51.0	38.0		56.0	49.0	49.0	58.0	50.0	
Effective Green, g (s)	42.0	33.0	33.0	51.0	38.0		56.0	49.0	49.0	58.0	50.0	
Actuated g/C Ratio	0.35	0.28	0.28	0.42	0.32		0.47	0.41	0.41	0.48	0.42	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	196	1414	440	271	1575		198	768	653	182	746	
v/s Ratio Prot	0.09	0.25		c0.12	c0.36		0.05	0.44		c0.08	0.36	
v/s Ratio Perm	0.32		0.01	0.32			0.33		0.09	c0.51		
v/c Ratio	1.17	0.91	0.05	1.03	1.13		0.82	1.08	0.21	1.22	0.85	
Uniform Delay, d1	33.7	42.0	32.0	34.7	41.0		25.1	35.5	23.0	32.5	31.7	
Progression Factor	0.67	0.89	3.30	0.68	0.95		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	111.7	8.6	0.2	23.4	57.8		29.9	55.6	0.7	138.2	11.9	
Delay (s)	134.4	45.9	105.7	46.8	96.7		55.0	91.1	23.8	170.7	43.6	
Level of Service	F	D	F	D	F		E	F	C	F	D	
Approach Delay (s)		61.8			90.1			73.5			75.9	
Approach LOS		E			F			E			E	

Intersection Summary			
HCM 2000 Control Delay	76.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	109.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

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

Future Total 2038 - With GTA West Highway
PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  			 		 	 	
Traffic Volume (vph)	537	832	150	320	1288	178	439	990	53	227	1041	794
Future Volume (vph)	537	832	150	320	1288	178	439	990	53	227	1041	794
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.095			0.258		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	179	3579	1601	486	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			163			82			58			293
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	584	904	163	348	1400	193	477	1076	58	247	1132	863
Shared Lane Traffic (%)												
Lane Group Flow (vph)	584	904	163	348	1400	193	477	1076	58	247	1132	863
Enter Blocked Intersection	No	No	No	No	No	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	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2				6
Permitted Phases			4			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	18.0	29.0	29.0	18.0	29.0	29.0	18.0	73.0	73.0	55.0	55.0	55.0
Total Split (%)	15.0%	24.2%	24.2%	15.0%	24.2%	24.2%	15.0%	60.8%	60.8%	45.8%	45.8%	45.8%
Maximum Green (s)	14.0	25.0	25.0	14.0	25.0	25.0	14.0	69.0	69.0	51.0	51.0	51.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	Lag
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
Act Effct Green (s)	14.0	25.0	25.0	14.0	25.0	25.0	69.0	69.0	69.0	51.0	51.0	51.0
Actuated g/C Ratio	0.12	0.21	0.21	0.12	0.21	0.21	0.58	0.58	0.58	0.42	0.42	0.42
v/c Ratio	1.45	0.84	0.35	0.86	1.31	0.48	1.64	0.52	0.06	1.20	0.74	1.02

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

Future Total 2038 - With GTA West Highway
 PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	234.4	46.5	19.8	73.2	183.6	28.2	330.2	16.6	3.0	159.6	32.7	58.8
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	234.4	46.5	19.8	73.2	183.6	28.2	330.2	16.6	3.0	159.6	32.7	58.8
LOS	F	D	B	E	F	C	F	B	A	F	C	E
Approach Delay	110.4			148.4			109.0			56.8		
Approach LOS	F			F			F			E		

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:	140
Control Type:	Pretimed
Maximum v/c Ratio:	1.64
Intersection Signal Delay:	103.8
Intersection LOS:	F
Intersection Capacity Utilization	108.4%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road

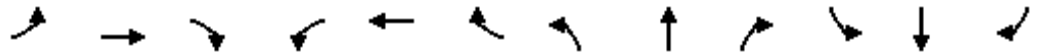


Queues

Future Total 2038 - With GTA West Highway

17: 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)	584	904	163	348	1400	193	477	1076	58	247	1132	863
v/c Ratio	1.45	0.84	0.35	0.86	1.31	0.48	1.64	0.52	0.06	1.20	0.74	1.02
Control Delay	234.4	46.5	19.8	73.2	183.6	28.2	330.2	16.6	3.0	159.6	32.7	58.8
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	234.4	46.5	19.8	73.2	183.6	28.2	330.2	16.6	3.0	159.6	32.7	58.8
Queue Length 50th (m)	~97.1	82.2	21.0	42.1	~155.1	22.5	~143.3	77.0	0.0	~70.4	116.0	~164.3
Queue Length 95th (m)	m#109.6	m88.7	m23.8	#66.0	#184.3	45.4	#208.1	94.3	5.5	#120.9	141.6	#248.1
Internal Link Dist (m)		1381.8			725.9			357.1				585.4
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	404	1071	462	404	1071	398	290	2057	945	206	1521	848
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	1.45	0.84	0.35	0.86	1.31	0.48	1.64	0.52	0.06	1.20	0.74	1.02

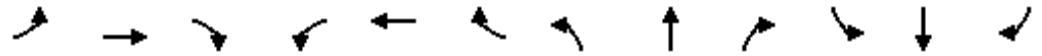
Intersection Summary

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

HCM Signalized Intersection Capacity Analysis Future Total 2038 - With GTA West Highway
 17: 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)	537	832	150	320	1288	178	439	990	53	227	1041	794
Future Volume (vph)	537	832	150	320	1288	178	439	990	53	227	1041	794
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	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.95	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	3579	1601	1789	3579	1601
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.10	1.00	1.00	0.26	1.00	1.00
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	179	3579	1601	487	3579	1601
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)	584	904	163	348	1400	193	477	1076	58	247	1132	863
RTOR Reduction (vph)	0	0	129	0	0	65	0	0	25	0	0	168
Lane Group Flow (vph)	584	904	34	348	1400	128	477	1076	33	247	1132	695
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8		5	2				6
Permitted Phases			4			8	2		2	6		6
Actuated Green, G (s)	14.0	25.0	25.0	14.0	25.0	25.0	69.0	69.0	69.0	51.0	51.0	51.0
Effective Green, g (s)	14.0	25.0	25.0	14.0	25.0	25.0	69.0	69.0	69.0	51.0	51.0	51.0
Actuated g/C Ratio	0.12	0.21	0.21	0.12	0.21	0.21	0.58	0.58	0.58	0.42	0.42	0.42
Clearance Time (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
Lane Grp Cap (vph)	404	1071	333	404	1071	333	290	2057	920	206	1521	680
v/s Ratio Prot	c0.17	0.18		0.10	c0.27		c0.19	0.30			0.32	
v/s Ratio Perm			0.02			0.08	c0.75		0.02	0.51		0.43
v/c Ratio	1.45	0.84	0.10	0.86	1.31	0.38	1.64	0.52	0.04	1.20	0.74	1.02
Uniform Delay, d1	53.0	45.6	38.4	52.0	47.5	40.9	33.6	15.5	11.1	34.5	29.0	34.5
Progression Factor	0.58	0.92	3.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	207.1	4.0	0.3	20.8	145.1	3.3	305.2	1.0	0.1	126.8	3.3	40.0
Delay (s)	237.6	46.2	117.3	72.8	192.6	44.2	338.8	16.5	11.1	161.3	32.4	74.5
Level of Service	F	D	F	E	F	D	F	B	B	F	C	E
Approach Delay (s)		120.9			156.3			111.7			62.8	
Approach LOS		F			F			F			E	
Intersection Summary												
HCM 2000 Control Delay			110.7				HCM 2000 Level of Service		F			
HCM 2000 Volume to Capacity ratio			1.58									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)		16.0			
Intersection Capacity Utilization			108.4%				ICU Level of Service		G			
Analysis Period (min)			15									
c	Critical Lane Group											

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 1: Chinguacousy Road & Old School Road AM Peak Hour



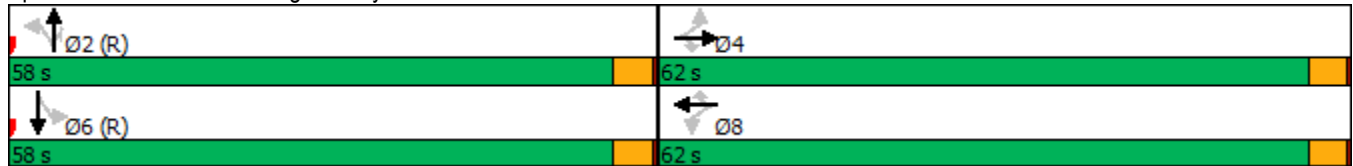
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗	↖	↗	↗		↖	↗		↕	
Traffic Volume (vph)	8	254	32	230	184	40	15	270	440	36	358	1
Future Volume (vph)	8	254	32	230	184	40	15	270	440	36	358	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		25.0	25.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		1	1		1	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			0.850			0.850			0.850			
Flt Protected		0.998		0.950				0.997			0.995	
Satd. Flow (prot)	0	1880	1601	1789	1883	1601	0	1878	1601	0	1874	0
Flt Permitted		0.991		0.508				0.971			0.946	
Satd. Flow (perm)	0	1866	1601	957	1883	1601	0	1829	1601	0	1782	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			31			43			478			
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	0.92	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)	9	276	35	250	200	43	16	293	478	39	389	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	285	35	250	200	43	0	309	478	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			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			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
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	62.0	62.0	62.0	62.0	62.0	62.0	58.0	58.0	58.0	58.0	58.0	58.0
Total Split (%)	51.7%	51.7%	51.7%	51.7%	51.7%	51.7%	48.3%	48.3%	48.3%	48.3%	48.3%	48.3%
Maximum Green (s)	58.0	58.0	58.0	58.0	58.0	58.0	54.0	54.0	54.0	54.0	54.0	54.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	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	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	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Act Effect Green (s)		58.0	58.0	58.0	58.0	58.0		54.0	54.0		54.0	
Actuated g/C Ratio		0.48	0.48	0.48	0.48	0.48		0.45	0.45		0.45	
v/c Ratio		0.32	0.04	0.54	0.22	0.05		0.38	0.49		0.54	

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 1: Chinguacousy Road & Old School Road AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		20.1	6.5	31.7	18.7	6.3		20.6	2.7		27.0	
Queue Delay		0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay		20.1	6.5	31.7	18.7	6.3		20.6	2.7		27.0	
LOS		C	A	C	B	A		C	A		C	
Approach Delay		18.6			24.2			9.7			27.0	
Approach LOS		B			C			A			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:	18.3
Intersection LOS:	B
Intersection Capacity Utilization	75.8%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road

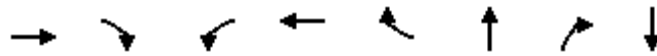


Queues

Future Total 2038 - With GTA West Highway & Improvements

1: Chinguacousy Road & Old School Road

AM Peak Hour
























Lane Group	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	285	35	250	200	43	309	478	429
v/c Ratio	0.32	0.04	0.54	0.22	0.05	0.38	0.49	0.54
Control Delay	20.1	6.5	31.7	18.7	6.3	20.6	2.7	27.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	6.5	31.7	18.7	6.3	20.6	2.7	27.0
Queue Length 50th (m)	39.8	0.5	43.6	26.4	0.6	39.7	1.2	71.6
Queue Length 95th (m)	58.9	5.9	m71.8	m45.1	m6.6	57.0	4.5	101.8
Internal Link Dist (m)	566.7			466.2		274.8		318.6
Turn Bay Length (m)		25.0	25.0					
Base Capacity (vph)	901	789	462	910	796	823	983	801
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	0.32	0.04	0.54	0.22	0.05	0.38	0.49	0.54

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis 2038 - With GTA West Highway & Improvements
 1: Chinguacousy Road & Old School Road AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	8	254	32	230	184	40	15	270	440	36	358	1	
Future Volume (vph)	8	254	32	230	184	40	15	270	440	36	358	1	
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	4.0		4.0		
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00		
Frt		1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00		
Flt Protected		1.00	1.00	0.95	1.00	1.00		1.00	1.00		1.00		
Satd. Flow (prot)		1880	1601	1789	1883	1601		1879	1601		1874		
Flt Permitted		0.99	1.00	0.51	1.00	1.00		0.97	1.00		0.95		
Satd. Flow (perm)		1867	1601	956	1883	1601		1829	1601		1782		
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)	9	276	35	250	200	43	16	293	478	39	389	1	
RTOR Reduction (vph)	0	0	16	0	0	22	0	0	263	0	0	0	
Lane Group Flow (vph)	0	285	19	250	200	21	0	309	215	0	429	0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		
Protected Phases		4			8			2			6		
Permitted Phases	4		4	8		8	2		2	6			
Actuated Green, G (s)		58.0	58.0	58.0	58.0	58.0		54.0	54.0		54.0		
Effective Green, g (s)		58.0	58.0	58.0	58.0	58.0		54.0	54.0		54.0		
Actuated g/C Ratio		0.48	0.48	0.48	0.48	0.48		0.45	0.45		0.45		
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0		
Lane Grp Cap (vph)		902	773	462	910	773		823	720		801		
v/s Ratio Prot					0.11								
v/s Ratio Perm		0.15	0.01	c0.26		0.01		0.17	0.13		c0.24		
v/c Ratio		0.32	0.02	0.54	0.22	0.03		0.38	0.30		0.54		
Uniform Delay, d1		18.9	16.2	21.7	17.9	16.2		21.8	21.0		23.9		
Progression Factor		1.00	1.00	1.20	1.00	1.26		0.87	0.51		1.00		
Incremental Delay, d2		0.9	0.1	4.5	0.6	0.1		1.3	1.1		2.6		
Delay (s)		19.8	16.3	30.6	18.5	20.5		20.3	11.8		26.5		
Level of Service		B	B	C	B	C		C	B		C		
Approach Delay (s)		19.4			24.8			15.1			26.5		
Approach LOS		B			C			B			C		
Intersection Summary													
HCM 2000 Control Delay			20.5									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			75.8%									ICU Level of Service	D
Analysis Period (min)			15										
c	Critical Lane Group												

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

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour



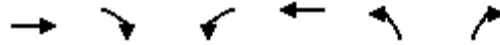
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (vph)	729	22	29	435	43	44
Future Volume (vph)	729	22	29	435	43	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	25.0		25.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.996					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3564	0	1789	3579	1789	1601
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3564	0	1789	3579	1789	1601
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			521.8	121.9	
Travel Time (s)	25.2			26.8	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	792	24	32	473	47	48
Shared Lane Traffic (%)						
Lane Group Flow (vph)	816	0	32	473	47	48
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)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	34.1%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis - With GTA West Highway & Improvements
 2: Street B & Old School Road

AM Peak Hour

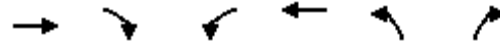


Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑		↵	↑↑	↵	↵		
Traffic Volume (veh/h)	729	22	29	435	43	44		
Future Volume (Veh/h)	729	22	29	435	43	44		
Sign Control	Free			Free	Stop			
Grade	0%			0%	0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Hourly flow rate (vph)	792	24	32	473	47	48		
Pedestrians								
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			816		1104	408		
vC1, stage 1 conf vol					804			
vC2, stage 2 conf vol					300			
vCu, unblocked vol			816		1104	408		
tC, single (s)			4.1		6.8	6.9		
tC, 2 stage (s)					5.8			
tF (s)			2.2		3.5	3.3		
p0 queue free %			96		87	92		
cM capacity (veh/h)			807		370	593		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2	
Volume Total	528	288	32	236	236	47	48	
Volume Left	0	0	32	0	0	47	0	
Volume Right	0	24	0	0	0	0	48	
cSH	1700	1700	807	1700	1700	370	593	
Volume to Capacity	0.31	0.17	0.04	0.14	0.14	0.13	0.08	
Queue Length 95th (m)	0.0	0.0	0.9	0.0	0.0	3.3	2.0	
Control Delay (s)	0.0	0.0	9.6	0.0	0.0	16.1	11.6	
Lane LOS			A				C	B
Approach Delay (s)	0.0		0.6			13.8		
Approach LOS						B		
Intersection Summary								
Average Delay			1.1					
Intersection Capacity Utilization			34.1%	ICU Level of Service		A		
Analysis Period (min)			15					

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

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (vph)	751	17	48	416	48	124
Future Volume (vph)	751	17	48	416	48	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	25.0		25.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.997					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3568	0	1789	3579	1789	1601
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3568	0	1789	3579	1789	1601
Link Speed (k/h)	70			70	48	
Link Distance (m)	521.8			371.6	309.0	
Travel Time (s)	26.8			19.1	23.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	816	18	52	452	52	135
Shared Lane Traffic (%)						
Lane Group Flow (vph)	834	0	52	452	52	135
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)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	38.0%
ICU Level of Service	A
Analysis Period (min)	15






















HCM Unsignalized Intersection Capacity Analysis - With GTA West Highway & Improvements
 3: Street D & Old School Road

AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↵	↑↑	↵	↵	
Traffic Volume (veh/h)	751	17	48	416	48	124	
Future Volume (Veh/h)	751	17	48	416	48	124	
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)	816	18	52	452	52	135	
Pedestrians							
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)	372						
pX, platoon unblocked					0.99		
vC, conflicting volume			834		1155		
vC1, stage 1 conf vol					825		
vC2, stage 2 conf vol					330		
vCu, unblocked vol			834		1142		
tC, single (s)			4.1		6.8		
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5		
p0 queue free %			93		85		
cM capacity (veh/h)			795		357		
					585		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	544	290	52	226	226	52	135
Volume Left	0	0	52	0	0	52	0
Volume Right	0	18	0	0	0	0	135
cSH	1700	1700	795	1700	1700	357	585
Volume to Capacity	0.32	0.17	0.07	0.13	0.13	0.15	0.23
Queue Length 95th (m)	0.0	0.0	1.6	0.0	0.0	3.8	6.7
Control Delay (s)	0.0	0.0	9.8	0.0	0.0	16.8	13.0
Lane LOS			A			C	
Approach Delay (s)	0.0		1.0			14.0	
Approach LOS						B	
Intersection Summary							
Average Delay			2.1				
Intersection Capacity Utilization			38.0%		ICU Level of Service		A
Analysis Period (min)			15				

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 4: McLaughlin Road & Old School Road AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	683	118	264	399	30	39	165	542	32	361	24
Future Volume (vph)	73	683	118	264	399	30	39	165	542	32	361	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	50.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		1	0		0
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	1.00	1.00	1.00	1.00	1.00
Frt		0.978			0.989				0.850		0.992	
Flt Protected	0.950			0.950			0.950				0.996	
Satd. Flow (prot)	1789	3500	0	1789	3539	0	1789	1883	1601	0	1861	0
Flt Permitted	0.465			0.279			0.265				0.965	
Satd. Flow (perm)	876	3500	0	525	3539	0	499	1883	1601	0	1803	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32			13				236			3
Link Speed (k/h)		70			70			80				80
Link Distance (m)		371.6			349.1			311.8				263.1
Travel Time (s)		19.1			18.0			14.0				11.8
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)	79	742	128	287	434	33	42	179	589	35	392	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	79	870	0	287	467	0	42	179	589	0	453	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			Yes			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
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)	20.0	20.0		20.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	80.0	80.0		80.0	80.0		40.0	40.0	40.0	40.0		40.0
Total Split (%)	66.7%	66.7%		66.7%	66.7%		33.3%	33.3%	33.3%	33.3%		33.3%
Maximum Green (s)	76.0	76.0		76.0	76.0		36.0	36.0	36.0	36.0		36.0
Yellow Time (s)	3.5	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		0.5
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	4.0		4.0	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		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)	76.0	76.0		76.0	76.0		36.0	36.0	36.0			36.0
Actuated g/C Ratio	0.63	0.63		0.63	0.63		0.30	0.30	0.30			0.30
v/c Ratio	0.14	0.39		0.86	0.21		0.28	0.32	0.91			0.83

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
4: McLaughlin Road & Old School Road AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	11.7	13.6		22.6	7.4		46.5	40.8	54.4		53.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	11.7	13.6		22.6	7.4		46.5	40.8	54.4		53.8	
LOS	B	B		C	A		D	D	D		D	
Approach Delay		13.5			13.2			51.0			53.8	
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: 65
 Control Type: Pretimed
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 29.8 Intersection LOS: C
 Intersection Capacity Utilization 88.4% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 4: McLaughlin Road & Old School Road

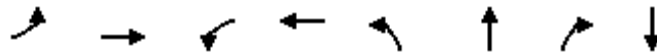


Queues

Future Total 2038 - With GTA West Highway & Improvements

4: McLaughlin Road & Old School Road

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	79	870	287	467	42	179	589	453
v/c Ratio	0.14	0.39	0.86	0.21	0.28	0.32	0.91	0.83
Control Delay	11.7	13.6	22.6	7.4	46.5	40.8	54.4	53.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.7	13.6	22.6	7.4	46.5	40.8	54.4	53.8
Queue Length 50th (m)	8.9	58.1	35.9	17.5	6.8	29.1	76.3	99.0
Queue Length 95th (m)	16.4	68.0	m23.9	m14.5	16.7	49.3	#121.6	#151.4
Internal Link Dist (m)		347.6		325.1		287.8		239.1
Turn Bay Length (m)	25.0		25.0		50.0			
Base Capacity (vph)	554	2228	332	2246	149	564	645	543
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	0.14	0.39	0.86	0.21	0.28	0.32	0.91	0.83
























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 2038 - With GTA West Highway & Improvements
 4: McLaughlin Road & Old School Road AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		 			 						 		
Traffic Volume (vph)	73	683	118	264	399	30	39	165	542	32	361	24	
Future Volume (vph)	73	683	118	264	399	30	39	165	542	32	361	24	
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	4.0		4.0		
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00		
Frt	1.00	0.98		1.00	0.99		1.00	1.00	0.85		0.99		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		1.00		
Satd. Flow (prot)	1789	3500		1789	3541		1789	1883	1601		1862		
Flt Permitted	0.47	1.00		0.28	1.00		0.27	1.00	1.00		0.96		
Satd. Flow (perm)	876	3500		525	3541		500	1883	1601		1803		
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)	79	742	128	287	434	33	42	179	589	35	392	26	
RTOR Reduction (vph)	0	12	0	0	5	0	0	0	165	0	2	0	
Lane Group Flow (vph)	79	858	0	287	462	0	42	179	424	0	451	0	
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)	76.0	76.0		76.0	76.0		36.0	36.0	36.0		36.0		
Effective Green, g (s)	76.0	76.0		76.0	76.0		36.0	36.0	36.0		36.0		
Actuated g/C Ratio	0.63	0.63		0.63	0.63		0.30	0.30	0.30		0.30		
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0		
Lane Grp Cap (vph)	554	2216		332	2242		150	564	480		540		
v/s Ratio Prot		0.25			0.13			0.10					
v/s Ratio Perm	0.09			c0.55			0.08		c0.26		0.25		
v/c Ratio	0.14	0.39		0.86	0.21		0.28	0.32	0.88		0.83		
Uniform Delay, d1	8.9	10.7		17.8	9.3		32.1	32.5	40.0		39.2		
Progression Factor	1.22	1.27		0.67	0.81		1.24	1.19	1.49		1.00		
Incremental Delay, d2	0.5	0.5		7.7	0.1		4.4	1.4	19.8		14.2		
Delay (s)	11.3	14.0		19.6	7.6		44.3	40.3	79.2		53.4		
Level of Service	B	B		B	A		D	D	E		D		
Approach Delay (s)		13.8			12.1			68.8			53.4		
Approach LOS		B			B			E			D		
Intersection Summary													
HCM 2000 Control Delay			34.4									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.87										
Actuated Cycle Length (s)			120.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			88.4%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings
5: Street G & Old School Road

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Traffic Volume (vph)	1226	17	12	656	40	13
Future Volume (vph)	1226	17	12	656	40	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	25.0		25.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.998					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3571	0	1789	3579	1789	1601
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3571	0	1789	3579	1789	1601
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			794.6	134.3	
Travel Time (s)	18.0			40.9	10.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1333	18	13	713	43	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1351	0	13	713	43	14
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)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	44.4%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis - With GTA West Highway & Improvements
 5: Street G & Old School Road

AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑		↵	↑↑	↵	↵		
Traffic Volume (veh/h)	1226	17	12	656	40	13		
Future Volume (Veh/h)	1226	17	12	656	40	13		
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)	1333	18	13	713	43	14		
Pedestrians								
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)	349							
pX, platoon unblocked			0.91		0.91	0.91		
vC, conflicting volume			1351		1724	676		
vC1, stage 1 conf vol					1342			
vC2, stage 2 conf vol					382			
vCu, unblocked vol			1181		1593	436		
tC, single (s)			4.1		6.8	6.9		
tC, 2 stage (s)					5.8			
tF (s)			2.2		3.5	3.3		
p0 queue free %			98		80	97		
cM capacity (veh/h)			532		220	515		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2	
Volume Total	889	462	13	356	356	43	14	
Volume Left	0	0	13	0	0	43	0	
Volume Right	0	18	0	0	0	0	14	
cSH	1700	1700	532	1700	1700	220	515	
Volume to Capacity	0.52	0.27	0.02	0.21	0.21	0.20	0.03	
Queue Length 95th (m)	0.0	0.0	0.6	0.0	0.0	5.4	0.6	
Control Delay (s)	0.0	0.0	11.9	0.0	0.0	25.3	12.2	
Lane LOS			B				D	B
Approach Delay (s)	0.0		0.2				22.1	
Approach LOS							C	
Intersection Summary								
Average Delay			0.7					
Intersection Capacity Utilization			44.4%	ICU Level of Service		A		
Analysis Period (min)			15					

Lanes, Volumes, Timings
6: Street H & Old School Road

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour



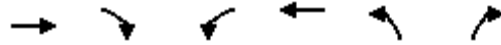
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (vph)	1309	16	0	594	31	0
Future Volume (vph)	1309	16	0	594	31	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	25.0		25.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.998					
Flt Protected					0.950	
Satd. Flow (prot)	3571	0	1883	3579	1789	1883
Flt Permitted					0.950	
Satd. Flow (perm)	3571	0	1883	3579	1789	1883
Link Speed (k/h)	70			70	48	
Link Distance (m)	794.6			213.2	410.2	
Travel Time (s)	40.9			11.0	30.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1423	17	0	646	34	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1440	0	0	646	34	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)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	46.7%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis - With GTA West Highway & Improvements
 6: Street H & Old School Road

AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↵	↑↑	↵	↵	
Traffic Volume (veh/h)	1309	16	0	594	31	0	
Future Volume (Veh/h)	1309	16	0	594	31	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)	1423	17	0	646	34	0	
Pedestrians							
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)					213		
pX, platoon unblocked							
vC, conflicting volume			1440		1754	720	
vC1, stage 1 conf vol					1432		
vC2, stage 2 conf vol					323		
vCu, unblocked vol			1440		1754	720	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5	3.3	
p0 queue free %			100		81	100	
cM capacity (veh/h)			467		179	370	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	949	491	0	323	323	34	0
Volume Left	0	0	0	0	0	34	0
Volume Right	0	17	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	179	1700
Volume to Capacity	0.56	0.29	0.00	0.19	0.19	0.19	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	5.1	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	29.7	0.0
Lane LOS						D	A
Approach Delay (s)	0.0		0.0			29.7	
Approach LOS						D	
Intersection Summary							
Average Delay			0.5				
Intersection Capacity Utilization			46.7%	ICU Level of Service		A	
Analysis Period (min)			15				

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 7: Hurontario Street & Old School Road AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	572	134	600	333	108	126	158	1763	135	61	3246	313
Future Volume (vph)	572	134	600	333	108	126	158	1763	135	61	3246	313
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	0.95	0.95	1.00	0.95	0.95	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.877			0.919			0.989			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	3138	0	1789	3289	0	1789	5085	0	1789	5075	0
Flt Permitted	0.443			0.174			0.068			0.068		
Satd. Flow (perm)	834	3138	0	328	3289	0	128	5085	0	128	5075	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		64			68			14			19	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	622	146	652	362	117	137	172	1916	147	66	3528	340
Shared Lane Traffic (%)												
Lane Group Flow (vph)	622	798	0	362	254	0	172	2063	0	66	3868	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
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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	18.0	32.0		15.0	29.0		10.0	63.0		10.0	63.0	
Total Split (%)	15.0%	26.7%		12.5%	24.2%		8.3%	52.5%		8.3%	52.5%	
Maximum Green (s)	14.0	26.0		11.0	23.0		4.0	57.0		4.0	57.0	
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	
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)	42.0	28.0		36.0	25.0		65.0	59.0		65.0	59.0	
Actuated g/C Ratio	0.35	0.23		0.30	0.21		0.54	0.49		0.54	0.49	
v/c Ratio	1.54	1.55dr		1.56	0.34		1.13	0.82		0.43	1.54	

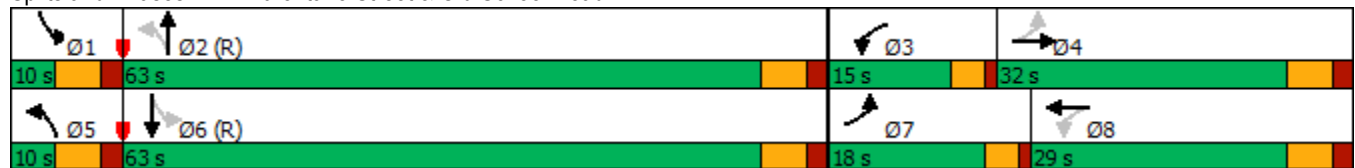
Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 7: Hurontario Street & Old School Road AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	284.8	80.9		298.2	30.8		141.9	26.4		21.1	273.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	284.8	80.9		298.2	30.8		141.9	26.4		21.1	273.5	
LOS	F	F		F	C		F	C		C	F	
Approach Delay		170.2			188.0			35.3			269.3	
Approach LOS		F			F			D			F	

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: 150
 Control Type: Pretimed
 Maximum v/c Ratio: 1.56
 Intersection Signal Delay: 182.3 Intersection LOS: F
 Intersection Capacity Utilization 133.3% ICU Level of Service H
 Analysis Period (min) 15
 dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 7: Hurontario Street & Old School Road

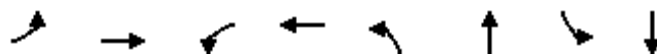


Queues

Future Total 2038 - With GTA West Highway & Improvements

7: Hurontario Street & Old School Road

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	622	798	362	254	172	2063	66	3868
v/c Ratio	1.54	1.55dr	1.56	0.34	1.13	0.82	0.43	1.54
Control Delay	284.8	80.9	298.2	30.8	141.9	26.4	21.1	273.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	284.8	80.9	298.2	30.8	141.9	26.4	21.1	273.5
Queue Length 50th (m)	~156.9	~97.7	~104.2	19.5	~39.1	99.1	6.5	~472.7
Queue Length 95th (m)	m#211.2	m#129.3	#163.0	31.6	#74.9	120.1	13.4	#494.0
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	403	781	232	739	152	2507	152	2504
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	1.54	1.02	1.56	0.34	1.13	0.82	0.43	1.54

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.

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

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

HCM Signalized Intersection Capacity Analysis 2038 - With GTA West Highway & Improvements
 7: Hurontario Street & Old School Road AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			  			 	
Traffic Volume (vph)	572	134	600	333	108	126	158	1763	135	61	3246	313
Future Volume (vph)	572	134	600	333	108	126	158	1763	135	61	3246	313
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		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.88		1.00	0.92		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)	1789	3140		1789	3289		1789	5087		1789	5074	
Flt Permitted	0.44	1.00		0.17	1.00		0.07	1.00		0.07	1.00	
Satd. Flow (perm)	835	3140		328	3289		128	5087		128	5074	
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)	622	146	652	362	117	137	172	1916	147	66	3528	340
RTOR Reduction (vph)	0	49	0	0	54	0	0	7	0	0	10	0
Lane Group Flow (vph)	622	749	0	362	200	0	172	2056	0	66	3858	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	40.0	26.0		34.0	23.0		61.0	57.0		61.0	57.0	
Effective Green, g (s)	40.0	28.0		34.0	25.0		65.0	59.0		65.0	59.0	
Actuated g/C Ratio	0.33	0.23		0.28	0.21		0.54	0.49		0.54	0.49	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	389	732		226	685		152	2501		152	2494	
v/s Ratio Prot	c0.19	0.24		0.15	0.06		c0.06	0.40		0.02	c0.76	
v/s Ratio Perm	c0.35			0.31			0.56			0.21		
v/c Ratio	1.60	1.55dr		1.60	0.29		1.13	0.82		0.43	1.55	
Uniform Delay, d1	37.8	46.0		38.8	40.0		32.2	26.0		21.1	30.5	
Progression Factor	1.14	1.11		1.00	1.00		1.72	0.90		1.00	1.00	
Incremental Delay, d2	279.3	36.1		290.6	1.1		106.5	2.7		8.8	248.2	
Delay (s)	322.4	87.4		329.3	41.1		161.8	26.2		29.9	278.7	
Level of Service	F	F		F	D		F	C		C	F	
Approach Delay (s)		190.3			210.5			36.7			274.5	
Approach LOS		F			F			D			F	

Intersection Summary

HCM 2000 Control Delay	190.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	133.3%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 8: Chinguacousy Road & Street A (North) AM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	35	107	652	23	31	597
Future Volume (vph)	35	107	652	23	31	597
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	0.0		0.0	25.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.995			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1789	1601	3561	0	1789	3579
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1789	1601	3561	0	1789	3579
Link Speed (k/h)	48		80			80
Link Distance (m)	81.3		401.8			298.8
Travel Time (s)	6.1		18.1			13.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	116	709	25	34	649
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	116	734	0	34	649
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	35.4%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis - With GTA West Highway & Improvements
 8: Chinguacousy Road & Street A (North) AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Traffic Volume (veh/h)	35	107	652	23	31	597	
Future Volume (Veh/h)	35	107	652	23	31	597	
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)	38	116	709	25	34	649	
Pedestrians							
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)				299			
pX, platoon unblocked							
vC, conflicting volume	1114	367			734		
vC1, stage 1 conf vol	722						
vC2, stage 2 conf vol	392						
vCu, unblocked vol	1114	367			734		
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 %	90	82			96		
cM capacity (veh/h)	390	630			867		
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	38	116	473	261	34	324	324
Volume Left	38	0	0	0	34	0	0
Volume Right	0	116	0	25	0	0	0
cSH	390	630	1700	1700	867	1700	1700
Volume to Capacity	0.10	0.18	0.28	0.15	0.04	0.19	0.19
Queue Length 95th (m)	2.4	5.1	0.0	0.0	0.9	0.0	0.0
Control Delay (s)	15.2	12.0	0.0	0.0	9.3	0.0	0.0
Lane LOS	C	B			A		
Approach Delay (s)	12.8	0.0		0.5			
Approach LOS	B						
Intersection Summary							
Average Delay			1.5				
Intersection Capacity Utilization			35.4%		ICU Level of Service		A
Analysis Period (min)			15				

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

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	95	89	36	650	735	10
Future Volume (vph)	95	89	36	650	735	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	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	0.95	0.95	0.95
Frt		0.850			0.998	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	3579	3571	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1789	1601	1789	3579	3571	0
Link Speed (k/h)	48			80	80	
Link Distance (m)	150.6			276.3	311.8	
Travel Time (s)	11.3			12.4	14.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	103	97	39	707	799	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	103	97	39	707	810	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 39.2% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis - With GTA West Highway & Improvements
 9: McLaughlin Road & Street C

AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations							
Traffic Volume (veh/h)	95	89	36	650	735	10	
Future Volume (Veh/h)	95	89	36	650	735	10	
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)	103	97	39	707	799	11	
Pedestrians							
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)			276	312			
pX, platoon unblocked	0.89						
vC, conflicting volume	1236	405	810				
vC1, stage 1 conf vol	804						
vC2, stage 2 conf vol	432						
vCu, unblocked vol	1023	405	810				
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 %	72	84	95				
cM capacity (veh/h)	373	595	812				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	103	97	39	354	354	533	277
Volume Left	103	0	39	0	0	0	0
Volume Right	0	97	0	0	0	0	11
cSH	373	595	812	1700	1700	1700	1700
Volume to Capacity	0.28	0.16	0.05	0.21	0.21	0.31	0.16
Queue Length 95th (m)	8.4	4.4	1.1	0.0	0.0	0.0	0.0
Control Delay (s)	18.3	12.2	9.7	0.0	0.0	0.0	0.0
Lane LOS	C	B	A				
Approach Delay (s)	15.3		0.5			0.0	
Approach LOS	C						
Intersection Summary							
Average Delay			2.0				
Intersection Capacity Utilization			39.2%	ICU Level of Service	A		
Analysis Period (min)			15				

Lanes, Volumes, Timings
10: Hurontario Street & Street H

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	40	11	2054	4144	3
Future Volume (vph)	3	40	11	2054	4144	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	0.0	25.0			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				
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	5142	5142	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1789	1601	1789	5142	5142	0
Link Speed (k/h)	48			70	70	
Link Distance (m)	410.2			640.1	215.3	
Travel Time (s)	30.8			32.9	11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	43	12	2233	4504	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3	43	12	2233	4507	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)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 90.1% ICU Level of Service E

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis - With GTA West Highway & Improvements
 10: Hurontario Street & Street H

AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations									
Traffic Volume (veh/h)	3	40	11	2054	4144	3			
Future Volume (Veh/h)	3	40	11	2054	4144	3			
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)	3	43	12	2233	4504	3			
Pedestrians									
Lane Width (m)									
Walking Speed (m/s)									
Percent Blockage									
Right turn flare (veh)									
Median type				None	None				
Median storage (veh)									
Upstream signal (m)					215				
pX, platoon unblocked	0.52	0.52	0.52						
vC, conflicting volume	5274	1503	4507						
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol	5992	0	4513						
tC, single (s)	6.8	6.9	4.1						
tC, 2 stage (s)									
tF (s)	3.5	3.3	2.2						
p0 queue free %	0	92	14						
cM capacity (veh/h)	0	562	14						
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	3	43	12	744	744	744	1802	1802	904
Volume Left	3	0	12	0	0	0	0	0	0
Volume Right	0	43	0	0	0	0	0	0	3
cSH	0	562	14	1700	1700	1700	1700	1700	1700
Volume to Capacity	620.82	0.08	0.86	0.44	0.44	0.44	1.06	1.06	0.53
Queue Length 95th (m)	Err	1.9	15.2	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	Err	11.9	552.2	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	B	F						
Approach Delay (s)	663.3		3.0			0.0			
Approach LOS	F								
Intersection Summary									
Average Delay			5.5						
Intersection Capacity Utilization			90.1%			ICU Level of Service		E	
Analysis Period (min)			15						

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 11: Chinguacousy Road & Street A (South) AM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	35	99	576	23	26	606
Future Volume (vph)	35	99	576	23	26	606
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	0.0		0.0	25.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.994			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1789	1601	3557	0	1789	3579
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1789	1601	3557	0	1789	3579
Link Speed (k/h)	48		80			80
Link Distance (m)	156.3		2383.0			401.8
Travel Time (s)	11.7		107.2			18.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	38	108	626	25	28	659
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	108	651	0	28	659
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	31.6%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis - With GTA West Highway & Improvements
 11: Chinguacousy Road & Street A (South) AM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Traffic Volume (veh/h)	35	99	576	23	26	606	
Future Volume (Veh/h)	35	99	576	23	26	606	
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)	38	108	626	25	28	659	
Pedestrians							
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	1024	326			651		
vC1, stage 1 conf vol	638						
vC2, stage 2 conf vol	386						
vCu, unblocked vol	1024	326			651		
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 %	91	84			97		
cM capacity (veh/h)	425	670			931		
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	38	108	417	234	28	330	330
Volume Left	38	0	0	0	28	0	0
Volume Right	0	108	0	25	0	0	0
cSH	425	670	1700	1700	931	1700	1700
Volume to Capacity	0.09	0.16	0.25	0.14	0.03	0.19	0.19
Queue Length 95th (m)	2.2	4.3	0.0	0.0	0.7	0.0	0.0
Control Delay (s)	14.3	11.4	0.0	0.0	9.0	0.0	0.0
Lane LOS	B	B			A		
Approach Delay (s)	12.2	0.0		0.4			
Approach LOS	B						
Intersection Summary							
Average Delay			1.4				
Intersection Capacity Utilization			31.6%		ICU Level of Service		A
Analysis Period (min)			15				

Lanes, Volumes, Timings
12: McLaughlin Road & Street E

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	0	66	207	0	40	28	590	94	24	779	22
Future Volume (vph)	56	0	66	207	0	40	28	590	94	24	779	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	50.0		0.0	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	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.850			0.850			0.979			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1601	0	1789	1601	0	1789	3503	0	1789	3564	0
Flt Permitted	0.729			0.710			0.243			0.297		
Satd. Flow (perm)	1373	1601	0	1337	1601	0	458	3503	0	559	3564	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		125			215			22			3	
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			1359.2			391.4			276.3	
Travel Time (s)		15.4			101.9			17.6			12.4	
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)	61	0	72	225	0	43	30	641	102	26	847	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	61	72	0	225	43	0	30	743	0	26	871	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			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
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)	54.0	54.0		54.0	54.0		66.0	66.0		66.0	66.0	
Total Split (%)	45.0%	45.0%		45.0%	45.0%		55.0%	55.0%		55.0%	55.0%	
Maximum Green (s)	50.0	50.0		50.0	50.0		62.0	62.0		62.0	62.0	
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	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag 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		62.0	62.0		62.0	62.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.52	0.52		0.52	0.52	
v/c Ratio	0.11	0.10		0.40	0.05		0.13	0.41		0.09	0.47	

Lanes, Volumes, Timings
 12: McLaughlin Road & Street E

Future Total 2038 - With GTA West Highway & Improvements

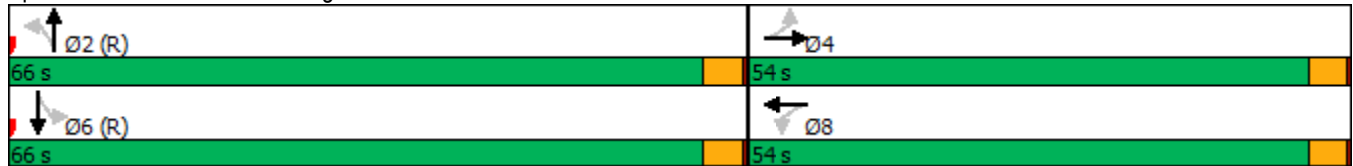
AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	22.1	0.7		24.0	0.1		16.9	18.0		13.6	16.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	22.1	0.7		24.0	0.1		16.9	18.0		13.6	16.2	
LOS	C	A		C	A		B	B		B	B	
Approach Delay		10.5			20.1			18.0				16.1
Approach LOS		B			C			B				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:	0.47
Intersection Signal Delay:	17.0
Intersection LOS:	B
Intersection Capacity Utilization	48.1%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 12: McLaughlin Road & Street E

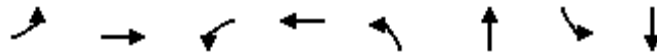


Queues

Future Total 2038 - With GTA West Highway & Improvements

12: McLaughlin Road & Street E

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	61	72	225	43	30	743	26	871
v/c Ratio	0.11	0.10	0.40	0.05	0.13	0.41	0.09	0.47
Control Delay	22.1	0.7	24.0	0.1	16.9	18.0	13.6	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.1	0.7	24.0	0.1	16.9	18.0	13.6	16.2
Queue Length 50th (m)	8.6	0.0	29.5	0.0	3.5	52.6	2.6	52.7
Queue Length 95th (m)	17.4	1.1	m31.6	m0.0	9.2	67.0	m3.6	m62.5
Internal Link Dist (m)		180.8		1335.2		367.4		252.3
Turn Bay Length (m)	25.0		25.0		50.0		50.0	
Base Capacity (vph)	572	740	557	792	236	1820	288	1842
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	0.11	0.10	0.40	0.05	0.13	0.41	0.09	0.47

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis 2038 - With GTA West Highway & Improvements
 12: McLaughlin Road & Street E AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	0	66	207	0	40	28	590	94	24	779	22
Future Volume (vph)	56	0	66	207	0	40	28	590	94	24	779	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		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	0.85		1.00	0.85		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	1601		1789	1601		1789	3505		1789	3564	
Flt Permitted	0.73	1.00		0.71	1.00		0.24	1.00		0.30	1.00	
Satd. Flow (perm)	1373	1601		1337	1601		457	3505		560	3564	
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)	61	0	72	225	0	43	30	641	102	26	847	24
RTOR Reduction (vph)	0	42	0	0	25	0	0	11	0	0	1	0
Lane Group Flow (vph)	61	30	0	225	18	0	30	732	0	26	870	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)	50.0	50.0		50.0	50.0		62.0	62.0		62.0	62.0	
Effective Green, g (s)	50.0	50.0		50.0	50.0		62.0	62.0		62.0	62.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.52	0.52		0.52	0.52	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	572	667		557	667		236	1810		289	1841	
v/s Ratio Prot		0.02			0.01			0.21			c0.24	
v/s Ratio Perm	0.04			c0.17			0.07			0.05		
v/c Ratio	0.11	0.04		0.40	0.03		0.13	0.40		0.09	0.47	
Uniform Delay, d1	21.4	20.8		24.5	20.6		15.0	17.7		14.7	18.5	
Progression Factor	1.00	1.00		0.90	1.00		1.00	1.00		0.86	0.83	
Incremental Delay, d2	0.4	0.1		1.4	0.0		1.1	0.7		0.4	0.6	
Delay (s)	21.7	20.9		23.4	20.7		16.1	18.4		13.1	16.0	
Level of Service	C	C		C	C		B	B		B	B	
Approach Delay (s)		21.3			23.0			18.3			16.0	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			18.1			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.44									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			48.1%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
13: Hurontario Street & Street E

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	27	477	132	1968	4164	20
Future Volume (vph)	27	477	132	1968	4164	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	0.0	75.0			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		0.049			
Satd. Flow (perm)	1789	1601	92	5142	5137	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		54			1	
Link Speed (k/h)	48			70	70	
Link Distance (m)	1359.2			928.0	640.1	
Travel Time (s)	101.9			47.7	32.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	518	143	2139	4526	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	518	143	2139	4548	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)	24	14	24			14
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0	
Total Split (s)	31.0	31.0	8.0	89.0	81.0	
Total Split (%)	25.8%	25.8%	6.7%	74.2%	67.5%	
Maximum Green (s)	27.0	27.0	4.0	85.0	77.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	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	
Lead-Lag Optimize?			Yes		Yes	
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 Effect Green (s)	27.0	27.0	85.0	85.0	77.0	
Actuated g/C Ratio	0.22	0.22	0.71	0.71	0.64	
v/c Ratio	0.07	1.29	1.18	0.59	1.38	

Lanes, Volumes, Timings
 13: Hurontario Street & Street E

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Control Delay	42.0	183.7	161.8	9.6	194.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	42.0	183.7	161.8	9.6	194.2	
LOS	D	F	F	A	F	
Approach Delay	176.2			19.1	194.2	
Approach LOS	F			B	F	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle:	150
Control Type:	Pretimed
Maximum v/c Ratio:	1.38
Intersection Signal Delay:	138.7
Intersection LOS:	F
Intersection Capacity Utilization	117.1%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 13: Hurontario Street & Street E



Queues

Future Total 2038 - With GTA West Highway & Improvements

13: Hurontario Street & Street E

AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	29	518	143	2139	4548
v/c Ratio	0.07	1.29	1.18	0.59	1.38
Control Delay	42.0	183.7	161.8	9.6	194.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	42.0	183.7	161.8	9.6	194.2
Queue Length 50th (m)	5.3	~142.7	~14.4	82.3	~516.7
Queue Length 95th (m)	13.4	#207.2	#50.3	93.4	m166.1
Internal Link Dist (m)	1335.2			904.0	616.1
Turn Bay Length (m)	25.0		75.0		
Base Capacity (vph)	402	402	121	3642	3296
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	0.07	1.29	1.18	0.59	1.38

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.

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

HCM Signalized Intersection Capacity Analysis 2038 - With GTA West Highway & Improvements
 13: Hurontario Street & Street E AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	27	477	132	1968	4164	20
Future Volume (vph)	27	477	132	1968	4164	20
Ideal Flow (vphpl)	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	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	5138	
Flt Permitted	0.95	1.00	0.05	1.00	1.00	
Satd. Flow (perm)	1789	1601	93	5142	5138	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	518	143	2139	4526	22
RTOR Reduction (vph)	0	42	0	0	0	0
Lane Group Flow (vph)	29	476	143	2139	4548	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	27.0	27.0	85.0	85.0	77.0	
Effective Green, g (s)	27.0	27.0	85.0	85.0	77.0	
Actuated g/C Ratio	0.22	0.22	0.71	0.71	0.64	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	402	360	122	3642	3296	
v/s Ratio Prot	0.02		c0.04	0.42	c0.89	
v/s Ratio Perm		c0.30	0.79			
v/c Ratio	0.07	1.32	1.17	0.59	1.38	
Uniform Delay, d1	36.6	46.5	37.9	8.7	21.5	
Progression Factor	1.12	1.07	1.00	1.00	0.98	
Incremental Delay, d2	0.3	163.4	135.1	0.7	171.1	
Delay (s)	41.5	213.0	173.0	9.4	192.1	
Level of Service	D	F	F	A	F	
Approach Delay (s)	203.9			19.7	192.1	
Approach LOS	F			B	F	

Intersection Summary

HCM 2000 Control Delay	139.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.36		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	117.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
14: McLaughlin Road & Street F

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	56	66	28	657	1030	22
Future Volume (vph)	56	66	28	657	1030	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	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	0.95	0.95	0.95
Frt		0.850			0.997	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	3579	3568	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1789	1601	1789	3579	3568	0
Link Speed (k/h)	48			80	80	
Link Distance (m)	171.6			2104.9	391.4	
Travel Time (s)	12.9			94.7	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	72	30	714	1120	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	61	72	30	714	1144	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 39.9% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis - With GTA West Highway & Improvements
 14: McLaughlin Road & Street F AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations							
Traffic Volume (veh/h)	56	66	28	657	1030	22	
Future Volume (Veh/h)	56	66	28	657	1030	22	
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)	61	72	30	714	1120	24	
Pedestrians							
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)			391				
pX, platoon unblocked	0.85	0.85	0.85				
vC, conflicting volume	1549	572	1144				
vC1, stage 1 conf vol	1132						
vC2, stage 2 conf vol	417						
vCu, unblocked vol	1286	133	808				
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 %	80	90	96				
cM capacity (veh/h)	309	755	688				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	61	72	30	357	357	747	397
Volume Left	61	0	30	0	0	0	0
Volume Right	0	72	0	0	0	0	24
cSH	309	755	688	1700	1700	1700	1700
Volume to Capacity	0.20	0.10	0.04	0.21	0.21	0.44	0.23
Queue Length 95th (m)	5.5	2.4	1.0	0.0	0.0	0.0	0.0
Control Delay (s)	19.5	10.3	10.5	0.0	0.0	0.0	0.0
Lane LOS	C	B	B				
Approach Delay (s)	14.5		0.4			0.0	
Approach LOS	B						
Intersection Summary							
Average Delay			1.1				
Intersection Capacity Utilization			39.9%	ICU Level of Service	A		
Analysis Period (min)			15				

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 15: Chinguacousy Road & Mayfield Road AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	942	139	386	680	82	31	208	238	154	423	25
Future Volume (vph)	24	942	139	386	680	82	31	208	238	154	423	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	0.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.984				0.850		0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5044	0	3471	5060	0	1789	1883	1601	1789	1868	0
Flt Permitted	0.328			0.950			0.264			0.539		
Satd. Flow (perm)	618	5044	0	3471	5060	0	497	1883	1601	1015	1868	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			26				259			3
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	26	1024	151	420	739	89	34	226	259	167	460	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	1175	0	420	828	0	34	226	259	167	487	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)		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												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
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	41.0	41.0		26.0	67.0		53.0	53.0	53.0	53.0	53.0	53.0
Total Split (%)	34.2%	34.2%		21.7%	55.8%		44.2%	44.2%	44.2%	44.2%	44.2%	44.2%
Maximum Green (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0	49.0	49.0
Yellow Time (s)	3.5	3.5		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	0.5	0.5
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	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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
Act Effct Green (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0	49.0	49.0
Actuated g/C Ratio	0.31	0.31		0.18	0.52		0.41	0.41	0.41	0.41	0.41	0.41
v/c Ratio	0.14	0.75		0.66	0.31		0.17	0.29	0.32	0.40	0.64	

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 15: Chinguacousy Road & Mayfield Road AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	32.5	40.1		51.2	16.0		25.4	25.2	3.8	22.7	25.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	32.5	40.1		51.2	16.0		25.4	25.2	3.8	22.7	25.1	
LOS	C	D		D	B		C	C	A	C	C	
Approach Delay		39.9			27.8			14.6			24.5	
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: 55

Control Type: Pretimed

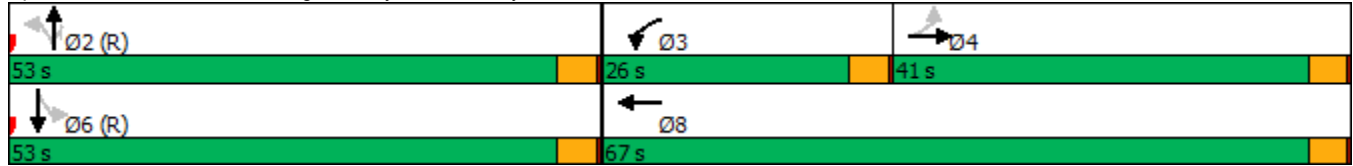
Maximum v/c Ratio: 0.75

Intersection Signal Delay: 29.3 Intersection LOS: C

Intersection Capacity Utilization 72.8% ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

Future Total 2038 - With GTA West Highway & Improvements

15: Chinguacousy Road & Mayfield Road






























AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	26	1175	420	828	34	226	259	167	487
v/c Ratio	0.14	0.75	0.66	0.31	0.17	0.29	0.32	0.40	0.64
Control Delay	32.5	40.1	51.2	16.0	25.4	25.2	3.8	22.7	25.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.5	40.1	51.2	16.0	25.4	25.2	3.8	22.7	25.1
Queue Length 50th (m)	4.4	89.3	47.8	37.6	5.0	35.2	0.0	20.1	59.8
Queue Length 95th (m)	11.8	106.2	64.7	46.4	12.7	54.0	15.4	33.6	87.7
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0				
Base Capacity (vph)	190	1571	636	2668	202	768	806	414	764
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.75	0.66	0.31	0.17	0.29	0.32	0.40	0.64

Intersection Summary

HCM Signalized Intersection Capacity Analysis 2038 - With GTA West Highway & Improvements
 15: Chinguacousy Road & Mayfield Road AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  		 	  						 		
Traffic Volume (vph)	24	942	139	386	680	82	31	208	238	154	423	25	
Future Volume (vph)	24	942	139	386	680	82	31	208	238	154	423	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		4.0	4.0	4.0	4.0	4.0		
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00		
Frt	1.00	0.98		1.00	0.98		1.00	1.00	0.85	1.00	0.99		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	1789	5043		3471	5059		1789	1883	1601	1789	1868		
Flt Permitted	0.33	1.00		0.95	1.00		0.26	1.00	1.00	0.54	1.00		
Satd. Flow (perm)	617	5043		3471	5059		498	1883	1601	1016	1868		
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)	26	1024	151	420	739	89	34	226	259	167	460	27	
RTOR Reduction (vph)	0	16	0	0	12	0	0	0	153	0	2	0	
Lane Group Flow (vph)	26	1159	0	420	816	0	34	226	106	167	485	0	
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA		
Protected Phases		4		3	8			2				6	
Permitted Phases	4						2		2	6			
Actuated Green, G (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0	49.0		
Effective Green, g (s)	37.0	37.0		22.0	63.0		49.0	49.0	49.0	49.0	49.0		
Actuated g/C Ratio	0.31	0.31		0.18	0.52		0.41	0.41	0.41	0.41	0.41		
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0		
Lane Grp Cap (vph)	190	1554		636	2655		203	768	653	414	762		
v/s Ratio Prot		c0.23		c0.12	0.16			0.12			c0.26		
v/s Ratio Perm	0.04						0.07		0.07	0.16			
v/c Ratio	0.14	0.75		0.66	0.31		0.17	0.29	0.16	0.40	0.64		
Uniform Delay, d1	30.0	37.3		45.5	16.1		22.5	23.9	22.5	25.1	28.4		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	0.77	0.74		
Incremental Delay, d2	1.5	3.3		5.3	0.3		1.8	1.0	0.5	2.6	3.7		
Delay (s)	31.5	40.6		50.8	16.4		24.3	24.8	23.0	22.1	24.8		
Level of Service	C	D		D	B		C	C	C	C	C		
Approach Delay (s)		40.4			28.0			23.9			24.1		
Approach LOS		D			C			C			C		
Intersection Summary													
HCM 2000 Control Delay			30.8			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio			0.68										
Actuated Cycle Length (s)			120.0			Sum of lost time (s)		12.0					
Intersection Capacity Utilization			72.8%			ICU Level of Service			C				
Analysis Period (min)			15										
c	Critical Lane Group												

Lanes, Volumes, Timings

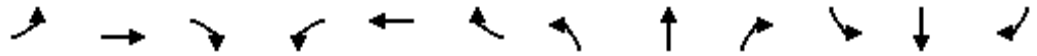
Future Total 2038 - With GTA West Highway & Improvements

16: McLaughlin Road & Mayfield Road

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	78	1206	142	234	938	113	67	329	180	346	667	211
Future Volume (vph)	78	1206	142	234	938	113	67	329	180	346	667	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		25.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.984				0.850		0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	5060	0	1789	3579	1601	1789	3450	0
Flt Permitted	0.223			0.087			0.252			0.275		
Satd. Flow (perm)	420	5142	1601	164	5060	0	475	3579	1601	518	3450	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		19				142		35	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	1311	154	254	1020	123	73	358	196	376	725	229
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	1311	154	254	1143	0	73	358	196	376	954	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)		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												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
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	11.0	46.0	46.0	28.0	63.0		9.0	27.0	27.0	35.0	53.0	
Total Split (%)	8.1%	33.8%	33.8%	20.6%	46.3%		6.6%	19.9%	19.9%	25.7%	39.0%	
Maximum Green (s)	7.0	42.0	42.0	24.0	59.0		5.0	23.0	23.0	31.0	49.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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	42.0	42.0	70.0	59.0		28.0	23.0	23.0	58.0	49.0	
Actuated g/C Ratio	0.36	0.31	0.31	0.51	0.43		0.21	0.17	0.17	0.43	0.36	
v/c Ratio	0.38	0.83	0.26	0.68	0.52		0.50	0.59	0.51	0.74	0.75	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	24.2	49.0	8.6	41.8	28.6		41.0	56.7	20.6	38.0	41.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	24.2	49.0	8.6	41.8	28.6		41.0	56.7	20.6	38.0	41.3	
LOS	C	D	A	D	C		D	E	C	D	D	
Approach Delay		43.6			31.0			43.6			40.4	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: Other

Cycle Length: 136

Actuated Cycle Length: 136

Offset: 120 (88%), 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: 39.1

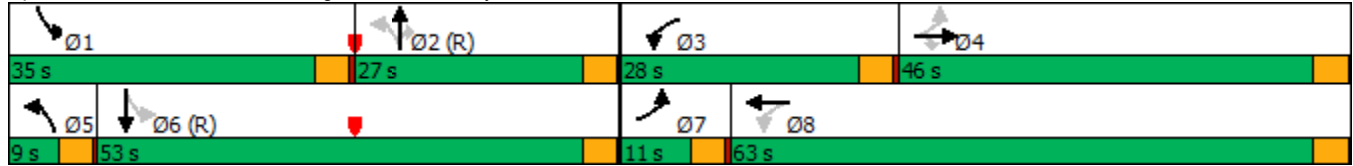
Intersection LOS: D

Intersection Capacity Utilization 78.5%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 16: McLaughlin Road & Mayfield Road

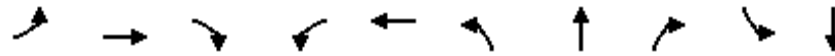


Queues

Future Total 2038 - With GTA West Highway & Improvements

16: McLaughlin Road & Mayfield Road






























AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	85	1311	154	254	1143	73	358	196	376	954
v/c Ratio	0.38	0.83	0.26	0.68	0.52	0.50	0.59	0.51	0.74	0.75
Control Delay	24.2	49.0	8.6	41.8	28.6	41.0	56.7	20.6	38.0	41.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.2	49.0	8.6	41.8	28.6	41.0	56.7	20.6	38.0	41.3
Queue Length 50th (m)	11.3	119.7	3.4	47.7	79.5	11.6	47.2	12.6	72.4	114.0
Queue Length 95th (m)	20.3	138.1	19.2	77.6	93.1	21.5	63.7	36.5	101.4	139.2
Internal Link Dist (m)	1395.4				1381.8		317.6		2080.9	
Turn Bay Length (m)	30.0		60.0	120.0		50.0		25.0	30.0	
Base Capacity (vph)	221	1587	588	371	2205	146	605	388	510	1265
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	0.38	0.83	0.26	0.68	0.52	0.50	0.59	0.51	0.74	0.75

Intersection Summary

HCM Signalized Intersection Capacity Analysis 2038 - With GTA West Highway & Improvements
 16: McLaughlin Road & Mayfield Road AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (vph)	78	1206	142	234	938	113	67	329	180	346	667	211
Future Volume (vph)	78	1206	142	234	938	113	67	329	180	346	667	211
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	5059		1789	3579	1601	1789	3450	
Flt Permitted	0.22	1.00	1.00	0.09	1.00		0.25	1.00	1.00	0.27	1.00	
Satd. Flow (perm)	420	5142	1601	164	5059		475	3579	1601	517	3450	
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)	85	1311	154	254	1020	123	73	358	196	376	725	229
RTOR Reduction (vph)	0	0	94	0	11	0	0	0	118	0	22	0
Lane Group Flow (vph)	85	1311	60	254	1132	0	73	358	78	376	932	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	49.0	42.0	42.0	70.0	59.0		28.0	23.0	23.0	58.0	49.0	
Effective Green, g (s)	49.0	42.0	42.0	70.0	59.0		28.0	23.0	23.0	58.0	49.0	
Actuated g/C Ratio	0.36	0.31	0.31	0.51	0.43		0.21	0.17	0.17	0.43	0.36	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	221	1587	494	371	2194		146	605	270	510	1243	
v/s Ratio Prot	0.02	c0.25		c0.12	0.22		0.02	0.10		c0.17	c0.27	
v/s Ratio Perm	0.12		0.04	0.23			0.08		0.05	0.15		
v/c Ratio	0.38	0.83	0.12	0.68	0.52		0.50	0.59	0.29	0.74	0.75	
Uniform Delay, d1	29.2	43.6	33.8	34.6	28.1		44.8	52.2	49.4	29.3	38.1	
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	5.0	5.1	0.5	9.8	0.9		11.7	4.2	2.7	9.2	4.2	
Delay (s)	34.2	48.7	34.3	44.4	29.0		56.5	56.4	52.0	38.5	42.3	
Level of Service	C	D	C	D	C		E	E	D	D	D	
Approach Delay (s)		46.4			31.8			55.0			41.2	
Approach LOS		D			C			E			D	
Intersection Summary												
HCM 2000 Control Delay			41.9	HCM 2000 Level of Service						D		
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			136.0	Sum of lost time (s)						16.0		
Intersection Capacity Utilization			78.5%	ICU Level of Service						D		
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 17: Hurontario Street & Mayfield Road AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	192	1223	195	236	703	243	146	728	114	527	1265	213
Future Volume (vph)	192	1223	195	236	703	243	146	728	114	527	1265	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	5142	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.167			0.143		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	315	5142	1601	269	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			264			124			232
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	209	1329	212	257	764	264	159	791	124	573	1375	232
Shared Lane Traffic (%)												
Lane Group Flow (vph)	209	1329	212	257	764	264	159	791	124	573	1375	232
Enter Blocked Intersection	No	No	No	No	No	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	Prot	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			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	17.0	40.0	40.0	15.0	38.0	38.0	14.0	28.0	28.0	45.0	59.0	59.0
Total Split (%)	13.3%	31.3%	31.3%	11.7%	29.7%	29.7%	10.9%	21.9%	21.9%	35.2%	46.1%	46.1%
Maximum Green (s)	13.0	36.0	36.0	11.0	34.0	34.0	10.0	24.0	24.0	41.0	55.0	55.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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
Act Effct Green (s)	13.0	36.0	36.0	11.0	34.0	34.0	34.0	24.0	24.0	69.0	55.0	55.0
Actuated g/C Ratio	0.10	0.28	0.28	0.09	0.27	0.27	0.27	0.19	0.19	0.54	0.43	0.43
v/c Ratio	0.59	0.92	0.37	0.86	0.56	0.43	0.80	0.82	0.31	0.91	0.89	0.28

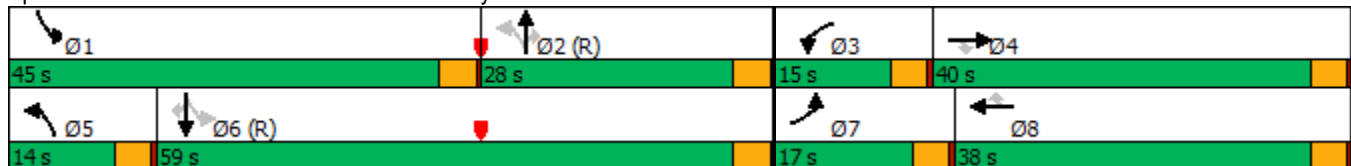


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	62.5	55.7	11.7	84.4	42.4	6.5	60.8	58.0	9.6	52.0	42.7	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.5	55.7	11.7	84.4	42.4	6.5	60.8	58.0	9.6	52.0	42.7	3.7
LOS	E	E	B	F	D	A	E	E	A	D	D	A
Approach Delay	51.2			43.4			52.8			41.0		
Approach LOS	D			D			D			D		

Intersection Summary

Area Type:	Other
Cycle Length:	128
Actuated Cycle Length:	128
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	80
Control Type:	Pretimed
Maximum v/c Ratio:	0.92
Intersection Signal Delay:	46.3
Intersection LOS:	D
Intersection Capacity Utilization	87.0%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road

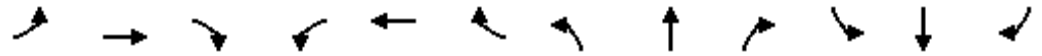


Queues

Future Total 2038 - With GTA West Highway & Improvements

17: Hurontario Street & Mayfield Road

AM Peak Hour




































Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	209	1329	212	257	764	264	159	791	124	573	1375	232
v/c Ratio	0.59	0.92	0.37	0.86	0.56	0.43	0.80	0.82	0.31	0.91	0.89	0.28
Control Delay	62.5	55.7	11.7	84.4	42.4	6.5	60.8	58.0	9.6	52.0	42.7	3.7
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	62.5	55.7	11.7	84.4	42.4	6.5	60.8	58.0	9.6	52.0	42.7	3.7
Queue Length 50th (m)	26.3	119.1	9.0	33.5	61.1	0.0	23.3	70.8	0.0	120.9	166.3	0.0
Queue Length 95th (m)	39.2	#145.6	29.1	#56.1	74.7	20.1	#57.6	86.3	16.3	#188.0	198.5	14.6
Internal Link Dist (m)		1381.8			725.9			357.1			585.4	
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	352	1446	568	298	1365	619	198	964	400	631	1537	820
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	0.59	0.92	0.37	0.86	0.56	0.43	0.80	0.82	0.31	0.91	0.89	0.28

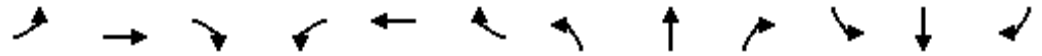
Intersection Summary

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

HCM Signalized Intersection Capacity Analysis 2038 - With GTA West Highway & Improvements
 17: Hurontario Street & Mayfield Road AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	 	  		 	  			  			 		
Traffic Volume (vph)	192	1223	195	236	703	243	146	728	114	527	1265	213	
Future Volume (vph)	192	1223	195	236	703	243	146	728	114	527	1265	213	
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	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	5142	1601	1789	3579	1601	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.17	1.00	1.00	0.14	1.00	1.00	
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	314	5142	1601	269	3579	1601	
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)	209	1329	212	257	764	264	159	791	124	573	1375	232	
RTOR Reduction (vph)	0	0	118	0	0	194	0	0	101	0	0	132	
Lane Group Flow (vph)	209	1329	94	257	764	70	159	791	23	573	1375	100	
Turn Type	Prot	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			8	2		2	6		6	
Actuated Green, G (s)	13.0	36.0	36.0	11.0	34.0	34.0	34.0	24.0	24.0	69.0	55.0	55.0	
Effective Green, g (s)	13.0	36.0	36.0	11.0	34.0	34.0	34.0	24.0	24.0	69.0	55.0	55.0	
Actuated g/C Ratio	0.10	0.28	0.28	0.09	0.27	0.27	0.27	0.19	0.19	0.54	0.43	0.43	
Clearance Time (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	
Lane Grp Cap (vph)	352	1446	450	298	1365	425	198	964	300	631	1537	687	
v/s Ratio Prot	0.06	c0.26		c0.07	0.15		0.06	0.15		c0.29	0.38		
v/s Ratio Perm			0.06			0.04	0.15		0.01	c0.20		0.06	
v/c Ratio	0.59	0.92	0.21	0.86	0.56	0.17	0.80	0.82	0.08	0.91	0.89	0.15	
Uniform Delay, d1	55.0	44.6	35.1	57.8	40.5	36.1	38.9	49.9	42.9	33.1	33.8	22.2	
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	7.2	10.9	1.1	26.5	1.7	0.8	28.1	7.8	0.5	19.2	8.4	0.4	
Delay (s)	62.2	55.5	36.2	84.3	42.2	36.9	67.0	57.7	43.4	52.4	42.3	22.6	
Level of Service	E	E	D	F	D	D	E	E	D	D	D	C	
Approach Delay (s)		53.9			49.5			57.4			42.8		
Approach LOS		D			D			E			D		
Intersection Summary													
HCM 2000 Control Delay			49.8									HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.93										
Actuated Cycle Length (s)			128.0									Sum of lost time (s)	16.0
Intersection Capacity Utilization			87.0%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 1: Chinguacousy Road & Old School Road AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	205	30	461	367	58	27	516	484	34	253	2
Future Volume (vph)	7	205	30	461	367	58	27	516	484	34	253	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		25.0	25.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	0		1	1		1	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			0.850			0.850			0.850		0.999	
Flt Protected		0.998		0.950				0.998			0.994	
Satd. Flow (prot)	0	1880	1601	1789	1883	1601	0	1880	1601	0	1870	0
Flt Permitted		0.982		0.274				0.972			0.689	
Satd. Flow (perm)	0	1850	1601	516	1883	1601	0	1831	1601	0	1296	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			45			63			526			
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	0.92	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)	8	223	33	501	399	63	29	561	526	37	275	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	231	33	501	399	63	0	590	526	0	314	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				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
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Minimum Split (s)	20.0	20.0	20.0	8.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	26.0	26.0	26.0	37.0	63.0	63.0	57.0	57.0	57.0	57.0	57.0	57.0
Total Split (%)	21.7%	21.7%	21.7%	30.8%	52.5%	52.5%	47.5%	47.5%	47.5%	47.5%	47.5%	47.5%
Maximum Green (s)	22.0	22.0	22.0	33.0	59.0	59.0	53.0	53.0	53.0	53.0	53.0	53.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
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	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	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0	0	0	0
Act Effct Green (s)		22.0	22.0	59.0	59.0	59.0		53.0	53.0		53.0	
Actuated g/C Ratio		0.18	0.18	0.49	0.49	0.49		0.44	0.44		0.44	
v/c Ratio		0.68	0.10	0.83	0.43	0.08		0.73	0.53		0.55	

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 1: Chinguacousy Road & Old School Road AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		57.0	8.4	56.5	37.0	15.6		27.5	2.9		29.2	
Queue Delay		0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay		57.0	8.4	56.5	37.0	15.6		27.5	2.9		29.2	
LOS		E	A	E	D	B		C	A		C	
Approach Delay		51.0			45.7			15.9			29.2	
Approach LOS		D			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:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	31.8
Intersection LOS:	C
Intersection Capacity Utilization	88.8%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 1: Chinguacousy Road & Old School Road

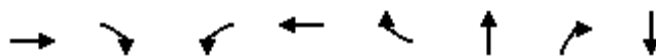
Ø2 (R) 57 s	Ø3 37 s	Ø4 26 s
Ø6 (R) 57 s	Ø8 63 s	

Queues

Future Total 2038 - With GTA West Highway & Improvements

1: Chinguacousy Road & Old School Road

AM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBT
Lane Group Flow (vph)	231	33	501	399	63	590	526	314
v/c Ratio	0.68	0.10	0.83	0.43	0.08	0.73	0.53	0.55
Control Delay	57.0	8.4	56.5	37.0	15.6	27.5	2.9	29.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	8.4	56.5	37.0	15.6	27.5	2.9	29.2
Queue Length 50th (m)	51.3	0.0	114.7	77.9	3.6	77.8	1.3	53.4
Queue Length 95th (m)	78.3	6.4	#156.9	108.7	m13.9	121.5	9.0	82.1
Internal Link Dist (m)	566.7			466.2		274.8		318.6
Turn Bay Length (m)		25.0	25.0					
Base Capacity (vph)	339	330	603	925	819	808	1000	572
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	0.68	0.10	0.83	0.43	0.08	0.73	0.53	0.55






















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 2038 - With GTA West Highway & Improvements
 1: Chinguacousy Road & Old School Road AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	205	30	461	367	58	27	516	484	34	253	2
Future Volume (vph)	7	205	30	461	367	58	27	516	484	34	253	2
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	4.0		4.0	
Lane Util. Factor		1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt		1.00	0.85	1.00	1.00	0.85		1.00	0.85		1.00	
Flt Protected		1.00	1.00	0.95	1.00	1.00		1.00	1.00		0.99	
Satd. Flow (prot)		1880	1601	1789	1883	1601		1879	1601		1871	
Flt Permitted		0.98	1.00	0.27	1.00	1.00		0.97	1.00		0.69	
Satd. Flow (perm)		1850	1601	515	1883	1601		1832	1601		1297	
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)	8	223	33	501	399	63	29	561	526	37	275	2
RTOR Reduction (vph)	0	0	27	0	0	32	0	0	294	0	0	0
Lane Group Flow (vph)	0	231	6	501	399	31	0	590	232	0	314	0
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)		22.0	22.0	59.0	59.0	59.0		53.0	53.0		53.0	
Effective Green, g (s)		22.0	22.0	59.0	59.0	59.0		53.0	53.0		53.0	
Actuated g/C Ratio		0.18	0.18	0.49	0.49	0.49		0.44	0.44		0.44	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	
Lane Grp Cap (vph)		339	293	603	925	787		809	707		572	
v/s Ratio Prot				c0.23	0.21							
v/s Ratio Perm		0.12	0.00	c0.18		0.02		c0.32	0.15		0.24	
v/c Ratio		0.68	0.02	0.83	0.43	0.04		0.73	0.33		0.55	
Uniform Delay, d1		45.7	40.2	23.1	19.7	15.8		27.6	21.9		24.7	
Progression Factor		1.00	1.00	1.94	1.78	3.84		0.78	0.58		1.00	
Incremental Delay, d2		10.6	0.1	11.6	1.3	0.1		5.4	1.2		3.8	
Delay (s)		56.3	40.3	56.3	36.3	60.7		26.9	13.8		28.5	
Level of Service		E	D	E	D	E		C	B		C	
Approach Delay (s)		54.3			48.3			20.7			28.5	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			35.0				HCM 2000 Level of Service		C			
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			120.0				Sum of lost time (s)		12.0			
Intersection Capacity Utilization			88.8%				ICU Level of Service		E			
Analysis Period (min)			15									
c Critical Lane Group												

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

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour



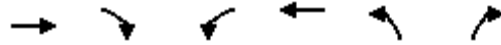
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (vph)	709	63	90	878	50	25
Future Volume (vph)	709	63	90	878	50	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	25.0		25.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.988					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3536	0	1789	3579	1789	1601
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3536	0	1789	3579	1789	1601
Link Speed (k/h)	70			70	48	
Link Distance (m)	490.2			521.8	121.9	
Travel Time (s)	25.2			26.8	9.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	771	68	98	954	54	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	839	0	98	954	54	27
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)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	39.9%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis - With GTA West Highway & Improvements
 2: Street B & Old School Road

AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↵	↑↑	↵	↵	
Traffic Volume (veh/h)	709	63	90	878	50	25	
Future Volume (Veh/h)	709	63	90	878	50	25	
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)	771	68	98	954	54	27	
Pedestrians							
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			839		1478	420	
vC1, stage 1 conf vol					805		
vC2, stage 2 conf vol					673		
vCu, unblocked vol			839		1478	420	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5	3.3	
p0 queue free %			88		82	95	
cM capacity (veh/h)			791		297	582	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	514	325	98	477	477	54	27
Volume Left	0	0	98	0	0	54	0
Volume Right	0	68	0	0	0	0	27
cSH	1700	1700	791	1700	1700	297	582
Volume to Capacity	0.30	0.19	0.12	0.28	0.28	0.18	0.05
Queue Length 95th (m)	0.0	0.0	3.2	0.0	0.0	5.0	1.1
Control Delay (s)	0.0	0.0	10.2	0.0	0.0	19.8	11.5
Lane LOS			B			C	B
Approach Delay (s)	0.0		0.9			17.0	
Approach LOS						C	
Intersection Summary							
Average Delay			1.2				
Intersection Capacity Utilization			39.9%	ICU Level of Service	A		
Analysis Period (min)			15				

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

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (vph)	673	45	168	921	47	70
Future Volume (vph)	673	45	168	921	47	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	25.0		25.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.991					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3546	0	1789	3579	1789	1601
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3546	0	1789	3579	1789	1601
Link Speed (k/h)	70			70	48	
Link Distance (m)	521.8			371.6	309.0	
Travel Time (s)	26.8			19.1	23.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	732	49	183	1001	51	76
Shared Lane Traffic (%)						
Lane Group Flow (vph)	781	0	183	1001	51	76
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)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	42.7%
	ICU Level of Service A
Analysis Period (min)	15






















HCM Unsignalized Intersection Capacity Analysis - With GTA West Highway & Improvements
 3: Street D & Old School Road

AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑		↵	↑↑	↵	↵		
Traffic Volume (veh/h)	673	45	168	921	47	70		
Future Volume (Veh/h)	673	45	168	921	47	70		
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)	732	49	183	1001	51	76		
Pedestrians								
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)	372							
pX, platoon unblocked					0.86			
vC, conflicting volume			781	1623			390	
vC1, stage 1 conf vol			756					
vC2, stage 2 conf vol			866					
vCu, unblocked vol			781	1399			390	
tC, single (s)			4.1	6.8			6.9	
tC, 2 stage (s)			5.8					
tF (s)			2.2	3.5			3.3	
p0 queue free %			78	82			88	
cM capacity (veh/h)			832	288			608	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2	
Volume Total	488	293	183	500	500	51	76	
Volume Left	0	0	183	0	0	51	0	
Volume Right	0	49	0	0	0	0	76	
cSH	1700	1700	832	1700	1700	288	608	
Volume to Capacity	0.29	0.17	0.22	0.29	0.29	0.18	0.12	
Queue Length 95th (m)	0.0	0.0	6.4	0.0	0.0	4.8	3.2	
Control Delay (s)	0.0	0.0	10.5	0.0	0.0	20.2	11.8	
Lane LOS			B				C	B
Approach Delay (s)	0.0	1.6		15.1				
Approach LOS							C	
Intersection Summary								
Average Delay			1.8					
Intersection Capacity Utilization			42.7%	ICU Level of Service			A	
Analysis Period (min)			15					

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 4: McLaughlin Road & Old School Road AM Peak Hour

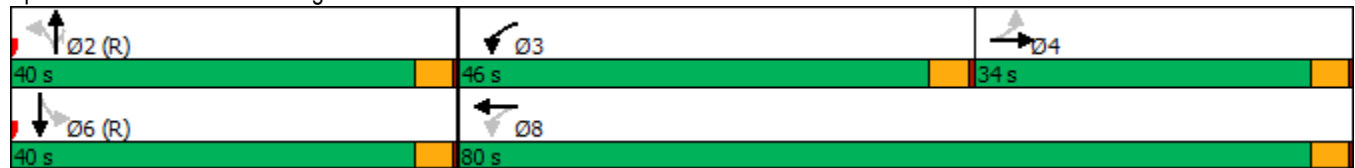
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	628	67	546	986	46	78	378	560	27	164	24
Future Volume (vph)	48	628	67	546	986	46	78	378	560	27	164	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	50.0		0.0	0.0		0.0
Storage Lanes	1		0	1		0	1		1	0		0
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	1.00	1.00	1.00	1.00	1.00
Frt		0.986			0.993				0.850		0.985	
Flt Protected	0.950			0.950			0.950				0.994	
Satd. Flow (prot)	1789	3528	0	1789	3553	0	1789	1883	1601	0	1844	0
Flt Permitted	0.254			0.118			0.482				0.690	
Satd. Flow (perm)	478	3528	0	222	3553	0	908	1883	1601	0	1280	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			8				609			5
Link Speed (k/h)		70			70			80				80
Link Distance (m)		371.6			349.1			311.8				263.1
Travel Time (s)		19.1			18.0			14.0				11.8
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)	52	683	73	593	1072	50	85	411	609	29	178	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	756	0	593	1122	0	85	411	609	0	233	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			Yes			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
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		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	34.0	34.0		46.0	80.0		40.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	28.3%	28.3%		38.3%	66.7%		33.3%	33.3%	33.3%	33.3%	33.3%	33.3%
Maximum Green (s)	30.0	30.0		42.0	76.0		36.0	36.0	36.0	36.0	36.0	36.0
Yellow Time (s)	3.5	3.5		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	0.5	0.5
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	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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
Act Effct Green (s)	30.0	30.0		76.0	76.0		36.0	36.0	36.0		36.0	
Actuated g/C Ratio	0.25	0.25		0.63	0.63		0.30	0.30	0.30		0.30	
v/c Ratio	0.44	0.85		0.86	0.50		0.31	0.73	0.67		0.60	

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 4: McLaughlin Road & Old School Road AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	46.9	48.0		23.5	8.8		49.5	57.7	17.0		42.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	46.9	48.0		23.5	8.8		49.5	57.7	17.0		42.8	
LOS	D	D		C	A		D	E	B		D	
Approach Delay		47.9			13.9			34.7			42.8	
Approach LOS		D			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:	65
Control Type:	Pretimed
Maximum v/c Ratio:	0.86
Intersection Signal Delay:	28.7
Intersection LOS:	C
Intersection Capacity Utilization	93.0%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 4: McLaughlin Road & Old School Road

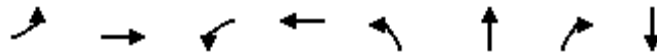


Queues

Future Total 2038 - With GTA West Highway & Improvements

4: McLaughlin Road & Old School Road

AM Peak Hour



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	52	756	593	1122	85	411	609	233
v/c Ratio	0.44	0.85	0.86	0.50	0.31	0.73	0.67	0.60
Control Delay	46.9	48.0	23.5	8.8	49.5	57.7	17.0	42.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.9	48.0	23.5	8.8	49.5	57.7	17.0	42.8
Queue Length 50th (m)	9.5	85.5	120.1	71.5	17.0	83.5	32.2	45.8
Queue Length 95th (m)	m20.8	#117.8	m53.4	m39.5	m30.4	113.7	65.9	73.3
Internal Link Dist (m)		347.6		325.1		287.8		239.1
Turn Bay Length (m)	25.0		25.0		50.0			
Base Capacity (vph)	119	888	689	2253	272	564	906	387
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	0.44	0.85	0.86	0.50	0.31	0.73	0.67	0.60
























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.

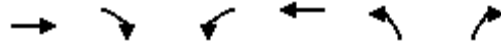
HCM Signalized Intersection Capacity Analysis 2038 - With GTA West Highway & Improvements
 4: McLaughlin Road & Old School Road AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	48	628	67	546	986	46	78	378	560	27	164	24
Future Volume (vph)	48	628	67	546	986	46	78	378	560	27	164	24
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	4.0		4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00		1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1789	3527		1789	3555		1789	1883	1601		1844	
Flt Permitted	0.25	1.00		0.12	1.00		0.48	1.00	1.00		0.69	
Satd. Flow (perm)	478	3527		222	3555		908	1883	1601		1279	
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)	52	683	73	593	1072	50	85	411	609	29	178	26
RTOR Reduction (vph)	0	7	0	0	3	0	0	0	426	0	4	0
Lane Group Flow (vph)	52	749	0	593	1119	0	85	411	183	0	230	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)	30.0	30.0		76.0	76.0		36.0	36.0	36.0		36.0	
Effective Green, g (s)	30.0	30.0		76.0	76.0		36.0	36.0	36.0		36.0	
Actuated g/C Ratio	0.25	0.25		0.63	0.63		0.30	0.30	0.30		0.30	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0		4.0	
Lane Grp Cap (vph)	119	881		689	2251		272	564	480		383	
v/s Ratio Prot		0.21		c0.30	0.31			c0.22				
v/s Ratio Perm	0.11			c0.24			0.09		0.11		0.18	
v/c Ratio	0.44	0.85		0.86	0.50		0.31	0.73	0.38		0.60	
Uniform Delay, d1	37.9	42.9		29.0	11.8		32.4	37.6	33.2		35.8	
Progression Factor	0.91	0.91		0.76	0.74		1.40	1.32	4.92		1.00	
Incremental Delay, d2	10.1	9.2		1.4	0.1		2.6	7.0	2.0		6.8	
Delay (s)	44.8	48.0		23.5	8.8		48.1	56.8	165.4		42.6	
Level of Service	D	D		C	A		D	E	F		D	
Approach Delay (s)		47.8			13.9			115.9			42.6	
Approach LOS		D			B			F			D	
Intersection Summary												
HCM 2000 Control Delay			51.9		HCM 2000 Level of Service				D			
HCM 2000 Volume to Capacity ratio			0.84									
Actuated Cycle Length (s)			120.0		Sum of lost time (s)				12.0			
Intersection Capacity Utilization			93.0%		ICU Level of Service				F			
Analysis Period (min)			15									
c	Critical Lane Group											

Lanes, Volumes, Timings
5: Street G & Old School Road

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour



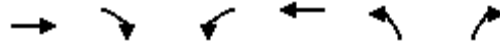
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Traffic Volume (vph)	1157	50	11	1500	41	16
Future Volume (vph)	1157	50	11	1500	41	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	25.0		25.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.994					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3557	0	1789	3579	1789	1601
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3557	0	1789	3579	1789	1601
Link Speed (k/h)	70			70	48	
Link Distance (m)	349.1			794.6	134.3	
Travel Time (s)	18.0			40.9	10.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1258	54	12	1630	45	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1312	0	12	1630	45	17
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)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	51.5%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis - With GTA West Highway & Improvements
 5: Street G & Old School Road

AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↵	↑↑	↵	↵	
Traffic Volume (veh/h)	1157	50	11	1500	41	16	
Future Volume (Veh/h)	1157	50	11	1500	41	16	
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)	1258	54	12	1630	45	17	
Pedestrians							
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)	349						
pX, platoon unblocked			0.81		0.81	0.81	
vC, conflicting volume			1312		2124	656	
vC1, stage 1 conf vol					1285		
vC2, stage 2 conf vol					839		
vCu, unblocked vol			920		1921	112	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5	3.3	
p0 queue free %			98		80	98	
cM capacity (veh/h)			599		229	746	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	839	473	12	815	815	45	17
Volume Left	0	0	12	0	0	45	0
Volume Right	0	54	0	0	0	0	17
cSH	1700	1700	599	1700	1700	229	746
Volume to Capacity	0.49	0.28	0.02	0.48	0.48	0.20	0.02
Queue Length 95th (m)	0.0	0.0	0.5	0.0	0.0	5.4	0.5
Control Delay (s)	0.0	0.0	11.1	0.0	0.0	24.6	9.9
Lane LOS			B			C	A
Approach Delay (s)	0.0		0.1			20.6	
Approach LOS						C	
Intersection Summary							
Average Delay			0.5				
Intersection Capacity Utilization			51.5%	ICU Level of Service	A		
Analysis Period (min)			15				

Lanes, Volumes, Timings
6: Street H & Old School Road

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour

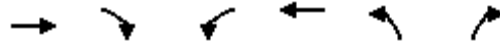
	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Traffic Volume (vph)	1119	42	0	2357	33	0
Future Volume (vph)	1119	42	0	2357	33	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	25.0		25.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.995					
Flt Protected					0.950	
Satd. Flow (prot)	3561	0	1883	3579	1789	1883
Flt Permitted					0.950	
Satd. Flow (perm)	3561	0	1883	3579	1789	1883
Link Speed (k/h)	70			70	48	
Link Distance (m)	794.6			213.2	410.2	
Travel Time (s)	40.9			11.0	30.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1216	46	0	2562	36	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1262	0	0	2562	36	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)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized
 Intersection Capacity Utilization 75.2% ICU Level of Service D
 Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis - With GTA West Highway & Improvements
 6: Street H & Old School Road

AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↙	↑↑	↙	↗	
Traffic Volume (veh/h)	1119	42	0	2357	33	0	
Future Volume (Veh/h)	1119	42	0	2357	33	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)	1216	46	0	2562	36	0	
Pedestrians							
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)			213				
pX, platoon unblocked					0.76		
vC, conflicting volume			1262		2520 631		
vC1, stage 1 conf vol					1239		
vC2, stage 2 conf vol					1281		
vCu, unblocked vol			1262		2366 631		
tC, single (s)			4.1		6.8 6.9		
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5 3.3		
p0 queue free %			100		80 100		
cM capacity (veh/h)			547		185 424		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	811	451	0	1281	1281	36	0
Volume Left	0	0	0	0	0	36	0
Volume Right	0	46	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	185	1700
Volume to Capacity	0.48	0.27	0.00	0.75	0.75	0.20	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	5.3	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	29.2	0.0
Lane LOS						D	A
Approach Delay (s)	0.0		0.0		29.2		
Approach LOS						D	
Intersection Summary							
Average Delay			0.3				
Intersection Capacity Utilization			75.2%		ICU Level of Service		D
Analysis Period (min)			15				

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 7: Hurontario Street & Old School Road AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	672	113	334	357	1108	144	590	3917	330	163	1970	627
Future Volume (vph)	672	113	334	357	1108	144	590	3917	330	163	1970	627
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	0.95	0.95	1.00	0.95	0.95	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.888			0.983			0.988			0.964	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	3178	0	1789	3518	0	1789	5080	0	1789	4957	0
Flt Permitted	0.174			0.198			0.082			0.089		
Satd. Flow (perm)	328	3178	0	373	3518	0	154	5080	0	168	4957	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		126			11			14			76	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		213.2			440.4			215.3			282.2	
Travel Time (s)		11.0			22.6			9.7			12.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	730	123	363	388	1204	157	641	4258	359	177	2141	682
Shared Lane Traffic (%)												
Lane Group Flow (vph)	730	486	0	388	1361	0	641	4617	0	177	2823	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
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		
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	
Total Split (s)	19.0	29.0		24.0	34.0		18.0	57.0		10.0	49.0	
Total Split (%)	15.8%	24.2%		20.0%	28.3%		15.0%	47.5%		8.3%	40.8%	
Maximum Green (s)	15.0	23.0		20.0	28.0		12.0	51.0		4.0	43.0	
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	
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)	40.0	25.0		49.0	30.0		63.0	53.0		51.0	45.0	
Actuated g/C Ratio	0.33	0.21		0.41	0.25		0.52	0.44		0.42	0.38	
v/c Ratio	2.51	0.64		1.00	1.53		2.37	2.05		1.16	1.48	

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 7: Hurontario Street & Old School Road AM Peak Hour



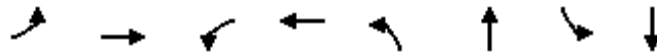
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	703.5	31.8		75.9	278.6		636.8	496.7		150.0	248.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	703.5	31.8		75.9	278.6		636.8	496.7		150.0	248.9	
LOS	F	C		E	F		F	F		F	F	
Approach Delay		435.0			233.7			513.8			243.1	
Approach LOS		F			F			F			F	

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:	150
Control Type:	Pretimed
Maximum v/c Ratio:	2.51
Intersection Signal Delay:	389.3
Intersection LOS:	F
Intersection Capacity Utilization	177.8%
ICU Level of Service	H
Analysis Period (min)	15

Splits and Phases: 7: Hurontario Street & Old School Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	730	486	388	1361	641	4617	177	2823
v/c Ratio	2.51	0.64	1.00	1.53	2.37	2.05	1.16	1.48
Control Delay	703.5	31.8	75.9	278.6	636.8	496.7	150.0	248.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	703.5	31.8	75.9	278.6	636.8	496.7	150.0	248.9
Queue Length 50th (m)	~272.2	49.1	69.2	~237.4	~239.8	~629.9	~33.6	~333.9
Queue Length 95th (m)	m#330.9	m62.4	#132.4	#280.2	m#187.4	m#486.1	#78.5	#361.2
Internal Link Dist (m)		189.2		416.4		191.3		258.2
Turn Bay Length (m)	40.0		65.0		35.0		35.0	
Base Capacity (vph)	291	761	388	887	271	2251	152	1906
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	2.51	0.64	1.00	1.53	2.37	2.05	1.16	1.48

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.

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

HCM Signalized Intersection Capacity Analysis 2038 - With GTA West Highway & Improvements
 7: Hurontario Street & Old School Road AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			  			 	
Traffic Volume (vph)	672	113	334	357	1108	144	590	3917	330	163	1970	627
Future Volume (vph)	672	113	334	357	1108	144	590	3917	330	163	1970	627
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		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.91		1.00	0.91	
Frt	1.00	0.89		1.00	0.98		1.00	0.99		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)	1789	3178		1789	3517		1789	5082		1789	4955	
Flt Permitted	0.17	1.00		0.20	1.00		0.08	1.00		0.09	1.00	
Satd. Flow (perm)	328	3178		373	3517		154	5082		167	4955	
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)	730	123	363	388	1204	157	641	4258	359	177	2141	682
RTOR Reduction (vph)	0	100	0	0	8	0	0	8	0	0	48	0
Lane Group Flow (vph)	730	386	0	388	1353	0	641	4609	0	177	2776	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	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	38.0	23.0		47.0	28.0		61.0	51.0		47.0	43.0	
Effective Green, g (s)	38.0	25.0		47.0	30.0		63.0	53.0		51.0	45.0	
Actuated g/C Ratio	0.32	0.21		0.39	0.25		0.52	0.44		0.42	0.38	
Clearance Time (s)	4.0	6.0		4.0	6.0		6.0	6.0		6.0	6.0	
Lane Grp Cap (vph)	286	662		382	879		271	2244		152	1858	
v/s Ratio Prot	c0.32	0.12		c0.17	0.38		c0.28	0.91		0.06	0.56	
v/s Ratio Perm	c0.49			0.23			c0.97			0.44		
v/c Ratio	2.55	0.58		1.02	1.54		2.37	2.05		1.16	1.49	
Uniform Delay, d1	35.7	42.8		30.5	45.0		37.7	33.5		30.9	37.5	
Progression Factor	0.76	0.91		1.00	1.00		1.17	1.09		1.00	1.00	
Incremental Delay, d2	705.1	2.4		50.1	248.2		615.4	474.4		124.0	225.1	
Delay (s)	732.3	41.4		80.6	293.2		659.5	511.0		155.0	262.6	
Level of Service	F	D		F	F		F	F		F	F	
Approach Delay (s)		456.2			246.1			529.1			256.3	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	404.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.37		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	177.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 8: Chinguacousy Road & Street A (North) AM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	76	993	62	98	698
Future Volume (vph)	29	76	993	62	98	698
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	0.0		0.0	25.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.991			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1789	1601	3546	0	1789	3579
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1789	1601	3546	0	1789	3579
Link Speed (k/h)	48		80			80
Link Distance (m)	81.3		401.8			298.8
Travel Time (s)	6.1		18.1			13.4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	83	1079	67	107	759
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	83	1146	0	107	759
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	48.2%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis - With GTA West Highway & Improvements
 8: Chinguacousy Road & Street A (North) AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Traffic Volume (veh/h)	29	76	993	62	98	698	
Future Volume (Veh/h)	29	76	993	62	98	698	
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)	32	83	1079	67	107	759	
Pedestrians							
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)	299						
pX, platoon unblocked							
vC, conflicting volume	1706	573			1146		
vC1, stage 1 conf vol	1112						
vC2, stage 2 conf vol	594						
vCu, unblocked vol	1706	573			1146		
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 %	86	82			82		
cM capacity (veh/h)	233	463			605		
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	32	83	719	427	107	380	380
Volume Left	32	0	0	0	107	0	0
Volume Right	0	83	0	67	0	0	0
cSH	233	463	1700	1700	605	1700	1700
Volume to Capacity	0.14	0.18	0.42	0.25	0.18	0.22	0.22
Queue Length 95th (m)	3.6	4.9	0.0	0.0	4.8	0.0	0.0
Control Delay (s)	22.9	14.5	0.0	0.0	12.2	0.0	0.0
Lane LOS	C	B			B		
Approach Delay (s)	16.8	0.0		1.5			
Approach LOS	C						
Intersection Summary							
Average Delay			1.5				
Intersection Capacity Utilization			48.2%		ICU Level of Service		A
Analysis Period (min)			15				

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

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	64	68	99	953	756	23
Future Volume (vph)	64	68	99	953	756	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	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	0.95	0.95	0.95
Frt		0.850			0.996	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	3579	3564	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1789	1601	1789	3579	3564	0
Link Speed (k/h)	48			80	80	
Link Distance (m)	150.6			276.3	311.8	
Travel Time (s)	11.3			12.4	14.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	70	74	108	1036	822	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	70	74	108	1036	847	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	40.7%
	ICU Level of Service A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis - With GTA West Highway & Improvements
 9: McLaughlin Road & Street C
 AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations							
Traffic Volume (veh/h)	64	68	99	953	756	23	
Future Volume (Veh/h)	64	68	99	953	756	23	
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)	70	74	108	1036	822	25	
Pedestrians							
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)			276	312			
pX, platoon unblocked	0.81						
vC, conflicting volume	1568	424	847				
vC1, stage 1 conf vol	834						
vC2, stage 2 conf vol	734						
vCu, unblocked vol	1241	424	847				
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 %	79	87	86				
cM capacity (veh/h)	328	579	786				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	70	74	108	518	518	548	299
Volume Left	70	0	108	0	0	0	0
Volume Right	0	74	0	0	0	0	25
cSH	328	579	786	1700	1700	1700	1700
Volume to Capacity	0.21	0.13	0.14	0.30	0.30	0.32	0.18
Queue Length 95th (m)	6.0	3.3	3.6	0.0	0.0	0.0	0.0
Control Delay (s)	18.9	12.1	10.3	0.0	0.0	0.0	0.0
Lane LOS	C	B	B				
Approach Delay (s)	15.4	1.0		0.0			
Approach LOS	C						
Intersection Summary							
Average Delay			1.6				
Intersection Capacity Utilization			40.7%	ICU Level of Service	A		
Analysis Period (min)			15				

Lanes, Volumes, Timings
10: Hurontario Street & Street H

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	23	43	4835	2636	3
Future Volume (vph)	3	23	43	4835	2636	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	0.0	25.0			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				
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	5142	5142	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1789	1601	1789	5142	5142	0
Link Speed (k/h)	48			70	70	
Link Distance (m)	410.2			640.1	215.3	
Travel Time (s)	30.8			32.9	11.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	25	47	5255	2865	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3	25	47	5255	2868	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)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 103.4% ICU Level of Service G

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis - With GTA West Highway & Improvements
 10: Hurontario Street & Street H

AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations									
Traffic Volume (veh/h)	3	23	43	4835	2636	3			
Future Volume (Veh/h)	3	23	43	4835	2636	3			
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)	3	25	47	5255	2865	3			
Pedestrians									
Lane Width (m)									
Walking Speed (m/s)									
Percent Blockage									
Right turn flare (veh)									
Median type				None	None				
Median storage veh									
Upstream signal (m)					215				
pX, platoon unblocked	0.64	0.64	0.64						
vC, conflicting volume	4712	956	2868						
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol	4833	0	1938						
tC, single (s)	6.8	6.9	4.1						
tC, 2 stage (s)									
tF (s)	3.5	3.3	2.2						
p0 queue free %	0	96	75						
cM capacity (veh/h)	0	691	191						
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	3	25	47	1752	1752	1752	1146	1146	576
Volume Left	3	0	47	0	0	0	0	0	0
Volume Right	0	25	0	0	0	0	0	0	3
cSH	0	691	191	1700	1700	1700	1700	1700	1700
Volume to Capacity	12.47	0.04	0.25	1.03	1.03	1.03	0.67	0.67	0.34
Queue Length 95th (m)	Err	0.9	7.1	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	Err	10.4	30.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	F	B	D						
Approach Delay (s)	1080.6		0.3					0.0	
Approach LOS	F								
Intersection Summary									
Average Delay			3.9						
Intersection Capacity Utilization			103.4%	ICU Level of Service					G
Analysis Period (min)			15						

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 11: Chinguacousy Road & Street A (South) AM Peak Hour



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	29	62	993	62	82	645
Future Volume (vph)	29	62	993	62	82	645
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	0.0		0.0	25.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.991			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1789	1601	3546	0	1789	3579
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1789	1601	3546	0	1789	3579
Link Speed (k/h)	48		80			80
Link Distance (m)	156.3		2383.0			401.8
Travel Time (s)	11.7		107.2			18.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	67	1079	67	89	701
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	67	1146	0	89	701
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
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		14	24	
Sign Control	Stop		Free			Free

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	47.3%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis - With GTA West Highway & Improvements
 11: Chinguacousy Road & Street A (South) AM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Traffic Volume (veh/h)	29	62	993	62	82	645	
Future Volume (Veh/h)	29	62	993	62	82	645	
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)	32	67	1079	67	89	701	
Pedestrians							
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	1641	573			1146		
vC1, stage 1 conf vol	1112						
vC2, stage 2 conf vol	528						
vCu, unblocked vol	1641	573			1146		
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 %	87	86			85		
cM capacity (veh/h)	242	463			605		
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	32	67	719	427	89	350	350
Volume Left	32	0	0	0	89	0	0
Volume Right	0	67	0	67	0	0	0
cSH	242	463	1700	1700	605	1700	1700
Volume to Capacity	0.13	0.14	0.42	0.25	0.15	0.21	0.21
Queue Length 95th (m)	3.4	3.8	0.0	0.0	3.9	0.0	0.0
Control Delay (s)	22.2	14.1	0.0	0.0	12.0	0.0	0.0
Lane LOS	C	B			B		
Approach Delay (s)	16.7		0.0		1.3		
Approach LOS	C						
Intersection Summary							
Average Delay			1.3				
Intersection Capacity Utilization			47.3%	ICU Level of Service	A		
Analysis Period (min)			15				

Lanes, Volumes, Timings
12: McLaughlin Road & Street E

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	0	52	172	0	27	74	982	239	34	725	65
Future Volume (vph)	42	0	52	172	0	27	74	982	239	34	725	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	25.0		0.0	50.0		0.0	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	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.850			0.850			0.971			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	1601	0	1789	1601	0	1789	3475	0	1789	3536	0
Flt Permitted	0.738			0.720			0.285			0.144		
Satd. Flow (perm)	1390	1601	0	1356	1601	0	537	3475	0	271	3536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		219			121			50			16	
Link Speed (k/h)		48			48			80			80	
Link Distance (m)		204.8			1359.2			391.4			276.3	
Travel Time (s)		15.4			101.9			17.6			12.4	
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)	46	0	57	187	0	29	80	1067	260	37	788	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	57	0	187	29	0	80	1327	0	37	859	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			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
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)	39.0	39.0		39.0	39.0		81.0	81.0		81.0	81.0	
Total Split (%)	32.5%	32.5%		32.5%	32.5%		67.5%	67.5%		67.5%	67.5%	
Maximum Green (s)	35.0	35.0		35.0	35.0		77.0	77.0		77.0	77.0	
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	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag 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)	35.0	35.0		35.0	35.0		77.0	77.0		77.0	77.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.64	0.64		0.64	0.64	
v/c Ratio	0.11	0.09		0.47	0.05		0.23	0.59		0.21	0.38	

Lanes, Volumes, Timings
12: McLaughlin Road & Street E

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	32.2	0.3		14.9	0.6		11.2	13.2		18.8	16.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	32.2	0.3		14.9	0.6		11.2	13.2		18.8	16.9	
LOS	C	A		B	A		B	B		B	B	
Approach Delay		14.6			13.0			13.1			17.0	
Approach LOS		B			B			B			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:	45
Control Type:	Pretimed
Maximum v/c Ratio:	0.59
Intersection Signal Delay:	14.5
Intersection LOS:	B
Intersection Capacity Utilization	64.3%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 12: McLaughlin Road & Street E

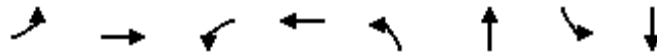
Ø2 (R)	Ø4
81 s	39 s
Ø6 (R)	Ø8
81 s	39 s

Queues

Future Total 2038 - With GTA West Highway & Improvements

12: McLaughlin Road & Street E

AM Peak Hour

























Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	57	187	29	80	1327	37	859
v/c Ratio	0.11	0.09	0.47	0.05	0.23	0.59	0.21	0.38
Control Delay	32.2	0.3	14.9	0.6	11.2	13.2	18.8	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.2	0.3	14.9	0.6	11.2	13.2	18.8	16.9
Queue Length 50th (m)	7.9	0.0	27.2	0.0	7.4	84.3	4.7	60.8
Queue Length 95th (m)	17.2	0.0	m22.3	m0.0	15.5	103.1	m6.8	m76.4
Internal Link Dist (m)		180.8		1335.2		367.4		252.3
Turn Bay Length (m)	25.0		25.0		50.0		50.0	
Base Capacity (vph)	405	622	395	552	344	2247	173	2274
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	0.11	0.09	0.47	0.05	0.23	0.59	0.21	0.38

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis 2038 - With GTA West Highway & Improvements
 12: McLaughlin Road & Street E AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								 			 	
Traffic Volume (vph)	42	0	52	172	0	27	74	982	239	34	725	65
Future Volume (vph)	42	0	52	172	0	27	74	982	239	34	725	65
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		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	0.85		1.00	0.85		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	1601		1789	1601		1789	3473		1789	3534	
Flt Permitted	0.74	1.00		0.72	1.00		0.28	1.00		0.14	1.00	
Satd. Flow (perm)	1391	1601		1356	1601		537	3473		272	3534	
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)	46	0	57	187	0	29	80	1067	260	37	788	71
RTOR Reduction (vph)	0	40	0	0	21	0	0	18	0	0	6	0
Lane Group Flow (vph)	46	17	0	187	8	0	80	1309	0	37	853	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)	35.0	35.0		35.0	35.0		77.0	77.0		77.0	77.0	
Effective Green, g (s)	35.0	35.0		35.0	35.0		77.0	77.0		77.0	77.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.64	0.64		0.64	0.64	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	405	466		395	466		344	2228		174	2267	
v/s Ratio Prot		0.01			0.01			c0.38			0.24	
v/s Ratio Perm	0.03			c0.14			0.15			0.14		
v/c Ratio	0.11	0.04		0.47	0.02		0.23	0.59		0.21	0.38	
Uniform Delay, d1	31.1	30.4		34.9	30.3		9.1	12.4		8.9	10.2	
Progression Factor	1.00	1.00		0.41	1.00		1.00	1.00		1.71	1.65	
Incremental Delay, d2	0.6	0.1		0.4	0.0		1.6	1.1		1.8	0.3	
Delay (s)	31.7	30.6		14.6	30.3		10.6	13.5		17.1	17.1	
Level of Service	C	C		B	C		B	B		B	B	
Approach Delay (s)		31.1			16.7			13.3			17.1	
Approach LOS		C			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			15.6								HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			120.0								Sum of lost time (s)	8.0
Intersection Capacity Utilization			64.3%								ICU Level of Service	C
Analysis Period (min)			15									
c Critical Lane Group												

Lanes, Volumes, Timings
13: Hurontario Street & Street E

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	273	512	4626	2636	23
Future Volume (vph)	22	273	512	4626	2636	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	0.0	75.0			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		0.060			
Satd. Flow (perm)	1789	1601	113	5142	5137	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		297			2	
Link Speed (k/h)	48			70	70	
Link Distance (m)	1359.2			928.0	640.1	
Travel Time (s)	101.9			47.7	32.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	297	557	5028	2865	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	297	557	5028	2890	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)	24	14	24			14
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Minimum Split (s)	20.0	20.0	8.0	20.0	20.0	
Total Split (s)	20.0	20.0	33.0	100.0	67.0	
Total Split (%)	16.7%	16.7%	27.5%	83.3%	55.8%	
Maximum Green (s)	16.0	16.0	29.0	96.0	63.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	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	
Lead-Lag Optimize?			Yes		Yes	
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	96.0	96.0	63.0	
Actuated g/C Ratio	0.13	0.13	0.80	0.80	0.52	
v/c Ratio	0.10	0.63	1.13	1.22	1.07	

Lanes, Volumes, Timings
 13: Hurontario Street & Street E

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Control Delay	57.0	30.4	114.3	119.4	67.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	57.0	30.4	114.3	119.4	67.6	
LOS	E	C	F	F	E	
Approach Delay	32.4			118.9	67.6	
Approach LOS	C			F	E	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle:	150
Control Type:	Pretimed
Maximum v/c Ratio:	1.22
Intersection Signal Delay:	98.9
Intersection LOS:	F
Intersection Capacity Utilization	99.4%
ICU Level of Service	F
Analysis Period (min)	15

Splits and Phases: 13: Hurontario Street & Street E





Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	24	297	557	5028	2890
v/c Ratio	0.10	0.63	1.13	1.22	1.07
Control Delay	57.0	30.4	114.3	119.4	67.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	30.4	114.3	119.4	67.6
Queue Length 50th (m)	6.0	25.6	~136.1	~533.2	~269.0
Queue Length 95th (m)	m11.1	52.0	#203.9	#546.1	m140.9
Internal Link Dist (m)	1335.2			904.0	616.1
Turn Bay Length (m)	25.0		75.0		
Base Capacity (vph)	238	470	495	4113	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	0.10	0.63	1.13	1.22	1.07

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.

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

HCM Signalized Intersection Capacity Analysis 2038 - With GTA West Highway & Improvements
 13: Hurontario Street & Street E AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	22	273	512	4626	2636	23
Future Volume (vph)	22	273	512	4626	2636	23
Ideal Flow (vphpl)	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	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	0.06	1.00	1.00	
Satd. Flow (perm)	1789	1601	112	5142	5135	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	297	557	5028	2865	25
RTOR Reduction (vph)	0	257	0	0	1	0
Lane Group Flow (vph)	24	40	557	5028	2889	0
Turn Type	Prot	Perm	pm+pt	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	16.0	16.0	96.0	96.0	63.0	
Effective Green, g (s)	16.0	16.0	96.0	96.0	63.0	
Actuated g/C Ratio	0.13	0.13	0.80	0.80	0.52	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	238	213	494	4113	2695	
v/s Ratio Prot	0.01		0.27	c0.98	0.56	
v/s Ratio Perm		c0.02	0.63			
v/c Ratio	0.10	0.19	1.13	1.22	1.07	
Uniform Delay, d1	45.7	46.2	40.3	12.0	28.5	
Progression Factor	1.22	4.42	1.00	1.00	1.24	
Incremental Delay, d2	0.7	1.7	80.4	102.5	33.3	
Delay (s)	56.5	205.9	120.7	114.5	68.7	
Level of Service	E	F	F	F	E	
Approach Delay (s)	194.7			115.1	68.7	
Approach LOS	F			F	E	

Intersection Summary			
HCM 2000 Control Delay	102.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	99.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings
14: McLaughlin Road & Street F

Future Total 2038 - With GTA West Highway & Improvements

AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	42	52	74	1253	884	65
Future Volume (vph)	42	52	74	1253	884	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0	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	0.95	0.95	0.95
Frt		0.850			0.990	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1789	1601	1789	3579	3543	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1789	1601	1789	3579	3543	0
Link Speed (k/h)	48			80	80	
Link Distance (m)	171.6			2104.9	391.4	
Travel Time (s)	12.9			94.7	17.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	57	80	1362	961	71
Shared Lane Traffic (%)						
Lane Group Flow (vph)	46	57	80	1362	1032	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 44.6% ICU Level of Service A



























Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis - With GTA West Highway & Improvements
 14: McLaughlin Road & Street F AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations							
Traffic Volume (veh/h)	42	52	74	1253	884	65	
Future Volume (Veh/h)	42	52	74	1253	884	65	
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)	46	57	80	1362	961	71	
Pedestrians							
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)			391				
pX, platoon unblocked	0.90	0.90	0.90				
vC, conflicting volume	1838	516	1032				
vC1, stage 1 conf vol	996						
vC2, stage 2 conf vol	841						
vCu, unblocked vol	1707	238	812				
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 %	82	92	89				
cM capacity (veh/h)	253	686	729				
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	46	57	80	681	681	641	391
Volume Left	46	0	80	0	0	0	0
Volume Right	0	57	0	0	0	0	71
cSH	253	686	729	1700	1700	1700	1700
Volume to Capacity	0.18	0.08	0.11	0.40	0.40	0.38	0.23
Queue Length 95th (m)	4.9	2.1	2.8	0.0	0.0	0.0	0.0
Control Delay (s)	22.3	10.7	10.5	0.0	0.0	0.0	0.0
Lane LOS	C	B	B				
Approach Delay (s)	15.9	0.6		0.0			
Approach LOS	C						
Intersection Summary							
Average Delay			1.0				
Intersection Capacity Utilization			44.6%	ICU Level of Service	A		
Analysis Period (min)			15				

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 15: Chinguacousy Road & Mayfield Road AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		 	 						 	
Traffic Volume (vph)	32	830	54	407	889	205	80	518	425	91	222	26
Future Volume (vph)	32	830	54	407	889	205	80	518	425	91	222	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		0.0	80.0		0.0	30.0		0.0	0.0		0.0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	0.97	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.972				0.850		0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5096	0	3471	4998	0	1789	1883	1601	1789	1853	0
Flt Permitted	0.225			0.950			0.514			0.242		
Satd. Flow (perm)	424	5096	0	3471	4998	0	968	1883	1601	456	1853	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			60				439			6
Link Speed (k/h)		70			70			80				80
Link Distance (m)		274.5			1419.4			345.5				2383.0
Travel Time (s)		14.1			73.0			15.5				107.2
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)	35	902	59	442	966	223	87	563	462	99	241	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	961	0	442	1189	0	87	563	462	99	269	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)		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												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
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm		NA
Protected Phases		4		3	8			2				6
Permitted Phases	4						2		2	6		
Minimum Split (s)	20.0	20.0		8.0	20.0		20.0	20.0	20.0	20.0		20.0
Total Split (s)	36.0	36.0		25.0	61.0		59.0	59.0	59.0	59.0		59.0
Total Split (%)	30.0%	30.0%		20.8%	50.8%		49.2%	49.2%	49.2%	49.2%		49.2%
Maximum Green (s)	32.0	32.0		21.0	57.0		55.0	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		3.5
All-Red Time (s)	0.5	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	0.0	0.0	0.0		0.0
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	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)	32.0	32.0		21.0	57.0		55.0	55.0	55.0	55.0		55.0
Actuated g/C Ratio	0.27	0.27		0.18	0.48		0.46	0.46	0.46	0.46		0.46
v/c Ratio	0.31	0.70		0.73	0.49		0.20	0.65	0.48	0.47		0.32

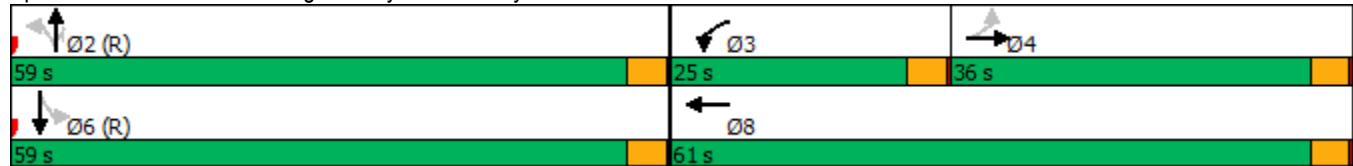
Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 15: Chinguacousy Road & Mayfield Road AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	44.3	42.7		54.7	21.2		20.9	29.6	4.1	32.7	23.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	44.3	42.7		54.7	21.2		20.9	29.6	4.1	32.7	23.5	
LOS	D	D		D	C		C	C	A	C	C	
Approach Delay		42.8			30.3			18.3				25.9
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:	60
Control Type:	Pretimed
Maximum v/c Ratio:	0.73
Intersection Signal Delay:	29.7
Intersection LOS:	C
Intersection Capacity Utilization	74.5%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 15: Chinguacousy Road & Mayfield Road



Queues

Future Total 2038 - With GTA West Highway & Improvements

15: Chinguacousy Road & Mayfield Road

AM Peak Hour
































Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	35	961	442	1189	87	563	462	99	269
v/c Ratio	0.31	0.70	0.73	0.49	0.20	0.65	0.48	0.47	0.32
Control Delay	44.3	42.7	54.7	21.2	20.9	29.6	4.1	32.7	23.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.3	42.7	54.7	21.2	20.9	29.6	4.1	32.7	23.5
Queue Length 50th (m)	6.6	74.3	51.2	64.9	11.9	100.2	2.9	16.7	43.3
Queue Length 95th (m)	16.8	89.8	68.7	77.5	22.8	138.5	21.0	m26.0	m57.8
Internal Link Dist (m)		250.5		1395.4		321.5			2359.0
Turn Bay Length (m)	120.0		80.0		30.0				
Base Capacity (vph)	113	1364	607	2405	443	863	971	209	852
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.70	0.73	0.49	0.20	0.65	0.48	0.47	0.32

Intersection Summary

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

HCM Signalized Intersection Capacity Analysis 2038 - With GTA West Highway & Improvements
 15: Chinguacousy Road & Mayfield Road AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	  				 		 	
Traffic Volume (vph)	32	830	54	407	889	205	80	518	425	91	222	26
Future Volume (vph)	32	830	54	407	889	205	80	518	425	91	222	26
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	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91		0.97	0.91		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5094		3471	4997		1789	1883	1601	1789	1854	
Flt Permitted	0.23	1.00		0.95	1.00		0.51	1.00	1.00	0.24	1.00	
Satd. Flow (perm)	424	5094		3471	4997		967	1883	1601	456	1854	
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)	35	902	59	442	966	223	87	563	462	99	241	28
RTOR Reduction (vph)	0	6	0	0	32	0	0	0	238	0	3	0
Lane Group Flow (vph)	35	955	0	442	1158	0	87	563	224	99	266	0
Turn Type	Perm	NA		Prot	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4		3	8			2			6	
Permitted Phases	4						2		2	6		
Actuated Green, G (s)	32.0	32.0		21.0	57.0		55.0	55.0	55.0	55.0	55.0	
Effective Green, g (s)	32.0	32.0		21.0	57.0		55.0	55.0	55.0	55.0	55.0	
Actuated g/C Ratio	0.27	0.27		0.18	0.48		0.46	0.46	0.46	0.46	0.46	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	113	1358		607	2373		443	863	733	209	849	
v/s Ratio Prot		c0.19		c0.13	0.23			c0.30			0.14	
v/s Ratio Perm	0.08						0.09		0.14	0.22		
v/c Ratio	0.31	0.70		0.73	0.49		0.20	0.65	0.31	0.47	0.31	
Uniform Delay, d1	35.2	39.7		46.8	21.5		19.3	25.1	20.5	22.5	20.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.09	1.11	
Incremental Delay, d2	7.0	3.1		7.5	0.7		1.0	3.8	1.1	6.0	0.8	
Delay (s)	42.2	42.8		54.3	22.2		20.3	28.9	21.6	30.6	23.6	
Level of Service	D	D		D	C		C	C	C	C	C	
Approach Delay (s)		42.8			30.9			25.2			25.5	
Approach LOS		D			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			31.8			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.68									
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

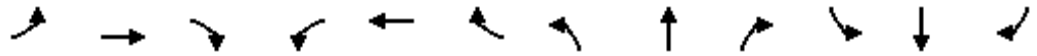
Future Total 2038 - With GTA West Highway & Improvements

16: McLaughlin Road & Mayfield Road

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑	↗	↘	↑↑↑		↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	211	1179	80	256	1310	361	149	762	213	204	403	196
Future Volume (vph)	211	1179	80	256	1310	361	149	762	213	204	403	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		60.0	120.0		0.0	50.0		25.0	30.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	0.91	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.968				0.850		0.951	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5142	1601	1789	4977	0	1789	3579	1601	1789	3403	0
Flt Permitted	0.091			0.083			0.248			0.097		
Satd. Flow (perm)	171	5142	1601	156	4977	0	467	3579	1601	183	3403	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			104		58				104		63	
Link Speed (k/h)		70			70			80			80	
Link Distance (m)		1419.4			1405.8			341.6			2104.9	
Travel Time (s)		73.0			72.3			15.4			94.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	229	1282	87	278	1424	392	162	828	232	222	438	213
Shared Lane Traffic (%)												
Lane Group Flow (vph)	229	1282	87	278	1816	0	162	828	232	222	651	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)		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												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
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0		8.0	20.0	20.0	8.0	20.0	
Total Split (s)	20.0	48.0	48.0	26.0	54.0		16.0	43.0	43.0	19.0	46.0	
Total Split (%)	14.7%	35.3%	35.3%	19.1%	39.7%		11.8%	31.6%	31.6%	14.0%	33.8%	
Maximum Green (s)	16.0	44.0	44.0	22.0	50.0		12.0	39.0	39.0	15.0	42.0	
Yellow Time (s)	3.5	3.5	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	0.5	0.5	
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	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	
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	
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)	60.0	44.0	44.0	70.0	50.0		51.0	39.0	39.0	57.0	42.0	
Actuated g/C Ratio	0.44	0.32	0.32	0.51	0.37		0.38	0.29	0.29	0.42	0.31	
v/c Ratio	0.86	0.77	0.15	0.81	0.97		0.56	0.81	0.44	0.88	0.60	

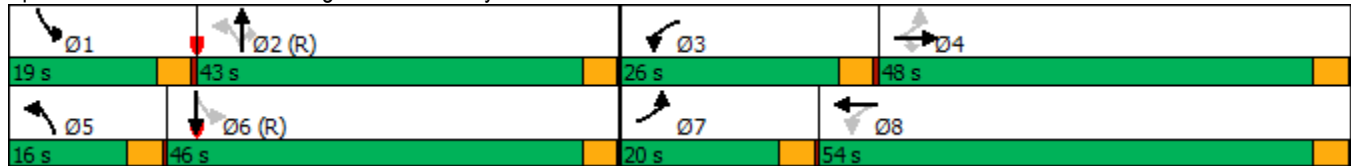


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	65.5	45.3	4.4	53.8	56.4		32.8	52.2	24.0	66.4	38.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	65.5	45.3	4.4	53.8	56.4		32.8	52.2	24.0	66.4	38.3	
LOS	E	D	A	D	E		C	D	C	E	D	
Approach Delay		45.9			56.0			44.3			45.5	
Approach LOS		D			E			D			D	

Intersection Summary

Area Type:	Other
Cycle Length:	136
Actuated Cycle Length:	136
Offset:	120 (88%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Pretimed
Maximum v/c Ratio:	0.97
Intersection Signal Delay:	49.2
Intersection LOS:	D
Intersection Capacity Utilization	90.8%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 16: McLaughlin Road & Mayfield Road

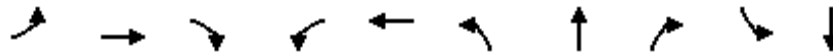


Queues

Future Total 2038 - With GTA West Highway & Improvements

16: McLaughlin Road & Mayfield Road

AM Peak Hour
































Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	229	1282	87	278	1816	162	828	232	222	651
v/c Ratio	0.86	0.77	0.15	0.81	0.97	0.56	0.81	0.44	0.88	0.60
Control Delay	65.5	45.3	4.4	53.8	56.4	32.8	52.2	24.0	66.4	38.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.5	45.3	4.4	53.8	56.4	32.8	52.2	24.0	66.4	38.3
Queue Length 50th (m)	45.0	113.5	0.0	56.4	170.9	27.1	108.8	27.2	43.1	70.5
Queue Length 95th (m)	#89.5	131.3	8.4	#98.7	#205.9	42.8	133.6	51.7	#88.0	90.3
Internal Link Dist (m)		1395.4			1381.8		317.6			2080.9
Turn Bay Length (m)	30.0		60.0	120.0		50.0		25.0	30.0	
Base Capacity (vph)	265	1663	588	344	1866	291	1026	533	253	1094
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	0.77	0.15	0.81	0.97	0.56	0.81	0.44	0.88	0.60

Intersection Summary
































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

HCM Signalized Intersection Capacity Analysis 2038 - With GTA West Highway & Improvements
 16: McLaughlin Road & Mayfield Road AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (vph)	211	1179	80	256	1310	361	149	762	213	204	403	196
Future Volume (vph)	211	1179	80	256	1310	361	149	762	213	204	403	196
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	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91		1.00	0.95	1.00	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1789	5142	1601	1789	4975		1789	3579	1601	1789	3403	
Flt Permitted	0.09	1.00	1.00	0.08	1.00		0.25	1.00	1.00	0.10	1.00	
Satd. Flow (perm)	171	5142	1601	157	4975		467	3579	1601	183	3403	
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)	229	1282	87	278	1424	392	162	828	232	222	438	213
RTOR Reduction (vph)	0	0	59	0	37	0	0	0	74	0	44	0
Lane Group Flow (vph)	229	1282	28	278	1779	0	162	828	158	222	607	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	60.0	44.0	44.0	70.0	50.0		51.0	39.0	39.0	57.0	42.0	
Effective Green, g (s)	60.0	44.0	44.0	70.0	50.0		51.0	39.0	39.0	57.0	42.0	
Actuated g/C Ratio	0.44	0.32	0.32	0.51	0.37		0.38	0.29	0.29	0.42	0.31	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	265	1663	517	344	1829		291	1026	459	253	1050	
v/s Ratio Prot	0.10	0.25		c0.13	c0.36		0.05	0.23		c0.10	0.18	
v/s Ratio Perm	0.28		0.02	0.28			0.16		0.10	c0.27		
v/c Ratio	0.86	0.77	0.05	0.81	0.97		0.56	0.81	0.34	0.88	0.58	
Uniform Delay, d1	38.2	41.5	31.7	38.2	42.3		30.3	45.0	38.4	36.1	39.6	
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	29.2	3.5	0.2	18.2	15.5		7.5	6.8	2.0	32.2	2.3	
Delay (s)	67.4	45.0	31.9	56.4	57.9		37.8	51.8	40.4	68.2	41.9	
Level of Service	E	D	C	E	E		D	D	D	E	D	
Approach Delay (s)		47.5			57.7			47.8			48.6	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	51.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	90.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 17: Hurontario Street & Mayfield Road AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  			  				
Traffic Volume (vph)	537	832	150	320	1288	178	439	990	53	227	1041	794
Future Volume (vph)	537	832	150	320	1288	178	439	990	53	227	1041	794
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	120.0		165.0	60.0		0.0	130.0		150.0	165.0		165.0
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3471	5142	1601	3471	5142	1601	1789	5142	1601	1789	3579	1601
Flt Permitted	0.950			0.950			0.091			0.138		
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	171	5142	1601	260	3579	1601
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			163			150			77			278
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		1405.8			749.9			381.1			609.4	
Travel Time (s)		72.3			38.6			19.6			31.3	
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)	584	904	163	348	1400	193	477	1076	58	247	1132	863
Shared Lane Traffic (%)												
Lane Group Flow (vph)	584	904	163	348	1400	193	477	1076	58	247	1132	863
Enter Blocked Intersection	No	No	No	No	No	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	Prot	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			8	2		2	6		6
Minimum Split (s)	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	21.0	34.0	34.0	20.0	33.0	33.0	25.0	48.0	48.0	26.0	49.0	49.0
Total Split (%)	16.4%	26.6%	26.6%	15.6%	25.8%	25.8%	19.5%	37.5%	37.5%	20.3%	38.3%	38.3%
Maximum Green (s)	17.0	30.0	30.0	16.0	29.0	29.0	21.0	44.0	44.0	22.0	45.0	45.0
Yellow Time (s)	3.5	3.5	3.5	3.5	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	0.5	0.5	0.5	0.5
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	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
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
Act Effct Green (s)	17.0	30.0	30.0	16.0	29.0	29.0	65.0	44.0	44.0	67.0	45.0	45.0
Actuated g/C Ratio	0.13	0.23	0.23	0.12	0.23	0.23	0.51	0.34	0.34	0.52	0.35	0.35
v/c Ratio	1.27	0.75	0.33	0.80	1.20	0.40	1.36	0.61	0.10	0.62	0.90	1.16

Lanes, Volumes, Timings Future Total 2038 - With GTA West Highway & Improvements
 17: Hurontario Street & Mayfield Road AM Peak Hour

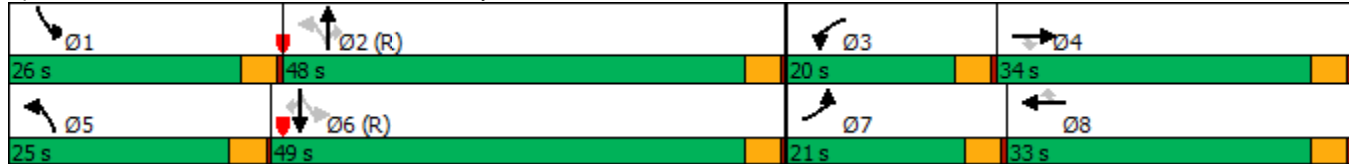


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	182.0	50.1	7.7	69.3	142.2	13.9	209.8	36.6	3.7	27.7	50.2	113.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	182.0	50.1	7.7	69.3	142.2	13.9	209.8	36.6	3.7	27.7	50.2	113.6
LOS	F	D	A	E	F	B	F	D	A	C	D	F
Approach Delay	92.6			116.4			86.7			72.1		
Approach LOS	F			F			F			E		

Intersection Summary

Area Type:	Other
Cycle Length:	128
Actuated Cycle Length:	128
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	110
Control Type:	Pretimed
Maximum v/c Ratio:	1.36
Intersection Signal Delay:	91.4
Intersection LOS:	F
Intersection Capacity Utilization	108.4%
ICU Level of Service	G
Analysis Period (min)	15

Splits and Phases: 17: Hurontario Street & Mayfield Road

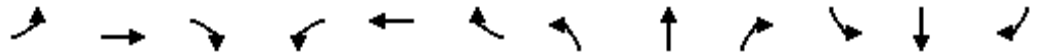


Queues

Future Total 2038 - With GTA West Highway & Improvements

17: Hurontario Street & Mayfield Road

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	584	904	163	348	1400	193	477	1076	58	247	1132	863
v/c Ratio	1.27	0.75	0.33	0.80	1.20	0.40	1.36	0.61	0.10	0.62	0.90	1.16
Control Delay	182.0	50.1	7.7	69.3	142.2	13.9	209.8	36.6	3.7	27.7	50.2	113.6
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	182.0	50.1	7.7	69.3	142.2	13.9	209.8	36.6	3.7	27.7	50.2	113.6
Queue Length 50th (m)	~95.4	78.0	0.0	44.5	~156.8	8.7	~142.7	82.0	0.0	31.8	141.6	~209.7
Queue Length 95th (m)	#131.0	93.8	17.2	#65.6	#186.1	29.4	#208.7	97.0	5.9	60.0	#180.2	#286.3
Internal Link Dist (m)	1381.8			725.9			357.1			585.4		
Turn Bay Length (m)	120.0		165.0	60.0			130.0		150.0	165.0		165.0
Base Capacity (vph)	460	1205	500	433	1164	478	352	1767	600	398	1258	743
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	0.75	0.33	0.80	1.20	0.40	1.36	0.61	0.10	0.62	0.90	1.16

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.

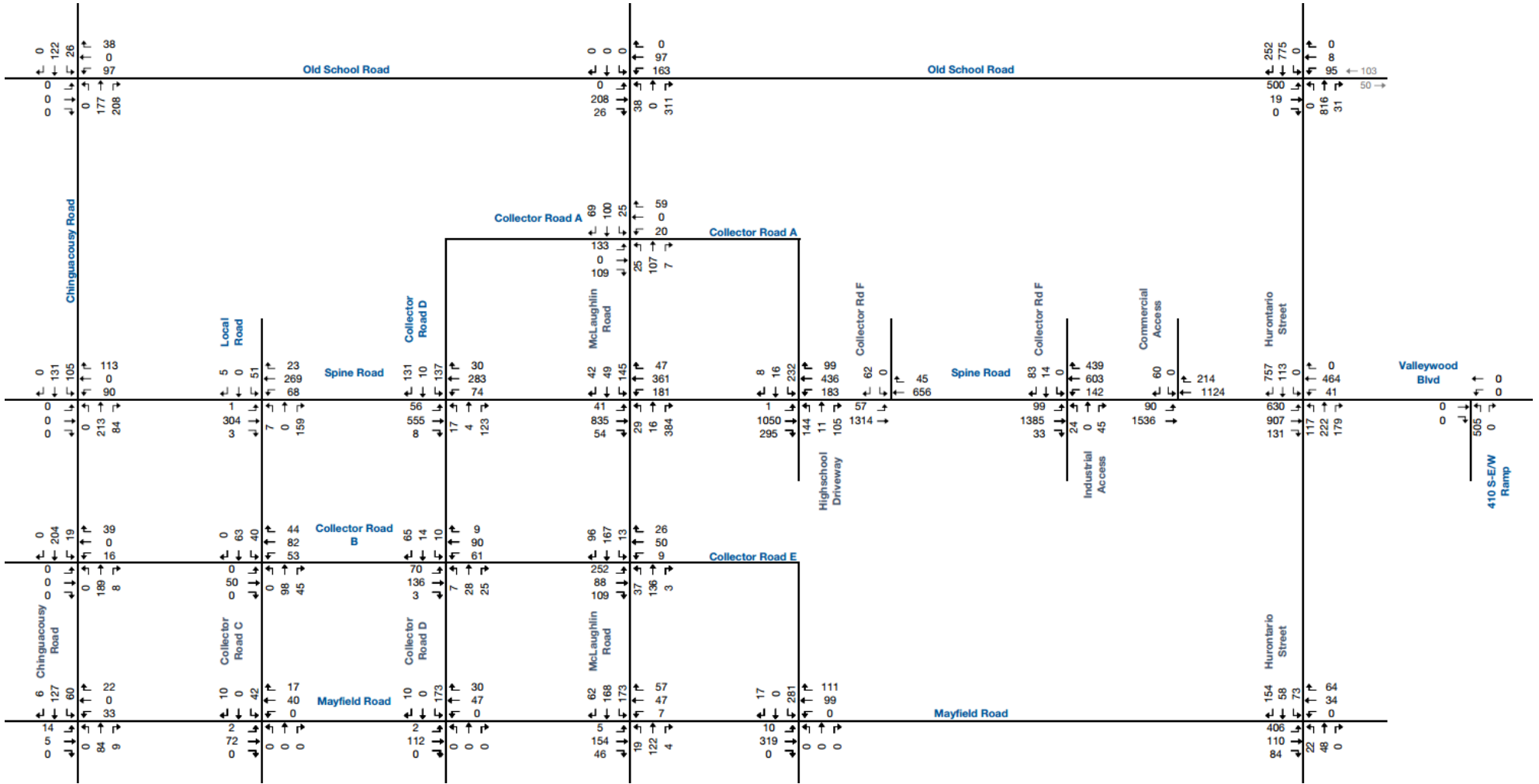
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis 2038 - With GTA West Highway & Improvements
 17: Hurontario Street & Mayfield Road AM Peak Hour

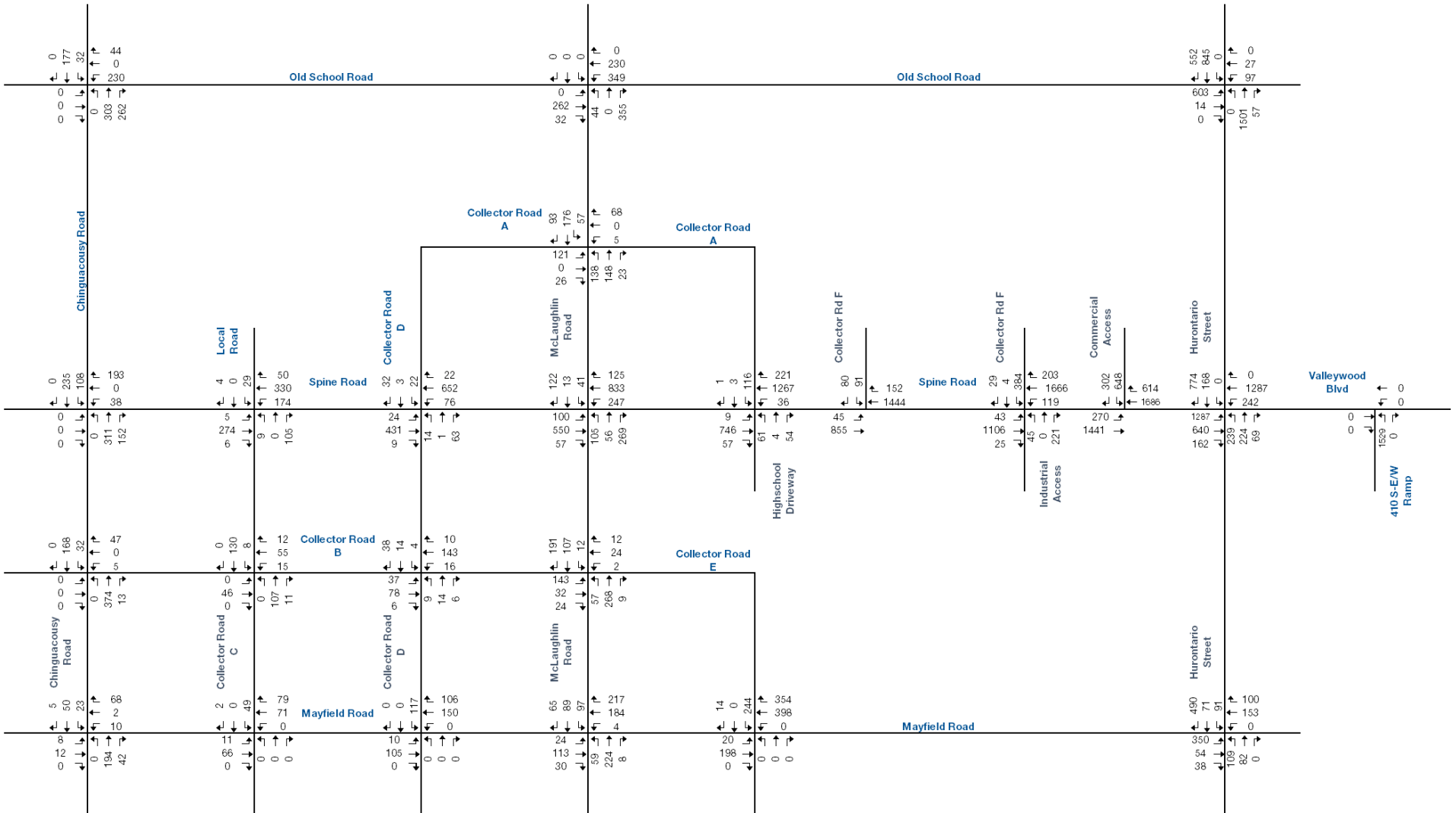
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  			  			 	
Traffic Volume (vph)	537	832	150	320	1288	178	439	990	53	227	1041	794
Future Volume (vph)	537	832	150	320	1288	178	439	990	53	227	1041	794
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	1.00	0.91	1.00	1.00	0.95	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)	3471	5142	1601	3471	5142	1601	1789	5142	1601	1789	3579	1601
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.09	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)	3471	5142	1601	3471	5142	1601	171	5142	1601	259	3579	1601
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)	584	904	163	348	1400	193	477	1076	58	247	1132	863
RTOR Reduction (vph)	0	0	125	0	0	116	0	0	38	0	0	180
Lane Group Flow (vph)	584	904	38	348	1400	77	477	1076	20	247	1132	683
Turn Type	Prot	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			8	2		2	6		6
Actuated Green, G (s)	17.0	30.0	30.0	16.0	29.0	29.0	65.0	44.0	44.0	67.0	45.0	45.0
Effective Green, g (s)	17.0	30.0	30.0	16.0	29.0	29.0	65.0	44.0	44.0	67.0	45.0	45.0
Actuated g/C Ratio	0.13	0.23	0.23	0.12	0.23	0.23	0.51	0.34	0.34	0.52	0.35	0.35
Clearance Time (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
Lane Grp Cap (vph)	460	1205	375	433	1164	362	352	1767	550	398	1258	562
v/s Ratio Prot	c0.17	0.18		0.10	c0.27		c0.22	0.21		0.11	0.32	
v/s Ratio Perm			0.02			0.05	c0.46		0.01	0.22		0.43
v/c Ratio	1.27	0.75	0.10	0.80	1.20	0.21	1.36	0.61	0.04	0.62	0.90	1.21
Uniform Delay, d1	55.5	45.5	38.4	54.5	49.5	40.2	40.5	34.9	27.9	20.3	39.4	41.5
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	137.6	4.3	0.5	14.6	99.6	1.3	177.4	1.6	0.1	7.1	10.4	112.3
Delay (s)	193.1	49.8	39.0	69.1	149.1	41.6	217.9	36.4	28.0	27.4	49.8	153.8
Level of Service	F	D	D	E	F	D	F	D	C	C	D	F
Approach Delay (s)		99.4			124.1			89.9			87.4	
Approach LOS		F			F			F			F	
Intersection Summary												
HCM 2000 Control Delay			100.2			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.29									
Actuated Cycle Length (s)			128.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			108.4%			ICU Level of Service			G			
Analysis Period (min)			15									
c Critical Lane Group												

Appendix C

Background Developments



Site Trip Assignment – AM Peak Hour



Site Trip Assignment – PM Peak Hour



FIGURE 16 SITE TRAFFIC VOLUMES WITH THE GTA WEST HIGHWAY

Appendix D

Transportation Tomorrow Survey 2016

AM Inbound
Wed Jun 29 2022 10:49:26 GMT-0400 (Eastern Daylight Time) - Run Time: 2915ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of origin - pd_orig
Column: 2008 GTA zone of destination - gta08_dest

RowG:
ColG:(2007,3381,3384,3458,3465)
TabG:

Filter:
Start time of trip - start_time In 600-900

Trip 2016
Table:

	410	W Old Sch	E Old Scho	N McLaughl	N Hurontar	S Hurontar	S Chinguac	S McLaughl	410 Trips	W Old Sch	E Old Scho	N McLaughl	N Hurontar	S Hurontar	S Chinguac	S McLaughl	Trips
PD 1 of Toronto	0.666667	0.333333							0	0	0	0	0	0	0	0	0
PD 2 of Toronto	0.666667	0.333333							14.66667	7.333333	0	0	0	0	0	0	0
PD 3 of Toronto	0.666667	0.333333							70.66667	35.33333	0	0	0	0	0	0	0
PD 4 of Toronto	0.666667	0.333333							0	0	0	0	0	0	0	0	0
PD 5 of Toronto	1								0	0	0	0	0	0	0	0	0
PD 7 of Toronto	1								0	0	0	0	0	0	0	0	0
PD 8 of Toronto	30	1							30	0	0	0	0	0	0	0	0
PD 9 of Toronto	42	0.666667	0.333333						28	14	0	0	0	0	0	0	0
PD 10 of Toronto	0.666667	0.333333							0	0	0	0	0	0	0	0	0
PD 11 of Toronto	1								0	0	0	0	0	0	0	0	0
PD 15 of Toronto	1								0	0	0	0	0	0	0	0	0
PD 16 of Toronto	1								0	0	0	0	0	0	0	0	0
Newmarket	1								0	0	0	0	0	0	0	0	0
Aurora	0.5		0.5						0	0	0	0	0	0	0	0	0
Richmond Hill	1								0	0	0	0	0	0	0	0	0
Markham	1								0	0	0	0	0	0	0	0	0
King	0.5		0.5						0	0	0	0	0	0	0	0	0
Vaughan	12	1							12	0	0	0	0	0	0	0	0
Caledon	321			0.5	0.5				0	0	160.5	160.5	0	0	0	0	0
Brampton	1438	0.25				0.25	0.25	0.25	358.5	0	0	0	0	359.5	359.5	359.5	0
Mississauga	98	1							98	0	0	0	0	0	0	0	0
Haltim Hills	16		0.5		0.5				0	8	0	8	0	0	0	0	0
Milton	25	0.5	0.5						12.5	12.5	0	0	0	0	0	0	0
Oakville	26	1							13	13	0	0	0	0	0	0	0
Quincy	1								0	0	0	0	0	0	0	0	0
Hamilton	1								0	0	0	0	0	0	0	0	0
Kitchener	0.5		0.5						0	0	0	0	0	0	0	0	0
Cambridge	0.5	0.5							0	0	0	0	0	0	0	0	0
City of Guelph				0.5	0.5				0	0	0	0	0	0	0	0	0
Georgetown				0.5	0.5				0	0	0	0	0	0	0	0	0
Essex				0.5	0.5				0	0	0	0	0	0	0	0	0
Orangeville	25				1				0	0	0	25	0	0	0	0	0
Barré	0.5		0.5						0	0	0	0	0	0	0	0	0
Phileborough	1								0	0	0	0	0	0	0	0	0
Manor			0.5		0.5				0	0	0	0	0	0	0	0	0
Bradford-West	23	0.5		0.5					11.5	0	11.5	0	0	0	0	0	0
Markoka	1								0	0	0	0	0	0	0	0	0
Ottawa	0.5		0.5						0	0	0	0	0	0	0	0	0
Total	2184								649.8333	90.16667	11.5	168.5	185.5	359.5	359.5	359.5	
									30%	4%	1%	8%	8%	16%	16%	16%	

AM Outbound
Wed Jun 29 2022 10:51:29 GMT-0400 (Eastern Daylight Time) - Run Time: 2897ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of destination - pd_dest
Column: 2008 GTA zone of origin - gta08_orig

RowG:
ColG:(2007,3381,3384,3458,3465)
TabG:

Filter:
Start time of trip - start_time In 600-900

Trip 2016
Table:

	410	W Old Sch	E Old Scho	N McLaughl	N Hurontar	S Hurontar	S Chinguac	S McLaughl	410 Trips	W Old Sch	E Old Scho	N McLaughl	N Hurontar	S Hurontar	S Chinguac	S McLaughl	Trips
PD 1 of Toronto	0.666667	0.333333							0	0	0	0	0	0	0	0	0
PD 2 of Toronto	0.666667	0.333333							15.33333	7.66667	0	0	0	0	0	0	0
PD 3 of Toronto	0.666667	0.333333							26.66667	13.33333	0	0	0	0	0	0	0
PD 4 of Toronto	0.666667	0.333333							17.33333	8.66667	0	0	0	0	0	0	0
PD 5 of Toronto	1								0	0	0	0	0	0	0	0	0
PD 7 of Toronto	58	1							58	0	0	0	0	0	0	0	0
PD 8 of Toronto	99	1							99	0	0	0	0	0	0	0	0
PD 9 of Toronto	91	0.666667	0.333333						60.66667	30.33333	0	0	0	0	0	0	0
PD 10 of Toronto	70	0.666667	0.333333						46.66667	23.33333	0	0	0	0	0	0	0
PD 11 of Toronto	39	1							39	0	0	0	0	0	0	0	0
PD 15 of Toronto	10	1							10	0	0	0	0	0	0	0	0
PD 16 of Toronto	15	1							15	0	0	0	0	0	0	0	0
Newmarket	8	1							8	0	0	0	0	0	0	0	0
Aurora	0.5		0.5						0	0	0	0	0	0	0	0	0
Richmond Hill	13	1							13	0	0	0	0	0	0	0	0
Markham	48	1							48	0	0	0	0	0	0	0	0
King	10	0.5		0.5					5	0	5	0	0	0	0	0	0
Vaughan	142	1							142	0	0	0	0	0	0	0	0
Caledon	567				0.5	0.5			0	0	283.5	283.5	0	0	0	0	0
Brampton	4073	0.25				0.25	0.25	0.25	1018.25	0	0	0	0	1018.25	1018.25	1018.25	0
Mississauga	1542	1							1542	0	0	0	0	0	0	0	0
Haltim Hills	69		0.5		0.5				0	34.5	0	34.5	0	0	0	0	0
Milton	31	0.5	0.5						15.5	15.5	0	0	0	0	0	0	0
Oakville	48	0.5	0.5						24	24	0	0	0	0	0	0	0
Quincy	13	1							13	0	0	0	0	0	0	0	0
Hamilton	42	1							42	0	0	0	0	0	0	0	0
Kitchener	59	0.5		0.5					29.5	0	0	29.5	0	0	0	0	0
Cambridge	17	0.5	0.5						8.5	8.5	0	0	0	0	0	0	0
City of Guelph	84				0.5	0.5			0	0	0	42	42	0	0	0	0
Georgetown	14				0.5	0.5			0	0	0	7	7	0	0	0	0
Essex					0.5	0.5			0	0	0	0	0	0	0	0	0
Orangeville	22					1			0	0	0	0	22	0	0	0	0
Barré	0.5		0.5						0	0	0	0	0	0	0	0	0
Phileborough	13	1							13	0	0	0	0	0	0	0	0
Manor	12			0.5		0.5			0	0	6	0	6	0	0	0	0
Bradford-West	23	0.5		0.5					0	0	0	0	0	0	0	0	0
Markoka	1								0	0	0	0	0	0	0	0	0
Ottawa	0.5		0.5						0	0	0	0	0	0	0	0	0
Total	7630								3530.75	276.5	11	396.5	360.5	1018.25	1018.25	1018.25	
									46%	4%	0%	5%	5%	13%	13%	13%	

Calculated Data

		410	W Old Sch	E Old Scho	N McLaughl	N Hurontar	S Hurontar	S Chinguac	S McLaughl	
AM	Inbound	30%	4%	1%	8%	8%	16%	16%	16%	100%
	Outbound	46%	4%	0%	5%	5%	13%	13%	13%	100%
PM	Inbound	47%	4%	0%	4%	4%	14%	14%	14%	100%
	Outbound	34%	4%	1%	5%	6%	16%	16%	16%	100%

TOTAL (Adjusted)

		410	W Old Sch	E Old Scho	N McLaughl	N Hurontar	S Hurontar	S Chinguac	S McLaughl	
AM	Inbound	30%	4%	1%	8%	10%	15%	16%	16%	100%
	Outbound	45%	4%	0%	5%	5%	15%	13%	13%	100%
PM	Inbound	45%	4%	0%	4%	4%	15%	14%	14%	100%
	Outbound	35%	5%	1%	5%	6%	16%	16%	16%	100%

AM Inbound
Wed Jun 29 2022 10:49:26 GMT-0400 (Eastern Daylight Time) - Run Time: 2915ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of origin - pd_orig
Column: 2008 GTA zone of destination - gta08_dest

RowG:
ColG:(2007,3381,3384,3458,3465)
TabG:

Filter:
Start time of trip - start_time In 600-900

Trip 2016
Table:

	410	W Old Sch	E Old Scho	N McLaugh	N Huronta	S Hurontar	S Chinguac	S McLaugh	410 Trips	W Old Sch	E Old Scho	N McLaugh	N Huronta	S Hurontar	S Chinguac	S McLaughlin	Trips
PD 1 of Toronto	0.66667	0.33333							0	0	0	0	0	0	0	0	0
PD 2 of Toronto	0.66667	0.33333							14.66667	7.33333	0	0	0	0	0	0	0
PD 3 of Toronto	0.66667	0.33333							70.66667	35.33333	0	0	0	0	0	0	0
PD 4 of Toronto	0.66667	0.33333							0	0	0	0	0	0	0	0	0
PD 5 of Toronto	1								0	0	0	0	0	0	0	0	0
PD 7 of Toronto	1								0	0	0	0	0	0	0	0	0
PD 8 of Toronto	30	1							30	0	0	0	0	0	0	0	0
PD 9 of Toronto	42	0.66667	0.33333						28	14	0	0	0	0	0	0	0
PD 10 of Toronto	0.66667	0.33333							0	0	0	0	0	0	0	0	0
PD 11 of Toronto	1								0	0	0	0	0	0	0	0	0
PD 15 of Toronto	1								0	0	0	0	0	0	0	0	0
PD 16 of Toronto	1								0	0	0	0	0	0	0	0	0
Newmarket	1								0	0	0	0	0	0	0	0	0
Aurora	0.5		0.5						0	0	0	0	0	0	0	0	0
Richmond Hill	1								0	0	0	0	0	0	0	0	0
Markham	1								0	0	0	0	0	0	0	0	0
King	0.5		0.5						0	0	0	0	0	0	0	0	0
Vaughan	12	1							12	0	0	0	0	0	0	0	0
Caledon	321			0.5	0.5				0	0	160.5	160.5	0	0	0	0	0
Brampton	1436	0.25							359.5	0	0	0	0	359.5	359.5	359.5	0
Mississauga	98	1							98	0	0	0	0	0	0	0	0
Halton Hills	16		0.5		0.5				0	8	0	8	0	0	0	0	0
Milton	25	0.5	0.5						12.5	12.5	0	0	0	0	0	0	0
Oakville	26	0.5	0.5						13	13	0	0	0	0	0	0	0
Dundas	1								0	0	0	0	0	0	0	0	0
Hamilton	1								0	0	0	0	0	0	0	0	0
Kitchener	0.5		0.5						0	0	0	0	0	0	0	0	0
Cambridge	0.5	0.5							0	0	0	0	0	0	0	0	0
City of Guelph				0.5	0.5				0	0	0	0	0	0	0	0	0
Georgetown				0.5	0.5				0	0	0	0	0	0	0	0	0
Essex				0.5	0.5				0	0	0	0	0	0	0	0	0
Orangeville	25				1				0	0	0	25	0	0	0	0	0
Barré	0.5		0.5						0	0	0	0	0	0	0	0	0
Phileborough	1								0	0	0	0	0	0	0	0	0
Manor				0.5					0	0	0	0	0	0	0	0	0
Bradford-West	23	0.5	0.5		0.5				11.5	0	11.5	0	0	0	0	0	0
Markoka	1								0	0	0	0	0	0	0	0	0
Ottawa	0.5		0.5						0	0	0	0	0	0	0	0	0
Total	2184								649.8333	90.16667	11.5	168.5	185.5	359.5	359.5	359.5	
									30%	4%	1%	8%	8%	16%	16%	16%	

Calculated Data

		410	W Old Sch	E Old Scho	N McLaugh	N Huronta	S Hurontar	S Chinguac	S McLaughlin	
AM	Inbound	30%	4%	1%	8%	8%	16%	16%	16%	100%
	Outbound	46%	4%	0%	5%	5%	13%	13%	13%	100%
PM	Inbound	47%	4%	0%	4%	4%	14%	14%	14%	100%
	Outbound	34%	4%	1%	5%	6%	16%	16%	16%	100%

AM Outbound
Wed Jun 29 2022 10:51:29 GMT-0400 (Eastern Daylight Time) - Run Time: 2697ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of destination - pd_dest
Column: 2008 GTA zone of origin - gta08_orig

RowG:
ColG:(2007,3381,3384,3458,3465)
TabG:

Filter:
Start time of trip - start_time In 600-900

Trip 2016
Table:

	410	W Old Sch	E Old Scho	N McLaugh	N Huronta	S Hurontar	S Chinguac	S McLaugh	410 Trips	W Old Sch	E Old Scho	N McLaugh	N Huronta	S Hurontar	S Chinguac	S McLaughlin	Trips
PD 1 of Toronto	332	0.66667	0.33333						221.3333	110.6667	0	0	0	0	0	0	0
PD 2 of Toronto	23	0.66667	0.33333						15.33333	7.66667	0	0	0	0	0	0	0
PD 3 of Toronto	40	0.66667	0.33333						26.66667	13.33333	0	0	0	0	0	0	0
PD 4 of Toronto	26	0.66667	0.33333						17.33333	8.66667	0	0	0	0	0	0	0
PD 5 of Toronto	1								0	0	0	0	0	0	0	0	0
PD 7 of Toronto	58	1							58	0	0	0	0	0	0	0	0
PD 8 of Toronto	99	1							99	0	0	0	0	0	0	0	0
PD 9 of Toronto	91	0.66667	0.33333						60.66667	30.33333	0	0	0	0	0	0	0
PD 10 of Toronto	70	0.66667	0.33333						46.66667	23.33333	0	0	0	0	0	0	0
PD 11 of Toronto	39	1							39	0	0	0	0	0	0	0	0
PD 15 of Toronto	10	1							10	0	0	0	0	0	0	0	0
PD 16 of Toronto	15	1							15	0	0	0	0	0	0	0	0
Newmarket	8	1							8	0	0	0	0	0	0	0	0
Aurora	0.5		0.5						0	0	0	0	0	0	0	0	0
Richmond Hill	13	1							13	0	0	0	0	0	0	0	0
Markham	48	1							48	0	0	0	0	0	0	0	0
King	10	0.5		0.5					5	0	5	0	0	0	0	0	0
Vaughan	142	1							142	0	0	0	0	0	0	0	0
Caledon	567				0.5	0.5			0	0	283.5	283.5	0	0	0	0	0
Brampton	4073	0.25							1018.25	0	0	0	0	1018.25	1018.25	1018.25	0
Mississauga	1542	1							1542	0	0	0	0	0	0	0	0
Halton Hills	69		0.5		0.5				0	34.5	0	34.5	0	0	0	0	0
Milton	31	0.5	0.5						15.5	15.5	0	0	0	0	0	0	0
Oakville	48	0.5	0.5						24	24	0	0	0	0	0	0	0
Dundas	13	1							13	0	0	0	0	0	0	0	0
Hamilton	42	1							42	0	0	0	0	0	0	0	0
Kitchener	59	0.5		0.5					29.5	0	0	29.5	0	0	0	0	0
Cambridge	17	0.5	0.5						8.5	8.5	0	0	0	0	0	0	0
City of Guelph	84				0.5	0.5			0	0	0	42	42	0	0	0	0
Georgetown	14				0.5	0.5			0	0	0	7	7	0	0	0	0
Essex					0.5	0.5			0	0	0	0	0	0	0	0	0
Orangeville	22					1			0	0	0	0	22	0	0	0	0
Barré	0.5		0.5						0	0	0	0	0	0	0	0	0
Phileborough	13	1							13	0	0	0	0	0	0	0	0
Manor	12				0.5		0.5		0	0	6	0	6	0	0	0	0
Bradford-West	23	0.5	0.5						0	0	0	0	0	0	0	0	0
Markoka	1								0	0	0	0	0	0	0	0	0
Ottawa	0.5		0.5						0	0	0	0	0	0	0	0	0
Total	7630								3530.75	276.5	11	396.5	360.5	1018.25	1018.25	1018.25	
									46%	4%	0%	5%	5%	13%	13%	13%	

TOTAL (Adjusted)

		410	W Old Sch	E Old Scho	N McLaugh	N Huronta	S Hurontar	S Chinguac	S McLaughlin	
AM	Inbound	30%	4%	1%	8%	10%	15%	16%	16%	100%
	Outbound	45%	4%	0%	5%	5%	15%	13%	13%	100%
PM	Inbound	45%	4%	0%	4%	4%	15%	14%	14%	100%
	Outbound	35%	5%	1%	5%	6%	16%	16%	16%	100%

