7140 Hurontario Street

Traffic Impact Study

De Zen Realty Company Limited

28 March 2025

→ The Power of Commitment

Project name		7140 Hurontario Street					
Document title		Traffic Impact Study					
Project number		12666406					
File name		7140 Hurontario_TIS_March2025.docx					
Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
S4	01	Raf Andrenacci	Will Maria		Benjamin Loucks		2025-03-28

GHD Ltd

100 Milverton Drive, Suite 404

Mississauga, Ontario L5R 4H1, Canada

T +1 416 213 7121 | **F** +1 905 890 8499 | **E** info-northamerica@ghd.com | **ghd.com**

© GHD 2025

This document is and shall remain the property of GHD. The document may only be used for the purpose for which it was commissioned and in accordance with the Terms of Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited.

Executive Summary

GHD Limited was retained to prepare a Traffic Impact Study in support of the site plan application for an industrial development located on land municipally known as 7140 Hurontario Street in the City of Mississauga.

Based on the approved Terms of Reference for the study, the following intersections were included in the study area:

- Hurontario Street and the westbound Highway 407 Off-Ramp (North Terminal)
- Hurontario Street and the eastbound Highway 407 Off-Ramp (South Terminal)
- Hurontario Street and Vicksburgh Drive/Topflight Drive
- Hurontario Street and Kingsway Drive/Private Access
- Hurontario Street and Derry Road
- Derry Road West and Maritz Drive/Derrycrest Drive
- Derrycrest Drive and Kingsway Drive/Private Access
- Vicksburgh Drive and Site Access #1
- Vicksburgh Drive and Site Access #2
- Derrycrest Drive and Site Access #3

The draft plan of subdivision consists of a total of 7 industrial buildings with a total of 46,226.25 m^2 of GFA. The breakdown between each building is as follows:

- Building A: 9,738.46 m^2 of GFA
- Building B: 11,419.83 m^2 of GFA
- Building C: 12,727.34 m^2 of GFA
- Building D: 4,375.74 m^2 of GFA
- Building E: 3,480.00 m^2 of GFA
- Building F: 2,473.40 m^2 of GFA
- Building G: 2,011.48 m^2 of GFA

Access to the subject site is provided via three full-moves accesses. Site Access #1 and #2 are proposed to be located on the north and west legs, respectively, of the intersection of Derrycrest Drive and Vicksburgh Drive. Site Access #3 is proposed to be located near the south limit of the subject site along Derrycrest Drive.

Site Access #1 provides access to Buildings F and G, Site Access #2 provides access to all 7 buildings and Site Access #3 provides access to Buildings D and E.

Based on ITE Trip Generation rates and applied transit reductions based on 2022 TTS modal splits the proposed development is expected to generate a total of 224 two-way vehicle trips during the a.m. peak hour consisting of 173 inbound and 51 outbound trips. During the p.m. peak hour, it is expected to generate 244 new two-way vehicle trips consisting of 68 inbound and 176 outbound trips.

Under existing traffic conditions, all intersections are operating at acceptable v/c ratios and levels of service during the a.m. peak and p.m. peak hours, with the exception of:

- Hurontario Street and Kingsway Drive Private Access
    - Southbound left with a v/c of 1.32 LOS F (a.m. peak hour)
    - Southbound left with a v/c of 0.91 LOS F (a.m. peak hour)

- Hurontario Street and Derry Road
    - Southbound left with a v/c of 0.84 LOS E (a.m. peak hour)
- Derry Road West and Maritz Drive/Derrycrest Drive
    - Northbound left with a v/c of 0.90 LOS E (p.m. peak hour)
    - Southbound right with a v/c of 0.82 LOS F (p.m. peak hour)
- Hurontario Street and Kingsway Drive/Private Access
    - Eastbound left critical queue of 45-metres (a.m. peak hour)
    - Eastbound left critical queue of 75-metres (p.m. peak hour)
- Hurontario Street and Vicksburgh Drive/Topflight Drive
    - Westbound through/left/right with a v/c of 0.86 LOS E (p.m. peak hour)

Under the 2028 future background traffic conditions, all intersections are operating at acceptable v/c ratios and levels of service during the a.m. peak and p.m. peak hours, with the exception of:

- Hurontario Street and Derry Road
    - Southbound left with a v/c of 0.86 LOS E (a.m. peak hour)
    - Southbound left with a v/c of 0.83 LOS F (p.m. peak hour)
- Derry Road West and Maritz Drive/Derrycrest Drive
    - Northbound left with a v/c of 1.12 LOS F (p.m. peak hour)
    - Southbound right with a v/c of 0.76 LOS E (p.m. peak hour)
- Hurontario Street and Kingsway Drive/Private Access
    - Eastbound left critical queue of 45-metres (a.m. peak hour)
    - Eastbound left critical queue of 75-metres (p.m. peak hour)
- Hurontario Street and Vicksburgh Drive/Topflight Drive
    - Westbound through/left/right with a v/c of 0.89 LOS E (p.m. peak hour)
    - Southbound left critical queue of 55-metres

Under the 2028 future total traffic conditions, all intersections are operating at acceptable v/c ratios and levels of service during the a.m. peak and p.m. peak hours, with the exception of:

- Hurontario Street and Derry Road
    - Southbound left with a v/c of 0.86 LOS E (a.m. peak hour)
    - Southbound left with a v/c of 0.83 LOS F (p.m. peak hour)
- Derry Road West and Maritz Drive/Derrycrest Drive
    - Northbound left with a v/c of 1.03 LOS F (p.m. peak hour)
    - Southbound right with a v/c of 0.80 LOS E (p.m. peak hour)
- Hurontario Street and Kingsway Drive/Private Access
    - Eastbound left critical queue of 45-metres (a.m. peak hour)
    - Eastbound left critical queue of 75-metres (p.m. peak hour)
- Hurontario Street and Vicksburgh Drive/Topflight Drive
    - Westbound through/left/right with a v/c of 0.91 LOS E (p.m. peak hour)

Under the 2033 future background traffic conditions, all intersections are operating at acceptable v/c ratios and levels of service during the a.m. peak and p.m. peak hours, with the exception of:

- Hurontario Street and Derry Road
    - Southbound left with a v/c of 0.85 LOS E (a.m. peak hour)

        - Southbound left with a v/c of 0.86 LOS F (p.m. peak hour)
        - Westbound through/right with a v/c of 0.86 LOS F (p.m. peak hour)
- Derry Road West and Maritz Drive/Derrycrest Drive
        - Northbound left with a v/c of 1.10 LOS F (p.m. peak hour)
        - Southbound right with a v/c of 1.21 LOS F (p.m. peak hour)
- Hurontario Street and Kingsway Drive/Private Access
        - Eastbound left critical queue of 45-metres (a.m. peak hour)
        - Eastbound left critical queue of 75-metres (p.m. peak hour)
- Hurontario Street and Vicksburgh Drive/Topflight Drive
        - Westbound through/left/right with a v/c of 0.89 LOS E (p.m. peak hour)
        - Southbound left critical queue of 60-metres

Under the 2033 future total traffic conditions, all intersections are operating at acceptable v/c ratios and levels of service during the a.m. peak and p.m. peak hours, with the exception of:

- Hurontario Street and Derry Road
        - Southbound left with a v/c of 0.86 LOS E (a.m. peak hour)
        - Southbound left with a v/c of 0.89 LOS F (p.m. peak hour)
        - Westbound through/right with a v/c of 0.87 LOS F (p.m. peak hour)
- Derry Road West and Maritz Drive/Derrycrest Drive
        - Northbound left with a v/c of 1.10 LOS F (p.m. peak hour)
        - Southbound right with a v/c of 1.55 LOS F (p.m. peak hour)
- Hurontario Street and Kingsway Drive/Private Access
        - Eastbound left critical queue of 45-metres (a.m. peak hour)
        - Eastbound left critical queue of 75-metres (p.m. peak hour)
- Hurontario Street and Vicksburgh Drive/Topflight Drive
        - Westbound through/left/right with a v/c of 0.91 LOS E (p.m. peak hour)

Under the 2038 future background traffic conditions, all intersections are operating at acceptable v/c ratios and levels of service during the a.m. peak and p.m. peak hours, with the exception of:

- Hurontario Street and Derry Road
        - Eastbound through/right with a v/c of 0.92 LOS D (a.m. peak hour)
        - Southbound left with a v/c of 0.85 LOS E (a.m. peak hour)
        - Southbound left with a v/c of 0.88 LOS F (p.m. peak hour)
        - Westbound through/right with a v/c of 0.97 LOS E (p.m. peak hour)
- Derry Road West and Maritz Drive/Derrycrest Drive
        - Northbound left with a v/c of 1.30 LOS F (p.m. peak hour)
        - Southbound right with a v/c of 0.77 LOS E (p.m. peak hour)
- Hurontario Street and Kingsway Drive/Private Access
        - Eastbound left critical queue of 45-metres (a.m. peak hour)
        - Eastbound left critical queue of 70-metres (p.m. peak hour)
- Hurontario Street and Vicksburgh Drive/Topflight Drive
        - Westbound through/left/right with a v/c of 0.90 LOS E (p.m. peak hour)
        - Southbound left critical queue of 60-metres

Under the 2038 future total traffic conditions, all intersections are operating at acceptable v/c ratios and levels of service during the a.m. peak and p.m. peak hours, with the exception of:

- Hurontario Street and Derry Road
    - Southbound left with a v/c of 0.88 LOS E (a.m. peak hour)
    - Eastbound through/right with a v/c of 0.91 LOS D (a.m. peak hour)
    - Southbound left with a v/c of 0.89 LOS F (p.m. peak hour)
    - Westbound through/right with a v/c of 0.98 LOS E (p.m. peak hour)
- Derry Road West and Maritz Drive/Derrycrest Drive
    - Northbound left with a v/c of 1.20 LOS F (p.m. peak hour)
    - Southbound right with a v/c of 0.81 LOS E (p.m. peak hour)
- Hurontario Street and Kingsway Drive/Private Access
    - Eastbound left critical queue of 45-metres (a.m. peak hour)
    - Eastbound left critical queue of 70-metres (p.m. peak hour)
- Hurontario Street and Vicksburgh Drive/Topflight Drive
    - Westbound through/left/right with a v/c of 0.92 LOS E (p.m. peak hour)

While critical movements are identified under both future background and future total traffic scenarios, the site-generated traffic accounts for less than 2% of the total intersection volume at each location. Given this minimal contribution, the impact of the proposed development on overall network operations is considered negligible, and no mitigation measures are warranted.

The subject site is located approximately 850 metres from the future Derry Road LRT stop along Hurontario Street, representing an estimated 12-minute walk. To support sustainable transportation options for employees and visitors, a series of Transportation Demand Management (TDM) measures are proposed for the industrial development to facilitate active transportation, enhance transit accessibility to encourage transit use among employees to improve safety within the site. Additionally, TDM initiatives such as employer-led commuter programs, bicycle parking facilities, and education campaigns will be implemented to promote alternative modes of transportation and reduce reliance on single-occupant vehicle trips.

Applying the City of Mississauga Zoning By-Law 0225-2007 parking requirements to the subject site results in a minimum parking requirement of 442 spaces, including a minimum of 18 barrier-free spaces. Additionally, bicycle parking requirements include a total of 60 spaces, consisting of 46 Class A and 14 Class B spaces. The by-law also requires a total of 16 loading spaces. The proposed parking and loading provisions for the subject site fully satisfy these requirements.

The proposed site accesses meet the OPSD 350.010 standards for Urban, Industrial, Commercial and Apartment Entrances.

GHD performed a swept path analysis and generally found that the site can accommodate the required movements of passenger vehicles, emergency vehicles, MSU and WB-20 trucks expected to access the proposed development.

The findings of the traffic study confirm that the proposed industrial development can be accommodated within the planned road network without significant adverse impacts on traffic flow, capacity, or safety. The analysis demonstrates that projected site-generated traffic volumes are minimal relative to overall background traffic and can be effectively managed within the roadway capacity.

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

Sincerely,

GHD

Rafael Andrenacci, B.Eng.
Transportation Planner

William Maria, P. Eng.
Transportation Planning Lead

Contents

1. Introduction **1**
1.1 Retainer and Objective 1
1.2 Study Team 2
2. Site Characteristics **3**
2.1 Study Area 3
2.2 Proposed Development Content 3
3. Existing Conditions **4**
3.1 Existing Road Network 4
3.2 Pedestrian and Bicycle Facilities 6
3.3 Transit Services 7
3.4 Existing Traffic Data 9
4. Future Conditions **11**
4.1 Study Horizon Year 11
4.2 Corridor Growth 11
4.3 Background Development Traffic 11
4.4 Future Road Network 15
4.5 Hurontario LRT 15
4.6 Future Lane Configuration 16
4.7 Future Background Traffic Volumes 17
5. Site Generated Traffic **21**
5.1 Site Trip Generation 21
5.2 Site Traffic Distribution and Assignment 23
6. Future Total Traffic **25**
7. Capacity Analysis **29**
7.1 Hurontario Street and the westbound Highway 407 Off-Ramp (North Terminal) 29
7.2 Hurontario Street and the eastbound Highway 407 Off-Ramp (South Terminal) 31
7.3 Hurontario Street and Vicksburgh Drive/Topflight Drive 32
7.4 Hurontario Street and Kingsway Drive/Private Access 34
7.5 Hurontario Street and Derry Road 36
7.6 Derry Road West and Maritz Drive/Derrycrest Drive 39
7.7 Derrycrest Drive and Kingsway Drive/Private Access 41
7.8 Derrycrest Drive/Site Access #2 and Vicksburgh Drive/Site Access #1 43
7.9 Derrycrest Drive and Site Access #3 44
8. Parking Review **44**
8.1 City of Mississauga Zoning By-law 0225-2007 45
8.1.1 Vehicular Parking 45
8.1.2 Accessible Parking 45
8.1.3 Bicycle Parking 46

8.1.4 Loading Spaces 47
8.2 Proposed Site Parking 47
9. Site Plan Review 49
9.1 Swept Path Analysis 50
10. Travel Demand Management 50
10.1 Travel Demand Management 50
10.2 Recommended TDM Measures 50
11. Conclusion 51

Table Index

Table 1 Growth Rates 11
Table 2 Background Development Traffic 13
Table 3 Modal Split (2022 Transportation Tomorrow Survey Data) 21
Table 4 Total Site Trip Generation 22
Table 5 Site Traffic Distribution 23
Table 6 Capacity analysis of Hurontario Street and the westbound Highway 407 Off-Ramp (North Terminal) 29
Table 7 Capacity analysis of Hurontario Street and the eastbound Highway 407 Off-Ramp (South Terminal) 31
Table 8 Capacity analysis of Hurontario Street and Vicksburgh Drive/Topflight Drive 32
Table 9 Capacity analysis of Hurontario Street and Kingsway Drive/Private Access 34
Table 10 Capacity analysis of Hurontario Street and Derry Road 36
Table 11 Capacity analysis of Derry Road West and Maritz Drive/Derrycrest Drive 39
Table 12 Capacity analysis of Derrycrest Drive and Kingsway Drive/Private Access 41
Table 13 Capacity analysis of Derrycrest Drive/Site Access #2 and Vicksburgh Drive/Site Access #1 43
Table 14 Capacity analysis of Derrycrest Drive and Site Accesss #3 44
Table 15 Parking Requirements and Provisions 48
Table 16 Recommended TDM Strategies 50

Figure Index

Figure 1 Site Location 2
Figure 2 Site Plan 4
Figure 3 Existing Lane Configuration and Traffic Controls 6
Figure 4 Existing Active Transportation Facilities 7
Figure 5 Existing Transit Routes and Transit Stops 9
Figure 6 Baseline 2024 Traffic Volumes 10
Figure 7 Location of Background Developments 12
Figure 8 Total Background Development Traffic 14
Figure 9 Hazel McCallion LRT Line Map 16

Figure 10 Future Lane Configuration 17
Figure 11 2028 Future Background Traffic Volumes 18
Figure 12 2033 Future Background Traffic Volumes 19
Figure 13 2038 Future Background Traffic Volumes 20
Figure 14 Total Site Trips 24
Figure 15 2028 Future Total Traffic Volumes 26
Figure 16 2033 Future Total Traffic Volumes 27
Figure 17 2038 Future Total Traffic Volumes 28

Appendices

Appendix A Terms of Reference
Appendix B Site Plan
Appendix C Traffic Data
Appendix D Background Developments
Appendix E Synchro Outputs
Appendix F Swept Path Analysis

1. Introduction

1.1 Retainer and Objective

GHD Limited was retained to prepare a Traffic Impact Study in support of the site plan application for an industrial development located on land municipally known as 7140 Hurontario Street in the City of Mississauga.

The site location is illustrated in **Figure 1**.

The purpose of this study is to:

- Establish baseline traffic conditions for the study area in 2025 and determine future background operating conditions for a future planning horizon in 2028, 2033, and 2038.
- 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 peek periods through intersection capacity analysis.

Figure 1 Site Location

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

2. Site Characteristics

2.1 Study Area

As per the agreed Terms of Reference for the study attached in **Appendix A**, the following intersections were included in the study area:

- Hurontario Street and the westbound Highway 407 Off-Ramp (North Terminal)
- Hurontario Street and the eastbound Highway 407 Off-Ramp (South Terminal)
- Hurontario Street and Vicksburgh Drive/Topflight Drive
- Hurontario Street and Kingsway Drive/Private Access
- Hurontario Street and Derry Road
- Derry Road West and Maritz Drive/Derrycrest Drive
- Derrycrest Drive and Kingsway Drive/Private Access
- Vicksburgh Drive and Site Access #1
- Vicksburgh Drive and Site Access #2
- Derrycrest Drive and Site Access #3

2.2 Proposed Development Content

A draft plan of subdivision prepared by Baldassarra Architects is shown in **Figure 2** and provided in **Appendix B**. The proposed development consists of a total of 7 industrial buildings with a total of 46,226.25 m^2 of GFA. The breakdown for each building is:

- Building A: 9,738.46 m^2 of GFA
- Building B: 11,419.83 m^2 of GFA
- Building C: 12,727.34 m^2 of GFA
- Building D: 4,375.74 m^2 of GFA
- Building E: 3,480.00 m^2 of GFA
- Building F: 2,473.40 m^2 of GFA
- Building G: 2,011.48 m^2 of GFA

Access to the subject site is provided via three full-moves accesses. Site Access #1 and #2 are proposed to be located on the north and west legs, respectively, of the intersection of Derrycrest Drive and Vicksburgh Drive. Site Access #3 is proposed to be located near the south limit of the subject site along Derrycrest Drive.

Site Access #1 provides access to Buildings F and G, Site Access #2 provides access to all 7 buildings and Site Access #3 provides access to Buildings D and E.

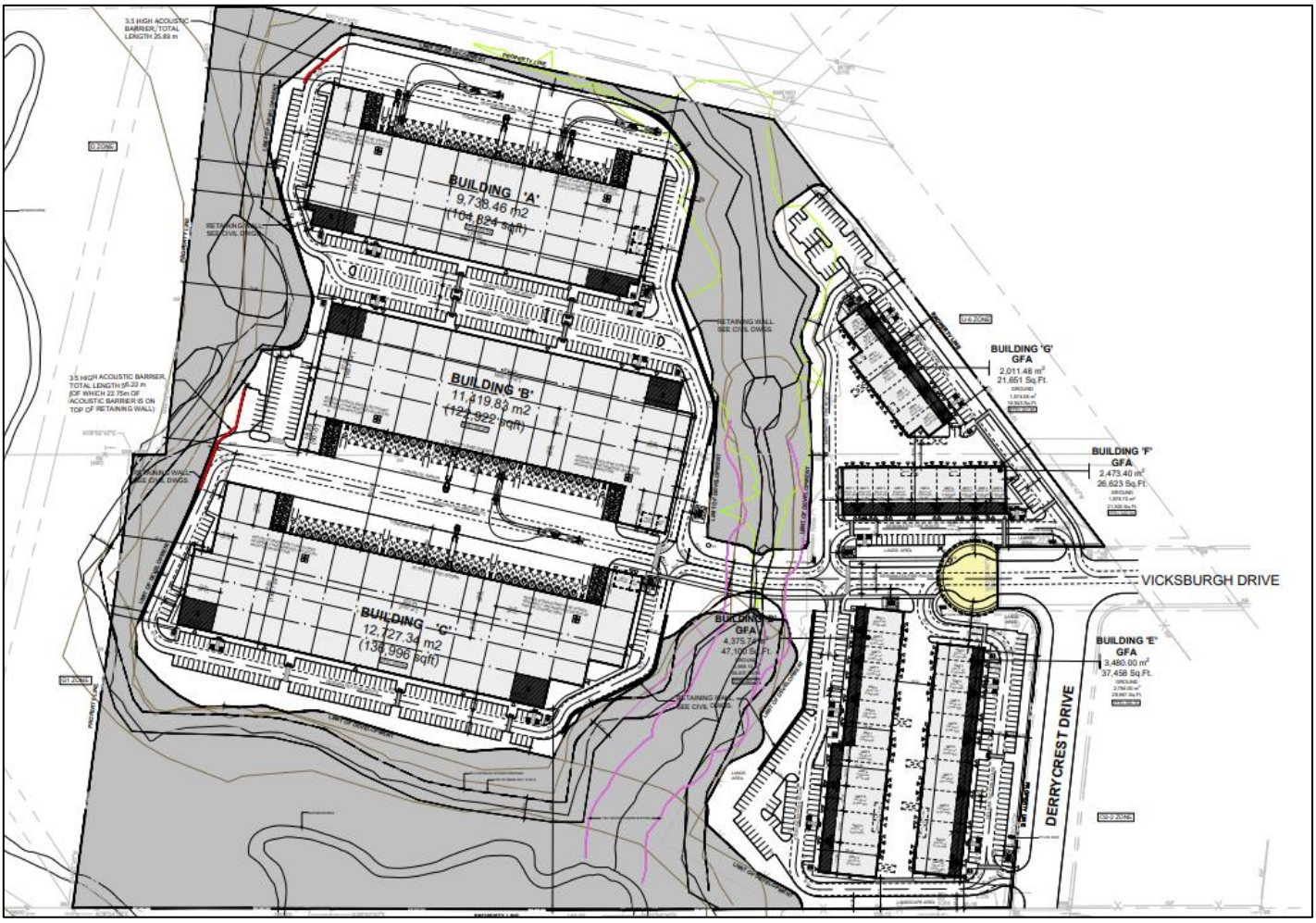


Figure 2 Site Plan

3. Existing Conditions

3.1 Existing Road Network

Highway 407 is a class 1A Freeway under the jurisdiction of the Ministry of Transportation. Within the study area, it operates with two signalized off-ramp terminals (eastbound and westbound) along Hurontario Street. The westbound off-ramp operates with one left-turn lane, one shared left/right-turn lane, and one right-turn lane while the eastbound off-ramp operates with two left-turn lanes and one right-turn lane.

Derry Road is an east/west arterial road under the jurisdiction of the Region of Peel. Within the study area it has a six-lane cross-section. Its intersections with Maritz Drive/Derrycrest Drive and Hurontario Street are signalized, with auxiliary left-turn and right-turn lanes provided on all approaches with the exception of no auxiliary right-turn lane in the eastbound direction at Hurontario Street. The posted speed limit along Derry Road is 70 km/h.

Hurontario Street is a north/south arterial road under the jurisdiction of the City of Mississauga. Within the study area, construction is currently ongoing along Hurontario Street for the Hurontario LRT and operates with a four-lane cross-section. Its intersections with the Highway 407 off-ramps, Vicksburgh Drive/Topflight Drive, Kingsway Drive, and Derry Road are all signalized with auxiliary left-turn lanes provided in the northbound and southbound directions with the exception of its intersections with the Highway 407 off-ramps. The posted speed limit along Hurontario Street is 60 km/h.

Maritz Drive is a north/south major collector road under the jurisdiction of the City of Mississauga. Within the study area, Maritz Drive has a four-lane cross-section consisting of two northbound lanes, one southbound lane, and one two-way left-turn lane within the centre median. Its intersection with Derry Road West is signalized with a northbound left-turn and a shared through/right-turn lane provided. North of Derry Road West, Maritz Drive continues as Derrycrest Drive. The assumed speed limit along Maritz Drive is 50 km/h.

Derrycrest Drive is a north/south major collector road under the jurisdiction of the City of Mississauga. Within the study area, Derrycrest Drive has a five-lane cross-section, including a two-way left-turn lane within the centre median. Derrycrest Drive currently terminates approximately 270 metres north of its intersection with Kingsway Drive. Its intersection with Derry Road West is signalized with a southbound through, a right-turn and an auxiliary left-turn lane provided. Its intersection with Kingsway Drive/private access is unsignalized with the stop-control only provided along Kingsway Drive and the private access. South of Derry Road West, Derrycrest Drive continues as Maritz Drive. The assumed speed limit along Derrycrest Drive is 50 km/h.

Topflight Drive is an east/west major collector road under the jurisdiction of the City of Mississauga. Within the study area, Topflight Drive has a two-lane cross-section. Its intersection with Hurontario Street is signalized with an auxiliary left-turn lane provided in the eastbound direction. The west leg of the intersection consists of the unopened Vicksburgh Drive. The assumed speed limit along Topflight Drive is 50 km/h.

Vicksburgh Drive is an east/west major collector road under the jurisdiction of the City of Mississauga. Vicksburgh Drive is currently not in operation.

Kingsway Drive is an east/west local road under the jurisdiction of the City of Mississauga. Within the study area, Kingsway Drive has a two-lane cross-section. Its intersection with Hurontario Street is signalized with an auxiliary left-turn lane provided in the eastbound direction. Its intersection with Derrycrest Drive is unsignalized with the stop-control only provided along the Kingsway Drive approach.

The existing lane configurations and intersection control are shown in the figure below.

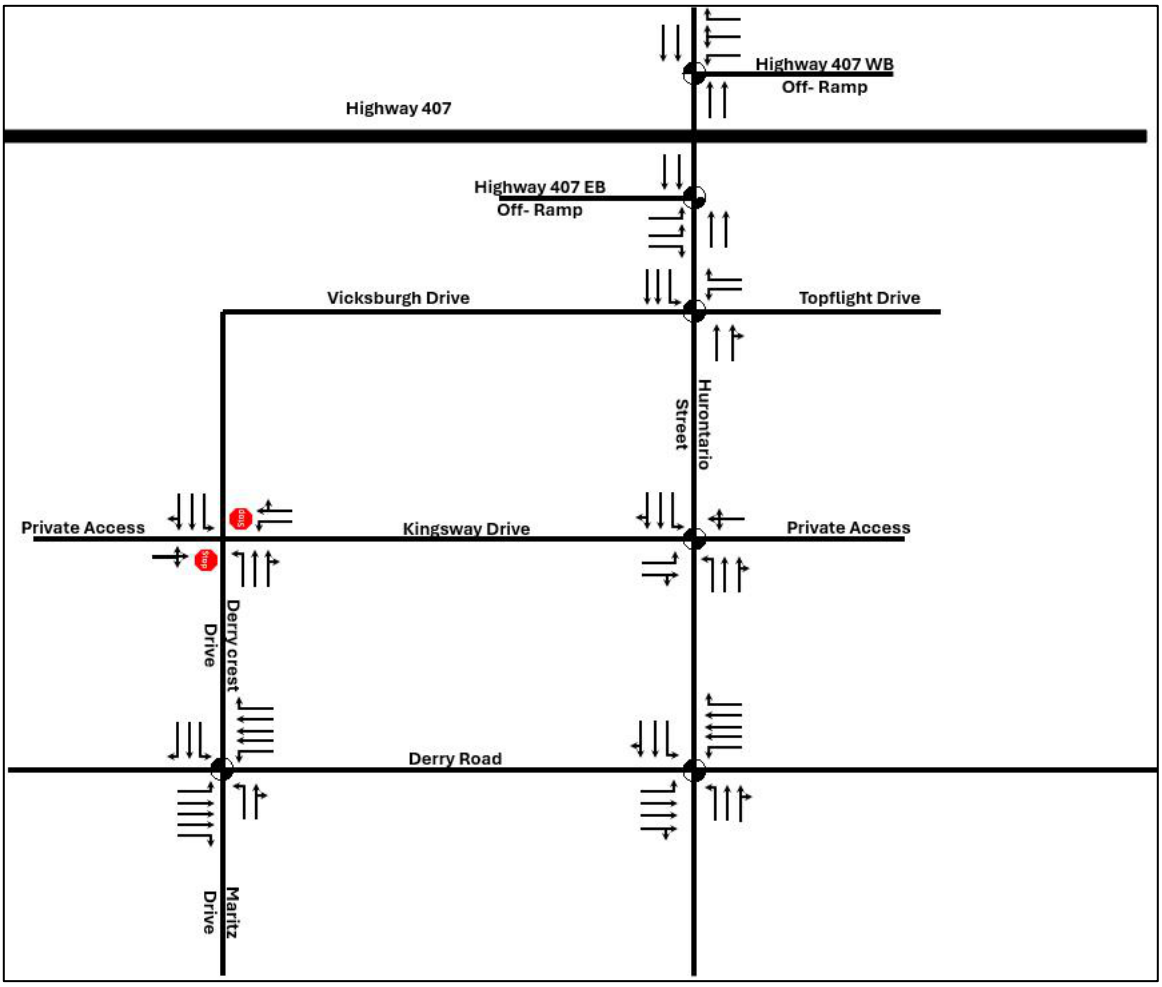


Figure 3 Existing Lane Configuration and Traffic Controls

3.2 Pedestrian and Bicycle Facilities

Currently within the study area pedestrian infrastructure is provided as follows:

- A sidewalk along the east side of Hurontario Street, and generally maintained through the ongoing LRT construction
- A sidewalk only on the north side of Topflight Drive
- A sidewalk along both sides of Derrycrest Drive
- A sidewalk only on the north side of Kingsway Drive
- A multi-use path on the south side of Derry Road West, west of Maritz Drive to Hurontario Street and a sidewalk on the south side of Derry Road East, east of Hurontario Street
- A sidewalk only on the west side of Maritz Drive

Exclusive cycling infrastructure is currently not provided within the study area

Multi-use paths are also provided within the study area as follows:

- A multi-use path on the south side of Derry Road West, west of Maritz Drive to Hurontario Street

The pedestrian and bicycle routes are illustrated in the figure below.

Figure 4 Existing Active Transportation Facilities

3.3 Transit Services

MiWay, Brampton Transit, and GO Transit all operate bus routes within the study area.

MiWay operates the following routes within the study area:

Route 17 (**Hurontario**) operates in a general north/south direction along Hurontario Street between the City Centre Transit Terminal and the Highway 407 Park and Ride lot. The route operates with a 20-minute headway during the a.m. peak hour and a 15-minute headway during the p.m. peak hour. The nearest transit stops are located at the Highway 407 Park and Ride lot and at the intersection of Hurontario Street and Kingsway Drive.

Route 18 (**Derry**) operates in a general east/west direction along Derry Road between the Sheridan College Davis Campus (via McLaughlin Road) and Westwood Square (via Goreway Drive). The route operates with headways of generally 15 minutes during both peak periods. The nearest transit stops are located at the intersections of Derry Road West at Maritz Drive and Derry Road at Hurontario Street.

Route 42 (**Derry**) also operates in a general east/west direction along Derry Road between the Meadowvale Town Centre (via Glen Erin Drive) and Westwood Square (via Goreway Drive). The route operates with headways of generally 15 minutes during both peak periods. The nearest transit stops are located at the intersections of Derry Road West at Maritz Drive and Derry Road at Hurontario Street.

Route 53 (**Kennedy**) operates in a general north/south direction along Kennedy Road between the Cooksville GO Station and the Highway 407 Park and Ride lot. The route operates with headways ranging from 20-25 minutes during the morning peak period and a general 20-minute headway during the afternoon peak period. The nearest transit stop is provided at the Highway 407 Park and Ride lot.

Route 103 (**Hurontario Express**) operates its express service in a general north/south direction along Hurontario Street between the Brampton Gateway Terminal and the Trillium Health Centre Mississauga. The route operates with a headway of generally 20 minutes during the morning peak period and 25 minutes during the afternoon peak period.

Brampton Transit operates the following routes within the study area:

Route 2 (**Main**) operates in a general north/south direction along Hurontario Street/Main Street between the Heart Lake Terminal and the Highway 407 Park and Ride lot. The route operates with a 22-minute headway during the morning and afternoon peak periods. The nearest transit stops are located at the Highway 407 Park and Ride lot and at the intersection of Hurontario Street and Vicksburgh Drive.

Route 6 (**James Potter**) operates in a general north/south direction along James Potter Road between the Mount Pleasant Village and the Highway 407 Park and Ride lot (via Derry Road and Mavis Road). The route operates with a 20-minute headway during the morning and afternoon peak periods. The nearest transit stops are located at the Highway 407 Park and Ride lot as well as at the intersection of Derry Road West and Maritz Drive.

Route 7 (**Kennedy**) operates in a general north/south direction along Kennedy Road between the Heart Lake Terminal and the intersection of Hurontario Street at Courtneypark Drive. The route operates with headways of up to 10 minutes during the morning and afternoon peak periods. The nearest transit stop is located at the intersection of Derry Road and Hurontario Street.

Route ZUM 502 (**Main**) operates in a general north/south along Hurontario Street/Main Street between the Sandalwood Loop and the City Centre Transit Terminal. The route operates with headways of up to 10 minutes during the morning and afternoon peak periods. The nearest transit stop is located at the intersection of Derry Road and Hurontario Street.

GO Transit also operates the following routes at the Highway 407 Park and Ride lot:

Route 33 (**Guelph/North York**) operates between the University of Guelph and the York Mills Terminal in the City of Toronto. The route operates with headways of up to 30 minutes in the morning peak period and stops at 4:23 and 6:23 p.m. in the afternoon/evening peak periods when operating towards the York Mills Terminal. When operating towards the University of Guelph, the route operates with a 1-hour headway during the morning peak period and a 15-minute headway during the afternoon peak period.

Route 48 (**Guelph/Highway 407**) operates between the University of Guelph and the Highway 407 Bus Terminal in the City of Vaughan. The route only stops at 8:51 a.m. during the morning peak period and operates with a 1-hour headways during the afternoon peak hour when operating towards the Highway 407 Terminal. When operating towards the University of Guelph, the route operates with a 1-hour headway during the morning and afternoon peak periods.

The existing transit routes and their transit stops within the study area are shown in the figure below.

Figure 5 Existing Transit Routes and Transit Stops

3.4 Existing Traffic Data

GHD contracted Ontario Traffic Inc. to conduct updated turning movement counts at all existing study intersections in October 2024. The baseline 2024 traffic volumes for the a.m. and p.m. peak hours are summarized in **Figure 6** below with the full turning movement counts provided in **Appendix C.**

Signal timings were also obtained from city staff and included in **Appendix C.**

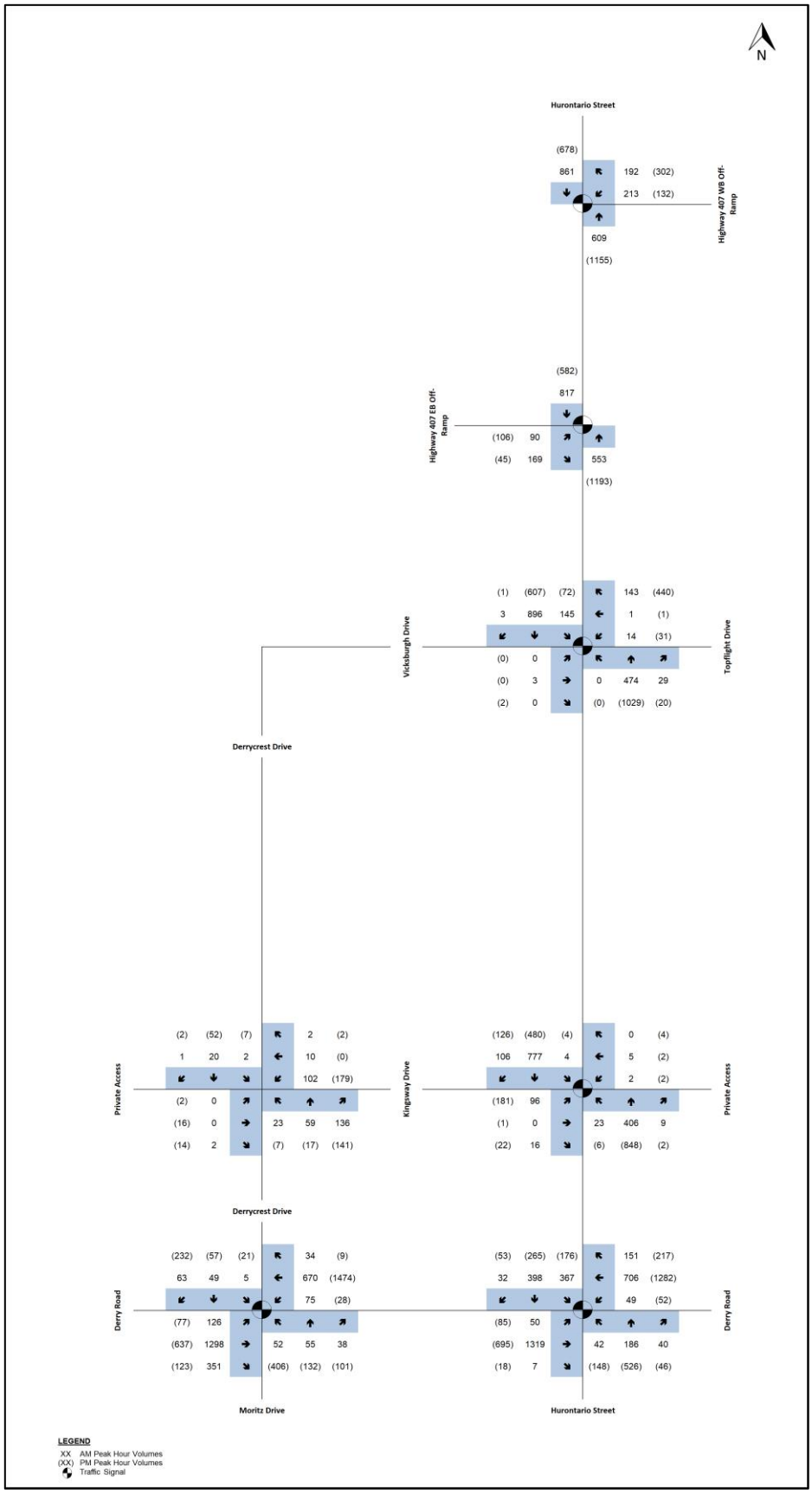


Figure 6 Baseline 2024 Traffic Volumes

4. Future Conditions

4.1 Study Horizon Year

The subject site is assumed to be built-out by 2028, as a result, future horizon years of 2028, 2033, and 2038 were selected for the analysis of future traffic conditions, corresponding to the anticipated year of build-out and a period of five years and ten years post build-out as required by the MTO.

4.2 Corridor Growth

The growth rates used to project the 2028, 2033, and 2038 traffic volumes were provided by City staff for the study roadways under their jurisdiction and include consideration for the impacts of the LRT on corridor growth. A copy of the correspondence with City staff is attached in **Appendix A**.

GHD reviewed the Traffic Impact Studies prepared for the background developments provided by City staff to determine a growth rate to be used along Derry Road. Generally consistent with the background developments, a 2% per annum was applied to all movements along Derry Road.

A 2% per annum growth rate was also applied to the Highway 407 off-ramp volumes as a conservative measure based on the Hurontario Street growth rates.

The growth rates for all roadways are summarized in **Table 1**.

Table 1 Growth Rates

	Highway 407	*Hurontario Street (Northbound)*	*Hurontario Street (Southbound)*	*Derry Road*	*Maritz Drive (Northbound)*	*Maritz Drive (Southbound)*
From Existing to 2026	*2%*	*-3%*	*-4%*	*2%*	*0.5%*	*0.5%*
From 2026 to 2028	*2%*	*0.5%*	*0.5%*	*2%*	*0.5%*	*0.5%*
From 2028 to 2031	*2%*	*0.5%*	*0.5%*	*2%*	*0.5%*	*0.5%*
From 2031 to 2033	*2%*	*0.5%*	*0.5%*	*2%*	*1%*	*1%*
From 2033 to 2038	*2%*	*0.5%*	*0.5%*	*2%*	*1%*	*1%*

The remaining roadway of Derrycrest Drive, Kingsway Drive and Topflight Drive are not listed in the table as they are assumed to encounter no growth in the study area.

4.3 Background Development Traffic

The following developments were identified by City of Mississauga staff as being located in close proximity to the subject site that would generate additional traffic along the study area roadways:

- 7230 Hurontario Street
- 7055 Derrycrest Drive
- 6900 Maritz Drive
- 6967 Maritz Drive

The locations of the background developments are shown in **Figure 7** below.

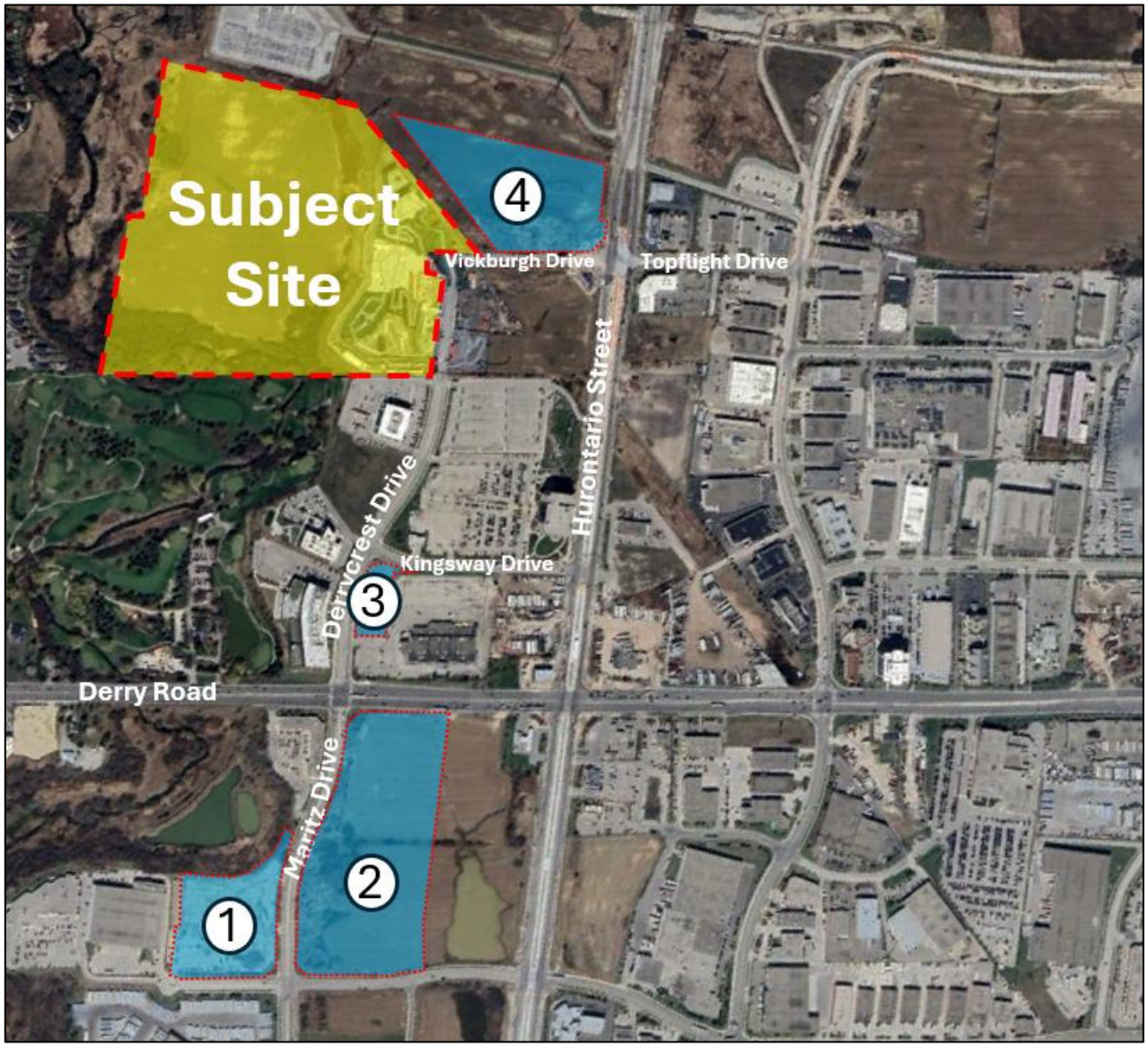


Figure 7 Location of Background Developments

City staff provided GHD with information regarding the four developments, including the GFA for the development located at 7230 Hurontario Street, the Traffic Brief for 7055 Derrycrest Drive, and the respective Traffic Impact Studies for 6900 Maritz Drive and 6967 Maritz Drive. The estimated site trips generated by the proposed background developments were extracted from their respective reports, where available. GHD made general assumptions in order to distribute the respective site traffic onto the remaining study intersections that were not included within their respective studies.

The total trip generation for each development is summarized in **Table 2** below with detailed excerpts from the background studies attached in **Appendix D**

Table 2 Background Development Traffic

Background Development (ID on Figure 7)	Project Statistics	Peak Hour Trips					
		Weekday AM			Weekday PM		
		In	Out	Total	In	Out	Total
(1) 6900 Maritz Drive	11, 372.58 m^2 GFA of Proposed Mixed-Use Building	29	8	37	11	29	40
(2) 6967 Maritz Drive	24,523.99 m^2 GFA of Proposed Office Building and 2607.05 m^2 GFA of proposed industrial building	412	55	467	68	348	416
(3) 7055 Derry Crest Drive	7200.34m^2 GFA of Proposed Hotel (107 rooms)	27	22	49	32	31	63
(4) 7230 Hurontario Street	9,880m^2 GFA of Proposed Office Building	156	21	117	30	145	175
Total		**624**	**106**	**730**	**141**	**553**	**694**

The total background development traffic from the background developments is summarized in **Figure 8**.

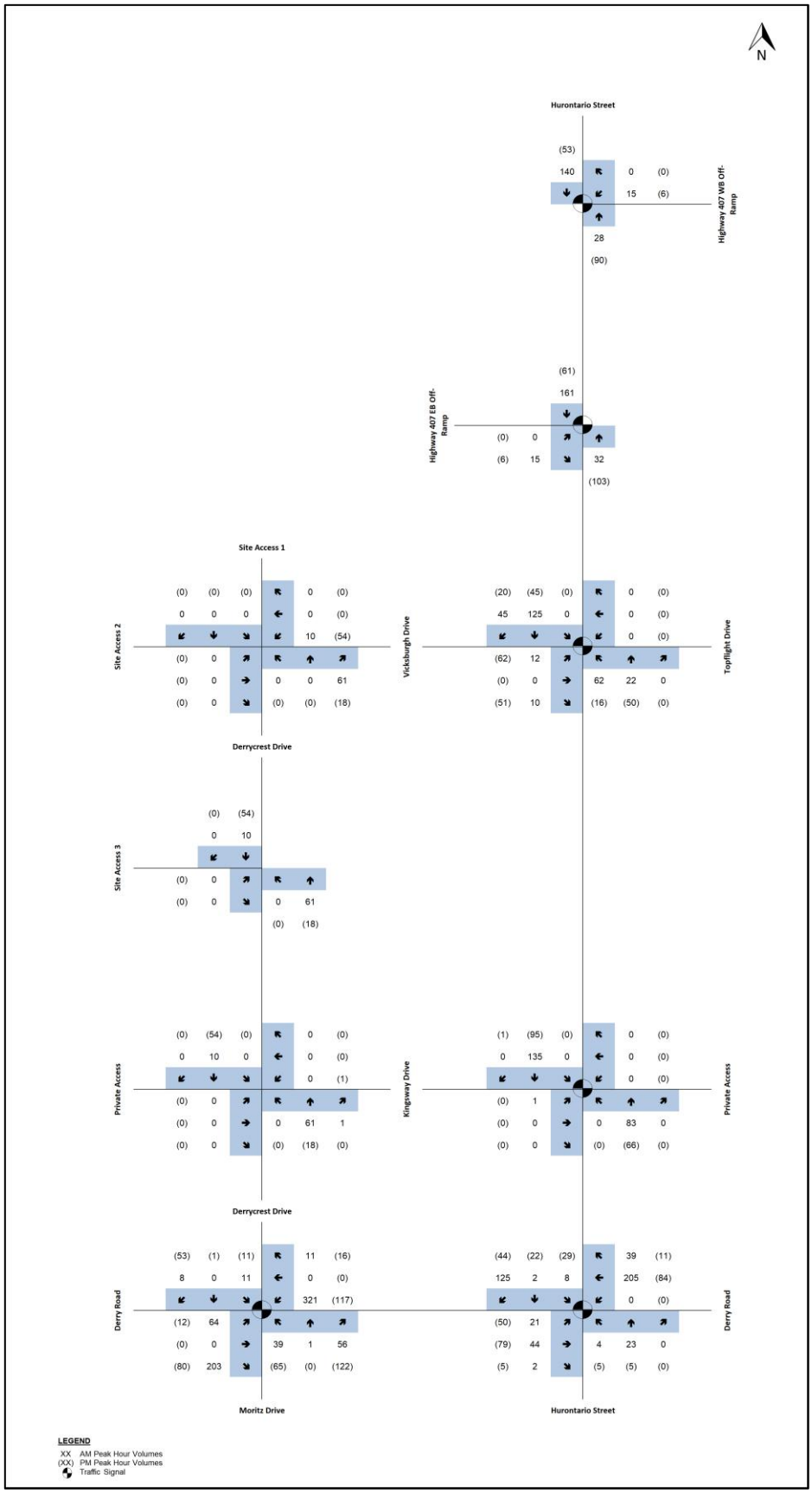


Figure 8 Total Background Development Traffic

4.4 Future Road Network

Currently, Vicksburgh Drive and Derrycrest Drive generally north of the existing parking lots are not operational. With the development of the subject site and adjacent lands, it is assumed that the roadways will be reinstated and operate with cross-sections reflecting the general surrounding road network.

With the ongoing LRT construction along Hurontario (further discussed in **Section 4.5**) Hurontario Street has been reduced to a general four-lane cross-section with auxiliary left-turn lanes provided in both directions at all full-moves study intersections along Hurontario Street.

4.5 Hurontario LRT

The Hazel McCallion Light Rail Transit (LRT), also known as the Hurontario LRT, is an 18-kilometre light rail transit line that will run between the Port Credit Station to the south and the Brampton Gateway Terminal to the north while providing connections to the Milton and Lakeshore West GO lines, the Mississauga Transit Way and the Zum Transitway. The LRT infrastructure (i.e. the rail lines and LRT stations) will primarily be located within the centre of the road, resulting in a permanent reduction of two lanes (one in each direction) along Hurontario Street.

The LRT line was previously expected to be completed and operational by Fall 2024, however no opening date has currently been set. Trains are expected to run with a headway of 7.5 minutes with the LRT trains having transit signal priority. The design of the LRT also includes a pedestrian sidewalks and cycle tracks on both sides of the road. The nearest LRT station will be located adjacent to the subject site at Hurontario Street and Derry Road as shown in **Figure 9**.

The Province has recently agreed to expand the Hazel McCallion LRT by reinstating the downtown Mississauga loop and extension into Downtown Brampton as originally planned after previously scaling back the transit line to cut costs.

The extension into downtown Brampton along Main Street was originally planned but was voted against by Brampton City Council which effectively cancelled this section of the LRT route. The Province's direction to Metrolinx to develop a plan to build the Brampton extension indicates a renewed interest in extending the LRT system into Brampton's city centre. Extending the LRT into downtown Brampton would create a direct and efficient link between Mississauga and a key urban centre in Brampton and would facilitate easier and faster commutes for residents and employees travelling between these areas.

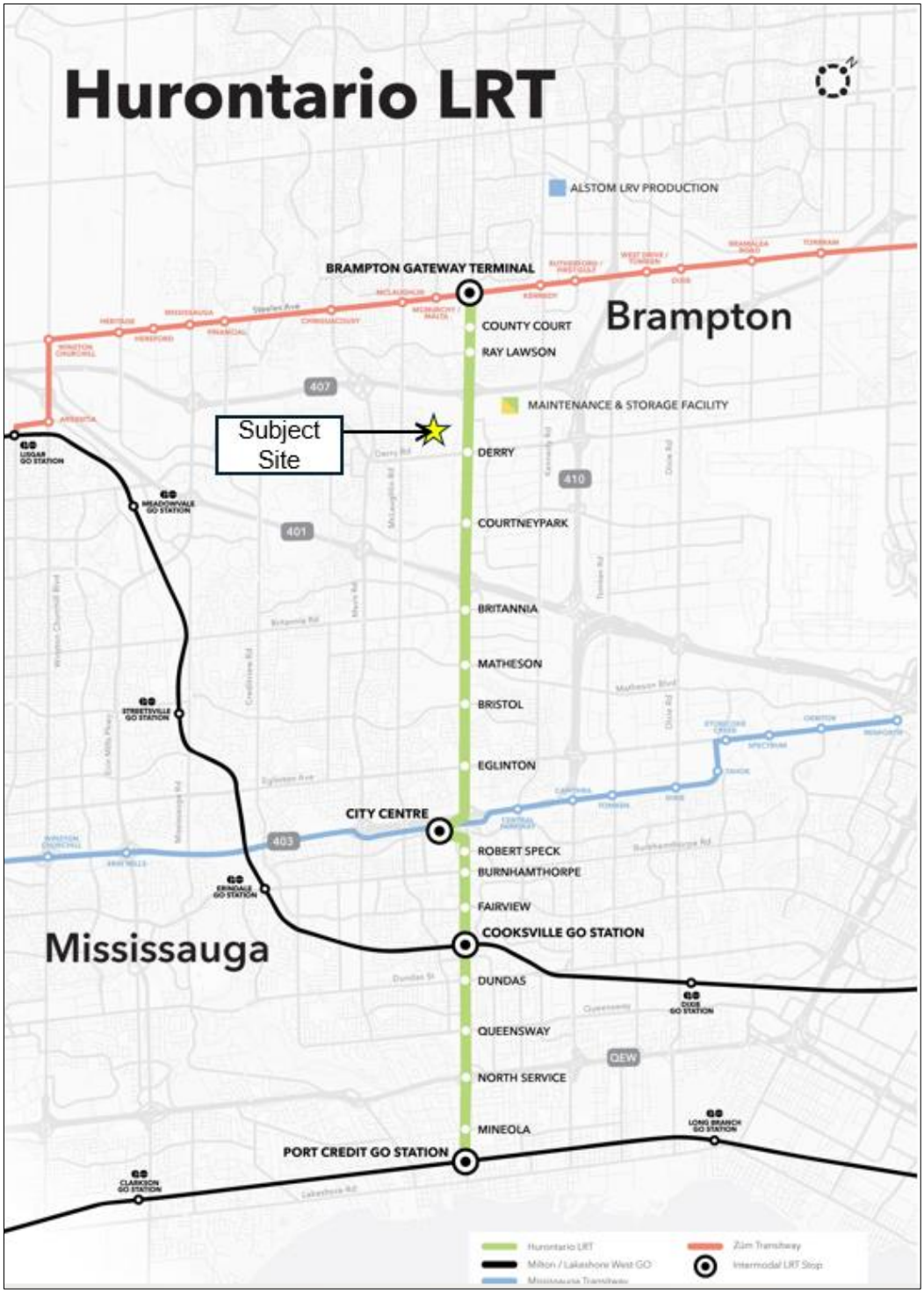


Figure 9 Hazel McCallion LRT Line Map

4.6 Future Lane Configuration

The future proposed road network and its lane configuration is shown in **Figure 10** and includes the restoration of Vicksburgh Drive and Derrycrest Drive.

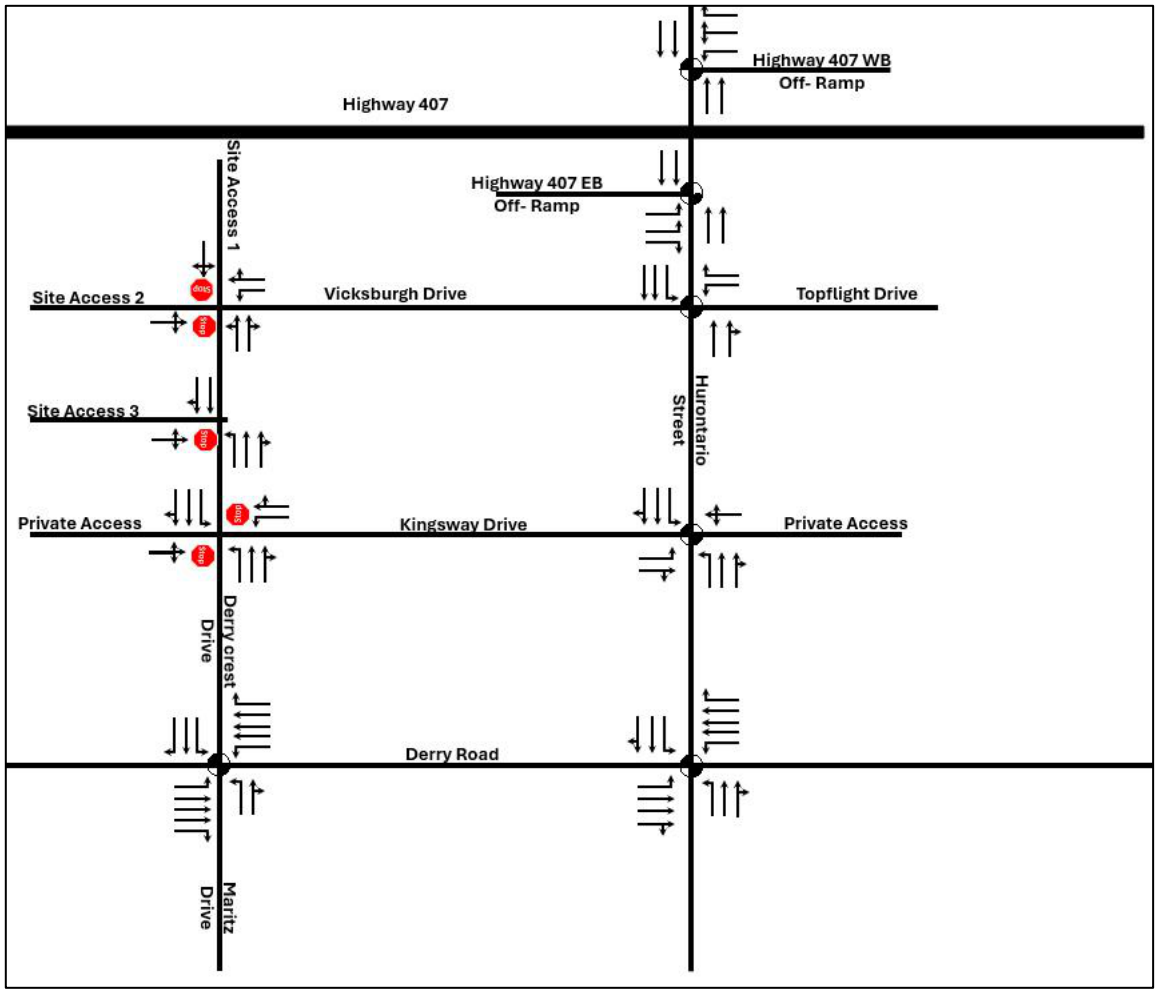


Figure 10 Future Lane Configuration

4.7 Future Background Traffic Volumes

The future background traffic volumes for the 2028, 2033 and 2038 horizon years were derived by applying the respective growth rates to the study area roads and the total background development traffic from **Figure 8**. The resulting 2028, 2033 and 2038 future background traffic volumes are summarized in **Figure 11** and **Figure 12, Figure 13**.

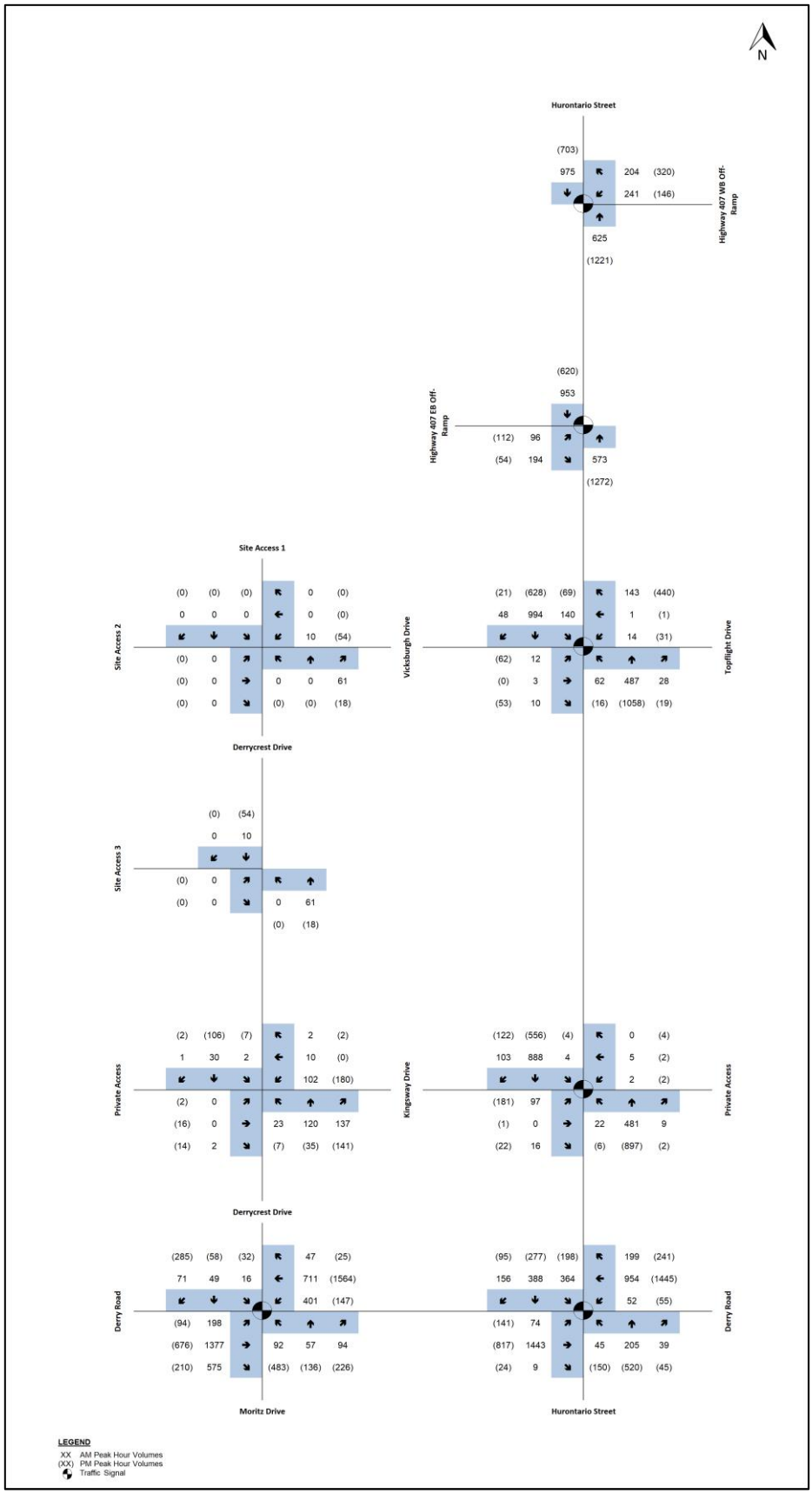


Figure 11 2028 Future Background Traffic Volumes

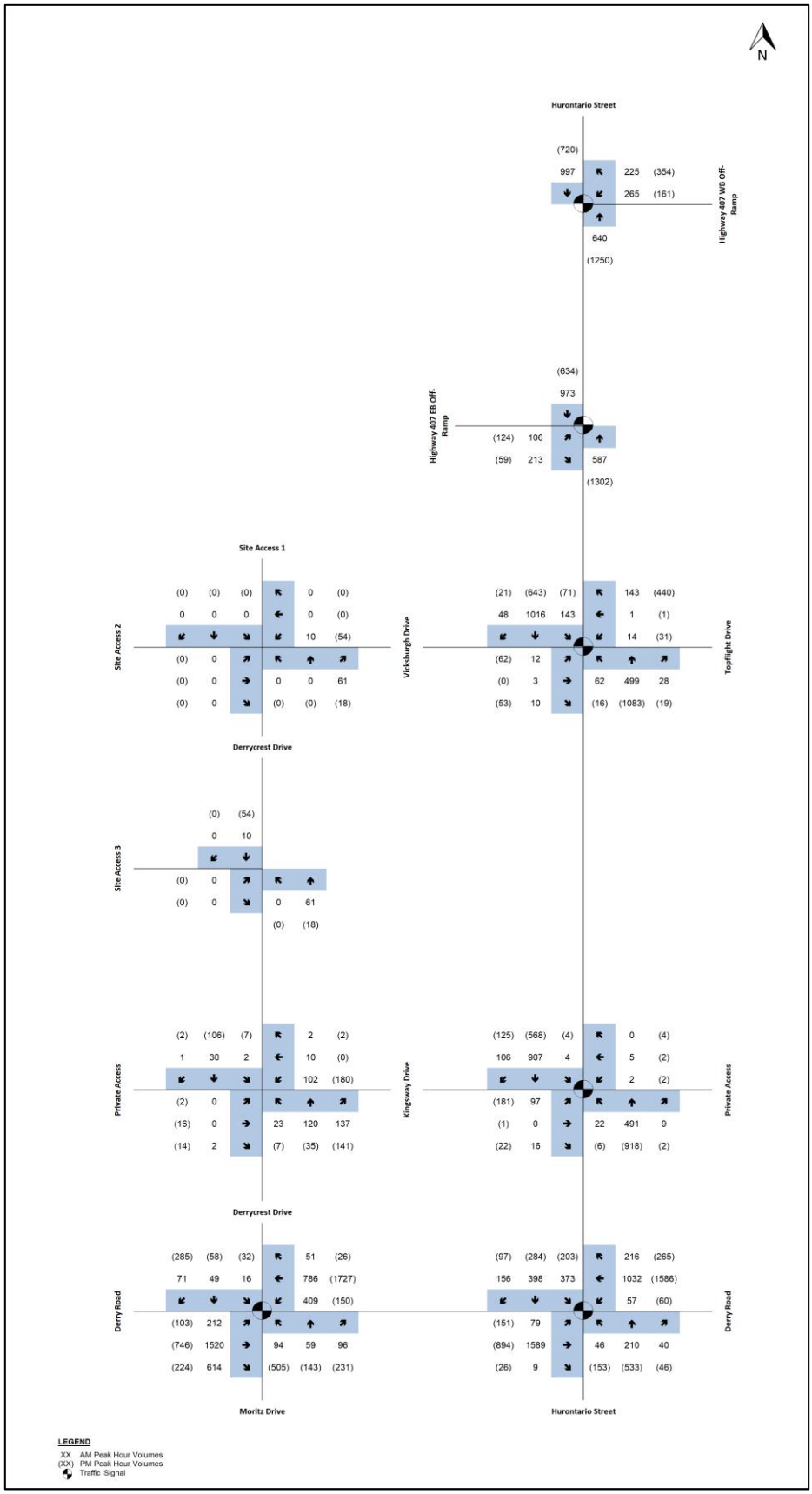


Figure 12 2033 Future Background Traffic Volumes

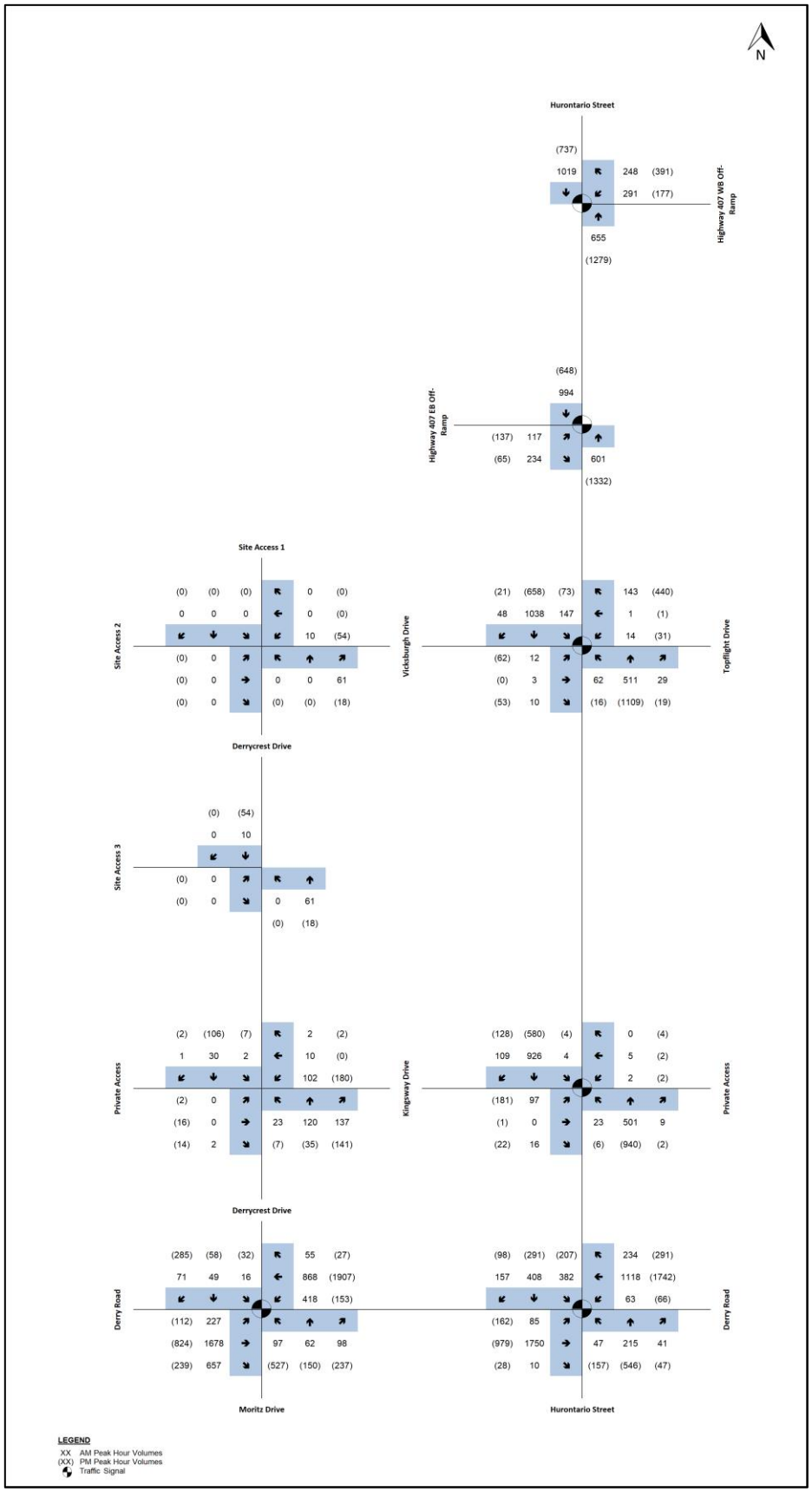


Figure 13 2038 Future Background Traffic Volumes

5. Site Generated Traffic

5.1 Site Trip Generation

The proposed development consists of a total of 7 industrial developments with a total of 46226.25 m^2 of GFA. The breakdown between each building is as follows:

- Building A: 9,738.46 m^2 of GFA
- Building B: 11,419.83 m^2 of GFA
- Building C: 12,727.34 m^2 of GFA
- Building D: 4,375.74 m^2 of GFA
- Building E: 3,480.00 m^2 of GFA
- Building F: 2,473.40 m^2 of GFA
- Building G: 2,011.48 m^2 of GFA

Site traffic generated by the proposed development for the weekday a.m. and p.m. peak hours was estimated by applying the trip rates for Land Use Code (LUC) 150 Warehousing in the 11th Edition of the Trip Generation Manual published by the Institute of Transportation Engineers (ITE). Warehousing was used as opposed to Industrial Park as comparing the two land uses, the Warehousing trip rates generated higher trip generation and as a result would provide a more conservative analysis of future intersection capacity.

A comparison of the fitted curve equations and average rates for each individual Land Use Code was completed, therefore whichever calculation resulted in a greater trip generation was applied as a conservative measure.

GHD reviewed the 2022 Transportation Tomorrow Survey (TTS) data to determine the existing auto/non-auto mode split. It should be noted that the ITE Trip Generation contains a 5% non-auto mode split built into its rates, and any further reduction would include the built-in rate. The 2022 TTS data is summarized in **Table 4**.

Table 3 Modal Split (2022 Transportation Tomorrow Survey Data)

	Percentage Split			
	AM		PM	
Transportation Mode	Inbound	Outbound	Inbound	Outbound
Auto driver	85%	85%	71%	86%
Auto passenger	9%	10%	14%	8%
Transit	5%	5%	12%	6%
Active Transportation	0%	0%	3%	0%
Total	100%	100%	100%	100%
Non-Auto Modal Split	5%	5%	15%	6%
TTS Sample Size	9150	432	545	3244
Including ITE Modal Split	**0%**	**0%**	**0%***	**1%**

*Sample size is too low to consider model split

Table 4 summarizes the estimated trip generation for the subject site. The trip generation was completed separately for each building.

Table 4 Total Site Trip Generation

Building	Land Use	GFA	Parameters	Peak Hour Trip Generation					
				Weekday AM			Weekday PM		
				In	Out	Total	In	Out	Total
Building A	Warehousing	9738.46 m^2	Gross Trips	28	8	36	11	28	39
			Modal Split Reduction	0	0	0	0	0	0
			New Trips	28	8	36	11	28	39
Building B	Warehousing	11419.83 m^2	Gross Trips	29	9	38	11	30	41
			Modal Split Reduction	0	0	0	0	0	0
			New Trips	29	8	38	11	28	41
Building C	Warehousing	12727.34 m^2	Gross Trips	31	9	40	12	31	43
			Modal Split Reduction	0	0	0	0	1	1
			New Trips	31	9	40	12	30	42
Building D	Warehousing	4375.74 m^2	Gross Trips	22	7	29	9	23	32
			Modal Split Reduction	0	0	0	0	0	0
			New Trips	22	7	29	9	23	32
Building E	Warehousing	3480.00 m^2	Gross Trips	22	6	28	9	22	31
			Modal Split Reduction	0	0	0	0	0	0
			New Trips	22	6	28	9	22	31
Building F	Warehousing	2473.40 m^2	Gross Trips	21	6	27	8	22	30
			Modal Split Reduction	0	0	0	0	0	0
			New Trips	21	6	27	8	22	30
Building G	Warehousing	2011.48 m^2	Gross Trips	20	6	26	8	21	29
			Modal Split Reduction	0	0	0	0	0	0
			New Trips	20	6	26	8	21	29
	Total New Primary Trips			**173**	**51**	**224**	**68**	**176**	**244**

The proposed development is expected to generate a total of 224 two-way vehicle trips during the a.m. peak hour consisting of 173 inbound and 51 outbound trips. During the p.m. peak hour, it is expected to generate 244 new two-way vehicle trips consisting of 68 inbound and 176 outbound trips.

5.2 Site Traffic Distribution and Assignment

The site generated traffic for the subject site was distributed based on a review of the existing travel patterns and the 2022 TTS data. As shown in the table below the site traffic is assumed to travel along six main points which include North on Hurontario Street, South on Hurontario Street, East from the Highway 407, West from the Highway 407, East from Derry Road and West from Derry Road.

The directional distribution is provided in **Table 5.** The total site trips for the proposed development is summarized in **Figure 14**.

Table 5 Site Traffic Distribution

Peak Period	Direction	North (Hurontario)	South (Hurontario)	East (Highway 407)	West (Highway 407)	East (Derry Road)	West (Derry Road)
AM	Inbound	15%	15%	5%	5%	25%	35%
	Outbound	20%	10%	5%	5%	40%	20%
PM	Inbound	20%	15%	5%	5%	35%	20%
	Outbound	25%	15%	5%	5%	20%	30%

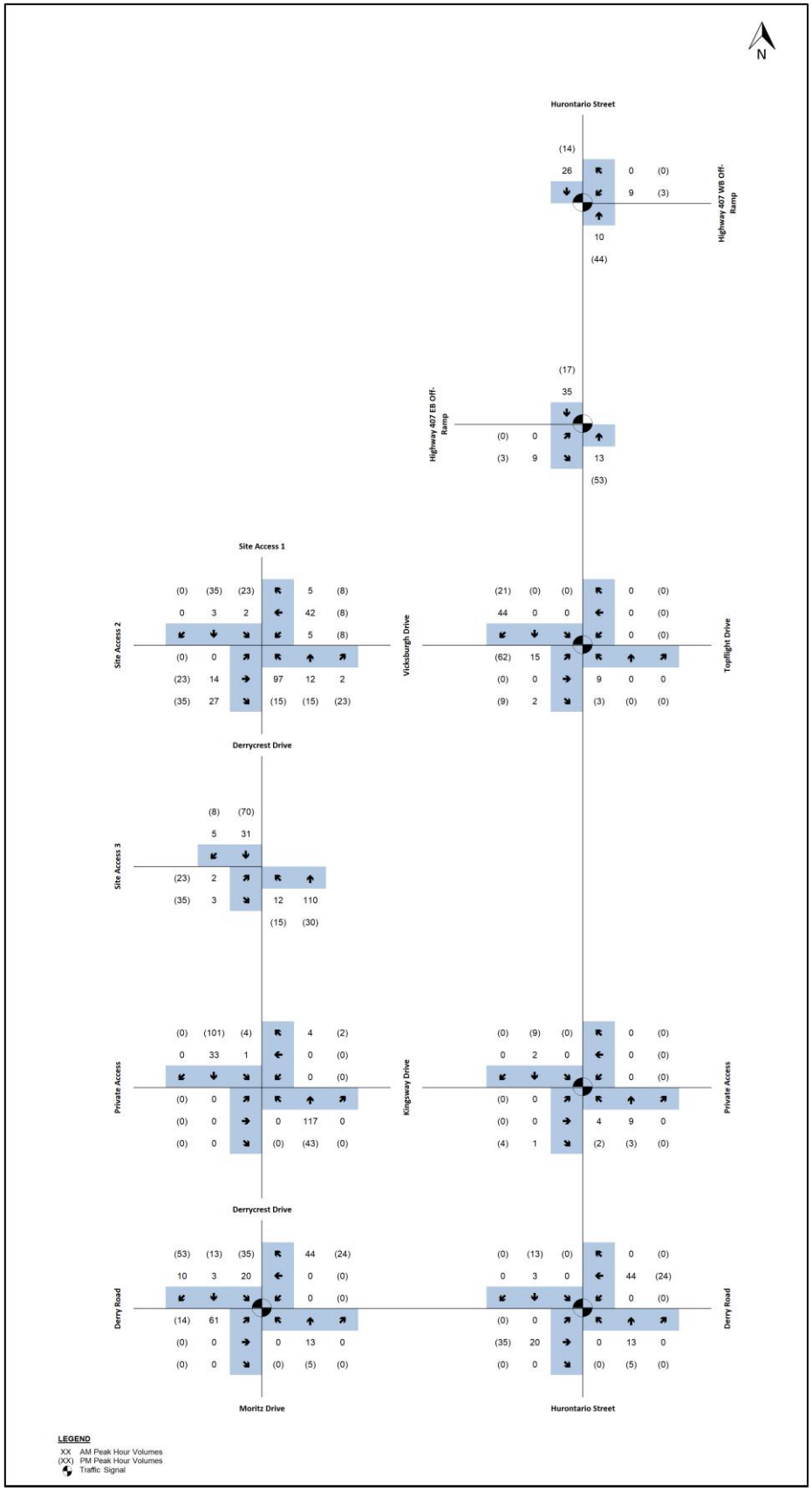


Figure 14 Total Site Trips

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 horizon were derived by combining the projected future background traffic with the corresponding estimated site generated traffic. The resulting traffic volumes are presented in **Figure 15**, **Figure 16**, and **Figure 17** for the 2028, 2033, and 2038 horizon years, respectively.

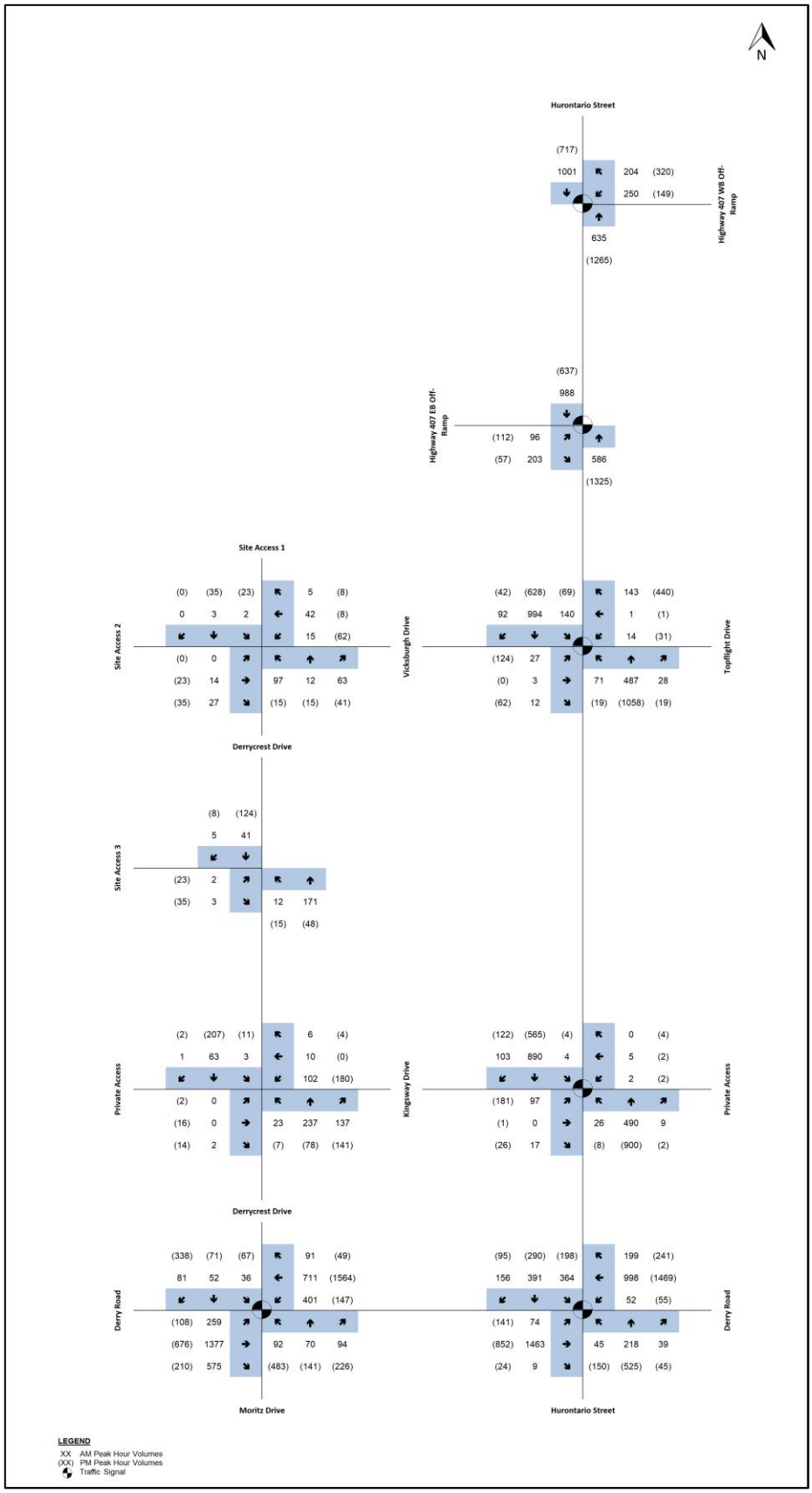


Figure 15 2028 Future Total Traffic Volumes

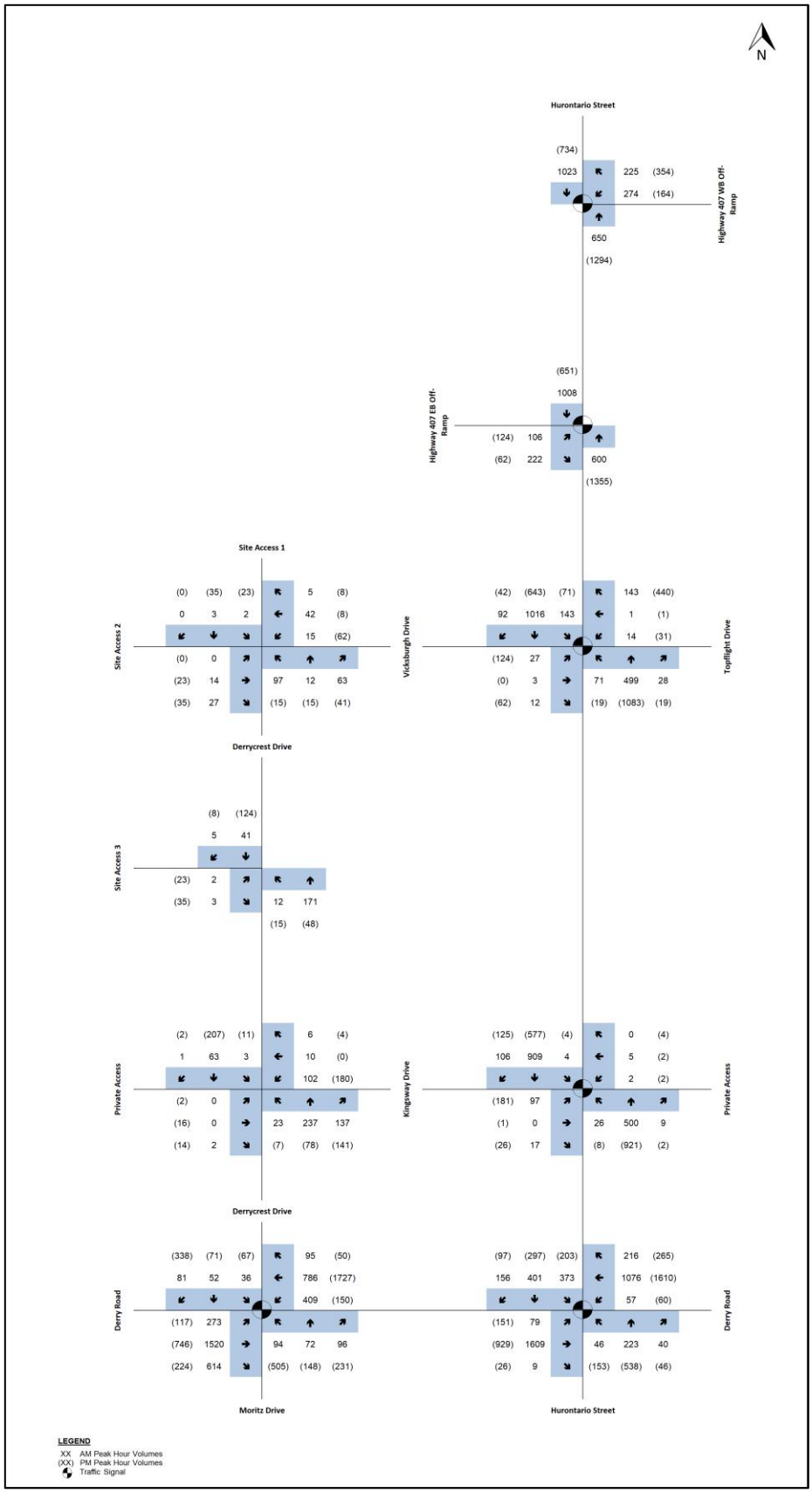


Figure 16 2033 Future Total Traffic Volumes

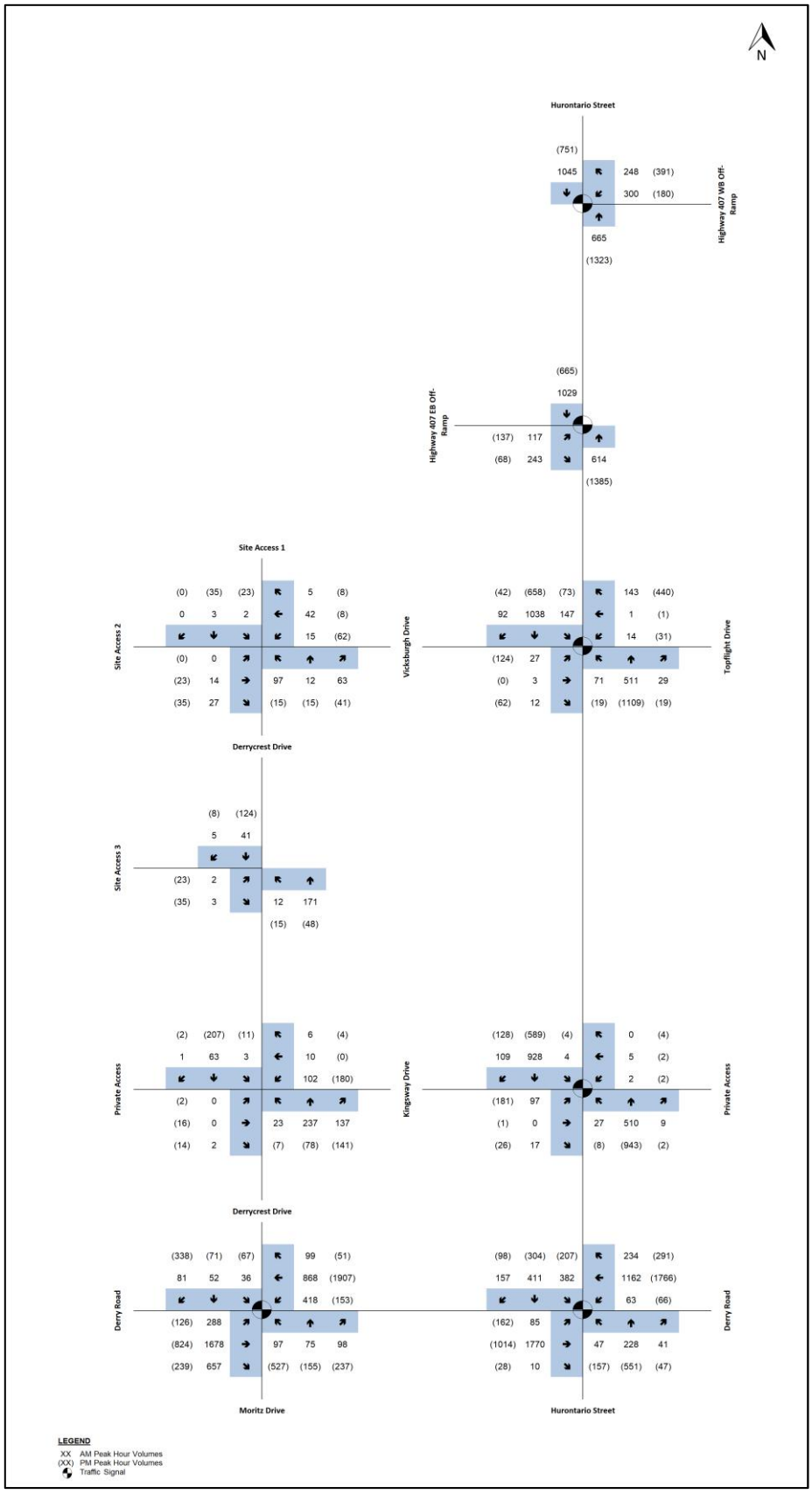


Figure 17 2038 Future Total Traffic Volumes

7. Capacity Analysis

The capacity analysis identifies how well the intersections and driveways are operating. The analysis contained within this report utilized the Highway Capacity Manual (HCM) 2000 procedure within the Synchro Version 11 Software package. The reported intersection volume-to-capacity ratios (v/c) are a measure of the saturation volume for each turning movement, while the levels-of-service (LOS) are a measure of the average delay for each turning movement. Queuing characteristics are reported as the predicted 95th percentile queue for each turning movement. Both pedestrian crossing volumes and heavy vehicle proportions are included in the analyses. The peak hour factors from the counts were used to analyze existing and future traffic conditions. When the existing peak hour factor along municipal roads were less than 0.92, a peak hour factor of 0.92 was used for the intersection.

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 intersection include:

- V/C ratios for overall intersections operations increase to 0.85 or above;
- V/C ratios for individual movements increase to 0.95 or above; or
- 95th percentile queue length for individual movements that are projected to, or exceed, the storage length.

'Critical' intersections and movements for an unsignalized intersection include:

- Level of Services (LOS), based on average delay per vehicle, on individual movements exceeds LOS "D",
- Queue length for individual movements exceed the available queue storage.

The following tables summarize the HCM capacity results for the study intersections during the weekday a.m. and p.m. peak hours under existing (2025), future background (2028, 2033, and 2038) and future total (2028, 2033, and 2038) traffic conditions. The detailed calculation sheets are provided in **Appendix E**.

7.1 Hurontario Street and the westbound Highway 407 Off-Ramp (North Terminal)

Capacity analysis at 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 6 Capacity analysis of Hurontario Street and the westbound Highway 407 Off-Ramp (North Terminal)

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Existing 2025	Overall: 0.39 (A) 10 WBLR = 0.54 (C) 31 WBR = 0.09 (C) 28 NBT = 0.26 (A) 4 SBT = 0.36 (A) 4	 WBLR = 30 m WBR = 15 m NBT = 25 m SBT = 35 m	Overall: 0.46 (A) 10 WBLR = 0.51 (C) 31 WBR = 0.41 (C) 31 NBT = 0.46 (A) 5 SBT = 0.27 (A) 4	 WBLR = 25 m WBR = 30 m NBT = 50 m SBT = 25 m
Future Background 2028	Overall: 0.44 (B) 10 WBLR = 0.57 (C) 32 WBR = 0.1 (C) 28 NBT = 0.27 (A) 4 SBT = 0.41 (A) 5	 WBLR = 35 m WBR = 15 m NBT = 25 m SBT = 45 m	Overall: 0.50 (B) 10 WBLR = 0.54 (C) 31 WBR = 0.47 (C) 31 NBT = 0.49 (A) 5 SBT = 0.28 (A) 4	 WBLR = 30 m WBR = 35 m NBT = 60 m SBT = 30 m
Future Total 2028	Overall: 0.45 (B) 10 WBLR = 0.58 (C) 32 WBR = 0.11 (C) 28 NBT = 0.27 (A) 4 SBT = 0.42 (A) 5	 WBLR = 35 m WBR = 15 m NBT = 25 m SBT = 45 m	Overall: 0.52 (B) 10 WBLR = 0.55 (C) 31 WBR = 0.48 (C) 31 NBT = 0.51 (A) 6 SBT = 0.29 (A) 4	 WBLR = 30 m WBR = 35 m NBT = 65 m SBT = 30 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Future Background 2033	Overall: 0.46 (B) 11 WBLR = 0.59 (C) 32 WBR = 0.11 (C) 28 NBT = 0.28 (A) 4 SBT = 0.42 (A) 5	WBLR = 35 m WBR = 20 m NBT = 30 m SBT = 50 m	Overall: 0.52 (B) 11 WBLR = 0.57 (C) 32 WBR = 0.52 (C) 32 NBT = 0.51 (A) 6 SBT = 0.3 (A) 4	WBLR = 35 m WBR = 40 m NBT = 70 m SBT = 35 m
Future Total 2033	Overall: 0.47 (B) 11 WBLR = 0.6 (C) 32 WBR = 0.12 (C) 28 NBT = 0.28 (A) 4 SBT = 0.44 (A) 6	WBLR = 40 m WBR = 20 m NBT = 30 m SBT = 50 m	Overall: 0.54 (B) 11 WBLR = 0.58 (C) 32 WBR = 0.54 (C) 32 NBT = 0.53 (A) 6 SBT = 0.3 (A) 5	WBLR = 35 m WBR = 40 m NBT = 75 m SBT = 35 m
Future Background 2038	Overall: 0.47 (B) 12 WBLR = 0.62 (C) 32 WBR = 0.13 (C) 28 NBT = 0.29 (A) 5 SBT = 0.44 (A) 6	WBLR = 40 m WBR = 20 m NBT = 30 m SBT = 55 m	Overall: 0.54 (B) 12 WBLR = 0.61 (C) 34 WBR = 0.55 (C) 34 NBT = 0.52 (A) 6 SBT = 0.3 (A) 5	WBLR = 40 m WBR = 45 m NBT = 75 m SBT = 35 m
Future Total 2038	Overall: 0.49 (B) 12 WBLR = 0.63 (C) 32 WBR = 0.13 (C) 28 NBT = 0.29 (A) 5 SBT = 0.45 (A) 6	WBLR = 40 m WBR = 20 m NBT = 35 m SBT = 55 m	Overall: 0.55 (B) 12 WBLR = 0.62 (C) 34 WBR = 0.57 (C) 35 NBT = 0.54 (A) 6 SBT = 0.31 (A) 5	WBLR = 40 m WBR = 45 m NBT = 80 m SBT = 40 m

Under existing traffic conditions, the signalized intersection is operating at satisfactory levels with an overall v/c ratio of 0.39 LOS A with a 10-second delay during the a.m. peak hour and 0.46 LOS A with a 10-second delay during the p.m. peak hour. The intersection does not currently operate with a critical movement.

With the addition of corridor growth, background development traffic, and optimizing signal timing splits to mitigate delays for the 2028 future background traffic scenario, the overall reported v/c of the intersection is expected to increase to 0.44 LOS B, 10-second delay during the a.m. peak hour and 0.50 LOS B, 10-second delay during the p.m. peak hour. The intersection continues to operate without any critical movements during both peak hours.

Under the 2028 future total traffic scenario, with redistribution of background development traffic and the addition of site generated traffic from the proposed development, the overall v/c ratio is reported to increase to 0.45 LOS B during the a.m. peak hour and 0.52 LOS C during the p.m. peak hour. The intersection continues to operate without any critical movements during the a.m. and p.m. peak hour.

With the addition of corridor growth, background development traffic, and signal improvements to mitigate delays for the 2033 future background traffic scenario, the overall reported v/c of the intersection is expected to increase to 0.46 LOS B during the a.m. peak hour and 0.52 LOS B during the p.m. peak hour. The intersection continues to operate without any critical movements during both peak hours.

Under the 2033 future total traffic scenario, with redistribution of background development traffic and the addition of site generated traffic from the proposed development, the overall v/c ratio is reported to increase to 0.47 LOS B during the a.m. peak hour and 0.50 LOS B during the p.m. peak hour. The intersection continues to operate without any critical movements during both peak hours.

With the addition of corridor growth, background development traffic, and signal improvements to mitigate delays for the 2038 future background traffic scenario, the overall reported v/c of the intersection is expected to increase to 0.47 LOS B during the a.m. peak hour and 0.54 LOS B during the p.m. peak hour. The intersection continues to operate without any critical movements during both peak hours.

Under the 2038 future total traffic scenario, with redistribution of background development traffic and the addition of site generated traffic from the proposed development, the overall v/c ratio is reported to increase to 0.49 LOS B during

the a.m. peak hour and 0.55 LOS B during the p.m. peak hour. The intersection continues to operate without any critical movements during both peak hours.

There are no geometric improvements recommended for the intersection as a result of the proposed development.

7.2 Hurontario Street and the eastbound Highway 407 Off-Ramp (South Terminal)

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 7 Capacity analysis of Hurontario Street and the eastbound Highway 407 Off-Ramp (South Terminal)

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Existing 2025	Overall: 0.32 (A) 8 EBL = 0.26 (C) 32 EBR = 0.18 (C) 32 NBT = 0.22 (A) 3 SBT = 0.32 (A) 3	 EBL = 15 m EBR = 20 m NBT = 20 m SBT = 30 m	Overall: 0.43 (A) 5 EBL = 0.37 (C) 34 EBR = 0.03 (C) 33 NBT = 0.44 (A) 3 SBT = 0.22 (A) 2	 EBL = 15 m EBR = 10 m NBT = 40 m SBT = 15 m
Future Background 2028	Overall: 0.41 (A) 8 EBL = 0.22 (C) 30 EBR = 0.49 (C) 33 NBT = 0.24 (A) 4 SBT = 0.39 (A) 4	 EBL = 15 m EBR = 30 m NBT = 25 m SBT = 45 m	Overall: 0.46 (A) 6 EBL = 0.38 (C) 34 EBR = 0.04 (C) 32 NBT = 0.47 (A) 3 SBT = 0.23 (A) 2	 EBL = 15 m EBR = 10 m NBT = 45 m SBT = 20 m
Future Total 2028	Overall: 0.43 (A) 9 EBL = 0.2 (C) 30 EBR = 0.55 (C) 34 NBT = 0.25 (A) 4 SBT = 0.41 (A) 5	 EBL = 15 m EBR = 35 m NBT = 25 m SBT = 50 m	Overall: 0.48 (A) 6 EBL = 0.39 (C) 34 EBR = 0.04 (C) 32 NBT = 0.49 (A) 4 SBT = 0.24 (A) 2	 EBL = 15 m EBR = 10 m NBT = 45 m SBT = 20 m
Future Background 2033	Overall: 0.43 (A) 9 EBL = 0.22 (C) 30 EBR = 0.56 (C) 34 NBT = 0.25 (A) 4 SBT = 0.41 (A) 5	 EBL = 15 m EBR = 35 m NBT = 30 m SBT = 50 m	Overall: 0.47 (A) 6 EBL = 0.35 (C) 33 EBR = 0.04 (C) 31 NBT = 0.49 (A) 4 SBT = 0.25 (A) 3	 EBL = 15 m EBR = 10 m NBT = 45 m SBT = 20 m
Future Total 2033	Overall: 0.46 (A) 10 EBL = 0.2 (C) 29 EBR = 0.6 (D) 35 NBT = 0.26 (A) 4 SBT = 0.43 (A) 5	 EBL = 15 m EBR = 40 m NBT = 30 m SBT = 55 m	Overall: 0.49 (A) 6 EBL = 0.35 (C) 33 EBR = 0.05 (C) 31 NBT = 0.51 (A) 4 SBT = 0.25 (A) 3	 EBL = 15 m EBR = 10 m NBT = 50 m SBT = 20 m
Future Background 2038	Overall: 0.46 (B) 10 EBL = 0.22 (C) 29 EBR = 0.62 (D) 36 NBT = 0.26 (A) 4 SBT = 0.42 (A) 5	 EBL = 15 m EBR = 45 m NBT = 30 m SBT = 55 m	Overall: 0.48 (A) 6 EBL = 0.39 (D) 35 EBR = 0.05 (C) 33 NBT = 0.5 (A) 4 SBT = 0.25 (A) 3	 EBL = 20 m EBR = 10 m NBT = 50 m SBT = 20 m
Future Total 2038	Overall: 0.49 (B) 10 EBL = 0.2 (C) 28 EBR = 0.65 (D) 36 NBT = 0.27 (A) 5 SBT = 0.44 (A) 6	 EBL = 15 m EBR = 45 m NBT = 35 m SBT = 60 m	Overall: 0.5 (A) 7 EBL = 0.39 (D) 35 EBR = 0.05 (C) 33 NBT = 0.52 (A) 4 SBT = 0.26 (A) 3	 EBL = 20 m EBR = 10 m NBT = 50 m SBT = 20 m

Under existing traffic conditions, the signalized intersection is operating at satisfactory levels with an overall v/c ratio of 0.32 LOS A during the a.m. peak hour and 0.43 LOS A during the p.m. peak hour. The intersection does not currently operate with a critical movement.

With the addition of corridor growth, background development traffic, and optimizing signal timing splits to mitigate delays for the 2028 future background traffic scenario, the overall reported v/c of the intersection is expected to increase to 0.41 LOS A during the a.m. peak hour and 0.46 LOS A during the p.m. peak hour. The intersection continues to operate without any critical movements during both peak hours.

Under the 2028 future total traffic scenario, with redistribution of background development traffic and the addition of site generated traffic from the proposed development, the overall v/c ratio is reported to increase to 0.43 LOS A during the a.m. peak hour and 0.48 LOS A during the p.m. peak hour. The intersection continues to operate without any critical movements during the a.m. and p.m. peak hour.

With the addition of corridor growth, background development traffic, and signal improvements to mitigate delays for the 2033 future background traffic scenario, the overall reported v/c of the intersection is expected to increase from the previous future background 2028 scenario to 0.43 LOS A during the a.m. peak hour and 0.47 LOS A during the p.m. peak hour. The intersection continues to operate without any critical movements during both peak hours.

Under the 2033 future total traffic scenario, with redistribution of background development traffic and the addition of site generated traffic from the proposed development, the overall v/c ratio is reported to increase to 0.46 LOS A during the a.m. peak hour and 0.49 LOS A during the p.m. peak hour. The intersection continues to operate without any critical movements during both peak hours.

With the addition of corridor growth and background development traffic the 2038 future background traffic scenario, the overall reported v/c of the intersection is expected to operate similarly to the previous scenario with a 0.46 LOS B during the a.m. peak hour and 0.48 LOS A during the p.m. peak hour. The intersection continues to operate without any critical movements during both peak hours.

Under the 2038 future total traffic scenario, with redistribution of background development traffic and the addition of site generated traffic from the proposed development, the overall v/c ratio is reported at 0.49 LOS B during the a.m. peak hour and 0.50 LOS A during the p.m. peak hour. The intersection continues to operate without any critical movements during both peak hours.

There are no geometric improvements recommended for the intersection as a result of the proposed development.

7.3 Hurontario Street and Vicksburgh Drive/Topflight Drive

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

Table 8 Capacity analysis of Hurontario Street and Vicksburgh Drive/Topflight Drive

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Existing 2025	Overall: 0.42 (B) 14 EBL = 0 () 0 EBTR = 0.02 (D) 37 WBTLR = 0.22 (D) 39 NBL = 0 () 0 NBTR = 0.31 (B) 13 SBL = 0.62 (D) 41 SBTR = 0.38 (A) 5	 EBL = 0 m EBTR = 5 m WBTLR = 25 m NBL = 0 m NBTR = 45 m SBL = 50 m SBTR = 45 m	Overall: 0.64 (C) 30 EBL = 0 () 0 EBTR = 0 (D) 42 WBTLR = 0.86 (E) 69 NBL = 0 () 0 NBTR = 0.54 (C) 21 SBL = 0.7 (F) 83 SBTR = 0.27 (B) 10	 EBL = 0 m EBTR = 0 m WBTLR = 125 m NBL = 0 m NBTR = 160 m SBL = 40 m SBTR = 65 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Future Background 2028	Overall: 0.53 (B) 18 EBL = 0.13 (D) 39 EBTR = 0.02 (D) 38 WBTLR = 0.22 (D) 39 NBL = 0.45 (D) 43 NBTR = 0.31 (B) 13 SBL = 0.62 (D) 42 SBTR = 0.54 (B) 12	 EBL = 10 m EBTR = 10 m WBTLR = 25 m NBL = 25 m NBTR = 45 m SBL = 45 m SBTR = 95 m	Overall: 0.69 (D) 35 EBL = 0.52 (D) 48 EBTR = 0.03 (D) 39 **WBTLR = 0.89 (E) 71** NBL = 0.48 (F) 80 NBTR = 0.58 (C) 24 **SBL = 0.8 (F) 107** SBTR = 0.33 (B) 17	 EBL = 30 m EBTR = 0 m **WBTLR = 145 m** NBL = 15 m NBTR = 165 m **SBL = 55 m** SBTR = 90 m
Future Total 2028	Overall: 0.56 (B) 18 EBL = 0.3 (D) 40 EBTR = 0.03 (D) 38 WBTLR = 0.22 (D) 39 NBL = 0.49 (D) 43 NBTR = 0.31 (B) 13 SBL = 0.62 (D) 42 SBTR = 0.57 (B) 13	 EBL = 15 m EBTR = 10 m WBTLR = 25 m NBL = 30 m NBTR = 45 m SBL = 45 m SBTR = 100 m	Overall: 0.75 (D) 41 EBL = 0.62 (D) 43 EBTR = 0.04 (C) 32 **WBTLR = 0.91 (E) 76** NBL = 0.54 (F) 86 NBTR = 0.68 (C) 33 SBL = 0.74 (F) 94 SBTR = 0.39 (C) 23	 EBL = 40 m EBTR = 0 m **WBTLR = 145 m** NBL = 15 m NBTR = 190 m SBL = 45 m SBTR = 100 m
Future Background 2033	Overall: 0.54 (B) 18 EBL = 0.13 (D) 39 EBTR = 0.02 (D) 38 WBTLR = 0.22 (D) 39 NBL = 0.45 (D) 43 NBTR = 0.32 (B) 13 SBL = 0.62 (D) 42 SBTR = 0.55 (B) 12	 EBL = 10 m EBTR = 10 m WBTLR = 25 m NBL = 25 m NBTR = 50 m SBL = 50 m SBTR = 95 m	Overall: 0.7 (D) 36 EBL = 0.52 (D) 49 EBTR = 0.03 (D) 39 **WBTLR = 0.89 (E) 72** NBL = 0.5 (F) 82 NBTR = 0.59 (C) 24 **SBL = 0.84 (F) 115** SBTR = 0.34 (B) 17	 EBL = 30 m EBTR = 0 m **WBTLR = 145 m** NBL = 15 m NBTR = 170 m **SBL = 60 m** SBTR = 90 m
Future Total 2033	Overall: 0.57 (B) 19 EBL = 0.3 (D) 40 EBTR = 0.03 (D) 38 WBTLR = 0.22 (D) 39 NBL = 0.49 (D) 43 NBTR = 0.32 (B) 13 SBL = 0.62 (D) 42 SBTR = 0.58 (B) 13	 EBL = 15 m EBTR = 10 m WBTLR = 25 m NBL = 30 m NBTR = 50 m SBL = 50 m SBTR = 105 m	Overall: 0.76 (D) 42 EBL = 0.63 (D) 44 EBTR = 0.04 (C) 33 **WBTLR = 0.91 (E) 78** NBL = 0.54 (F) 87 NBTR = 0.71 (D) 35 SBL = 0.64 (E) 77 SBTR = 0.4 (C) 23	 EBL = 40 m EBTR = 0 m **WBTLR = 150 m** NBL = 15 m NBTR = 195 m SBL = 45 m SBTR = 100 m
Future Background 2038	Overall: 0.55 (B) 18 EBL = 0.13 (D) 39 EBTR = 0.02 (D) 38 WBTLR = 0.22 (D) 39 NBL = 0.46 (D) 43 NBTR = 0.33 (B) 13 SBL = 0.63 (D) 42 SBTR = 0.56 (B) 13	 EBL = 10 m EBTR = 10 m WBTLR = 25 m NBL = 25 m NBTR = 50 m SBL = 50 m SBTR = 100 m	Overall: 0.71 (D) 36 EBL = 0.51 (D) 48 EBTR = 0.03 (D) 39 **WBTLR = 0.9 (E) 72** NBL = 0.5 (F) 82 NBTR = 0.61 (C) 25 **SBL = 0.86 (F) 122** SBTR = 0.35 (B) 17	 EBL = 30 m EBTR = 0 m **WBTLR = 145 m** NBL = 15 m NBTR = 180 m **SBL = 60 m** SBTR = 95 m
Future Total 2038	Overall: 0.58 (B) 19 EBL = 0.3 (D) 40 EBTR = 0.03 (D) 38 WBTLR = 0.22 (D) 39 NBL = 0.49 (D) 43 NBTR = 0.33 (B) 13 SBL = 0.63 (D) 42 SBTR = 0.59 (B) 13	 EBL = 15 m EBTR = 10 m WBTLR = 25 m NBL = 30 m NBTR = 50 m SBL = 50 m SBTR = 105 m	Overall: 0.77 (D) 42 EBL = 0.64 (D) 46 EBTR = 0.04 (C) 33 **WBTLR = 0.92 (E) 79** NBL = 0.54 (F) 87 NBTR = 0.72 (D) 36 SBL = 0.63 (E) 75 SBTR = 0.4 (C) 23	 EBL = 40 m EBTR = 0 m **WBTLR = 145 m** NBL = 15 m NBTR = 205 m SBL = 45 m SBTR = 100 m

Under existing traffic conditions, the signalized intersection is operating at satisfactory levels with an overall v/c ratio of 0.42 LOS B during the a.m. peak hour and 0.64 LOS C during the p.m. peak hour. The intersection does not currently operate with a critical movement.

With the addition of corridor growth, background development traffic, and optimizing signal timing splits to mitigate delays for the 2028 future background traffic scenario, the overall reported v/c of the intersection is expected to increase to 0.53 LOS B during the a.m. peak hour and 0.69 LOS B during the p.m. peak hour. The intersection reports a critical westbound through/left/right reporting a v/c of 0.89 LOS E, 71 second delay and a 145-metre queue and a critical southbound left queue of 55-metres during the p.m. peak hours.

Under the 2028 future total traffic scenario, with redistribution of background development traffic and the addition of site generated traffic from the proposed development and an inclusion of a permitted protected phase during the p.m. peak hour, the overall v/c ratio is reported to increase to 0.56 LOS B during the a.m. peak hour and the p.m. peak hour maintains an overall v/c of 0.75 LOS D. The intersection reports a critical westbound through/left/right reporting a v/c of 0.91 LOS E, 76 second delay and a 145-metre queue.

With the addition of corridor growth, background development traffic, and optimizing signal timing splits to mitigate delays for the 2033 future background traffic scenario, the overall reported v/c of the intersection is expected to increase to 0.54 LOS B during the a.m. peak hour and 0.70 LOS B during the p.m. peak hour. The intersection reports a critical westbound through/left/right reporting a v/c of 0.89 LOS E, 72 second delay and a 145-metre queue and a critical southbound left queue of 60-metres during the p.m. peak hours.

Under the 2033 future total traffic scenario, with redistribution of background development traffic and the addition of site generated traffic from the proposed development and an inclusion of a permitted protected phase during the p.m. peak hour, the overall v/c ratio is reported to increase to 0.57 LOS B during the a.m. peak hour and the p.m. peak hour maintains an overall v/c of 0.716LOS D. The intersection reports a critical westbound through/left/right reporting a v/c of 0.91 LOS E, 72 second delay and a 150-metre queue.

With the addition of corridor growth, background development traffic, and optimizing signal timing splits to mitigate delays for the 2038 future background traffic scenario, the overall reported v/c of the intersection is expected to increase to 0.55 LOS B during the a.m. peak hour and 0.71 LOS D during the p.m. peak hour. The intersection reports a critical westbound through/left/right reporting a v/c of 0.90 LOS E, 72 second delay and a 145-metre queue and a critical southbound left queue of 60-metres during the p.m. peak hours.

Under the 2038 future total traffic scenario, with redistribution of background development traffic and the addition of site generated traffic from the proposed development and an inclusion of a permitted protected phase during the p.m. peak hour, the overall v/c ratio is reported to increase to 0.58 LOS B during the a.m. peak hour and the p.m. peak hour maintains an overall v/c of 0.77 LOS D. The intersection reports a critical westbound through/left/right reporting a v/c of 0.92 LOS E, 79 second delay and a 145-metre queue.

The introduction of a p.m. peak permitted-protected phase, combined with the site-generated traffic contributing less than 2% of the total intersection volume during each peak hour, indicates that the proposed development will have a negligible impact on intersection operations. As a result, no geometric improvements are recommended as a result of the subject site.

7.4 Hurontario Street and Kingsway Drive/Private Access

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

Table 9 Capacity analysis of Hurontario Street and Kingsway Drive/Private Access

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Existing 2025	Overall: 0.42 (B) 13 EBL = 0.65 (E) 64	**EBL = 45 m** EBTR = 0 m	Overall: 0.45 (B) 17 EBL = 0.79 (E) 69	**EBL = 75 m** EBTR = 10 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
	EBTR = 0.01 (D) 51 WBTLR = 0.04 (D) 51 NBL = 0.36 (E) 63 NBTR = 0.18 (A) 6 SBL = 0.19 (E) 67 SBTR = 0.39 (A) 9	WBTLR = 10 m NBL = 15 m NBTR = 35 m SBL = 5 m SBTR = 75 m	EBTR = 0.02 (D) 46 WBTLR = 0.02 (D) 46 NBL = 0.38 (E) 79 NBTR = 0.36 (A) 10 SBL = 0.21 (E) 70 SBTR = 0.27 (A) 9	WBTLR = 5 m NBL = 10 m NBTR = 85 m SBL = 5 m SBTR = 55 m
Future Background 2028	Overall: 0.46 (B) 13 EBL = 0.65 (E) 61 EBTR = 0.01 (D) 49 WBTLR = 0.04 (D) 49 NBL = 0.34 (E) 61 NBTR = 0.22 (A) 6 SBL = 0.18 (E) 64 SBTR = 0.44 (A) 9	**EBL = 45 m** EBTR = 0 m WBTLR = 5 m NBL = 15 m NBTR = 40 m SBL = 5 m SBTR = 90 m	Overall: 0.47 (B) 16 EBL = 0.78 (E) 65 EBTR = 0.02 (D) 44 WBTLR = 0.02 (D) 44 NBL = 0.35 (E) 74 NBTR = 0.39 (B) 10 SBL = 0.2 (E) 66 SBTR = 0.31 (A) 9	**EBL = 75 m** EBTR = 10 m WBTLR = 5 m NBL = 10 m NBTR = 90 m SBL = 5 m SBTR = 65 m
Future Total 2028	Overall: 0.46 (B) 13 EBL = 0.65 (E) 61 EBTR = 0.01 (D) 49 WBTLR = 0.04 (D) 49 NBL = 0.39 (E) 62 NBTR = 0.22 (A) 6 SBL = 0.18 (E) 64 SBTR = 0.44 (A) 9	**EBL = 45 m** EBTR = 0 m WBTLR = 10 m NBL = 20 m NBTR = 40 m SBL = 5 m SBTR = 90 m	Overall: 0.47 (B) 16 EBL = 0.78 (E) 65 EBTR = 0.02 (D) 44 WBTLR = 0.02 (D) 44 NBL = 0.47 (F) 81 NBTR = 0.39 (B) 10 SBL = 0.2 (E) 66 SBTR = 0.31 (A) 9	**EBL = 75 m** EBTR = 10 m WBTLR = 5 m NBL = 10 m NBTR = 90 m SBL = 5 m SBTR = 65 m
Future Background 2033	Overall: 0.47 (B) 13 EBL = 0.65 (E) 61 EBTR = 0.01 (D) 49 WBTLR = 0.04 (D) 49 NBL = 0.34 (E) 61 NBTR = 0.22 (A) 6 SBL = 0.18 (E) 64 SBTR = 0.45 (A) 9	**EBL = 45 m** EBTR = 0 m WBTLR = 5 m NBL = 15 m NBTR = 40 m SBL = 5 m SBTR = 90 m	Overall: 0.47 (B) 16 EBL = 0.78 (E) 65 EBTR = 0.02 (D) 44 WBTLR = 0.02 (D) 44 NBL = 0.35 (E) 74 NBTR = 0.4 (B) 10 SBL = 0.2 (E) 66 SBTR = 0.31 (A) 9	**EBL = 75 m** EBTR = 10 m WBTLR = 5 m NBL = 10 m NBTR = 95 m SBL = 5 m SBTR = 65 m
Future Total 2033	Overall: 0.47 (B) 13 EBL = 0.65 (E) 61 EBTR = 0.01 (D) 49 WBTLR = 0.04 (D) 49 NBL = 0.39 (E) 62 NBTR = 0.22 (A) 6 SBL = 0.18 (E) 64 SBTR = 0.45 (A) 10	**EBL = 45 m** EBTR = 0 m WBTLR = 10 m NBL = 20 m NBTR = 40 m SBL = 5 m SBTR = 95 m	Overall: 0.48 (B) 16 EBL = 0.78 (E) 65 EBTR = 0.02 (D) 44 WBTLR = 0.02 (D) 44 NBL = 0.47 (F) 81 NBTR = 0.4 (B) 10 SBL = 0.2 (E) 66 SBTR = 0.32 (A) 9	**EBL = 75 m** EBTR = 10 m WBTLR = 5 m NBL = 10 m NBTR = 95 m SBL = 5 m SBTR = 65 m
Future Background 2038	Overall: 0.48 (B) 13 EBL = 0.64 (E) 61 EBTR = 0.01 (D) 48 WBTLR = 0.04 (D) 49 NBL = 0.35 (E) 60 NBTR = 0.22 (A) 6 SBL = 0.18 (E) 64 SBTR = 0.46 (A) 10	**EBL = 45 m** EBTR = 0 m WBTLR = 5 m NBL = 15 m NBTR = 40 m SBL = 5 m SBTR = 95 m	Overall: 0.48 (B) 16 EBL = 0.78 (E) 63 EBTR = 0.02 (D) 42 WBTLR = 0.02 (D) 42 NBL = 0.35 (E) 72 NBTR = 0.41 (B) 10 SBL = 0.19 (E) 64 SBTR = 0.32 (A) 10	**EBL = 70 m** EBTR = 10 m WBTLR = 5 m NBL = 10 m NBTR = 95 m SBL = 5 m SBTR = 65 m
Future Total 2038	Overall: 0.48 (B) 13 EBL = 0.64 (E) 61 EBTR = 0.01 (D) 48 WBTLR = 0.04 (D) 49	**EBL = 45 m** EBTR = 0 m WBTLR = 5 m	Overall: 0.49 (B) 16 EBL = 0.78 (E) 63 EBTR = 0.02 (D) 42 WBTLR = 0.02 (D) 42	**EBL = 70 m** EBTR = 10 m WBTLR = 5 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
	NBL = 0.4 (E) 61 NBTR = 0.23 (A) 6 SBL = 0.18 (E) 64 SBTR = 0.46 (A) 10	NBL = 20 m NBTR = 40 m SBL = 5 m SBTR = 95 m	NBL = 0.47 (E) 79 NBTR = 0.41 (B) 10 SBL = 0.19 (E) 64 SBTR = 0.33 (A) 10	NBL = 10 m NBTR = 95 m SBL = 5 m SBTR = 70 m

Under existing traffic conditions, the signalized intersection is operating at satisfactory levels with an overall v/c ratio of 0.42 LOS B during the a.m. peak hour and 0.45 LOS B during the p.m. peak hour. The intersection reports a critical eastbound left during both the a.m. and p.m. peak hours with a queue of 45-metres and 75-metres respectively.

With the addition of corridor growth, background development traffic, and optimizing signal timing splits to mitigate delays for the 2028 future background traffic scenario, the overall reported v/c of the intersection is expected to increase to 0.46 LOS B during the a.m. peak hour and improve to 0.47 LOS B during the p.m. peak hour. The eastbound left critical movements remain critical.

Under the 2028 future total traffic scenario, with the inclusion of background development, site traffic and signal split optimization, the overall v/c ratio is reported to increase to 0.46 LOS B during the a.m. peak hour and 0.47 LOS B during the p.m. peak hour. The intersection continues to operate without any critical movements during the a.m. and p.m. peak hour.

With the addition of corridor growth, background development traffic, and optimizing signal timing splits to mitigate delays for the 2033 future background traffic scenario, the overall reported v/c of the intersection is expected to increase to 0.47 LOS B during the a.m. peak hour and 0.47 LOS B during the p.m. peak hour. The intersection continues to operate without any critical movements during the a.m. and p.m. peak hour.

Under the 2033 future total traffic scenario, with the inclusion of background development, site traffic and signal split optimization, the overall v/c ratio is reported to increase to 0.47 LOS B during the a.m. peak hour and 0.48 LOS B during the p.m. peak hour. The intersection continues to operate without any critical movements during the a.m. and p.m. peak hour.

With the addition of corridor growth, background development traffic, and optimizing signal timing splits to mitigate delays for the 2038 future background traffic scenario, the overall reported v/c of the intersection is expected to remain similar to the previous scenario with a v/c of 0.48 LOS B during the a.m. peak hour and 0.48 LOS B during the p.m. peak hour. The intersection continues to operate without any critical movements during the a.m. and p.m. peak hour.

Under the 2038 future total traffic scenario, with the inclusion of background development, site traffic and signal split optimization, the overall v/c ratio is reported 0.48 LOS B during the a.m. peak hour and 0.49 LOS B during the p.m. peak hour. The intersection continues to operate without any critical movements during the a.m. and p.m. peak hour.

With the inclusion of optimized signal splits there are no geometric improvements recommended for the intersection as a result of the proposed development.

7.5 Hurontario Street and Derry Road

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

Table 10 Capacity analysis of Hurontario Street and Derry Road

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Existing 2025	Overall: 0.7 (D) 38 EBL = 0.22 (C) 23 EBTR = 0.69 (D) 35	EBL = 15 m EBTR = 135 m WBL = 15 m	Overall: 0.74 (D) 38 EBL = 0.62 (C) 32 EBTR = 0.37 (C) 26	EBL = 30 m EBTR = 65 m WBL = 15 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
	WBL = 0.34 (C) 24 WBTR = 0.46 (C) 29 NBL = 0.44 (E) 64 NBTR = 0.62 (E) 59 **SBL = 0.84 (E) 61** SBTR = 0.41 (D) 36	WBTR = 75 m NBL = 25 m NBTR = 45 m **SBL = 155 m** SBTR = 70 m	WBL = 0.16 (B) 19 WBTR = 0.72 (C) 32 NBL = 0.67 (E) 60 NBTR = 0.79 (D) 52 SBL = 0.73 (E) 62 SBTR = 0.42 (D) 42	WBTR = 150 m NBL = 60 m NBTR = 95 m SBL = 75 m SBTR = 50 m
Future Background 2028	Overall: 0.74 (D) 40 EBL = 0.43 (C) 25 EBTR = 0.75 (D) 37 WBL = 0.41 (C) 26 WBTR = 0.62 (C) 33 NBL = 0.46 (E) 66 NBTR = 0.64 (E) 60 **SBL = 0.86 (E) 64** SBTR = 0.53 (D) 39	EBL = 20 m EBTR = 155 m WBL = 15 m WBTR = 110 m NBL = 25 m NBTR = 50 m **SBL = 155 m** SBTR = 85 m	Overall: 0.8 (D) 45 EBL = 0.75 (D) 49 EBTR = 0.37 (C) 25 WBL = 0.19 (C) 24 WBTR = 0.81 (D) 41 NBL = 0.73 (E) 76 NBTR = 0.81 (E) 63 **SBL = 0.83 (F) 83** SBTR = 0.49 (D) 50	EBL = 60 m EBTR = 80 m WBL = 20 m WBTR = 205 m NBL = 70 m NBTR = 105 m **SBL = 105 m** SBTR = 65 m
Future Total 2028	Overall: 0.75 (D) 41 EBL = 0.46 (C) 26 EBTR = 0.76 (D) 38 WBL = 0.42 (C) 27 WBTR = 0.65 (C) 34 NBL = 0.46 (E) 66 NBTR = 0.65 (E) 60 **SBL = 0.86 (E) 65** SBTR = 0.53 (D) 38	EBL = 20 m EBTR = 160 m WBL = 15 m WBTR = 120 m NBL = 25 m NBTR = 50 m **SBL = 155 m** SBTR = 85 m	Overall: 0.81 (D) 45 EBL = 0.75 (D) 49 EBTR = 0.39 (C) 26 WBL = 0.2 (C) 24 WBTR = 0.82 (D) 42 NBL = 0.73 (E) 75 NBTR = 0.82 (E) 63 **SBL = 0.83 (F) 83** SBTR = 0.51 (D) 50	EBL = 60 m EBTR = 85 m WBL = 20 m WBTR = 210 m NBL = 75 m NBTR = 110 m **SBL = 105 m** SBTR = 70 m
Future Background 2033	Overall: 0.79 (D) 42 EBL = 0.48 (C) 26 EBTR = 0.8 (D) 39 WBL = 0.61 (D) 39 WBTR = 0.72 (D) 38 NBL = 0.53 (E) 69 NBTR = 0.64 (E) 60 **SBL = 0.85 (E) 62** SBTR = 0.51 (D) 37	EBL = 25 m EBTR = 175 m WBL = 20 m WBTR = 130 m NBL = 30 m NBTR = 50 m **SBL = 155 m** SBTR = 80 m	**Overall: 0.85 (D) 48** EBL = 0.84 (E) 68 EBTR = 0.41 (C) 26 WBL = 0.23 (C) 24 **WBTR = 0.88 (D) 45** NBL = 0.81 (F) 87 NBTR = 0.82 (E) 64 **SBL = 0.86 (F) 90** SBTR = 0.48 (D) 50	EBL = 75 m EBTR = 90 m WBL = 20 m **WBTR = 230 m** NBL = 85 m NBTR = 110 m **SBL = 110 m** SBTR = 65 m
Future Total 2033	Overall: 0.8 (D) 42 EBL = 0.5 (C) 27 EBTR = 0.81 (D) 39 WBL = 0.61 (D) 40 WBTR = 0.74 (D) 39 NBL = 0.54 (E) 70 NBTR = 0.66 (E) 61 **SBL = 0.86 (E) 65** SBTR = 0.51 (D) 37	EBL = 25 m EBTR = 175 m WBL = 20 m WBTR = 135 m NBL = 30 m NBTR = 50 m **SBL = 160 m** SBTR = 80 m	**Overall: 0.89 (D) 48** EBL = 0.9 (F) 83 EBTR = 0.42 (C) 26 WBL = 0.24 (C) 23 **WBTR = 0.87 (D) 44** NBL = 0.81 (F) 88 NBTR = 0.82 (E) 64 **SBL = 0.89 (F) 96** SBTR = 0.5 (D) 51	EBL = 80 m EBTR = 90 m WBL = 20 m **WBTR = 230 m** NBL = 85 m NBTR = 110 m **SBL = 115 m** SBTR = 70 m
Future Background 2038	**Overall: 0.85 (D) 46** EBL = 0.59 (C) 32 **EBTR = 0.92 (D) 47** WBL = 0.6 (D) 39 WBTR = 0.79 (D) 41 NBL = 0.55 (E) 71 NBTR = 0.65 (E) 60	EBL = 25 m **EBTR = 205 m** WBL = 25 m WBTR = 145 m NBL = 30 m NBTR = 50 m **SBL = 160 m** SBTR = 85 m	**Overall: 0.91 (D) 54** EBL = 0.9 (F) 84 EBTR = 0.45 (C) 28 WBL = 0.28 (C) 25 **WBTR = 0.97 (E) 56** NBL = 0.82 (F) 89 NBTR = 0.82 (E) 64	EBL = 85 m EBTR = 100 m WBL = 20 m **WBTR = 285 m** NBL = 90 m NBTR = 115 m **SBL = 115 m** SBTR = 70 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
	SBL = 0.85 (E) 62 SBTR = 0.51 (D) 36		**SBL = 0.88 (F) 94** SBTR = 0.49 (D) 50	
Future Total 2038	**Overall: 0.86 (D) 46** EBL = 0.65 (D) 37 **EBTR = 0.91 (D) 47** WBL = 0.6 (D) 39 WBTR = 0.79 (D) 40 NBL = 0.55 (E) 71 NBTR = 0.66 (E) 61 **SBL = 0.88 (E) 67** SBTR = 0.52 (D) 37	EBL = 30 m **EBTR = 205 m** WBL = 25 m WBTR = 150 m NBL = 30 m NBTR = 55 m **SBL = 165 m** SBTR = 85 m	**Overall: 0.91 (D) 55** EBL = 0.9 (F) 84 EBTR = 0.47 (C) 28 WBL = 0.29 (C) 25 **WBTR = 0.98 (E) 59** NBL = 0.82 (F) 89 NBTR = 0.83 (E) 64 **SBL = 0.89 (F) 94** SBTR = 0.5 (D) 50	EBL = 85 m EBTR = 105 m WBL = 20 m **WBTR = 290 m** NBL = 90 m NBTR = 115 m **SBL = 115 m** SBTR = 70 m

Under existing traffic conditions, the signalized intersection is operating at satisfactory levels with an overall v/c ratio of 0.70 LOS D during the a.m. peak hour and 0.74 LOS D during the p.m. peak hour. The intersection reports a critical movement in the southbound left-turn direction during the a.m. peak hour with a v/c of 0.84 LOS E,61-second delay and a 155-metre queue. The remaining movements remains non-critical.

With the addition of corridor growth, background development traffic, and optimizing signal timing splits to mitigate delays for the 2028 future background traffic scenario, the overall reported v/c of the intersection is expected to increase to 0.74 LOS D during the a.m. peak hour and 0.80 LOS D during the p.m. peak hour. The intersection reports a critical movement in the southbound left movement with a v/c of 0.86 LOS E, 64-second delay and a 155-metre queue during the a.m. peak hour and a critical southbound left movement in the p.m. peak hour with a reported v/c of 0.83 LOS F, 83-second delay and a 105-metre queue.

Under the 2028 future total traffic scenario, with the inclusion of background development, site traffic and signal split optimization, the overall v/c ratio is reported to increase to 0.75 LOS D during the a.m. peak hour and 0.81 LOS D during the p.m. peak hour. The intersection continues to operate with southbound left critical movements during the a.m. and p.m. peak hour.

With the addition of corridor growth, background development traffic, and optimizing signal timing splits to mitigate delays for the 2033 future background traffic scenario, the overall reported v/c of the intersection is expected to increase to 0.75 LOS D during the a.m. peak hour and a critical v/c of 0.85 LOS D during the p.m. peak hour. During the a.m. peak hour, the southbound left is critical with v/c 0.85 LOS E, 62-second delay and a 155-metre queue. During the p.m. peak hour the westbound through/right reports a critical v/c of 0.88 LOS D, 45 second delay and a 230-metre queue. The southbound left also reports critical queueing with a 95th percentile queue of 110-metres.

Under the 2033 future total traffic scenario, with the inclusion of background development, site traffic and signal split optimization, the overall v/c ratio is reported to increase to 0.80 LOS D during the a.m. peak hour and 0.89 LOS D during the p.m. peak hour. The intersection continues to operate with a critical movement in the southbound left direction during the a.m. peak hour and critical westbound through/right and southbound left during the p.m. peak hour.

With the addition of corridor growth, background development traffic, and optimizing signal timing splits to mitigate delays for the 2038 future background traffic scenario, the overall reported v/c of the intersection is expected to increase to a critical 0.85 LOS D during the a.m. and a 0.91 LOS D during the p.m. peak. During the a.m. peak hour, the southbound left remains critical while the eastbound through/right becomes critical as well with a v/c of 0.92 LOS D, 47-second delay and a 205-metre queue. During the p.m. peak hour, the westbound through/right and the southbound left remain critical with increase in v/c to 0.97 and 0.88 respectively.

Under the 2038 future total traffic scenario, with the inclusion of background development, site traffic and signal split optimization, the overall v/c ratio is reported to increase to 0.86 LOS D during the a.m. peak hour and 0.91 LOS D during the p.m. peak.

With the implementation of optimized signal splits, critical movements are reported; however, the site-generated traffic accounts for less than 2% of the total intersection volume during peak hours. Given this minimal contribution, the impact of the proposed development on overall intersection operations is considered negligible. As a result, no additional geometric or operational improvements are recommended to accommodate site-related traffic.

7.6 Derry Road West and Maritz Drive/Derrycrest Drive

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

Table 11 Capacity analysis of Derry Road West and Maritz Drive/Derrycrest Drive

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Existing 2025	Overall: 0.4 (B) 11 EBL = 0.22 (A) 4 EBT = 0.39 (A) 8 EBR = 0.31 (A) 8 WBL = 0.3 (A) 5 WBT = 0.22 (A) 7 WBR = 0.02 (A) 6 NBL = 0.42 (D) 53 NBTR = 0.49 (D) 53 SBL = 0.05 (D) 49 SBT = 0.28 (D) 50 SBR = 0.04 (D) 49	 EBL = 10 m EBT = 60 m EBR = 40 m WBL = 10 m WBT = 30 m WBR = 5 m NBL = 25 m NBTR = 35 m SBL = 5 m SBT = 25 m SBR = 15 m	Overall: 0.68 (D) 36 EBL = 0.4 (B) 19 EBT = 0.23 (B) 15 EBR = 0.1 (B) 14 WBL = 0.1 (B) 19 WBT = 0.56 (C) 26 WBR = 0.01 (E) 65 **NBL = 0.9 (E) 69** NBTR = 0.42 (D) 44 SBL = 0.21 (E) 68 SBT = 0.34 (E) 68 **SBR = 0.82 (F) 99**	 EBL = 20 m EBT = 45 m EBR = 15 m WBL = 10 m WBT = 135 m WBR = 0 m **NBL = 165 m** NBTR = 85 m SBL = 20 m SBT = 35 m **SBR = 85 m**
Future Background 2028	Overall: 0.81 (C) 30 EBL = 0.5 (C) 23 EBT = 0.67 (C) 30 EBR = 0.79 (D) 39 WBL = 0.82 (D) 40 WBT = 0.24 (A) 8 WBR = 0.03 (A) 7 NBL = 0.62 (E) 60 NBTR = 0.64 (E) 60 SBL = 0.17 (D) 51 SBT = 0.23 (D) 51 SBR = 0.05 (D) 49	 EBL = 20 m EBT = 135 m EBR = 190 m WBL = 145 m WBT = 40 m WBR = 5 m NBL = 45 m NBTR = 50 m SBL = 15 m SBT = 25 m SBR = 15 m	Overall: 0.83 (D) 40 EBL = 0.53 (C) 21 EBT = 0.25 (B) 14 EBR = 0.2 (B) 14 WBL = 0.56 (C) 32 WBT = 0.64 (C) 26 WBR = 0.02 (D) 47 **NBL = 1.12 (F) 121** NBTR = 0.63 (D) 40 SBL = 0.22 (D) 50 SBT = 0.21 (D) 49 **SBR = 0.76 (E) 67**	 EBL = 25 m EBT = 50 m EBR = 30 m WBL = 60 m WBT = 155 m WBR = 0 m **NBL = 190 m** NBTR = 105 m SBL = 20 m SBT = 30 m **SBR = 75 m**
Future Total 2028	Overall: 0.82 (C) 32 EBL = 0.63 (C) 29 EBT = 0.67 (C) 31 EBR = 0.8 (D) 41 WBL = 0.83 (D) 42 WBT = 0.25 (A) 9 WBR = 0.07 (A) 8 NBL = 0.58 (E) 57 NBTR = 0.69 (E) 63 SBL = 0.38 (D) 53 SBT = 0.23 (D) 50 SBR = 0.06 (D) 49	 EBL = 30 m EBT = 135 m EBR = 195 m WBL = 150 m WBT = 45 m WBR = 10 m NBL = 45 m NBTR = 60 m SBL = 20 m SBT = 25 m SBR = 15 m	Overall: 0.84 (D) 39 EBL = 0.65 (C) 30 EBT = 0.26 (B) 17 EBR = 0.2 (B) 16 WBL = 0.59 (D) 37 WBT = 0.68 (C) 30 WBR = 0.04 (D) 45 **NBL = 1.03 (F) 92** NBTR = 0.58 (D) 38 SBL = 0.37 (D) 50 SBT = 0.21 (D) 47 **SBR = 0.8 (E) 67**	 EBL = 45 m EBT = 55 m EBR = 35 m WBL = 70 m WBT = 170 m WBR = 10 m **NBL = 170 m** NBTR = 105 m SBL = 35 m SBT = 30 m **SBR = 100 m**
Future Background 2033	**Overall: 0.88 (C) 32** EBL = 0.55 (C) 24 EBT = 0.71 (C) 30	 EBL = 25 m EBT = 150 m EBR = 210 m	**Overall: 0.85 (D) 53** EBL = 0.67 (C) 34 EBT = 0.27 (B) 16	 EBL = 35 m EBT = 50 m EBR = 30 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
	EBR = 0.82 (D) 41 WBL = 0.9 (D) 54 WBT = 0.27 (A) 9 WBR = 0.04 (A) 7 NBL = 0.62 (E) 60 NBTR = 0.65 (E) 61 SBL = 0.17 (D) 51 SBT = 0.23 (D) 51 SBR = 0.05 (D) 49	WBL = 165 m WBT = 45 m WBR = 5 m NBL = 45 m NBTR = 55 m SBL = 15 m SBT = 25 m SBR = 15 m	EBR = 0.2 (B) 16 WBL = 0.58 (D) 36 WBT = 0.67 (C) 30 WBR = 0.02 (E) 65 **NBL = 1.1 (F) 122** NBTR = 0.67 (D) 50 SBL = 0.34 (E) 69 SBT = 0.31 (E) 68 **SBR = 1.21 (F) 211**	WBL = 65 m WBT = 170 m WBR = 0 m **NBL = 250 m** NBTR = 135 m SBL = 25 m SBT = 35 m **SBR = 140 m**
Future Total 2033	**Overall: 0.9 (C) 33** EBL = 0.68 (C) 21 EBT = 0.72 (C) 31 EBR = 0.83 (D) 42 WBL = 0.91 (E) 57 WBT = 0.28 (A) 10 WBR = 0.08 (A) 8 NBL = 0.58 (E) 57 NBTR = 0.7 (E) 64 SBL = 0.38 (D) 53 SBT = 0.22 (D) 50 SBR = 0.06 (D) 49	EBL = 35 m EBT = 155 m EBR = 215 m WBL = 170 m WBT = 50 m WBR = 15 m NBL = 45 m NBTR = 60 m SBL = 20 m SBT = 25 m SBR = 15 m	**Overall: 0.93 (E) 66** EBL = 0.75 (D) 44 EBT = 0.27 (B) 16 EBR = 0.2 (B) 16 WBL = 0.59 (D) 36 WBT = 0.67 (C) 30 WBR = 0.04 (E) 65 **NBL = 1.1 (F) 123** NBTR = 0.68 (D) 51 SBL = 0.71 (F) 91 SBT = 0.39 (E) 68 **SBR = 1.55 (F) 348**	EBL = 50 m EBT = 50 m EBR = 30 m WBL = 65 m WBT = 170 m WBR = 10 m **NBL = 250 m** NBTR = 140 m SBL = 50 m SBT = 40 m **SBR = 180 m**
Future Background 2038	**Overall: 0.87 (D) 36** EBL = 0.63 (C) 30 EBT = 0.82 (C) 35 EBR = 0.92 (D) 54 WBL = 0.88 (D) 52 WBT = 0.3 (A) 9 WBR = 0.04 (A) 7 NBL = 0.63 (E) 61 NBTR = 0.67 (E) 62 SBL = 0.17 (D) 51 SBT = 0.22 (D) 50 SBR = 0.05 (D) 49	EBL = 25 m EBT = 180 m EBR = 245 m WBL = 165 m WBT = 55 m WBR = 10 m NBL = 45 m NBTR = 55 m SBL = 15 m SBT = 25 m SBR = 15 m	**Overall: 0.97 (D) 50** EBL = 0.7 (D) 38 EBT = 0.3 (B) 14 EBR = 0.23 (B) 13 WBL = 0.67 (D) 38 WBT = 0.76 (C) 28 WBR = 0.02 (D) 47 **NBL = 1.3 (F) 198** NBTR = 0.71 (D) 46 SBL = 0.21 (D) 49 SBT = 0.2 (D) 49 **SBR = 0.77 (E) 66**	EBL = 50 m EBT = 60 m EBR = 40 m WBL = 75 m WBT = 200 m WBR = 5 m **NBL = 245 m** NBTR = 120 m SBL = 20 m SBT = 30 m **SBR = 80 m**
Future Total 2038	**Overall: 0.88 (D) 37** EBL = 0.74 (C) 24 EBT = 0.83 (D) 36 EBR = 0.94 (E) 57 WBL = 0.89 (D) 54 WBT = 0.32 (B) 11 WBR = 0.08 (A) 9 NBL = 0.58 (E) 57 NBTR = 0.71 (E) 64 SBL = 0.38 (D) 53 SBT = 0.21 (D) 50 SBR = 0.06 (D) 48	EBL = 35 m EBT = 185 m EBR = 250 m WBL = 170 m WBT = 60 m WBR = 15 m NBL = 45 m NBTR = 60 m SBL = 20 m SBT = 25 m SBR = 15 m	**Overall: 1.00 (D) 48** EBL = 0.82 (E) 60 EBT = 0.31 (B) 16 EBR = 0.23 (B) 16 WBL = 0.7 (D) 44 WBT = 0.8 (C) 33 WBR = 0.04 (D) 45 **NBL = 1.2 (F) 153** NBTR = 0.66 (D) 42 SBL = 0.37 (D) 50 SBT = 0.2 (D) 47 **SBR = 0.81 (E) 67**	EBL = 65 m EBT = 70 m EBR = 45 m WBL = 85 m WBT = 225 m WBR = 10 m **NBL = 230 m** NBTR = 120 m SBL = 35 m SBT = 30 m **SBR = 100 m**

Under existing traffic conditions, the signalized intersection is operating at satisfactory levels with an overall v/c ratio of 0.40 LOS B during the a.m. peak hour and 0.68 LOS D during the p.m. peak hour. The intersection reports a critical movement in the northbound left-turn direction with a v/c of 0.9 LOS E, 69-second delay and 165-metre queue and critical queueing in the southbound right direction with a queue of 85-metres.

With the addition of corridor growth, background development traffic, and optimizing signal timing splits to mitigate delays for the 2028 future background traffic scenario, the overall reported v/c of the intersection is expected to increase to 0.81 LOS C during the a.m. peak hour and 0.83 LOS D during the p.m. peak hour. The intersection reports a critical movement in the northbound left-turn direction with a v/c of 1.12 LOS F, 121-second delay and a 190-metre queue and critical queueing in the southbound right direction with a queue of 75-metres.

Under the 2028 future total traffic scenario, with the inclusion of background development, site traffic and signal split optimization, the overall v/c ratio is reported to increase to 0.82 LOS C during the a.m. peak hour and 0.84 LOS D during the p.m. peak hour. The intersection continues to report a critical movement in the northbound left-turn direction with a v/c of 1.03 LOS F, 92-second delay and a 170-metre queue and critical queueing in the southbound right direction with a queue of 100-metres.

With the addition of corridor growth, background development traffic, and optimizing signal timing splits to mitigate delays for the 2033 future background traffic scenario, the overall reported v/c of the intersection is expected to increase to critical 0.88 LOS C during the a.m. peak hour and a critical v/c of 0.85 LOS D during the p.m. peak hour. During the a.m. peak hour, there are no critical movements. During the p.m. peak the northbound left and southbound right remain critical.

Under the 2033 future total traffic scenario, with the inclusion of background development, site traffic and signal split optimization, the overall v/c ratio is reported to increase to critical 0.90 LOS D during the a.m. peak hour and critical 0.93 LOS D during the p.m. peak hour. The intersection continues to operate with a critical movement in the southbound right direction and northbound left during the p.m. peak hour.

With the addition of corridor growth, background development traffic, and optimizing signal timing splits to mitigate delays for the 2038 future background traffic scenario, the overall reported v/c of the intersection is expected to increase to a critical 0.87 LOS D during the a.m. and a 0.97 LOS D during the p.m. peak. The northbound left and the southbound left remain critical.

Under the 2038 future total traffic scenario, with the inclusion of background development, site traffic and signal split optimization, the overall v/c ratio is reported a critical 0.88 LOS D during the a.m. peak hour and a critical 1.00 LOS D during the p.m. peak. The critical movements remain the same as the previous scenarios.

With the inclusion of optimized signal splits although there are critical movements reported the site traffic contributes to less than 2% of the overall traffic. Given this minimal contribution, the impact of the proposed development on overall intersection operations is considered negligible. As a result, no additional geometric or operational improvements are recommended to accommodate site-related traffic.

7.7 Derrycrest Drive and Kingsway Drive/Private Access

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

Table 12 Capacity analysis of Derrycrest Drive and Kingsway Drive/Private Access

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Existing 2025	EBTLR = 0 (A) 8 WBL = 0.15 (B) 11 WBTR = 0.02 (A) 10 NBL = 0.02 (A) 7 NBT = 0.03 (A) 0 NBTR = 0.10 (A) 0 SBL = 0 (A) 8 SBT = 0.01 (A) 0 SBTR = 0 (A) 0	EBTLR = 0 m WBL = 5 m WBTR = 5 m NBL = 5 m NBT = 0 m NBTR = 0 m SBL = 0 m SBT = 0 m SBTR = 0 m	EBTLR = 0.04 (A) 10 WBL = 0.27 (B) 12 WBTR = 0 (A) 9 NBL = 0.01 (A) 7 NBT = 0.01 (A) 0 NBTR = 0.09 (A) 0 SBL = 0.01 (A) 8 SBT = 0.02 (A) 0 SBTR = 0.01 (A) 0	EBTLR = 5 m WBL = 10 m WBTR = 0 m NBL = 5 m NBT = 0 m NBTR = 0 m SBL = 5 m SBT = 0 m SBTR = 0 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Future Background 2028	EBTLR = 0 (A) 8 WBL = 0.17 (B) 12 WBTR = 0.02 (A) 11 NBL = 0.02 (A) 7 NBT = 0.05 (A) 0 NBTR = 0.11 (A) 0 SBL = 0 (A) 8 SBT = 0.01 (A) 0 SBTR = 0.01 (A) 0	EBTLR = 0 m WBL = 5 m WBTR = 5 m NBL = 5 m NBT = 0 m NBTR = 0 m SBL = 0 m SBT = 0 m SBTR = 0 m	EBTLR = 0.05 (B) 10 WBL = 0.29 (B) 12 WBTR = 0 (A) 9 NBL = 0.01 (A) 7 NBT = 0.01 (A) 0 NBTR = 0.1 (A) 0 SBL = 0.01 (A) 8 SBT = 0.05 (A) 0 SBTR = 0.02 (A) 0	EBTLR = 5 m WBL = 10 m WBTR = 0 m NBL = 5 m NBT = 0 m NBTR = 0 m SBL = 5 m SBT = 0 m SBTR = 0 m
Future Total 2028	EBTLR = 0 (A) 8 WBL = 0.22 (B) 14 WBTR = 0.03 (A) 11 NBL = 0.02 (A) 7 NBT = 0.1 (A) 0 NBTR = 0.14 (A) 0 SBL = 0 (A) 8 SBT = 0.03 (A) 0 SBTR = 0.01 (A) 0	EBTLR = 0 m WBL = 10 m WBTR = 5 m NBL = 5 m NBT = 0 m NBTR = 0 m SBL = 5 m SBT = 0 m SBTR = 0 m	EBTLR = 0.06 (B) 11 WBL = 0.35 (B) 15 WBTR = 0 (A) 9 NBL = 0.01 (A) 8 NBT = 0.03 (A) 0 NBTR = 0.11 (A) 0 SBL = 0.01 (A) 8 SBT = 0.09 (A) 0 SBTR = 0.05 (A) 0	EBTLR = 5 m WBL = 15 m WBTR = 5 m NBL = 5 m NBT = 0 m NBTR = 0 m SBL = 5 m SBT = 0 m SBTR = 0 m
Future Background 2033	EBTLR = 0 (A) 8 WBL = 0.17 (B) 12 WBTR = 0.02 (A) 11 NBL = 0.02 (A) 7 NBT = 0.05 (A) 0 NBTR = 0.11 (A) 0 SBL = 0 (A) 8 SBT = 0.01 (A) 0 SBTR = 0.01 (A) 0	EBTLR = 0 m WBL = 5 m WBTR = 5 m NBL = 5 m NBT = 0 m NBTR = 0 m SBL = 0 m SBT = 0 m SBTR = 0 m	EBTLR = 0.05 (B) 10 WBL = 0.29 (B) 12 WBTR = 0 (A) 9 NBL = 0.01 (A) 7 NBT = 0.01 (A) 0 NBTR = 0.1 (A) 0 SBL = 0.01 (A) 8 SBT = 0.05 (A) 0 SBTR = 0.02 (A) 0	EBTLR = 5 m WBL = 10 m WBTR = 0 m NBL = 5 m NBT = 0 m NBTR = 0 m SBL = 5 m SBT = 0 m SBTR = 0 m
Future Total 2033	EBTLR = 0 (A) 8 WBL = 0.22 (B) 14 WBTR = 0.03 (A) 11 NBL = 0.02 (A) 7 NBT = 0.1 (A) 0 NBTR = 0.14 (A) 0 SBL = 0 (A) 8 SBT = 0.03 (A) 0 SBTR = 0.01 (A) 0	EBTLR = 0 m WBL = 10 m WBTR = 5 m NBL = 5 m NBT = 0 m NBTR = 0 m SBL = 5 m SBT = 0 m SBTR = 0 m	EBTLR = 0.06 (B) 11 WBL = 0.35 (B) 15 WBTR = 0 (A) 9 NBL = 0.01 (A) 8 NBT = 0.03 (A) 0 NBTR = 0.11 (A) 0 SBL = 0.01 (A) 8 SBT = 0.09 (A) 0 SBTR = 0.05 (A) 0	EBTLR = 5 m WBL = 15 m WBTR = 5 m NBL = 5 m NBT = 0 m NBTR = 0 m SBL = 5 m SBT = 0 m SBTR = 0 m
Future Background 2038	EBTLR = 0 (A) 8 WBL = 0.17 (B) 12 WBTR = 0.02 (A) 11 NBL = 0.02 (A) 7 NBT = 0.05 (A) 0 NBTR = 0.11 (A) 0 SBL = 0 (A) 8 SBT = 0.01 (A) 0 SBTR = 0.01 (A) 0	EBTLR = 0 m WBL = 5 m WBTR = 5 m NBL = 5 m NBT = 0 m NBTR = 0 m SBL = 0 m SBT = 0 m SBTR = 0 m	EBTLR = 0.05 (B) 10 WBL = 0.29 (B) 12 WBTR = 0 (A) 9 NBL = 0.01 (A) 7 NBT = 0.01 (A) 0 NBTR = 0.1 (A) 0 SBL = 0.01 (A) 8 SBT = 0.05 (A) 0 SBTR = 0.02 (A) 0	EBTLR = 5 m WBL = 10 m WBTR = 0 m NBL = 5 m NBT = 0 m NBTR = 0 m SBL = 5 m SBT = 0 m SBTR = 0 m
Future Total 2038	EBTLR = 0 (A) 8 WBL = 0.22 (B) 14 WBTR = 0.03 (A) 11 NBL = 0.02 (A) 7 NBT = 0.1 (A) 0	EBTLR = 0 m WBL = 10 m WBTR = 5 m NBL = 5 m NBT = 0 m	EBTLR = 0.06 (B) 11 WBL = 0.35 (B) 15 WBTR = 0 (A) 9 NBL = 0.01 (A) 8 NBT = 0.03 (A) 0	EBTLR = 5 m WBL = 15 m WBTR = 5 m NBL = 5 m NBT = 0 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
	NBTR = 0.14 (A) 0 SBL = 0 (A) 8 SBT = 0.03 (A) 0 SBTR = 0.01 (A) 0	NBTR = 0 m SBL = 5 m SBT = 0 m SBTR = 0 m	NBTR = 0.11 (A) 0 SBL = 0.01 (A) 8 SBT = 0.09 (A) 0 SBTR = 0.05 (A) 0	NBTR = 0 m SBL = 5 m SBT = 0 m SBTR = 0 m

During the existing base conditions, the intersection operates as satisfactory levels during both the a.m. and p.m. peak. The highest v/c during the a.m. peak hour is reported in the westbound left direction wat 0.15 LOS B with 11 seconds delay and a 5-metre queue. During the p.m. peak the highest v/c is reported in the westbound left direction as well with a v/c of 0.27 LOS B with a 12-second delay and a 10-metre queue.

During the future background 2028 conditions with the inclusion of background development traffic and corridor growth there are minor increases in v/c and delays. The highest reported v/c during the a.m. peak is also in the westbound left direction at 0.17 LOS B with a 12-second delay and a 5-metre queue. The highest reported v/c is reported to be 0.29 LOS B with a 12-second delay and a 10-metre queue.

During the future total2028 conditions with the inclusion of background development traffic, corridor growth and site traffic there are minor increases in v/c and delays. The highest reported v/c during the a.m. peak is also in the westbound left direction at 0.22 LOS B with a 14-second delay and a 10-metre queue. The highest reported v/c is reported to be 0.35 LOS B with a 15-second delay and a 15-metre queue.

Under the future background and future total 2033 scenario no change is reported from the 2028 scenario.

During the future background and future total 2038 scenario there is reported no change during the a.m. and p.m. peak hours compared to the previous 2033 scenarios.

7.8 Derrycrest Drive/Site Access #2 and Vicksburgh Drive/Site Access #1

Capacity analysis for this intersection during the weekday a.m. and p.m. peak hours for the future total traffic conditions are summarized in the following table. As the intersection operates with stop control in the eastbound and southbound directions in order for synchro to generate the HCM analysis the site access 1 eastbound approach and Derrycrest Drive northbound approach were flipped. As a result, in the table below the northbound direction refers to site access 1 and the eastbound approach refers to Derrycrest Drive.

Table 13 Capacity analysis of Derrycrest Drive/Site Access #2 and Vicksburgh Drive/Site Access #1

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Future Total 2028	EBTL = 0.01 (A) 2 EBTR = 0.08 (A) 0 WBL = 0.03 (A) 8 WBTR = 0.01 (A) 0 NBTLR = 0.06 (B) 10 SBTLR = 0.01 (A) 9	EBTL = 5 m EBTR = 0 m WBL = 5 m WBTR = 0 m NBTLR = 5 m SBTLR = 5 m	EBTL = 0.01 (A) 3 EBTR = 0.02 (A) 0 WBL = 0.01 (A) 7 WBTR = 0.04 (A) 0 NBTLR = 0.08 (A) 10 SBTLR = 0.07 (A) 9	EBTL = 5 m EBTR = 0 m WBL = 5 m WBTR = 0 m NBTLR = 5 m SBTLR = 5 m
Future Total 2033	EBTL = 0.01 (A) 2 EBTR = 0.08 (A) 0 WBL = 0.03 (A) 8 WBTR = 0.01 (A) 0 NBTLR = 0.06 (B) 10 SBTLR = 0.01 (A) 9	EBTL = 5 m EBTR = 0 m WBL = 5 m WBTR = 0 m NBTLR = 5 m SBTLR = 5 m	EBTL = 0.01 (A) 3 EBTR = 0.02 (A) 0 WBL = 0.01 (A) 7 WBTR = 0.04 (A) 0 NBTLR = 0.08 (A) 10 SBTLR = 0.07 (A) 9	EBTL = 5 m EBTR = 0 m WBL = 5 m WBTR = 0 m NBTLR = 5 m SBTLR = 5 m

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Future Total 2038	EBTL = 0.01 (A) 2 EBTR = 0.08 (A) 0 WBL = 0.03 (A) 8 WBTR = 0.01 (A) 0 NBTLR = 0.06 (B) 10 SBTLR = 0.01 (A) 9	EBTL = 5 m EBTR = 0 m WBL = 5 m WBTR = 0 m NBTLR = 5 m SBTLR = 5 m	EBTL = 0.01 (A) 3 EBTR = 0.02 (A) 0 WBL = 0.01 (A) 7 WBTR = 0.04 (A) 0 NBTLR = 0.08 (A) 10 SBTLR = 0.07 (A) 9	EBTL = 5 m EBTR = 0 m WBL = 5 m WBTR = 0 m NBTLR = 5 m SBTLR = 5 m

With the implementation of the site traffic and the site access 1 and 2 the future total 2028, 2033 and 2038 all operate with the same v/c, delays and queueing. No critical movements are reported.

7.9 Derrycrest Drive and Site Access #3

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

Table 14 Capacity analysis of Derrycrest Drive and Site Accesss #3

Scenario	AM Peak Hour		PM Peak Hour	
	V/C (LOS) seconds	95th % Que.	V/C (LOS) seconds	95th % Que
Future Total 2028	EBLR = 0.01 (A) 9 NBL = 0.01 (A) 7 NBT = 0.05 (A) 0 NBT = 0.05 (A) 0 SBT = 0.02 (A) 0 SBTR = 0.01 (A) 0	EBLR = 5 m NBL = 5 m NBT = 0 m NBT = 0 m SBT = 0 m SBTR = 0 m	EBLR = 0.07 (A) 9 NBL = 0.01 (A) 8 NBT = 0.02 (A) 0 NBT = 0.02 (A) 0 SBT = 0.05 (A) 0 SBTR = 0.03 (A) 0	EBLR = 5 m NBL = 5 m NBT = 0 m NBT = 0 m SBT = 0 m SBTR = 0 m
Future Total 2033	EBLR = 0.01 (A) 9 NBL = 0.01 (A) 7 NBT = 0.05 (A) 0 NBT = 0.05 (A) 0 SBT = 0.02 (A) 0 SBTR = 0.01 (A) 0	EBLR = 5 m NBL = 5 m NBT = 0 m NBT = 0 m SBT = 0 m SBTR = 0 m	EBLR = 0.07 (A) 9 NBL = 0.01 (A) 8 NBT = 0.02 (A) 0 NBT = 0.02 (A) 0 SBT = 0.05 (A) 0 SBTR = 0.03 (A) 0	EBLR = 5 m NBL = 5 m NBT = 0 m NBT = 0 m SBT = 0 m SBTR = 0 m
Future Total 2038	EBLR = 0.01 (A) 9 NBL = 0.01 (A) 7 NBT = 0.05 (A) 0 NBT = 0.05 (A) 0 SBT = 0.02 (A) 0 SBTR = 0.01 (A) 0	EBLR = 5 m NBL = 5 m NBT = 0 m NBT = 0 m SBT = 0 m SBTR = 0 m	EBLR = 0.07 (A) 9 NBL = 0.01 (A) 8 NBT = 0.02 (A) 0 NBT = 0.02 (A) 0 SBT = 0.05 (A) 0 SBTR = 0.03 (A) 0	EBLR = 5 m NBL = 5 m NBT = 0 m NBT = 0 m SBT = 0 m SBTR = 0 m

Under the 2028, 2033 and 2036 future total conditions, the proposed unsignalized intersection Operates at satisfactory levels during both peak hours. The greatest delay is reported to occur in the eastbound approach with a 9 second delay during both peak hours.

8. Parking Review

GHD reviewed the City's current Zoning By-Law parking requirements for the subject site.

8.1 City of Mississauga Zoning By-law 0225-2007

8.1.1 Vehicular Parking

The current City of Mississauga Zoning By-Law 0225-2007 minimum parking requirements are found in Section 3.1.2.2, Table 3.1.2.2. The minimum By-Law requirement for the subject site is as follows:

- Warehouse/Distribution Facility
    - 1.1 parking space per 100 m^2 of GFA, up to 6,975 m^2 of GFA
    - 0.6 parking space per 100 m^2 of GFA, over 6,975 m^2 of GFA

The minimum parking required for the seven industrial buildings is as follow:

- Building A: 6975/100 * 1.1 + 2763.46/100 * 0.6 = 93 spaces
- Building B: 6975/100 * 1.1 + 4444.83/100 * 0.6 = 103 spaces
- Building C: 6975/100 * 1.1 + 5752.34/100 * 0.6 = 111 spaces
- Building D: 4375.74/100 * 1.1 = 48 spaces
- Building E: 3480.00/100 * 1.1 = 38 spaces
- Building F: 2473.40/100 * 1.1 = 27 spaces
- Building G: 2011.48/100 * 1.1 = 22 spaces

In total, 442 vehicle parking spaces are required under the City's By-Law 0225-2007.

8.1.2 Accessible Parking

The minimum requirement for accessible parking spaces can also be found in the City of Mississauga Zoning By-Law 0225-2007, Section 3.1.3 The minimum By-Law requirement accessible parking for the subject site is based on the required number of parking spaces as follows:

- Required number of parking spaces:
    - 1 to 12: a minimum of 1 space
    - 13-100: a minimum of 4% of the total required
    - 101 to 200: a minimum of 1 space plus 3% of the total required
    - 201 to 1,000: a minimum of 2 spaces plus 2% of the total required
    - 1,001 and greater: a minimum of 11 space plus 1% of the total required

The minimum number of accessible parking spaces required for the subject site is as follow:

- Building A: 94 spaces
    - 4% of total = 4% * 93 spaces = 4 spaces
- Building B: 104 spaces
    - 1 space, plus 3% of the total required = 1 + 3% * 103 spaces = 4 spaces
- Building C: 112 spaces
    - 1 space, plus 3% of the total required = 1 + 3% * 111 spaces = 4 spaces
- Building D: 49 spaces

        - 4% of total = 4% * 48 spaces = 2 spaces
    - Building E: 39 spaces
        - 4% of total = 4% * 38 spaces = 2 spaces
    - Building F: 28 spaces
        - 4% of total = 4% * 27 spaces = 1 spaces
    - Building G: 23 spaces
        - 4% of total = 4% * 22 spaces = 1 spaces

In total, 18 barrier-free parking spaces are required under the City's current By-Law.

8.1.3 Bicycle Parking

Under the City's Zoning By-Law 0225-2007, the bicycle parking requirement for non-residential uses are found in Section 3.1.6.6, Table 3.1.6.6. The minimum By-Law requirement for bicycle parking for the subject site is as follows:

- Education and Training Facility, Financial Institution, Manufacturing Facility, Science and Technology Facility, Warehouse/Distribution Facility, and Wholesaling Facility:
    - Class A
        - 0.1 spaces per 100 m^2 of non-residential GFA
    - Class B
        - 2 spaces

The minimum number of bicycle parking spaces required for the subject site is as follow:

- Building A:
    - 0.1 Class A bicycle parking spaces per 100 m^2 of GFA x 9,738.46 m^2 of GFA = 10 Class A bicycle parking spaces
    - 2 Class B bicycle parking spaces
- Building B:
    - 0.1 Class A bicycle parking spaces per 100 m^2 of GFA x 11,419.83 m^2 of GFA = 11 Class A bicycle parking spaces
    - 2 Class B bicycle parking spaces
- Building C:
    - 0.1 Class A bicycle parking spaces per 100 m^2 of GFA x 12,727.34 m^2 of GFA = 13 Class A bicycle parking spaces
    - 2 Class B bicycle parking spaces
- Building D:
    - 0.1 Class A bicycle parking spaces per 100 m^2 of GFA x 4,375.74 m^2 of GFA = 4 Class A bicycle parking spaces
    - 2 Class B bicycle parking spaces
- Building E:
    - 0.1 Class A bicycle parking spaces per 100 m^2 of GFA x 3,480.00 m^2 of GFA = 4 Class A bicycle parking spaces

        - 2 Class B bicycle parking spaces
    - Building F:
        - 0.1 Class A bicycle parking spaces per 100 m^2 of GFA x 2,473.40 m^2 of GFA = 2 Class A bicycle parking spaces
        - 2 Class B bicycle parking spaces
    - Building G:
        - 0.1 Class A bicycle parking spaces per 100 m^2 of GFA x 2,011.48 m^2 of GFA = 2 Class A bicycle parking spaces
        - 2 Class B bicycle parking spaces

In total, 60 bicycle parking spaces are required for the site, consisting of 46 Class A and 14 Class B bicycle parking spaces.

8.1.4 Loading Spaces

The minimum requirement for loading spaces is also found in the Zoning By-Law 0225-2007, with the minimum loading space requirement found in Section 5.13. The minimum By-Law requirement for loading spaces for the subject site is as follows:

- Up to 250 m^2 of GFA: None
- Over 250 m^2 but less than or equal to 2,350 m^2 of GFA: 1 loading space
- Over 2,350 m^2 but less than or equal to 7,500 m^2 of GFA: 2 loading spaces
- Over 7,500 m^2 but less than or equal to 14,000 m^2 of GFA: 3 loading spaces
- Over 14,000 m^2: 3 loading spaces plus 1 additional for each 9,300 m^2 of GFA or portion thereof

The minimum By-law requirement for loading spaces for the subject site is as follows:

- Building A: 3 loading spaces
- Building B: 3 loading spaces
- Building C: 3 loading spaces
- Building D: 2 loading spaces
- Building E: 2 loading spaces
- Building F: 2 loading spaces
- Building G: 1 loading spaces

In total, the subject site is required to provide 16 loading spaces under the City's current By-Law.

Each loading space shall be a minimum width of 3.5 metres and a minimum length of 9.0 metres.

8.2 Proposed Site Parking

The following table summarizes the minimum By-law requirements and the proposed parking/loading supply for the subject site.

Table 15 Parking Requirements and Provisions

Type	GFA	By-Law 0225-2007 Requirement	Provided
Vehicle Parking	46, 226.25 m^2 Total GFA Building A: 9738.46 m2 of GFA Building B: 11419.83 m2 of GFA Building C: 12727.34 m2 of GFA Building D: 4375.74 m2 of GFA Building E: 3480.00 m2 of GFA Building F: 2473.40 m2 of GFA	Building A: 93 Building B: 103 Building C: 111 Building D: 48 Building E: 38 Building F: 27 Building G: 22 Total: 442 Spaces	Building A: 137 Building B: 138 Building C: 155 Building D: 109 Building E: 74 Building F: 26 Building G: 58 Total: 697 Spaces
Barrier Free Parking		Building A: 4 Building B: 4 Building C: 4 Building D: 2 Building E: 2 Building F: 1 Building G: 1 Total: 18 Barrier free spaces	Building A: 4 Building B: 4 Building C: 4 Building D: 4 Building E: 4 Building F: 2 Building G: 4 Total: 26 Barrier free spaces

Bicycle Parking	Building G: 2011.48 m2 of GFA	Building A: 10 Class A, 2 Class B Building B: 11 Class A, 2 Class B Building C: 13 Class A, 2 Class B Building D: 4 Class A, 2 Class B Building E: 4 Class A, 2 Class B Building F: 2 Class A, 2 Class B Building G: 2 Class A, 2 Class B 63 total bicycle space (46 Class A and 14 Class B)	102 bicycle parking spaces • 46 Class A • 56 Class B
Loading Spaces		Building A: 3 loading spaces Building B: 3 loading spaces Building C: 3 loading spaces Building D: 2 loading spaces Building E: 2 loading spaces Building F: 2 loading spaces Building G: 1 loading spaces Total: 16 Loading spaces	84 Loading Spaces provided

The subject site meets or exceeds the City's Zoning By-Law requirement for vehicle parking, barrier free spaces, bicycle parking and loading spaces.

9. Site Plan Review

GHD reviewed all site access with reference to the OPSD standard drawing 350.010 for Urban, Industrial, Commercial and Apartment Entrances. For light industrial use the minimum and maximum driveway width is 7.2 and 12.0 metres with a minimum and maximum curb radius of 4.5 and 12.0 metres.

The following are the statistics of all three access for the development:

Access 1 is a connection of Vicksburgh Drive into the site which provides internal access to Building D and E and has a driveway width of 7.4 metres and a curb radius of 7.5 metres satisfying the OPSD standards.

Access 2 provides access to all buildings from the cul-de-sac at the end of Vicksburgh Drive.

Access 3 provides access to Building F and G and has a driveway width of 7.5 metres and a curb radius of 9.0 metres satisfying the OPSD standards.

All proposed accesses meet the required driveway width and curb radii in accordance with Ontario Provincial Standard Drawings (OPSD), with the exception of Driveway #2. Driveway #2 is located within the cul-de-sac, where space constraints necessitate a modified design with reduced curb radii. This deviation is intended to align with the geometric limitations of the cul-de-sac while still ensuring functional access for vehicles. Despite the smaller curb radii, the design is expected to accommodate the anticipated vehicle types accessing the site without significant operational constraints.

9.1 Swept Path Analysis

GHD performed a swept path analysis for passenger vehicles, emergency vehicles, HSU and WB-20 and confirmed that the subject site can accommodate the movements of all design vehicles. The swept path drawings can be found in **Appendix F.**

Drawings 101 to 103 illustrates the swept paths for WB-20

Drawing 104 and 105 illustrates the swept paths for HSU.

Drawing 106 and 107 illustrates the swept paths for waste collection

Drawing 108 and 110 illustrates the swept paths for emergency vehicles

10. Travel Demand Management

10.1 Travel Demand Management

Travel Demand Management (TDM) refers to a variety of strategies to reduce congestion, minimize the number of single-occupant vehicles, encourage non-auto modes of travel, and reduce vehicle dependency to create a sustainable transportation system. TDM strategies have multiple benefits including the following:

- Reduced auto-related emissions to improve air quality;
- Decreased traffic congestion to reduce travel time;
- Increased travel options for businesses and commuters;
- Reduced personal transportation costs and energy consumptions; and
- Support Provincial smart growth objectives.

The combined benefits listed above will assist in creating a more active and livable community through improvements to overall active transportation standards for the local businesses and surrounding community.

10.2 Recommended TDM Measures

Table 16 Recommended TDM Strategies

TDM Measure	Responsibility	Cost	Note
Hard Measures			
Connected Sidewalks and Pathways	Applicant	Integrated into the overall development cost	Sidewalks and multi-use pathways are designed to provide seamless connections to transit stops, parks, schools, and adjacent neighborhoods.

Transit Accessibility	Applicant/Town	Integrated into the overall development cost	Transit stops are planned within 400–500 meters of all residences.
Traffic Calming Measures	Applicant	Integrated into the overall development cost	Measures such as curb bump-outs are incorporated at key locations with higher pedestrian activity to enhance safety and reduce vehicle speeds.
Soft Measures			
TDM Education Campaigns	Applicant/Town	$1,500 to $2,500 depending on scope	Campaigns to educate residents on the benefits of carpooling, cycling, walking, and using transit, distributed through digital platforms or pamphlets.

11. Conclusion

A draft plan of subdivision prepared by Baldassarra Architects is shown in **Figure 2** and provided in **Appendix B**. The proposed development consists of a total of 7 industrial developments with a total of 46,226.25 m^2 of GFA. The breakdown between each building is as follows:

- Building A: 9,738.46 m^2 of GFA
- Building B: 11,419.83 m^2 of GFA
- Building C: 12,727.34 m^2 of GFA
- Building D: 4,375.74 m^2 of GFA
- Building E: 3,480.00 m^2 of GFA
- Building F: 2,473.40 m^2 of GFA
- Building G: 2,011.48 m^2 of GFA

Access to the subject site is provided via three full-moves accesses. Site Access #1 and #2 are proposed to be located on the north and west legs, respectively, of the intersection of Derrycrest Drive and Vicksburgh Drive. Site Access #3 is proposed to be located near the south limit of the subject site along Derrycrest Drive.

Site Access #1 provides access to all 7 buildings, while Site Access #2 provides access to Buildings F and G and Site Access #3 provides access to Buildings D and E.

Based on ITE Trip Generation rates and applied transit reductions based on 2022 TTS modal splits the proposed development is expected to generate a total of 224 two-way vehicle trips during the a.m. peak hour consisting of 173 inbound and 51 outbound trips. During the p.m. peak hour, it is expected to generate 244 new two-way vehicle trips consisting of 68 inbound and 176 outbound trips.

Under existing traffic conditions, all intersections are operating at acceptable v/c ratios and levels of service during the a.m. peak and p.m. peak hours, with the exception of:

- Southbound left at Hurontario Street and Kingsway Drive Private Access
- Southbound left during the a.m. peak at Hurontario Street and Derry Road

- Northbound left and Southbound right during the p.m. peak at Derry Road West and Maritz Drive/Derrycrest Drive
- Eastbound left during the a.m. and p.m. peak hour at Hurontario Street and Kingsway Drive/Private Access

Under the 2028 future background and future total traffic conditions, with the addition of corridor growth, background development traffic, the redistribution of some of the background development traffic, the addition of site traffic from the proposed development, and signal improvements all intersections operate with acceptable v/c ratios, and levels of service with the exception of:

- Southbound left during the a.m. and p.m. peak at Hurontario Street and Derry Road
- Northbound left and Southbound right during the p.m. peak at Derry Road West and Maritz Drive/Derrycrest Drive
- Eastbound left during the a.m. and p.m. peak hour at Hurontario Street and Kingsway Drive/Private Access
- Westbound through/left/through and southbound left during the p.m. peak at Hurontario Street and Vicksburgh Drive/Topflight Drive

Under the 2028 future background and future total traffic conditions, with the addition of corridor growth, background development traffic, the redistribution of some of the background development traffic, the addition of site traffic from the proposed development, and signal improvements all intersections operate with acceptable v/c ratios, and levels of service with the exception of:

- Southbound left during the a.m. and p.m. peak at Hurontario Street and Derry Road
- Westbound through/right during the p.m. peak at Hurontario Street and Derry Road
- Northbound left and Southbound right during the p.m. peak at Derry Road West and Maritz Drive/Derrycrest Drive
- Eastbound left during the a.m. and p.m. peak hour at Hurontario Street and Kingsway Drive/Private Access
- Westbound through/left/through and southbound left during the p.m. peak at Hurontario Street and Vicksburgh Drive/Topflight Drive

Under the 2038 future background and future total traffic conditions, with the addition of corridor growth, background development traffic, the redistribution of some of the background development traffic, the addition of site traffic from the proposed development, and signal improvements all intersections operate with acceptable v/c ratios, and levels of service with the exception of:

- Southbound left during the a.m. and p.m. peak at Hurontario Street and Derry Road
- Westbound through/right during the p.m. peak at Hurontario Street and Derry Road
- Eastbound through/right during the a.m. peak at Hurontario Street and Derry Road
- Northbound left and Southbound right during the p.m. peak at Derry Road West and Maritz Drive/Derrycrest Drive
- Eastbound left during the a.m. and p.m. peak hour at Hurontario Street and Kingsway Drive/Private Access
- Westbound through/left/through and southbound left during the p.m. peak at Hurontario Street and Vicksburgh Drive/Topflight Drive

Although there are critical movements reported it is to note that the site traffic contributes to less than 2% of the overall traffic and as a result is seen as a negligible impact to the road network.

TDM measures are proposed for the development that include pedestrian and cycling connections to encourage residents to explore alternatives to reduce single-occupant vehicle trips, transit accessibility, traffic calming measures and TDM education campaigns to help encourage safety and allow for alternate modes of transportation.

Applying the City of Mississauga Zoning By-Law 0225-2007 parking requirements to the subject site results in a minimum parking requirement of 442 spaces, including a minimum of 18 barrier-free spaces. Additionally, bicycle parking requirements include a total of 60 spaces, consisting of 46 Class A and 14 Class B spaces. The By-law also

requires a total of 16 loading spaces. The proposed parking and loading provisions for the subject site fully satisfy these requirements.

The subject site generally meets the OPSD 350.010 standards for Urban, Industrial, Commercial and Apartment Entrances.

GHD performed a swept path analysis and generally found that the site can accommodate the movements of passenger vehicles, emergency vehicles, HSU and WB-20 trucks that are expected to access the proposed development.

The findings of the traffic study confirm that the proposed industrial development can be accommodated within the planned road network without significant adverse impacts on traffic flow, capacity, or safety. The analysis demonstrates that projected site-generated traffic volumes are minimal relative to overall background traffic and can be effectively managed within the roadway capacity.

Appendix A

Terms of Reference

Appendix B

APPROVED
By Yousef Hereich at 8:53 am, Jan 07, 2025

Pre-Study Consultation Checklist

Description	Information	Section Reference
Development Information		
Development Description (land use, size, and number of phases of development)	Phase 1: - 7 industrial buildings with a total of 46,273.78 m2 (498,087 sq.f) of GFA, as follows: GFA BUILDING 'A' 9,801.45 m2 or 105,502 sf BUILDING 'B' 11,396.93 m2 or 122,675 sf BUILDING 'C' 12,727.34 m2 or 136,996 sf BUILDING 'D' 4,378.69 m2 or 47,132 sf BUILDING 'E' 3,481.85 m2 or 37,478 sf BUILDING 'F' 2,475.90 m2 or 26,650 sf BUILDING 'G' 2,011.62 m2 or 21,653 sf TOTAL GFA 46,273.78 m2 or 498,087 sf Phase 2: - Phase 3: -	2.3.6

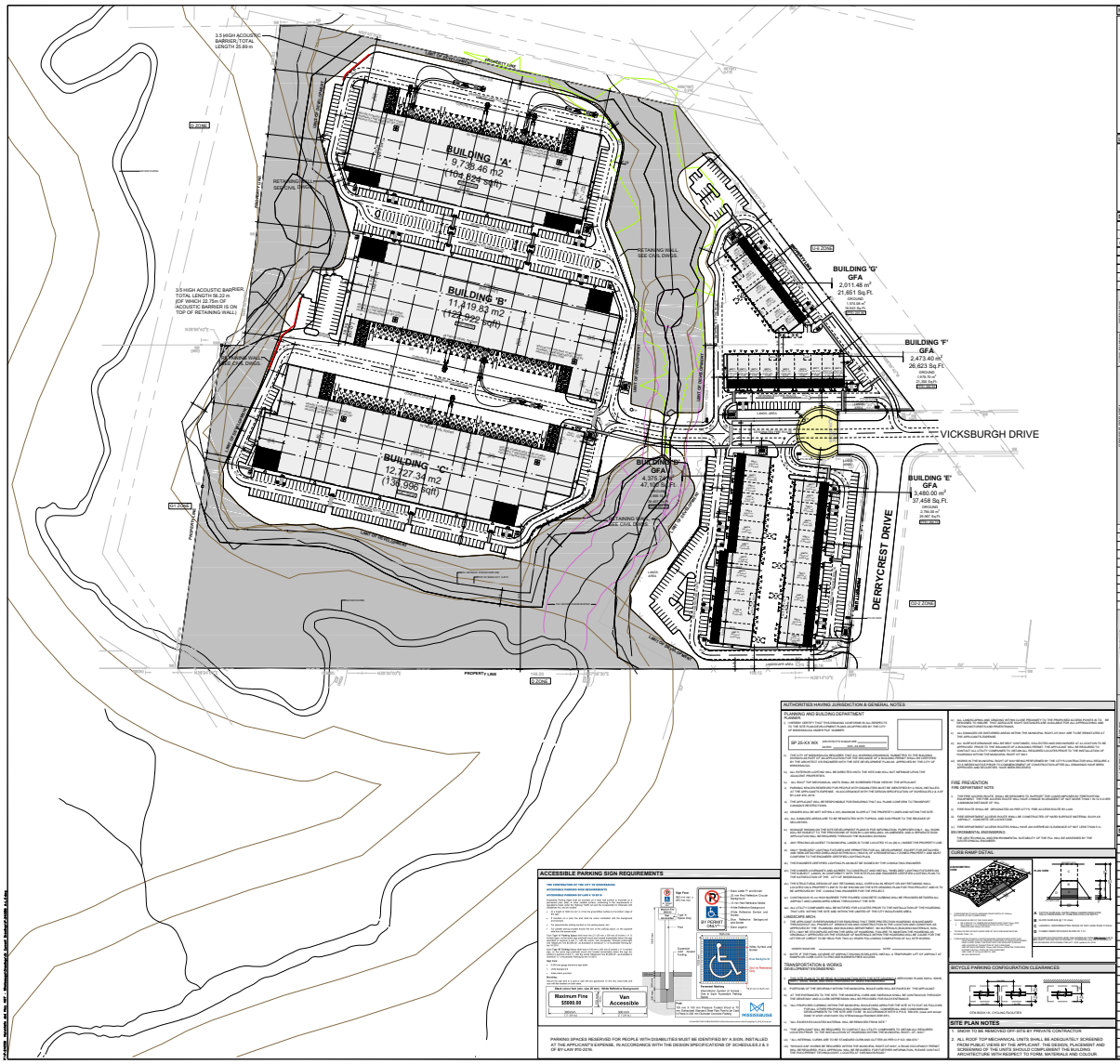
Description	Information	Section Reference
Transportation Impact Assessment		
Step 1 – Screening		
Type of Application (attach a drawing)	☐ Official Plan Amendment ☑ Zoning Amendment ☐ Site Plan Control Application ☑ Plan of Subdivision ☐ Other_____	2.3.5
Screening Criteria	☑ Trip Generation Trigger Satisfied ☐ Location Trigger Satisfied ☐ Operational/Safety Trigger Satisfied	2.2.1
Type of Study	☑ Transportation Impact Study ☐ Access Review ☐ No Additional Study Required	2.2.1
Step 2 – Scoping		
Study Area (intersections to be analyzed) Note: The Transportation Consultant is responsible to identify any further intersections impacted as the study progresses.	- Hurontario Street @ Topflight Drive / Vicksburgh Drive (signalized) - Hurontario Street @ Kingsway Drive (signalized) - Derrycrest Drive @ Vicksburgh Drive - Derrycrest Drive @ Kingsway Drive - Derry Road @ Hurontario Street (signalized; Peel Region) - Derry Road West @ Derrycrest Drive / Maritz Drive (signalized; Peel Region)	2.3.8
Horizon Years	☑ 5 years from date of TIS ☐ Interim years_____ ☐ Other_____	2.3.9
Analysis Periods	☑ AM weekday peak hour of adjacent roadway ☑ PM weekday peak hour of adjacent roadway ☐ Saturday peak hour of adjacent roadway ☐ AM weekday peak hour of development ☐ PM weekday peak hour of development ☐ Saturday peak hour of development ☐ Other _____	2.3.10
Input Parameters and Assumptions (potential deviations)	-	2.3.13
Existing Transportation Conditions	☐ City data sources ☑ New data collection_____ ☐ Other _____	2.3.14

Description	Information	Section Reference
Planned Network Improvements (with timing)	- Hurontario LRT (ongoing construction since 2020, assume completion by horizon year)	2.3.16
Other Planned Developments (per City's Website)	- 7230 Hurontario Street - 7055 Derrycrest Drive - 6900 Maritz Drive - 6967 Maritz Drive	2.3.17
Identification of Mitigation Improvement Measures	☐ Neighbourhood Traffic Management Plan ☐ Other_____	2.3.23
Safety Analysis (any special issues)	-	2.3.25
Site Access and Circulation (design vehicles)	☑ Passenger Car (P) ☐ Light Single Unit Truck (LSU) ☑ Medium Single Unit Truck (MSU) ☐ Heavy Single Unit Truck (HSU) ☑ Pumper Fire Truck ☑ WB-20 Tractor Semi-Trailer Truck ☐ Peel Region Waste Collection Truck ☐ Other:_____	2.3.26
Impacts During Construction (any special issues)	-	2.3.27
Step 3 – Forecasting		
Growth Rate	☑ Obtained from City ☐ Historical Traffic Counts ☐ Travel Demand Forecasts ☐ Proposed Growth Rate: _____	2.3.15
Site Trip Generation	☑ ITE Trip Generation Manual ☐ "First Principles" ☐ Observed Rates from Similar Developments in Area ☐ Observed Rates from Subject Site ☐ Other_____	2.3.19

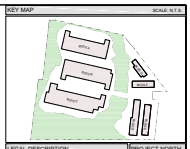
Description	Information	Section Reference
Trip Reductions	☐ Internal Capture Reductions for Mixed Use Development ☑ Non-Auto Mode Split ☐ Pass-by Reductions ☐ Other_____	2.3.19
Trip Distribution	☑ Local Traffic Patterns ☑ TTS ☐ Travel Demand Model ☐ Population and Employment Distribution ☐ Market Analysis of Catchment Area ☐ Other _____	2.3.20
Trip Assignment	☑ Local Traffic Patterns ☑ Shortest distance ☑ Site Layout, Access Design and Logical Routing ☑ Existing Turning Movements ☐ Other _____	2.3.21
Transportation Demand Management Plan		
Format	☑ Within a TIA Report ☐ Standalone	3.2.1
Type of Transportation Demand Management Plan	☐ TDM Statement ☑ TDM Scheme	3.2.2
Pedestrian Circulation Plan		
Format	☑ Within a TIA Report ☐ Standalone	4.2.1
Additional Comments		
1) Access Review: Ensure that the proposed site access conforms to all TAC standards (eg. corner clearances, clear throat lengths, vehicle and pedestrian sight line distances for ingress/egress, proximity/alignment to other driveways/roads etc.). Provide confirmation and technical justification of whether the site access location and design is safe for all roadway users and why. 2) Traffic Control Warrant: Traffic Control Warrants (e.g. all-way stop, traffic signals) shall be completed for all three scenarios (existing, future background and future total), where applicable. 3) Recommendations: Details recommendations regarding on-site/off-site roadway improvements, site access, site circulation and TDM measures shall be made. 4) Community Impacts: Include summary statements outlining the resulting traffic increases to the critical streets, movements and intersections. Comments or concerns from the community through future public meetings and engagements that are related to traffic shall also be addressed in this section.		

Appendix B

Site Plan



KEY MAP SCALE: N.T.S.



LEGAL DESCRIPTION

PLAN OF SURVEY OF
PART OF LOTS 11 AND 12
CONCESSION 1
(GEOGRAPHIC TOWNSHIP OF TORONTO, COUNTY OF PEEL)

CITY OF MISSISSAUGA
REGIONAL MUNICIPALITY OF PEEL

PROJECT NORTH

TRUE NORTH

SITE STATISTICS

SITE AREA	175,689.18 m2	or 43.41 acres	or 17.56 ha
SITE AREA W/ CUL DE SAC	176,726.72 m2	or 43.18 acres	or 17.47 ha
DEVELOPABLE SITE AREA	170,486.63 m2	or 26.33 acres	or 11.54 ha
ZONING			E ZONE (DEVELOPMENT)
FOOTPRINT AREA		49,418.66 m2	or 486,892 sf
SITE COVERAGE		49,418.66 m2	28.23 %
LANDSCAPED AREA		21,884.14 m2	or 16.93 %
PAVED AREA		48,183.20 m2	or 41.72 %
		REQUIRED	PROVIDED
BUILDING SETBACKS	FRONT YARD (DERRY SOUTH)	7.50 m	26.29 m
	REAR YARD (WEST)	7.50 m	32.78 m
	EXTERIOR SIDE YARD (NORTH)	7.50 m	20.03 m
	EXTERIOR SIDE YARD (SOUTH)	7.50 m	14.94 m
PARKING SETBACKS	ALONG G1 ZONE	0.00 m	16.07 m
	ALONG G ZONE	0.00 m	6.09 m
	ALONG U-E ZONE	0.00 m	9.01 m
	ALONG G2-2 ZONE	0.00 m	9.00 m
GROSS FLOOR AREA	BUILDING 'A'	9,736.46 m2	104,824 sf
	MECH. / ELECTR. / STAIRS/ WR.	158.40 m2	1,167 sf
	BUILDING 'B'	11,419.83 m2	122,922 sf
	MECH. / ELECTR. / STAIRS/ WR.	158.40 m2	1,167 sf
	BUILDING 'C'	12,727.34 m2	136,996 sf
	MECH. / ELECTR. / STAIRS/ WR.	158.40 m2	1,167 sf
	BUILDING 'D'	4,370.74 m2	47,058 sf
	MEZZANINE	721.66 m2	7,768 sf
	GROUND FLOOR	3,501.09 m2	37,693 sf
	MECH. / ELECTR. / STAIRS/ WR.	153.00 m2	1,647 sf
	BUILDING 'E'	3,480.00 m2	37,458 sf
	MEZZANINE	604.35 m2	6,720 sf
	GROUND FLOOR	2,717.00 m2	29,249 sf
	MECH. / ELECTR. / STAIRS/ WR.	158.40 m2	1,458 sf
	BUILDING 'F'	2,473.40 m2	26,623 sf
	MEZZANINE	433.33 m2	4,632 sf
	GROUND FLOOR	1,920.81 m2	20,675 sf
	MECH. / ELECTR. / STAIRS/ WR.	158.40 m2	1,458 sf
	BUILDING 'G'	2,011.48 m2	21,651 sf
	MEZZANINE	368.87 m2	4,598 sf
	GROUND FLOOR	1,920.09 m2	19,392 sf
	MECH. / ELECTR. / STAIRS/ WR.	158.40 m2	1,458 sf
TOTAL GFA		49,226.20 m2	497,655 sf

GFA NON-RESIDENTIAL BREAKDOWN

BUILDING	TOTAL GFA	MIS. ROOM GFA	GFA NON-RES
A	9,736.46 m2	158.40 m2	9,630.06 m2
B	11,419.83 m2	158.40 m2	11,311.43 m2
C	12,727.34 m2	158.40 m2	12,618.94 m2
D	4,370.74 m2	153.00 m2	4,225.74 m2
E	3,480.00 m2	158.41 m2	3,341.59 m2
F	2,473.40 m2	122.39 m2	2,351.14 m2
G	2,011.48 m2	104.59 m2	1,907.92 m2
TOTAL	46,226.20 m2	913.61 m2	45,312.62 m2

1 bedroom = 55 m2 or less/Each residential unit

PARKING	REQUIRED	PROVIDED
BUILDING 'A'	108 spaces	107 spaces
BUILDING 'B'	126 spaces	126 spaces
BUILDING 'C'	141 spaces	139 spaces
BUILDING 'D'	69 spaces	109 spaces
BUILDING 'E'	39 spaces	79 spaces
BUILDING 'F'	28 spaces	28 spaces
BUILDING 'G'	23 spaces	58 spaces
TOTAL PARKING	519 spaces	667 spaces
ACCESSIBLE PARKING (PER CITY OF MISSISSAUGA BY-LAW 0.5 + 2% OF PARKING)	12 spaces	28 spaces
LONG TERM SPACES (1 PER 100 SQ.M. GFA NON-RES. EXCEPT LOCATION TBD DURING TENANT FIT OUT)	49 spaces	TBD during tenant fit-out
Building A - 72 spaces		
Building B - 72 spaces		
Building C - 72 spaces		
Building D - 0 spaces		
Building E - 0 spaces		
Building F - 0 spaces		
Building G - 0 spaces		

LOADING		
SHORT TERM SPACES (1 PER 1000 SQ.M. GFA NON-RES.)	Min. 2 spaces	38 spaces (5 TBD)
Gross floor GFA not more than or equal to 2,800 m2	1 Spaces	
Gross floor 2,800 m2 to not more than or equal to 7,500 m2	2 Spaces	
Gross floor 7,500 m2 to not more than or equal to 20,000 m2	3 Spaces	
TOTAL LOADING	18 spaces	84 spaces
BUILDING HEIGHT	N/A	XX.XX m
FLOOR SPACE INDEX (FSI)	1.0	XX.XX m

SYMBOL LEGEND

- MAIN DOOR
- LOADING DOCK DOOR
- DRIVE-IN / OVERHEAD DOOR
- HYDRANT + VALVE
- FDC — FIRE DEPARTMENT CONNECTION / SIAMESE
- CB — CATCH BASIN
- SANMH — SANITARY MAIN HOLE
- CBMH — CATCH BASIN / MAIN HOLE
- STMH — STORM MAIN HOLE
- HP — HYDRO POLE STANDARD / UTILITY POLE
- BR — BIKE RACK (2-3 BIKES)
- HT — HYDRO TRANSFORMER
- ACCESSIBLE PARKING SPACE
- ACCESSIBLE PARKING SPACE SIGNAGE
- SNOW STORAGE AREA
- REFUSE STORAGE BINS
- STOP SIGNS
- CONC. FILLED STEEL BOLLARDS, 6XT, TYPE A
- LOADING SPACE 9.0 m x 3.5 m x 4.2 m H
- GAS METER
- FIRE ROUTE SIGNS

ACCESSIBLE PARKING SIGN REQUIREMENTS

THE CORPORATION OF THE CITY OF MISSISSAUGA
ACCESSIBLE PARKING SIGN REQUIREMENTS
(Effective January 1, 2012)

Accessible Parking Signs shall be required on a post and a sign is required at a minimum of one sign per accessible parking space. Signs shall be installed in accordance with the City's Sign By-law 0054-2002 and the Ontario Regulation 581/05 as amended from time to time.

- A height of 1.5 metres (m) or more to the ground that surface is located (sign at the bottom)
- A setback of no more than one half metre (m) from the curb (sign at the bottom)
- For parallel parking spaces the setback shall be 0.3 metres (m) from the curb (sign at the bottom)

Each Type A Parking Space shall have a 3.4 m wide (1.1 m wide access + 2.3 m wide parking space) and a length of 5.6 m (sign at the bottom) and a minimum vertical clearance of 2.1 m (sign at the bottom).

Each Type B Parking Space shall have a 2.9 m wide (0.6 m wide access + 2.3 m wide parking space) and a length of 5.6 m (sign at the bottom) and a minimum vertical clearance of 2.1 m (sign at the bottom).

Sign Size:
- Minimum sign area of 0.3 sq.m.
- Width shall be 0.3 m
- Height shall be 0.45 m

Wording:
- Each sign shall have a symbol with the wheelchair to face the reserved side and the words as follows:

Black Colour Sign (RC Sign #)	White Reflectorized Background
Maximum Fine $5000.00	Van Accessible

Sign Face
Sign may be Vertical or Horizontal
Sign Post
Top Edge of Sign Not More than 2.1m from Ground
Bottom Edge of Sign Not Less than 1.5m from Ground
Pavement Surface
Curb
Curb or Edge of Roadway
Parking Space
Access Aisle
Accessible Parking Space
Curb Ramp
Curb Ramp Flare
Curb Ramp Flare
Curb or Edge of Roadway
Accessible Parking Space
Access Aisle
Sidewalk
Curb Ramp
Curb or Edge of Roadway
Accessible Parking Space
Access Aisle
Curb or Edge of Roadway

Appendix C

Traffic Data

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-519 - GHD

Intersection Count Report

Intersection:	Hurontario St & Hwy 407 North Ramp Terminal
Municipality:	Mississauga
Count Date:	Tuesday, Dec 17, 2024
Site Code:	2451900001
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Hurontario St & Hwy 407 North Ramp Terminal
Site Code:	2451900001
Municipality:	Mississauga
Count Date:	Dec 17, 2024

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Hurontario St & Hwy 407 North Ramp Terminal
Site Code:	2451900001
Municipality:	Mississauga
Count Date:	Dec 17, 2024

Hurontario St - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	0	818	32	0	850	0	0	334	20	0	354	0	1204
08:00 - 09:00	0	861	39	0	900	0	0	609	22	0	631	0	1531
BREAK													
16:00 - 17:00	0	672	63	0	735	0	0	1105	138	0	1243	0	1978
17:00 - 18:00	0	554	48	0	602	0	0	1170	83	0	1253	0	1855
GRAND TOTAL	**0**	**2905**	**182**	**0**	**3087**	**0**	**0**	**3218**	**263**	**0**	**3481**	**0**	**6568**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Hurontario St & Hwy 407 North Ramp Terminal
Site Code:	2451900001
Municipality:	Mississauga
Count Date:	Dec 17, 2024

Hwy 407 North Ramp Terminal - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	172	0	83	0	255	0	0	0	0	0	0	0	255
08:00 - 09:00	213	0	192	0	405	0	0	0	0	0	0	0	405
BREAK													
16:00 - 17:00	136	0	276	0	412	0	0	0	0	0	0	0	412
17:00 - 18:00	134	0	303	0	437	0	0	0	0	0	0	0	437
GRAND TOTAL	**655**	**0**	**854**	**0**	**1509**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1509**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Hwy 407 North Ramp Terminal
Site Code: 2451900001
Municipality: Mississauga
Count Date: Dec 17, 2024

North Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	0	154	4	0	158	0	5	0	0	5	0	0	0	0	0	0
07:15	0	181	9	0	190	0	10	1	0	11	0	0	0	0	0	0
07:30	0	216	7	0	223	0	7	0	0	7	0	0	0	0	0	0
07:45	0	237	11	0	248	0	8	0	0	8	0	0	0	0	0	0
08:00	0	210	6	0	216	0	5	2	0	7	0	0	0	0	0	0
08:15	0	247	7	0	254	0	7	1	0	8	0	0	0	0	0	0
08:30	0	182	11	0	193	0	8	2	0	10	0	0	0	0	0	0
08:45	0	196	9	0	205	0	6	1	0	7	0	0	0	0	0	0
SUBTOTAL	0	1623	64	0	1687	0	56	7	0	63	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Hwy 407 North Ramp Terminal
Site Code: 2451900001
Municipality: Mississauga
Count Date: Dec 17, 2024

North Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	0	146	10	0	156	0	5	0	0	5	0	0	0	0	0	0
16:15	0	167	22	0	189	0	8	0	0	8	0	0	0	0	0	0
16:30	0	172	16	0	188	0	7	1	0	8	0	0	0	0	0	0
16:45	0	164	12	0	176	0	3	2	0	5	0	0	0	0	0	0
17:00	0	152	11	0	163	0	5	0	0	5	0	0	0	0	0	0
17:15	0	133	17	0	150	0	1	0	0	1	0	0	0	0	0	0
17:30	0	130	12	0	142	0	7	0	0	7	0	0	0	0	0	0
17:45	0	117	8	0	125	0	9	0	0	9	0	0	0	0	0	0
SUBTOTAL	0	1181	108	0	1289	0	45	3	0	48	0	0	0	0	0	0
GRAND TOTAL	**0**	**2804**	**172**	**0**	**2976**	**0**	**101**	**10**	**0**	**111**	**0**	**0**	**0**	**0**	**0**	**0**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Hwy 407 North Ramp Terminal
Site Code: 2451900001
Municipality: Mississauga
Count Date: Dec 17, 2024

South Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	0	54	0	0	54	0	7	0	0	7	0	0	0	0	0	0
07:15	0	67	3	0	70	0	6	4	0	10	0	0	0	0	0	0
07:30	0	84	4	0	88	0	6	3	0	9	0	0	0	0	0	0
07:45	0	101	6	0	107	0	9	0	0	9	0	0	0	0	0	0
08:00	0	126	6	0	132	0	7	1	0	8	0	0	0	0	0	0
08:15	0	137	4	0	141	0	11	1	0	12	0	0	0	0	0	0
08:30	0	152	2	0	154	0	8	0	0	8	0	0	0	0	0	0
08:45	0	162	6	0	168	0	6	2	0	8	0	0	0	0	0	0
SUBTOTAL	0	883	31	0	914	0	60	11	0	71	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Hwy 407 North Ramp Terminal
Site Code: 2451900001
Municipality: Mississauga
Count Date: Dec 17, 2024

South Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	0	233	32	0	265	0	8	1	0	9	0	0	0	0	0	0
16:15	0	263	39	0	302	0	9	1	0	10	0	0	0	0	0	0
16:30	0	289	34	0	323	0	6	1	0	7	0	0	0	0	0	0
16:45	0	293	29	0	322	0	4	1	0	5	0	0	0	0	0	0
17:00	0	284	25	0	309	0	7	0	0	7	0	0	0	0	0	0
17:15	0	280	35	0	315	0	6	1	0	7	0	0	0	0	0	0
17:30	0	309	16	0	325	0	8	0	0	8	0	0	0	0	0	0
17:45	0	268	6	0	274	0	8	0	0	8	0	0	0	0	0	0
SUBTOTAL	0	2219	216	0	2435	0	56	5	0	61	0	0	0	0	0	0
GRAND TOTAL	0	3102	247	0	3349	0	116	16	0	132	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Hwy 407 North Ramp Terminal
Site Code: 2451900001
Municipality: Mississauga
Count Date: Dec 17, 2024

East Approach - Hwy 407 North Ramp Terminal

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	25	0	16	0	41	4	0	3	0	7	0	0	0	0	0	0
07:15	37	0	14	0	51	6	0	3	0	9	0	0	0	0	0	0
07:30	39	0	19	0	58	2	0	1	0	3	0	0	0	0	0	0
07:45	51	0	27	0	78	8	0	0	0	8	0	0	0	0	0	0
08:00	53	0	36	0	89	5	0	1	0	6	0	0	0	0	0	0
08:15	45	0	51	0	96	3	0	3	0	6	0	0	0	0	0	0
08:30	58	0	43	0	101	1	0	2	0	3	0	0	0	0	0	0
08:45	47	0	54	0	101	1	0	2	0	3	0	0	0	0	0	0
SUBTOTAL	355	0	260	0	615	30	0	15	0	45	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Hwy 407 North Ramp Terminal
Site Code: 2451900001
Municipality: Mississauga
Count Date: Dec 17, 2024

East Approach - Hwy 407 North Ramp Terminal

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	32	0	55	0	87	9	0	0	0	9	0	0	0	0	0	0
16:15	22	0	77	0	99	4	0	1	0	5	0	0	0	0	0	0
16:30	28	0	49	0	77	9	0	0	0	9	0	0	0	0	0	0
16:45	30	0	94	0	124	2	0	0	0	2	0	0	0	0	0	0
17:00	32	0	81	0	113	5	0	0	0	5	0	0	0	0	0	0
17:15	25	0	80	0	105	3	0	1	0	4	0	0	0	0	0	0
17:30	27	0	66	0	93	8	0	0	0	8	0	0	0	0	0	0
17:45	29	0	75	0	104	5	0	0	0	5	0	0	0	0	0	0
SUBTOTAL	225	0	577	0	802	45	0	2	0	47	0	0	0	0	0	0
GRAND TOTAL	**580**	**0**	**837**	**0**	**1417**	**75**	**0**	**17**	**0**	**92**	**0**	**0**	**0**	**0**	**0**	**0**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Hwy 407 North Ramp Terminal
Site Code: 2451900001
Municipality: Mississauga
Count Date: Dec 17, 2024

West Approach - Hwy 407 North Ramp Terminal

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Hwy 407 North Ramp Terminal
Site Code: 2451900001
Municipality: Mississauga
Count Date: Dec 17, 2024

West Approach - Hwy 407 North Ramp Terminal

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	07:00:00	From:	08:00:00
To:	09:00:00	To:	09:00:00

Intersection: Hurontario St & Hwy 407 North Ramp Terminal
Site Code: 2451900001
Count Date: Dec 17, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Hurontario St runs N/S

North Approach

	Out	In	Total
Cars	868	761	1629
Trucks	32	40	72
Bicycles	0	0	0
	900	**801**	**1701**

Hurontario St

Bicycles	0	0	0	0
Trucks	6	26	0	0
Cars	33	835	0	0
Totals	**39**	**861**	**0**	**0**

East Approach

	Out	In	Total
Cars	387	18	405
Trucks	18	4	22
Bicycles	0	0	0
	405	**22**	**427**

Hwy 407 North Ramp Terminal

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	0	**0**
0	0	0	**0**
0	0	0	**0**

Peds: 0

Peds: 0

Peds: 0

Hwy 407 North Ramp Terminal

Totals	Cars	Trucks	Bicycles
0	0	0	0
192	184	8	0
0	0	0	0
213	203	10	0

West Approach

	Out	In	Total
Cars	0	33	33
Trucks	0	6	6
Bicycles	0	0	0
	0	**39**	**39**

Hurontario St

Totals	**0**	**609**	**22**	**0**
Cars	0	577	18	0
Trucks	0	32	4	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	595	1038	1633
Trucks	36	36	72
Bicycles	0	0	0
	631	**1074**	**1705**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Hurontario St & Hwy 407 North Ramp Terminal
Site Code: 2451900001
Count Date: Dec 17, 2024
Period: 07:00 - 09:00

Peak Hour Data (08:00 - 09:00)

Start Time	North Approach Hurontario St						South Approach Hurontario St						East Approach Hwy 407 North Ramp Terminal						West Approach Hwy 407 North Ramp Terminal						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:00	0	215	8	0	0	223	0	133	7	0	0	140	58	0	37	0	0	95	0	0	0	0	0	0	458
08:15	0	254	8	0	0	262	0	148	5	0	0	153	48	0	54	0	0	102	0	0	0	0	0	0	517
08:30	0	190	13	0	0	203	0	160	2	0	0	162	59	0	45	0	0	104	0	0	0	0	0	0	469
08:45	0	202	10	0	0	212	0	168	8	0	0	176	48	0	56	0	0	104	0	0	0	0	0	0	492
Grand Total	**0**	**861**	**39**	**0**	**0**	**900**	**0**	**609**	**22**	**0**	**0**	**631**	**213**	**0**	**192**	**0**	**0**	**405**	**0**	**0**	**0**	**0**	**0**	**0**	**1936**
Approach %	0	95.7	4.3	0		-	0	96.5	3.5	0		-	52.6	0	47.4	0		-	0	0	0	0		-	
Totals %	0	44.5	2	0		46.5	0	31.5	1.1	0		32.6	11	0	9.9	0		20.9	0	0	0	0		0	
PHF	**0**	**0.85**	**0.75**	**0**		**0.86**	**0**	**0.91**	**0.69**	**0**		**0.9**	**0.9**	**0**	**0.86**	**0**		**0.97**	**0**	**0**	**0**	**0**		**0**	**0.94**
Cars	0	835	33	0		868	0	577	18	0		595	203	0	184	0		387	0	0	0	0		0	1850
% Cars	0	97	84.6	0		96.4	0	94.7	81.8	0		94.3	95.3	0	95.8	0		95.6	0	0	0	0		0	95.6
Trucks	0	26	6	0		32	0	32	4	0		36	10	0	8	0		18	0	0	0	0		0	86
% Trucks	0	3	15.4	0		3.6	0	5.3	18.2	0		5.7	4.7	0	4.2	0		4.4	0	0	0	0		0	4.4
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					0	-					0	-					0	-					0	-	0
% Peds					0	-					0	-					0	-					0	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	16:00:00	From:	16:15:00
To:	18:00:00	To:	17:15:00

Intersection: Hurontario St & Hwy 407 North Ramp Terminal
Site Code: 2451900001
Count Date: Dec 17, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Hurontario St runs N/S

North Approach

	Out	In	Total
Cars	716	1430	2146
Trucks	26	27	53
Bicycles	0	0	0
	742	**1457**	**2199**

Hurontario St

Bicycles	0	0	0	0
Trucks	3	23	0	0
Cars	61	655	0	0
Totals	**64**	**678**	**0**	**0**

Peds: 0

East Approach

	Out	In	Total
Cars	413	127	540
Trucks	21	3	24
Bicycles	0	0	0
	434	**130**	**564**

Hwy 407 North Ramp Terminal

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	0	**0**
0	0	0	**0**
0	0	0	**0**

Peds: 0

Peds: 0

Peds: 0

Hwy 407 North Ramp Terminal

Totals	Cars	Trucks	Bicycles
0	0	0	0
302	301	1	0
0	0	0	0
132	112	20	0

West Approach

	Out	In	Total
Cars	0	61	61
Trucks	0	3	3
Bicycles	0	0	0
	0	**64**	**64**

Totals	**0**	**1155**	**130**	**0**
Cars	0	1129	127	0
Trucks	0	26	3	0
Bicycles	0	0	0	0

Hurontario St

South Approach

	Out	In	Total
Cars	1256	767	2023
Trucks	29	43	72
Bicycles	0	0	0
	1285	**810**	**2095**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Hurontario St & Hwy 407 North Ramp Terminal
Site Code: 2451900001
Count Date: Dec 17, 2024
Period: 16:00 - 18:00

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

Start Time	North Approach Hurontario St						South Approach Hurontario St						East Approach Hwy 407 North Ramp Terminal						West Approach Hwy 407 North Ramp Terminal						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:15	0	175	22	0	0	197	0	272	40	0	0	312	26	0	78	0	0	104	0	0	0	0	0	0	613
16:30	0	179	17	0	0	196	0	295	35	0	0	330	37	0	49	0	0	86	0	0	0	0	0	0	612
16:45	0	167	14	0	0	181	0	297	30	0	0	327	32	0	94	0	0	126	0	0	0	0	0	0	634
17:00	0	157	11	0	0	168	0	291	25	0	0	316	37	0	81	0	0	118	0	0	0	0	0	0	602
Grand Total	**0**	**678**	**64**	**0**	**0**	**742**	**0**	**1155**	**130**	**0**	**0**	**1285**	**132**	**0**	**302**	**0**	**0**	**434**	**0**	**0**	**0**	**0**	**0**	**0**	**2461**
Approach %	0	91.4	8.6	0		-	0	89.9	10.1	0		-	30.4	0	69.6	0		-	0	0	0	0		-	
Totals %	0	27.5	2.6	0		30.2	0	46.9	5.3	0		52.2	5.4	0	12.3	0		17.6	0	0	0	0		0	
PHF	**0**	**0.95**	**0.73**	**0**		**0.94**	**0**	**0.97**	**0.81**	**0**		**0.97**	**0.89**	**0**	**0.8**	**0**		**0.86**	**0**	**0**	**0**	**0**		**0**	**0.97**
Cars	0	655	61	0		716	0	1129	127	0		1256	112	0	301	0		413	0	0	0	0		0	2385
% Cars	0	96.6	95.3	0		96.5	0	97.7	97.7	0		97.7	84.8	0	99.7	0		95.2	0	0	0	0		0	96.9
Trucks	0	23	3	0		26	0	26	3	0		29	20	0	1	0		21	0	0	0	0		0	76
% Trucks	0	3.4	4.7	0		3.5	0	2.3	2.3	0		2.3	15.2	0	0.3	0		4.8	0	0	0	0		0	3.1
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					0	-					0	-					0	-					0	-	0
% Peds					0	-					0	-					0	-					0	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-519 - GHD

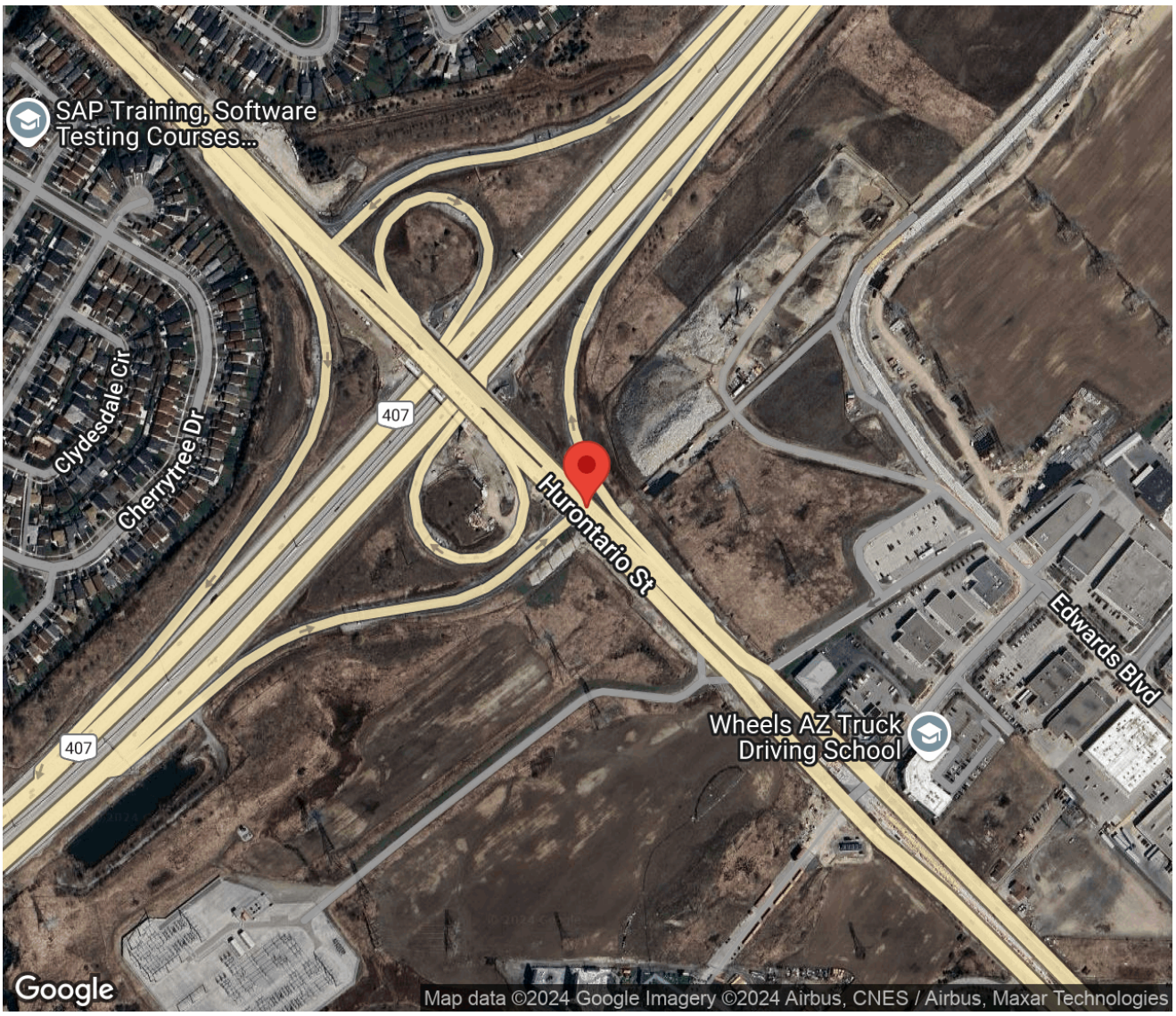
Intersection Count Report

Intersection:	Hurontario St & Hwy 407 South Ramp Terminal
Municipality:	Mississauga
Count Date:	Tuesday, Dec 17, 2024
Site Code:	2451900002
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Hurontario St & Hwy 407 South Ramp Terminal
Site Code:	2451900002
Municipality:	Mississauga
Count Date:	Dec 17, 2024



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Hurontario St & Hwy 407 South Ramp Terminal
Site Code:	2451900002
Municipality:	Mississauga
Count Date:	Dec 17, 2024

Hurontario St - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	0	779	215	0	994	0	0	291	52	0	343	0	1337
08:00 - 09:00	0	817	252	0	1069	0	0	553	66	0	619	0	1688
BREAK													
16:00 - 17:00	0	596	193	0	789	0	0	1164	168	0	1332	0	2121
17:00 - 18:00	0	574	133	0	707	0	0	1157	166	0	1323	0	2030
GRAND TOTAL	**0**	**2766**	**793**	**0**	**3559**	**0**	**0**	**3165**	**452**	**0**	**3617**	**0**	**7176**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Hurontario St & Hwy 407 South Ramp Terminal
Site Code:	2451900002
Municipality:	Mississauga
Count Date:	Dec 17, 2024

Hwy 407 South Ramp Terminal - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	0	0	0	0	0	0	52	0	104	0	156	0	156
08:00 - 09:00	0	0	0	0	0	0	90	0	169	0	259	0	259
BREAK													
16:00 - 17:00	0	0	0	0	0	0	70	0	33	0	103	4	103
17:00 - 18:00	0	0	0	0	0	0	106	0	36	0	142	3	142
GRAND TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**318**	**0**	**342**	**0**	**660**	**7**	**660**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Hwy 407 South Ramp Terminal
Site Code: 2451900002
Municipality: Mississauga
Count Date: Dec 17, 2024

North Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	0	151	31	0	182	0	10	0	0	10	0	0	0	0	0	0
07:15	0	169	47	0	216	0	12	2	0	14	0	0	0	0	0	0
07:30	0	188	72	0	260	0	10	0	0	10	0	0	0	0	0	0
07:45	0	224	62	0	286	0	15	1	0	16	0	0	0	0	0	0
08:00	0	194	67	0	261	0	8	2	0	10	0	0	0	0	0	0
08:15	0	204	87	0	291	0	9	1	0	10	0	0	0	0	0	0
08:30	0	190	48	0	238	0	8	1	0	9	0	0	0	0	0	0
08:45	0	197	46	0	243	0	7	0	0	7	0	0	0	0	0	0
SUBTOTAL	0	1517	460	0	1977	0	79	7	0	86	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Hwy 407 South Ramp Terminal
Site Code: 2451900002
Municipality: Mississauga
Count Date: Dec 17, 2024

North Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
16:00	0	149	34	0	183	0	12	2	0	14	0	0	0	0	0	0
16:15	0	132	48	0	180	0	11	1	0	12	0	0	0	0	0	0
16:30	0	139	56	0	195	0	13	1	0	14	0	0	0	0	0	0
16:45	0	136	49	0	185	0	4	2	0	6	0	0	0	0	0	0
17:00	0	149	38	0	187	0	9	0	0	9	0	0	0	0	0	0
17:15	0	128	37	0	165	0	4	2	0	6	0	0	0	0	0	0
17:30	0	129	31	0	160	0	15	0	0	15	0	0	0	0	0	0
17:45	0	126	25	0	151	0	14	0	0	14	0	0	0	0	0	0
SUBTOTAL	0	1088	318	0	1406	0	82	8	0	90	0	0	0	0	0	0
GRAND TOTAL	0	2605	778	0	3383	0	161	15	0	176	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Hwy 407 South Ramp Terminal
Site Code: 2451900002
Municipality: Mississauga
Count Date: Dec 17, 2024

South Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	0	47	3	0	50	0	6	5	0	11	0	0	0	0	0	0
07:15	0	56	6	0	62	0	11	3	0	14	0	0	0	0	0	0
07:30	0	72	14	0	86	0	8	3	0	11	0	0	0	0	0	0
07:45	0	83	12	0	95	0	8	6	0	14	0	0	0	0	0	0
08:00	0	120	8	0	128	0	8	2	0	10	0	0	0	0	0	0
08:15	0	122	14	0	136	0	11	6	0	17	0	0	0	0	0	0
08:30	0	130	12	0	142	0	8	2	0	10	0	0	0	0	0	0
08:45	0	146	18	0	164	0	8	4	0	12	0	0	0	0	0	0
SUBTOTAL	0	776	87	0	863	0	68	31	0	99	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Hwy 407 South Ramp Terminal
Site Code: 2451900002
Municipality: Mississauga
Count Date: Dec 17, 2024

South Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
16:00	0	256	37	0	293	0	10	1	0	11	0	0	0	0	0	0
16:15	0	274	44	0	318	0	9	0	0	9	0	0	0	0	0	0
16:30	0	306	43	0	349	0	6	4	0	10	0	0	0	0	0	0
16:45	0	299	37	0	336	0	4	2	0	6	0	0	0	0	0	0
17:00	0	285	53	0	338	0	7	2	0	9	0	0	0	0	0	0
17:15	0	280	46	0	326	0	6	2	0	8	0	0	0	0	0	0
17:30	0	306	38	0	344	0	8	1	0	9	0	0	0	0	0	0
17:45	0	257	24	0	281	0	8	0	0	8	0	0	0	0	0	0
SUBTOTAL	0	2263	322	0	2585	0	58	12	0	70	0	0	0	0	0	0
GRAND TOTAL	0	3039	409	0	3448	0	126	43	0	169	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Hwy 407 South Ramp Terminal
Site Code: 2451900002
Municipality: Mississauga
Count Date: Dec 17, 2024

East Approach - Hwy 407 South Ramp Terminal

Start Time	Cars				Total	Trucks				Total	Bicycles				Total	Total Peds
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Hwy 407 South Ramp Terminal
Site Code: 2451900002
Municipality: Mississauga
Count Date: Dec 17, 2024

East Approach - Hwy 407 South Ramp Terminal

Start Time	Cars				Total	Trucks				Total	Bicycles				Total	Total Peds
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Hwy 407 South Ramp Terminal
Site Code: 2451900002
Municipality: Mississauga
Count Date: Dec 17, 2024

West Approach - Hwy 407 South Ramp Terminal

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	6	0	19	0	25	1	0	1	0	2	0	0	0	0	0	0
07:15	12	0	21	0	33	0	0	1	0	1	0	0	0	0	0	0
07:30	11	0	28	0	39	0	0	1	0	1	0	0	0	0	0	0
07:45	21	0	30	0	51	1	0	3	0	4	0	0	0	0	0	0
08:00	20	0	37	0	57	0	0	1	0	1	0	0	0	0	0	0
08:15	20	0	38	0	58	1	0	6	0	7	0	0	0	0	0	0
08:30	22	0	31	0	53	0	0	3	0	3	0	0	0	0	0	0
08:45	27	0	51	0	78	0	0	2	0	2	0	0	0	0	0	0
SUBTOTAL	139	0	255	0	394	3	0	18	0	21	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Hwy 407 South Ramp Terminal
Site Code: 2451900002
Municipality: Mississauga
Count Date: Dec 17, 2024

West Approach - Hwy 407 South Ramp Terminal

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	14	0	6	0	20	0	0	4	0	4	0	0	0	0	0	2
16:15	14	0	3	0	17	0	0	1	0	1	0	0	0	0	0	2
16:30	18	0	4	0	22	1	0	2	0	3	0	0	0	0	0	0
16:45	22	0	12	0	34	1	0	1	0	2	0	0	0	0	0	0
17:00	28	0	8	0	36	0	0	2	0	2	0	0	0	0	0	0
17:15	36	0	13	0	49	0	0	3	0	3	0	0	0	0	0	1
17:30	20	0	5	0	25	0	0	0	0	0	0	0	0	0	0	1
17:45	21	0	3	0	24	1	0	2	0	3	0	0	0	0	0	1
SUBTOTAL	173	0	54	0	227	3	0	15	0	18	0	0	0	0	0	7
GRAND TOTAL	**312**	**0**	**309**	**0**	**621**	**6**	**0**	**33**	**0**	**39**	**0**	**0**	**0**	**0**	**0**	**7**

Peak Hour Diagram

Specified Period
From: 07:00:00
To: 09:00:00

One Hour Peak
From: 08:00:00
To: 09:00:00

Intersection: Hurontario St & Hwy 407 South Ramp Terminal
Site Code: 2451900002
Count Date: Dec 17, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Hurontario St runs N/S

North Approach

	Out	In	Total
Cars	1033	607	1640
Trucks	36	36	72
Bicycles	0	0	0
	1069	**643**	**1712**

Hurontario St

Bicycles	0	0	0	0
Trucks	4	32	0	0
Cars	248	785	0	0
Totals	**252**	**817**	**0**	**0**

East Approach

	Out	In	Total
Cars	0	52	52
Trucks	0	14	14
Bicycles	0	0	0
	0	**66**	**66**

Hwy 407 South Ramp Terminal

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	1	89	**90**
0	0	0	**0**
0	12	157	**169**

Peds: 0

N / W / E / S

Peds: 0

Peds: 0

Hwy 407 South Ramp Terminal

Totals	Cars	Trucks	Bicycles

West Approach

	Out	In	Total
Cars	246	248	494
Trucks	13	4	17
Bicycles	0	0	0
	259	**252**	**511**

Totals	**0**	**553**	**66**	**0**
Cars	0	518	52	0
Trucks	0	35	14	0
Bicycles	0	0	0	0

Hurontario St

South Approach

	Out	In	Total
Cars	570	942	1512
Trucks	49	44	93
Bicycles	0	0	0
	619	**986**	**1605**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Hurontario St & Hwy 407 South Ramp Terminal
Site Code: 2451900002
Count Date: Dec 17, 2024
Period: 07:00 - 09:00

Peak Hour Data (08:00 - 09:00)

Start Time	North Approach Hurontario St						South Approach Hurontario St						East Approach Hwy 407 South Ramp Terminal						West Approach Hwy 407 South Ramp Terminal						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:00	0	202	69	0	0	271	0	128	10	0	0	138					0	0	20	0	38	0	0	58	467
08:15	0	213	88	0	0	301	0	133	20	0	0	153					0	0	21	0	44	0	0	65	519
08:30	0	198	49	0	0	247	0	138	14	0	0	152					0	0	22	0	34	0	0	56	455
08:45	0	204	46	0	0	250	0	154	22	0	0	176					0	0	27	0	53	0	0	80	506
Grand Total	**0**	**817**	**252**	**0**	**0**	**1069**	**0**	**553**	**66**	**0**	**0**	**619**					**0**	**0**	**90**	**0**	**169**	**0**	**0**	**259**	**1947**
Approach %	0	76.4	23.6	0		-	0	89.3	10.7	0		-						-	34.7	0	65.3	0		-	
Totals %	0	42	12.9	0		54.9	0	28.4	3.4	0		31.8						0	4.6	0	8.7	0		13.3	
PHF	**0**	**0.96**	**0.72**	**0**		**0.89**	**0**	**0.9**	**0.75**	**0**		**0.88**						**0**	**0.83**	**0**	**0.8**	**0**		**0.81**	**0.94**
Cars	0	785	248	0		1033	0	518	52	0		570						0	89	0	157	0		246	1849
% Cars	0	96.1	98.4	0		96.6	0	93.7	78.8	0		92.1						0	98.9	0	92.9	0		95	95
Trucks	0	32	4	0		36	0	35	14	0		49						0	1	0	12	0		13	98
% Trucks	0	3.9	1.6	0		3.4	0	6.3	21.2	0		7.9						0	1.1	0	7.1	0		5	5
Bicycles	0	0	0	0		0	0	0	0	0		0						0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0						0	0	0	0	0		0	0
Peds					0	-					0	-					0	-					0	-	0
% Peds					0	-					0	-					0	-					0	-	

Peak Hour Diagram

Specified Period
From: 16:00:00
To: 18:00:00

One Hour Peak
From: 16:30:00
To: 17:30:00

Intersection: Hurontario St & Hwy 407 South Ramp Terminal
Site Code: 2451900002
Count Date: Dec 17, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Hurontario St runs N/S

North Approach

	Out	In	Total
Cars	732	1274	2006
Trucks	35	25	60
Bicycles	0	0	0
	767	**1299**	**2066**

Hurontario St

Bicycles	0	0	0	0
Trucks	5	30	0	0
Cars	180	552	0	0
Totals	**185**	**582**	**0**	**0**

East Approach

	Out	In	Total
Cars	0	179	179
Trucks	0	10	10
Bicycles	0	0	0
	0	**189**	**189**

Hwy 407 South Ramp Terminal

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	2	104	**106**
0	0	0	**0**
0	8	37	**45**

Peds: 1

Peds: 0

Peds: 0

Hwy 407 South Ramp Terminal

Totals	Cars	Trucks	Bicycles

West Approach

	Out	In	Total
Cars	141	180	321
Trucks	10	5	15
Bicycles	0	0	0
	151	**185**	**336**

Hurontario St

Totals	**0**	**1193**	**189**	**0**
Cars	0	1170	179	0
Trucks	0	23	10	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	1349	589	1938
Trucks	33	38	71
Bicycles	0	0	0
	1382	**627**	**2009**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Hurontario St & Hwy 407 South Ramp Terminal
Site Code: 2451900002
Count Date: Dec 17, 2024
Period: 16:00 - 18:00

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

Start Time	North Approach Hurontario St						South Approach Hurontario St						East Approach Hwy 407 South Ramp Terminal						West Approach Hwy 407 South Ramp Terminal						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:30	0	152	57	0	0	209	0	312	47	0	0	359					0	0	19	0	6	0	0	25	593
16:45	0	140	51	0	0	191	0	303	39	0	0	342					0	0	23	0	13	0	0	36	569
17:00	0	158	38	0	0	196	0	292	55	0	0	347					0	0	28	0	10	0	0	38	581
17:15	0	132	39	0	0	171	0	286	48	0	0	334					0	0	36	0	16	0	1	52	557
Grand Total	**0**	**582**	**185**	**0**	**0**	**767**	**0**	**1193**	**189**	**0**	**0**	**1382**					**0**	**0**	**106**	**0**	**45**	**0**	**1**	**151**	**2300**
Approach %	0	75.9	24.1	0		-	0	86.3	13.7	0		-						-	70.2	0	29.8	0		-	
Totals %	0	25.3	8	0		33.3	0	51.9	8.2	0		60.1						0	4.6	0	2	0		6.6	
PHF	**0**	**0.92**	**0.81**	**0**		**0.92**	**0**	**0.96**	**0.86**	**0**		**0.96**						**0**	**0.74**	**0**	**0.7**	**0**		**0.73**	**0.97**
Cars	0	552	180	0		732	0	1170	179	0		1349						0	104	0	37	0		141	2222
% Cars	0	94.8	97.3	0		95.4	0	98.1	94.7	0		97.6						0	98.1	0	82.2	0		93.4	96.6
Trucks	0	30	5	0		35	0	23	10	0		33						0	2	0	8	0		10	78
% Trucks	0	5.2	2.7	0		4.6	0	1.9	5.3	0		2.4						0	1.9	0	17.8	0		6.6	3.4
Bicycles	0	0	0	0		0	0	0	0	0		0						0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0						0	0	0	0	0		0	0
Peds					0	-					0	-					0	-					1	-	1
% Peds					0	-					0	-					0	-					100	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-519 - GHD

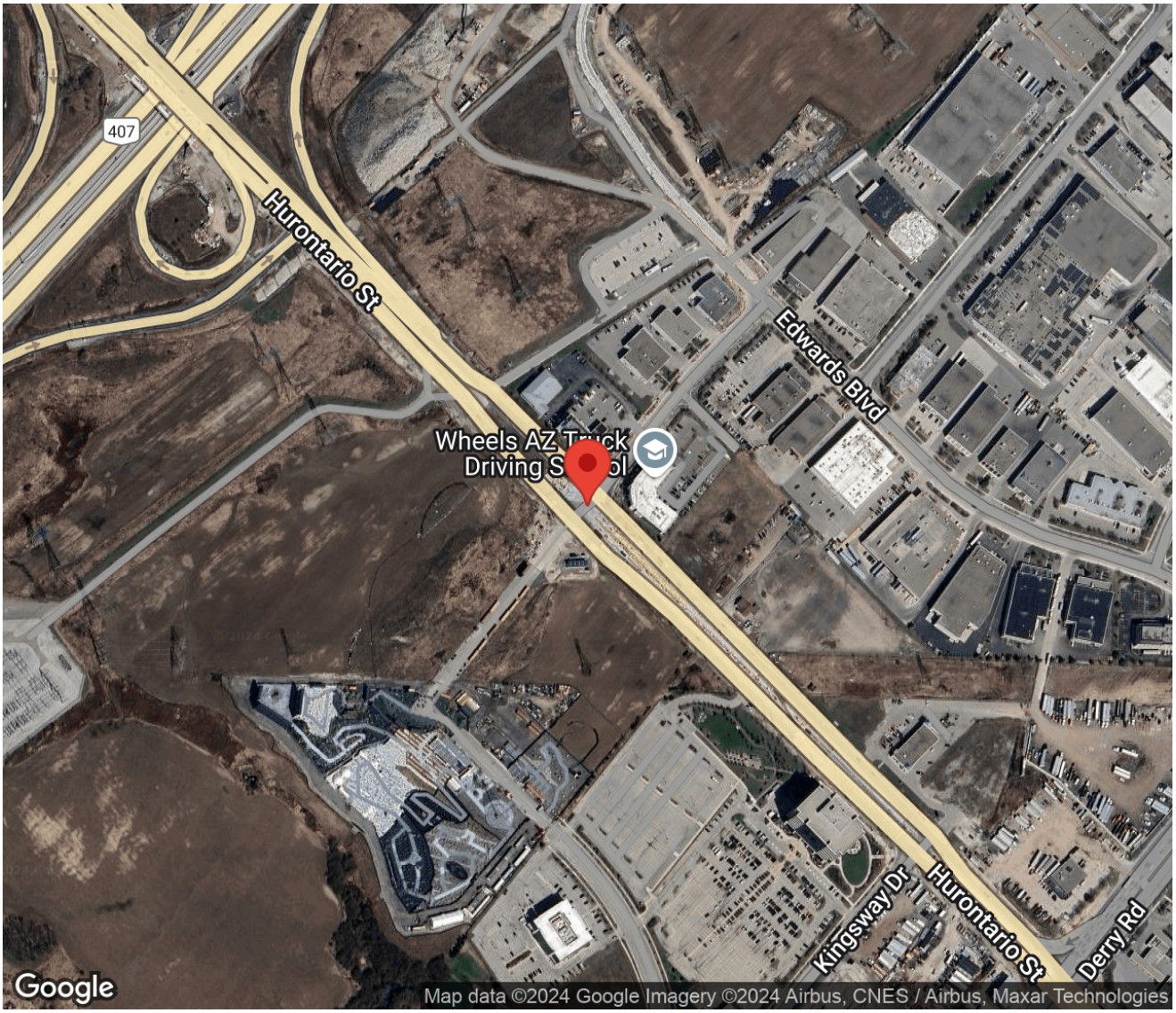
Intersection Count Report

Intersection:	Hurontario St & Vicksburgh Dr - Topflight Dr
Municipality:	Mississauga
Count Date:	Tuesday, Dec 17, 2024
Site Code:	2451900003
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Hurontario St & Vicksburgh Dr - Topflight Dr
Site Code:	2451900003
Municipality:	Mississauga
Count Date:	Dec 17, 2024



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection: Hurontario St & Vicksburgh Dr - Topflight Dr
Site Code: 2451900003
Municipality: Mississauga
Count Date: Dec 17, 2024

Hurontario St - Traffic Summary

Hour	North Approach Totals						South Approach Totals						Total
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	131	794	1	0	926	2	0	269	14	0	283	0	1209
08:00 - 09:00	145	896	3	1	1045	4	0	474	29	0	503	0	1548
BREAK													
16:00 - 17:00	74	577	0	3	654	1	0	967	17	1	985	1	1639
17:00 - 18:00	71	574	1	1	647	0	0	894	18	2	914	0	1561
GRAND TOTAL	**421**	**2841**	**5**	**5**	**3272**	**7**	**0**	**2604**	**78**	**3**	**2685**	**1**	**5957**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection: Hurontario St & Vicksburgh Dr - Topflight Dr
Site Code: 2451900003
Municipality: Mississauga
Count Date: Dec 17, 2024

Topflight Dr - Traffic Summary

Hour	East Approach Totals (Includes Cars, Trucks, Bicycles)						West Approach Totals (Includes Cars, Trucks, Bicycles)						Total
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	8	0	71	0	79	0	0	1	0	0	1	0	80
08:00 - 09:00	14	1	143	0	158	2	0	3	0	0	3	0	161
BREAK													
16:00 - 17:00	25	1	432	0	458	0	0	0	1	0	1	2	459
17:00 - 18:00	35	0	452	0	487	0	0	0	1	0	1	3	488
GRAND TOTAL	**82**	**2**	**1098**	**0**	**1182**	**2**	**0**	**4**	**2**	**0**	**6**	**5**	**1188**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Vicksburgh Dr - Topflight Dr
Site Code: 2451900003
Municipality: Mississauga
Count Date: Dec 17, 2024

North Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	19	151	0	0	170	3	7	0	0	10	0	0	0	0	0	0
07:15	28	172	0	0	200	5	10	0	0	15	0	0	0	0	0	0
07:30	37	199	0	0	236	3	7	0	0	10	0	0	0	0	0	0
07:45	35	234	1	0	270	1	14	0	0	15	0	0	0	0	0	2
08:00	43	213	1	0	257	1	9	0	0	10	0	0	0	0	0	0
08:15	28	236	1	1	266	4	10	0	0	14	0	0	0	0	0	1
08:30	27	213	0	0	240	2	10	0	0	12	0	0	0	0	0	2
08:45	36	200	1	0	237	4	5	0	0	9	0	0	0	0	0	1
SUBTOTAL	253	1618	4	1	1876	23	72	0	0	95	0	0	0	0	0	6

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Vicksburgh Dr - Topflight Dr
Site Code: 2451900003
Municipality: Mississauga
Count Date: Dec 17, 2024

North Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	16	129	0	0	145	4	12	0	0	16	0	0	0	0	0	1
16:15	16	120	0	1	137	3	9	0	0	12	0	0	0	0	0	0
16:30	10	143	0	2	155	4	11	0	0	15	0	0	0	0	0	0
16:45	19	150	0	0	169	2	3	0	0	5	0	0	0	0	0	0
17:00	20	138	1	0	159	4	6	0	0	10	0	0	0	0	0	0
17:15	10	151	0	1	162	3	5	0	0	8	0	0	0	0	0	0
17:30	17	132	0	0	149	3	9	0	0	12	0	0	0	0	0	0
17:45	10	121	0	0	131	4	12	0	0	16	0	0	0	0	0	0
SUBTOTAL	118	1084	1	4	1207	27	67	0	0	94	0	0	0	0	0	1
GRAND TOTAL	**371**	**2702**	**5**	**5**	**3083**	**50**	**139**	**0**	**0**	**189**	**0**	**0**	**0**	**0**	**0**	**7**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Vicksburgh Dr - Topflight Dr
Site Code: 2451900003
Municipality: Mississauga
Count Date: Dec 17, 2024

South Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	0	41	1	0	42	0	8	2	0	10	0	0	0	0	0	0
07:15	0	48	4	0	52	0	9	1	0	10	0	0	0	0	0	0
07:30	0	73	3	0	76	0	8	1	0	9	0	0	0	0	0	0
07:45	0	67	2	0	69	0	15	0	0	15	0	0	0	0	0	0
08:00	0	91	5	0	96	0	8	2	0	10	0	0	0	0	0	0
08:15	0	124	6	0	130	0	10	2	0	12	0	0	0	0	0	0
08:30	0	105	5	0	110	0	5	2	0	7	0	0	0	0	0	0
08:45	0	125	5	0	130	0	6	2	0	8	0	0	0	0	0	0
SUBTOTAL	0	674	31	0	705	0	69	12	0	81	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Vicksburgh Dr - Topflight Dr
Site Code: 2451900003
Municipality: Mississauga
Count Date: Dec 17, 2024

South Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
16:00	0	211	2	0	213	0	8	1	0	9	0	0	0	0	0	0
16:15	0	199	3	0	202	0	5	1	0	6	0	0	0	0	0	1
16:30	0	261	2	0	263	0	8	1	0	9	0	0	0	0	0	0
16:45	0	271	6	1	278	0	4	1	0	5	0	0	0	0	0	0
17:00	0	227	3	1	231	0	5	0	0	5	0	0	0	0	0	0
17:15	0	248	6	0	254	0	5	1	0	6	0	0	0	0	0	0
17:30	0	219	3	0	222	0	5	1	0	6	0	0	0	0	0	0
17:45	0	180	2	1	183	0	5	2	0	7	0	0	0	0	0	0
SUBTOTAL	0	1816	27	3	1846	0	45	8	0	53	0	0	0	0	0	1
GRAND TOTAL	0	2490	58	3	2551	0	114	20	0	134	0	0	0	0	0	1

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Vicksburgh Dr - Topflight Dr
Site Code: 2451900003
Municipality: Mississauga
Count Date: Dec 17, 2024

East Approach - Topflight Dr

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	1	0	10	0	11	1	0	1	0	2	0	0	0	0	0	0
07:15	1	0	20	0	21	2	0	2	0	4	0	0	0	0	0	0
07:30	1	0	16	0	17	1	0	3	0	4	0	0	0	0	0	0
07:45	0	0	19	0	19	1	0	0	0	1	0	0	0	0	0	0
08:00	0	0	32	0	32	0	0	3	0	3	0	0	0	0	0	0
08:15	3	1	28	0	32	3	0	2	0	5	0	0	0	0	0	1
08:30	2	0	36	0	38	2	0	4	0	6	0	0	0	0	0	1
08:45	2	0	37	0	39	2	0	1	0	3	0	0	0	0	0	0
SUBTOTAL	10	1	198	0	209	12	0	16	0	28	0	0	0	0	0	2

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Vicksburgh Dr - Topflight Dr
Site Code: 2451900003
Municipality: Mississauga
Count Date: Dec 17, 2024

East Approach - Topflight Dr

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	9	0	104	0	113	1	0	1	0	2	0	0	0	0	0	0
16:15	3	0	121	0	124	1	0	1	0	2	0	0	0	0	0	0
16:30	6	1	109	0	116	1	0	3	0	4	0	0	0	0	0	0
16:45	3	0	93	0	96	1	0	0	0	1	0	0	0	0	0	0
17:00	12	0	133	0	145	1	0	2	0	3	0	0	0	0	0	0
17:15	7	0	99	0	106	0	0	1	0	1	0	0	0	0	0	0
17:30	8	0	113	0	121	1	0	2	0	3	0	0	0	0	0	0
17:45	5	0	102	0	107	1	0	0	0	1	0	0	0	0	0	0
SUBTOTAL	53	1	874	0	928	7	0	10	0	17	0	0	0	0	0	0
GRAND TOTAL	**63**	**2**	**1072**	**0**	**1137**	**19**	**0**	**26**	**0**	**45**	**0**	**0**	**0**	**0**	**0**	**2**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Vicksburgh Dr - Topflight Dr
Site Code: 2451900003
Municipality: Mississauga
Count Date: Dec 17, 2024

West Approach - Vicksburgh Dr

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
08:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
08:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Vicksburgh Dr - Topflight Dr
Site Code: 2451900003
Municipality: Mississauga
Count Date: Dec 17, 2024

West Approach - Vicksburgh Dr

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SUBTOTAL	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	5
GRAND TOTAL	0	4	2	0	6	0	0	0	0	0	0	0	0	0	0	5

Peak Hour Diagram

Specified Period
From: 07:00:00
To: 09:00:00

One Hour Peak
From: 08:00:00
To: 09:00:00

Intersection: Hurontario St & Vicksburgh Dr - Topflight Dr
Site Code: 2451900003
Count Date: Dec 17, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Hurontario St runs N/S

North Approach

	Out	In	Total
Cars	1000	579	1579
Trucks	45	39	84
Bicycles	0	0	0
	1045	**618**	**1663**

Hurontario St

Bicycles	0	0	0	0
Trucks	0	34	11	0
Cars	3	862	134	1
Totals	**3**	**896**	**145**	**1**

Peds: 4

East Approach

	Out	In	Total
Cars	141	158	299
Trucks	17	19	36
Bicycles	0	0	0
	158	**177**	**335**

Vicksburgh Dr

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	0	**0**
0	0	3	**3**
0	0	0	**0**

Peds: 0

Peds: 2

Topflight Dr

Totals	Cars	Trucks	Bicycles
0	0	0	0
143	133	10	0
1	1	0	0
14	7	7	0

Peds: 0

West Approach

	Out	In	Total
Cars	3	4	7
Trucks	0	0	0
Bicycles	0	0	0
	3	**4**	**7**

Hurontario St

Totals	**0**	**474**	**29**	**0**
Cars	0	445	21	0
Trucks	0	29	8	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	466	869	1335
Trucks	37	41	78
Bicycles	0	0	0
	503	**910**	**1413**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Hurontario St & Vicksburgh Dr - Topflight Dr
Site Code: 2451900003
Count Date: Dec 17, 2024
Period: 07:00 - 09:00

Peak Hour Data (08:00 - 09:00)

Start Time	North Approach Hurontario St						South Approach Hurontario St						East Approach Topflight Dr						West Approach Vicksburgh Dr						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:00	44	222	1	0	0	267	0	99	7	0	0	106	0	0	35	0	0	35	0	1	0	0	0	1	409
08:15	32	246	1	1	1	280	0	134	8	0	0	142	6	1	30	0	1	37	0	1	0	0	0	1	460
08:30	29	223	0	0	2	252	0	110	7	0	0	117	4	0	40	0	1	44	0	0	0	0	0	0	413
08:45	40	205	1	0	1	246	0	131	7	0	0	138	4	0	38	0	0	42	0	1	0	0	0	1	427
Grand Total	**145**	**896**	**3**	**1**	**4**	**1045**	**0**	**474**	**29**	**0**	**0**	**503**	**14**	**1**	**143**	**0**	**2**	**158**	**0**	**3**	**0**	**0**	**0**	**3**	**1709**
Approach %	13.9	85.7	0.3	0.1		-	0	94.2	5.8	0		-	8.9	0.6	90.5	0		-	0	100	0	0		-	
Totals %	8.5	52.4	0.2	0.1		61.1	0	27.7	1.7	0		29.4	0.8	0.1	8.4	0		9.2	0	0.2	0	0		0.2	
PHF	**0.82**	**0.91**	**0.75**	**0.25**		**0.93**	**0**	**0.88**	**0.91**	**0**		**0.89**	**0.58**	**0.25**	**0.89**	**0**		**0.9**	**0**	**0.75**	**0**	**0**		**0.75**	**0.93**
Cars	134	862	3	1		1000	0	445	21	0		466	7	1	133	0		141	0	3	0	0		3	1610
% Cars	92.4	96.2	100	100		95.7	0	93.9	72.4	0		92.6	50	100	93	0		89.2	0	100	0	0		100	94.2
Trucks	11	34	0	0		45	0	29	8	0		37	7	0	10	0		17	0	0	0	0		0	99
% Trucks	7.6	3.8	0	0		4.3	0	6.1	27.6	0		7.4	50	0	7	0		10.8	0	0	0	0		0	5.8
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					4	-					0	-					2	-					0	-	6
% Peds					66.7	-					0	-					33.3	-					0	-	

Peak Hour Diagram

Specified Period
From: 16:00:00
To: 18:00:00

One Hour Peak
From: 16:30:00
To: 17:30:00

Intersection: Hurontario St & Vicksburgh Dr - Topflight Dr
Site Code: 2451900003
Count Date: Dec 17, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Hurontario St runs N/S

North Approach

	Out	In	Total
Cars	645	1444	2089
Trucks	38	28	66
Bicycles	0	0	0
	683	**1472**	**2155**

Hurontario St

Bicycles	0	0	0	0
Trucks	0	25	13	0
Cars	1	582	59	3
Totals	**1**	**607**	**72**	**3**

Peds: 0

East Approach

	Out	In	Total
Cars	463	76	539
Trucks	9	16	25
Bicycles	0	0	0
	472	**92**	**564**

Vicksburgh Dr

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	0	**0**
0	0	0	**0**
0	0	2	**2**

Peds: 1

N
W E
S

Peds: 0

Topflight Dr

Totals	Cars	Trucks	Bicycles
0	0	0	0
440	434	6	0
1	1	0	0
31	28	3	0

Peds: 0

West Approach

	Out	In	Total
Cars	2	2	4
Trucks	0	0	0
Bicycles	0	0	0
	2	**2**	**4**

Hurontario St

Totals	**0**	**1029**	**20**	**2**
Cars	0	1007	17	2
Trucks	0	22	3	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	1026	614	1640
Trucks	25	28	53
Bicycles	0	0	0
	1051	**642**	**1693**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Hurontario St & Vicksburgh Dr - Topflight Dr
Site Code: 2451900003
Count Date: Dec 17, 2024
Period: 16:00 - 18:00

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

Start Time	North Approach Hurontario St						South Approach Hurontario St						East Approach Topflight Dr						West Approach Vicksburgh Dr						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:30	14	154	0	2	0	170	0	269	3	0	0	272	7	1	112	0	0	120	0	0	0	0	0	0	562
16:45	21	153	0	0	0	174	0	275	7	1	0	283	4	0	93	0	0	97	0	0	1	0	0	1	555
17:00	24	144	1	0	0	169	0	232	3	1	0	236	13	0	135	0	0	148	0	0	1	0	1	1	554
17:15	13	156	0	1	0	170	0	253	7	0	0	260	7	0	100	0	0	107	0	0	0	0	0	0	537
Grand Total	**72**	**607**	**1**	**3**	**0**	**683**	**0**	**1029**	**20**	**2**	**0**	**1051**	**31**	**1**	**440**	**0**	**0**	**472**	**0**	**0**	**2**	**0**	**1**	**2**	**2208**
Approach %	10.5	88.9	0.1	0.4		-	0	97.9	1.9	0.2		-	6.6	0.2	93.2	0		-	0	0	100	0		-	
Totals %	3.3	27.5	0	0.1		30.9	0	46.6	0.9	0.1		47.6	1.4	0	19.9	0		21.4	0	0	0.1	0		0.1	
PHF	**0.75**	**0.97**	**0.25**	**0.38**		**0.98**	**0**	**0.94**	**0.71**	**0.5**		**0.93**	**0.6**	**0.25**	**0.81**	**0**		**0.8**	**0**	**0**	**0.5**	**0**		**0.5**	**0.98**
Cars	59	582	1	3		645	0	1007	17	2		1026	28	1	434	0		463	0	0	2	0		2	2136
% Cars	81.9	95.9	100	100		94.4	0	97.9	85	100		97.6	90.3	100	98.6	0		98.1	0	0	100	0		100	96.7
Trucks	13	25	0	0		38	0	22	3	0		25	3	0	6	0		9	0	0	0	0		0	72
% Trucks	18.1	4.1	0	0		5.6	0	2.1	15	0		2.4	9.7	0	1.4	0		1.9	0	0	0	0		0	3.3
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					0	-					0	-					0	-					1	-	1
% Peds					0	-					0	-					0	-					100	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-519 - GHD

Intersection Count Report

Intersection:	Hurontario St & Kingsway Dr
Municipality:	Mississauga
Count Date:	Tuesday, Dec 17, 2024
Site Code:	2451900004
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Hurontario St & Kingsway Dr
Site Code:	2451900004
Municipality:	Mississauga
Count Date:	Dec 17, 2024

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Hurontario St & Kingsway Dr
Site Code:	2451900004
Municipality:	Mississauga
Count Date:	Dec 17, 2024

Hurontario St - Traffic Summary

Hour	North Approach Totals (Includes Cars, Trucks, Bicycles)						South Approach Totals (Includes Cars, Trucks, Bicycles)						Total
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	1	705	85	2	793	0	5	235	1	6	247	0	1040
08:00 - 09:00	1	777	106	3	887	2	18	406	9	5	438	0	1325
BREAK													
16:00 - 17:00	1	470	99	0	570	0	8	817	2	2	829	0	1399
17:00 - 18:00	0	480	120	4	604	2	5	812	1	4	822	0	1426
GRAND TOTAL	**3**	**2432**	**410**	**9**	**2854**	**4**	**36**	**2270**	**13**	**17**	**2336**	**0**	**5190**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Hurontario St & Kingsway Dr
Site Code:	2451900004
Municipality:	Mississauga
Count Date:	Dec 17, 2024

Kingsway Dr - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	0	1	0	0	1	1	44	2	5	0	51	3	52
08:00 - 09:00	2	5	0	0	7	1	96	0	16	0	112	2	119
BREAK													
16:00 - 17:00	2	6	1	0	9	0	182	1	30	0	213	5	222
17:00 - 18:00	0	0	2	0	2	0	130	0	14	0	144	1	146
GRAND TOTAL	**4**	**12**	**3**	**0**	**19**	**2**	**452**	**3**	**65**	**0**	**520**	**11**	**539**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Kingsway Dr
Site Code: 2451900004
Municipality: Mississauga
Count Date: Dec 17, 2024

North Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	0	121	16	1	138	0	7	2	0	9	0	0	0	0	0	0
07:15	0	186	16	0	202	0	9	0	0	9	0	0	0	0	0	0
07:30	0	144	16	0	160	0	11	1	0	12	0	0	0	0	0	0
07:45	1	215	31	1	248	0	12	3	0	15	0	0	0	0	0	0
08:00	0	181	31	0	212	0	10	1	0	11	0	0	0	0	0	0
08:15	0	177	22	0	199	0	13	0	0	13	0	0	0	0	0	2
08:30	1	191	24	3	219	0	10	0	0	10	0	0	0	0	0	0
08:45	0	186	28	0	214	0	9	0	0	9	0	0	0	0	0	0
SUBTOTAL	2	1401	184	5	1592	0	81	7	0	88	0	0	0	0	0	2

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Kingsway Dr
Site Code: 2451900004
Municipality: Mississauga
Count Date: Dec 17, 2024

North Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	1	125	22	0	148	0	12	1	0	13	0	0	0	0	0	0
16:15	0	94	11	0	105	0	8	1	0	9	0	0	0	0	0	0
16:30	0	109	32	0	141	0	12	2	0	14	0	0	0	0	0	0
16:45	0	106	30	0	136	0	4	0	0	4	0	0	0	0	0	0
17:00	0	110	29	0	139	0	8	0	0	8	0	0	0	0	0	2
17:15	0	127	33	4	164	0	4	0	0	4	0	0	0	0	0	0
17:30	0	103	27	0	130	0	8	1	0	9	0	0	0	0	0	0
17:45	0	107	29	0	136	0	13	1	0	14	0	0	0	0	0	0
SUBTOTAL	1	881	213	4	1099	0	69	6	0	75	0	0	0	0	0	2
GRAND TOTAL	3	2282	397	9	2691	0	150	13	0	163	0	0	0	0	0	4

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Kingsway Dr
Site Code: 2451900004
Municipality: Mississauga
Count Date: Dec 17, 2024

South Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	0	30	0	2	32	0	6	0	0	6	0	0	0	0	0	0
07:15	0	52	0	1	53	0	12	0	0	12	0	0	0	0	0	0
07:30	1	61	0	2	64	0	8	0	0	8	0	0	0	0	0	0
07:45	3	53	1	1	58	1	13	0	0	14	0	0	0	0	0	0
08:00	6	72	3	3	84	0	10	0	0	10	0	0	0	0	0	0
08:15	5	86	2	0	93	0	11	0	0	11	0	0	0	0	0	0
08:30	6	98	2	1	107	0	7	0	0	7	0	0	0	0	0	0
08:45	0	115	2	1	118	1	7	0	0	8	0	0	0	0	0	0
SUBTOTAL	21	567	10	11	609	2	74	0	0	76	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Kingsway Dr
Site Code: 2451900004
Municipality: Mississauga
Count Date: Dec 17, 2024

South Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
16:00	3	194	1	1	199	1	12	0	0	13	0	0	0	0	0	0
16:15	1	185	0	1	187	0	6	0	0	6	0	0	0	0	0	0
16:30	1	192	0	0	193	1	8	0	0	9	0	0	0	0	0	0
16:45	1	215	1	0	217	0	5	0	0	5	0	0	0	0	0	0
17:00	1	207	1	0	209	0	5	0	0	5	0	0	0	0	0	0
17:15	1	211	0	1	213	0	5	0	0	5	0	0	0	0	0	0
17:30	2	195	0	2	199	0	5	0	0	5	0	0	0	0	0	0
17:45	1	179	0	1	181	0	5	0	0	5	0	0	0	0	0	0
SUBTOTAL	11	1578	3	6	1598	2	51	0	0	53	0	0	0	0	0	0
GRAND TOTAL	**32**	**2145**	**13**	**17**	**2207**	**4**	**125**	**0**	**0**	**129**	**0**	**0**	**0**	**0**	**0**	**0**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Kingsway Dr
Site Code: 2451900004
Municipality: Mississauga
Count Date: Dec 17, 2024

East Approach - Kingsway Dr

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
08:00	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
08:15	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1
08:30	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
08:45	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	2	6	0	0	8	0	0	0	0	0	0	0	0	0	0	2

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Kingsway Dr
Site Code: 2451900004
Municipality: Mississauga
Count Date: Dec 17, 2024

East Approach - Kingsway Dr

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
16:00	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0
16:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
16:30	1	2	1	0	4	0	0	0	0	0	0	0	0	0	0	0
16:45	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	2	6	3	0	11	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	**4**	**12**	**3**	**0**	**19**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Kingsway Dr
Site Code: 2451900004
Municipality: Mississauga
Count Date: Dec 17, 2024

West Approach - Kingsway Dr

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	1
07:15	3	1	1	0	5	0	0	0	0	0	0	0	0	0	0	0
07:30	21	0	2	0	23	0	0	1	0	1	0	0	0	0	0	2
07:45	17	1	1	0	19	0	0	0	0	0	0	0	0	0	0	0
08:00	22	0	4	0	26	0	0	0	0	0	0	0	0	0	0	1
08:15	27	0	4	0	31	0	0	0	0	0	0	0	0	0	0	1
08:30	21	0	5	0	26	1	0	0	0	1	0	0	0	0	0	0
08:45	24	0	3	0	27	1	0	0	0	1	0	0	0	0	0	0
SUBTOTAL	138	2	20	0	160	2	0	1	0	3	0	0	0	0	0	5

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Kingsway Dr
Site Code: 2451900004
Municipality: Mississauga
Count Date: Dec 17, 2024

West Approach - Kingsway Dr

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	36	0	10	0	46	3	0	0	0	3	0	0	0	0	0	1
16:15	38	0	6	0	44	0	0	1	0	1	0	0	0	0	0	1
16:30	52	0	9	0	61	0	0	1	0	1	0	0	0	0	0	2
16:45	53	1	3	0	57	0	0	0	0	0	0	0	0	0	0	1
17:00	38	0	6	0	44	1	0	0	0	1	0	0	0	0	0	1
17:15	37	0	3	0	40	0	0	0	0	0	0	0	0	0	0	0
17:30	31	0	3	0	34	1	0	0	0	1	0	0	0	0	0	0
17:45	21	0	2	0	23	1	0	0	0	1	0	0	0	0	0	0
SUBTOTAL	306	1	42	0	349	6	0	2	0	8	0	0	0	0	0	6
GRAND TOTAL	**444**	**3**	**62**	**0**	**509**	**8**	**0**	**3**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**11**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	07:00:00	From:	08:00:00
To:	09:00:00	To:	09:00:00

Intersection: Hurontario St & Kingsway Dr
Site Code: 2451900004
Count Date: Dec 17, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Hurontario St runs N/S

North Approach

	Out	In	Total
Cars	844	468	1312
Trucks	43	37	80
Bicycles	0	0	0
	887	**505**	**1392**

Hurontario St

Bicycles	0	0	0	0
Trucks	1	42	0	0
Cars	105	735	1	3
Totals	**106**	**777**	**1**	**3**

East Approach

	Out	In	Total
Cars	7	10	17
Trucks	0	0	0
Bicycles	0	0	0
	7	**10**	**17**

Kingsway Dr

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	2	94	**96**	
0	0	0	**0**	
0	0	16	**16**	

Peds: 2

Peds: 2

N
W
E
S

Peds: 1

Peds: 0

Kingsway Dr

Totals	Cars	Trucks	Bicycles
0	0	0	0
0	0	0	0
5	5	0	0
2	2	0	0

West Approach

	Out	In	Total
Cars	110	127	237
Trucks	2	2	4
Bicycles	0	0	0
	112	**129**	**241**

Hurontario St

Totals	**18**	**406**	**9**	**5**
Cars	17	371	9	5
Trucks	1	35	0	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	402	758	1160
Trucks	36	42	78
Bicycles	0	0	0
	438	**800**	**1238**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Hurontario St & Kingsway Dr
Site Code: 2451900004
Count Date: Dec 17, 2024
Period: 07:00 - 09:00

Peak Hour Data (08:00 - 09:00)

Start Time	North Approach Hurontario St						South Approach Hurontario St						East Approach Kingsway Dr						West Approach Kingsway Dr						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:00	0	191	32	0	0	223	6	82	3	3	0	94	0	1	0	0	0	1	22	0	4	0	1	26	344
08:15	0	190	22	0	2	212	5	97	2	0	0	104	0	2	0	0	1	2	27	0	4	0	1	31	349
08:30	1	201	24	3	0	229	6	105	2	1	0	114	1	1	0	0	0	2	22	0	5	0	0	27	372
08:45	0	195	28	0	0	223	1	122	2	1	0	126	1	1	0	0	0	2	25	0	3	0	0	28	379
Grand Total	**1**	**777**	**106**	**3**	**2**	**887**	**18**	**406**	**9**	**5**	**0**	**438**	**2**	**5**	**0**	**0**	**1**	**7**	**96**	**0**	**16**	**0**	**2**	**112**	**1444**
Approach %	0.1	87.6	12	0.3		-	4.1	92.7	2.1	1.1		-	28.6	71.4	0	0		-	85.7	0	14.3	0		-	
Totals %	0.1	53.8	7.3	0.2		61.4	1.2	28.1	0.6	0.3		30.3	0.1	0.3	0	0		0.5	6.6	0	1.1	0		7.8	
PHF	**0.25**	**0.97**	**0.83**	**0.25**		**0.97**	**0.75**	**0.83**	**0.75**	**0.42**		**0.87**	**0.5**	**0.63**	**0**	**0**		**0.88**	**0.89**	**0**	**0.8**	**0**		**0.9**	**0.95**
Cars	1	735	105	3		844	17	371	9	5		402	2	5	0	0		7	94	0	16	0		110	1363
% Cars	100	94.6	99.1	100		95.2	94.4	91.4	100	100		91.8	100	100	0	0		100	97.9	0	100	0		98.2	94.4
Trucks	0	42	1	0		43	1	35	0	0		36	0	0	0	0		0	2	0	0	0		2	81
% Trucks	0	5.4	0.9	0		4.8	5.6	8.6	0	0		8.2	0	0	0	0		0	2.1	0	0	0		1.8	5.6
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					2	-					0	-					1	-					2	-	5
% Peds					40	-					0	-					20	-					40	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	16:00:00	From:	16:30:00
To:	18:00:00	To:	17:30:00

Intersection: Hurontario St & Kingsway Dr
Site Code: 2451900004
Count Date: Dec 17, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Hurontario St runs N/S

North Approach

	Out	In	Total
Cars	580	1012	1592
Trucks	30	24	54
Bicycles	0	0	0
	610	**1036**	**1646**

Hurontario St

Bicycles	0	0	0	0
Trucks	2	28	0	0
Cars	124	452	0	4
Totals	**126**	**480**	**0**	**4**

Peds: 2

East Approach

	Out	In	Total
Cars	7	3	10
Trucks	0	0	0
Bicycles	0	0	0
	7	**3**	**10**

Kingsway Dr

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	1	180	**181**
0	0	1	**1**
0	1	21	**22**

Peds: 4

Peds: 0

Kingsway Dr

Totals	Cars	Trucks	Bicycles
0	0	0	0
3	3	0	0
2	2	0	0
2	2	0	0

Peds: 0

West Approach

	Out	In	Total
Cars	202	130	332
Trucks	2	3	5
Bicycles	0	0	0
	204	**133**	**337**

Hurontario St

Totals	**5**	**848**	**2**	**1**
Cars	4	825	2	1
Trucks	1	23	0	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	832	476	1308
Trucks	24	29	53
Bicycles	0	0	0
	856	**505**	**1361**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Hurontario St & Kingsway Dr
Site Code: 2451900004
Count Date: Dec 17, 2024
Period: 16:00 - 18:00

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

Start Time	North Approach Hurontario St						South Approach Hurontario St						East Approach Kingsway Dr						West Approach Kingsway Dr						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:30	0	121	34	0	0	155	2	200	0	0	0	202	1	2	1	0	0	4	52	0	10	0	2	62	423
16:45	0	110	30	0	0	140	1	220	1	0	0	222	1	0	0	0	0	1	53	1	3	0	1	57	420
17:00	0	118	29	0	2	147	1	212	1	0	0	214	0	0	2	0	0	2	39	0	6	0	1	45	408
17:15	0	131	33	4	0	168	1	216	0	1	0	218	0	0	0	0	0	0	37	0	3	0	0	40	426
Grand Total	**0**	**480**	**126**	**4**	**2**	**610**	**5**	**848**	**2**	**1**	**0**	**856**	**2**	**2**	**3**	**0**	**0**	**7**	**181**	**1**	**22**	**0**	**4**	**204**	**1677**
Approach %	0	78.7	20.7	0.7		-	0.6	99.1	0.2	0.1		-	28.6	28.6	42.9	0		-	88.7	0.5	10.8	0		-	
Totals %	0	28.6	7.5	0.2		36.4	0.3	50.6	0.1	0.1		51	0.1	0.1	0.2	0		0.4	10.8	0.1	1.3	0		12.2	
PHF	**0**	**0.92**	**0.93**	**0.25**		**0.91**	**0.63**	**0.96**	**0.5**	**0.25**		**0.96**	**0.5**	**0.25**	**0.38**	**0**		**0.44**	**0.85**	**0.25**	**0.55**	**0**		**0.82**	**0.98**
Cars	0	452	124	4		580	4	825	2	1		832	2	2	3	0		7	180	1	21	0		202	1621
% Cars	0	94.2	98.4	100		95.1	80	97.3	100	100		97.2	100	100	100	0		100	99.4	100	95.5	0		99	96.7
Trucks	0	28	2	0		30	1	23	0	0		24	0	0	0	0		0	1	0	1	0		2	56
% Trucks	0	5.8	1.6	0		4.9	20	2.7	0	0		2.8	0	0	0	0		0	0.6	0	4.5	0		1	3.3
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					2	-					0	-					0	-					4	-	6
% Peds					33.3	-					0	-					0	-					66.7	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-519 - GHD

Intersection Count Report

Intersection:	Hurontario St & Derry Rd
Municipality:	Mississauga
Count Date:	Tuesday, Dec 17, 2024
Site Code:	2451900005
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Hurontario St & Derry Rd
Site Code:	2451900005
Municipality:	Mississauga
Count Date:	Dec 17, 2024

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection:	Hurontario St & Derry Rd
Site Code:	2451900005
Municipality:	Mississauga
Count Date:	Dec 17, 2024

Hurontario St - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	333	350	27	0	710	16	48	143	20	0	211	47	921
08:00 - 09:00	374	382	40	0	796	29	49	216	39	1	305	52	1101
BREAK													
16:00 - 17:00	195	264	54	5	518	15	119	529	42	0	690	92	1208
17:00 - 18:00	176	265	53	1	495	23	148	526	46	0	720	42	1215
GRAND TOTAL	**1078**	**1261**	**174**	**6**	**2519**	**83**	**364**	**1414**	**147**	**1**	**1926**	**233**	**4445**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection: Hurontario St & Derry Rd
Site Code: 2451900005
Municipality: Mississauga
Count Date: Dec 17, 2024

Derry Rd - Traffic Summary

Hour	East Approach Totals (Includes Cars, Trucks, Bicycles)						West Approach Totals (Includes Cars, Trucks, Bicycles)						Total
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	39	707	82	5	833	18	25	1294	4	0	1323	91	2156
08:00 - 09:00	38	668	159	2	867	16	56	1244	10	0	1310	79	2177
BREAK													
16:00 - 17:00	54	1284	220	3	1561	13	70	612	11	0	693	76	2254
17:00 - 18:00	48	1282	217	4	1551	22	85	695	18	0	798	53	2349
GRAND TOTAL	**179**	**3941**	**678**	**14**	**4812**	**69**	**236**	**3845**	**43**	**0**	**4124**	**299**	**8936**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Derry Rd
Site Code: 2451900005
Municipality: Mississauga
Count Date: Dec 17, 2024

North Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	70	58	5	0	133	1	7	0	0	8	0	0	0	0	0	6
07:15	80	87	7	0	174	0	8	1	0	9	0	0	0	0	0	4
07:30	88	74	8	0	170	3	6	0	0	9	0	0	0	0	0	4
07:45	89	104	5	0	198	2	6	1	0	9	0	0	0	0	0	2
08:00	82	83	9	0	174	4	7	0	0	11	0	0	0	0	0	11
08:15	103	99	9	0	211	3	10	1	0	14	0	0	0	0	0	8
08:30	80	83	6	0	169	4	6	1	0	11	0	0	0	0	0	6
08:45	98	88	12	0	198	0	6	2	0	8	0	0	0	0	0	4
SUBTOTAL	690	676	61	0	1427	17	56	6	0	79	0	0	0	0	0	45

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Derry Rd
Site Code: 2451900005
Municipality: Mississauga
Count Date: Dec 17, 2024

North Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	46	63	22	0	131	3	8	0	0	11	0	0	0	0	0	1
16:15	51	53	8	0	112	1	10	0	0	11	0	0	0	0	0	3
16:30	44	46	13	5	108	1	9	0	0	10	0	0	0	0	0	4
16:45	48	70	11	0	129	1	5	0	0	6	0	0	0	0	0	7
17:00	51	56	14	1	122	1	6	0	0	7	0	0	0	0	0	4
17:15	42	52	15	0	109	1	3	0	0	4	0	0	0	0	0	3
17:30	37	80	10	0	127	0	9	0	0	9	0	0	0	0	0	8
17:45	40	50	13	0	103	4	9	1	0	14	0	0	0	0	0	8
SUBTOTAL	359	470	106	6	941	12	59	1	0	72	0	0	0	0	0	38
GRAND TOTAL	**1049**	**1146**	**167**	**6**	**2368**	**29**	**115**	**7**	**0**	**151**	**0**	**0**	**0**	**0**	**0**	**83**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Derry Rd
Site Code: 2451900005
Municipality: Mississauga
Count Date: Dec 17, 2024

South Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	19	19	1	0	39	0	5	2	0	7	0	0	0	0	0	5
07:15	10	29	1	0	40	0	7	3	0	10	0	0	0	0	0	13
07:30	12	41	5	0	58	0	7	1	0	8	0	0	0	0	0	15
07:45	7	29	2	0	38	0	6	5	0	11	0	0	0	0	0	14
08:00	7	42	3	0	52	1	5	3	0	9	0	0	0	0	0	13
08:15	15	49	9	0	73	1	9	3	0	13	0	0	0	0	0	7
08:30	11	41	10	0	62	0	5	5	0	10	0	0	0	0	0	12
08:45	14	58	4	1	77	0	7	2	0	9	0	0	0	0	0	20
SUBTOTAL	95	308	35	1	439	2	51	24	0	77	0	0	0	0	0	99

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Derry Rd
Site Code: 2451900005
Municipality: Mississauga
Count Date: Dec 17, 2024

South Approach - Hurontario St

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	29	126	7	0	162	0	8	3	0	11	0	0	0	0	0	31
16:15	30	123	9	0	162	2	5	3	0	10	0	0	0	0	0	25
16:30	29	110	5	0	144	0	6	3	0	9	0	0	0	0	0	26
16:45	29	145	10	0	184	0	6	2	0	8	0	0	0	0	0	10
17:00	34	133	11	0	178	0	4	3	0	7	0	0	0	0	0	17
17:15	35	142	9	0	186	0	8	1	0	9	0	0	0	0	0	13
17:30	50	119	9	0	178	0	6	5	0	11	0	0	0	0	0	7
17:45	29	109	7	0	145	0	5	1	0	6	0	0	0	0	0	5
SUBTOTAL	265	1007	67	0	1339	2	48	21	0	71	0	0	0	0	0	134
GRAND TOTAL	**360**	**1315**	**102**	**1**	**1778**	**4**	**99**	**45**	**0**	**148**	**0**	**0**	**0**	**0**	**0**	**233**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Derry Rd
Site Code: 2451900005
Municipality: Mississauga
Count Date: Dec 17, 2024

East Approach - Derry Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	5	141	15	1	162	1	23	0	0	24	0	0	0	0	0	7
07:15	4	151	17	1	173	3	33	5	0	41	0	0	0	0	0	4
07:30	6	136	19	1	162	3	33	0	0	36	0	0	0	0	0	3
07:45	12	157	24	2	195	5	33	2	0	40	0	0	0	0	0	4
08:00	19	150	31	0	200	0	18	4	0	22	0	0	0	0	0	5
08:15	3	156	43	0	202	0	21	3	0	24	0	0	0	0	0	8
08:30	6	149	44	1	200	1	22	0	0	23	0	0	0	0	0	2
08:45	9	136	32	1	178	0	16	2	0	18	0	0	0	0	0	1
SUBTOTAL	64	1176	225	7	1472	13	199	16	0	228	0	0	0	0	0	34

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Derry Rd
Site Code: 2451900005
Municipality: Mississauga
Count Date: Dec 17, 2024

East Approach - Derry Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
16:00	5	274	53	2	334	2	12	5	0	19	0	0	0	0	0	2
16:15	12	327	47	1	387	1	13	1	0	15	0	0	0	0	0	3
16:30	14	325	55	0	394	1	12	3	0	16	0	0	0	0	0	4
16:45	19	316	54	0	389	0	5	2	0	7	0	0	0	0	0	4
17:00	12	324	50	0	386	0	10	1	0	11	0	0	0	0	0	4
17:15	13	324	51	0	388	0	18	1	0	19	0	0	0	0	0	3
17:30	7	289	64	2	362	0	8	0	0	8	0	0	0	0	0	7
17:45	15	303	49	2	369	1	6	1	0	8	0	0	0	0	0	8
SUBTOTAL	97	2482	423	7	3009	5	84	14	0	103	0	0	0	0	0	35
GRAND TOTAL	**161**	**3658**	**648**	**14**	**4481**	**18**	**283**	**30**	**0**	**331**	**0**	**0**	**0**	**0**	**0**	**69**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Derry Rd
Site Code: 2451900005
Municipality: Mississauga
Count Date: Dec 17, 2024

West Approach - Derry Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	3	323	0	0	326	1	8	0	0	9	0	0	0	0	0	16
07:15	3	310	2	0	315	0	6	0	0	6	0	0	0	0	0	24
07:30	8	284	0	0	292	0	9	0	0	9	0	0	0	0	0	33
07:45	8	341	1	0	350	2	13	1	0	16	0	0	0	0	0	18
08:00	13	294	1	0	308	0	16	0	0	16	0	0	0	0	0	17
08:15	9	296	1	0	306	1	17	0	0	18	0	0	0	0	0	19
08:30	16	329	3	0	348	1	13	0	0	14	0	0	0	0	0	23
08:45	16	273	5	0	294	0	6	0	0	6	0	0	0	0	0	20
SUBTOTAL	76	2450	13	0	2539	5	88	1	0	94	0	0	0	0	0	170

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Hurontario St & Derry Rd
Site Code: 2451900005
Municipality: Mississauga
Count Date: Dec 17, 2024

West Approach - Derry Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	13	140	4	0	157	1	17	0	0	18	0	0	0	0	0	22
16:15	21	134	1	0	156	0	13	0	0	13	0	0	0	0	0	16
16:30	16	154	4	0	174	0	16	0	0	16	0	0	0	0	0	18
16:45	19	124	2	0	145	0	14	0	0	14	0	0	0	0	0	20
17:00	26	129	3	0	158	1	8	0	0	9	0	0	0	0	0	10
17:15	19	150	6	0	175	0	14	0	0	14	0	0	0	0	0	15
17:30	17	156	4	0	177	0	13	0	0	13	0	0	0	0	0	18
17:45	22	197	5	0	224	0	28	0	0	28	0	0	0	0	0	10
SUBTOTAL	153	1184	29	0	1366	2	123	0	0	125	0	0	0	0	0	129
GRAND TOTAL	**229**	**3634**	**42**	**0**	**3905**	**7**	**211**	**1**	**0**	**219**	**0**	**0**	**0**	**0**	**0**	**299**

Peak Hour Diagram

Specified Period
From: 07:00:00
To: 09:00:00

One Hour Peak
From: 07:45:00
To: 08:45:00

Intersection: Hurontario St & Derry Rd
Site Code: 2451900005
Count Date: Dec 17, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Hurontario St runs N/S

North Approach

	Out	In	Total
Cars	752	349	1101
Trucks	45	38	83
Bicycles	0	0	0
	797	**387**	**1184**

Hurontario St

Bicycles	0	0	0	0
Trucks	3	29	13	0
Cars	29	369	354	0
Totals	**32**	**398**	**367**	**0**

East Approach

	Out	In	Total
Cars	797	1641	2438
Trucks	109	88	197
Bicycles	0	0	0
	906	**1729**	**2635**

Derry Rd

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	4	46	**50**	
0	59	1260	**1319**	
0	1	6	**7**	

Peds: 27

Peds: 77

Peds: 19

Peds: 46

Derry Rd

	Totals	Cars	Trucks	Bicycles
	3	3	0	0
	151	142	9	0
	706	612	94	0
	46	40	6	0

West Approach

	Out	In	Total
Cars	1312	681	1993
Trucks	64	99	163
Bicycles	0	0	0
	1376	**780**	**2156**

Totals	**42**	**186**	**40**	**0**
Cars	40	161	24	0
Trucks	2	25	16	0
Bicycles	0	0	0	0

Hurontario St

South Approach

	Out	In	Total
Cars	225	415	640
Trucks	43	36	79
Bicycles	0	0	0
	268	**451**	**719**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Hurontario St & Derry Rd
Site Code: 2451900005
Count Date: Dec 17, 2024
Period: 07:00 - 09:00

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

Start Time	North Approach Hurontario St						South Approach Hurontario St						East Approach Derry Rd						West Approach Derry Rd						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
07:45	91	110	6	0	2	207	7	35	7	0	14	49	17	190	26	2	4	235	10	354	2	0	18	366	857
08:00	86	90	9	0	11	185	8	47	6	0	13	61	19	168	35	0	5	222	13	310	1	0	17	324	792
08:15	106	109	10	0	8	225	16	58	12	0	7	86	3	177	46	0	8	226	10	313	1	0	19	324	861
08:30	84	89	7	0	6	180	11	46	15	0	12	72	7	171	44	1	2	223	17	342	3	0	23	362	837
Grand Total	**367**	**398**	**32**	**0**	**27**	**797**	**42**	**186**	**40**	**0**	**46**	**268**	**46**	**706**	**151**	**3**	**19**	**906**	**50**	**1319**	**7**	**0**	**77**	**1376**	**3347**
Approach %	46	49.9	4	0		-	15.7	69.4	14.9	0		-	5.1	77.9	16.7	0.3		-	3.6	95.9	0.5	0		-	
Totals %	11	11.9	1	0		23.8	1.3	5.6	1.2	0		8	1.4	21.1	4.5	0.1		27.1	1.5	39.4	0.2	0		41.1	
PHF	**0.87**	**0.9**	**0.8**	**0**		**0.89**	**0.66**	**0.8**	**0.67**	**0**		**0.78**	**0.61**	**0.93**	**0.82**	**0.38**		**0.96**	**0.74**	**0.93**	**0.58**	**0**		**0.94**	**0.97**
Cars	354	369	29	0		752	40	161	24	0		225	40	612	142	3		797	46	1260	6	0		1312	3086
% Cars	96.5	92.7	90.6	0		94.4	95.2	86.6	60	0		84	87	86.7	94	100		88	92	95.5	85.7	0		95.3	92.2
Trucks	13	29	3	0		45	2	25	16	0		43	6	94	9	0		109	4	59	1	0		64	261
% Trucks	3.5	7.3	9.4	0		5.6	4.8	13.4	40	0		16	13	13.3	6	0		12	8	4.5	14.3	0		4.7	7.8
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					27	-					46	-					19	-					77	-	169
% Peds					16	-					27.2	-					11.2	-					45.6	-	

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	16:00:00	From:	17:00:00
To:	18:00:00	To:	18:00:00

Intersection: Hurontario St & Derry Rd
Site Code: 2451900005
Count Date: Dec 17, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Hurontario St runs N/S

North Approach

	Out	In	Total
Cars	461	802	1263
Trucks	34	27	61
Bicycles	0	0	0
	495	**829**	**1324**

Hurontario St

Bicycles	0	0	0	0
Trucks	1	27	6	0
Cars	52	238	170	1
Totals	**53**	**265**	**176**	**1**

Peds: 23

Peds: 53

Peds: 22

Peds: 42

East Approach

	Out	In	Total
Cars	1505	842	2347
Trucks	46	79	125
Bicycles	0	0	0
	1551	**921**	**2472**

Derry Rd

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	1	84	**85**	
0	63	632	**695**	
0	0	18	**18**	

Derry Rd

	Totals	Cars	Trucks	Bicycles
	4	4	0	0
	217	214	3	0
	1282	1240	42	0
	48	47	1	0

West Approach

	Out	In	Total
Cars	734	1440	2174
Trucks	64	43	107
Bicycles	0	0	0
	798	**1483**	**2281**

Hurontario St

Totals	**148**	**526**	**46**	**0**
Cars	148	503	36	0
Trucks	0	23	10	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	687	303	990
Trucks	33	28	61
Bicycles	0	0	0
	720	**331**	**1051**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Hurontario St & Derry Rd
Site Code: 2451900005
Count Date: Dec 17, 2024
Period: 16:00 - 18:00

Peak Hour Data (17:00 - 18:00)

Start Time	North Approach Hurontario St						South Approach Hurontario St						East Approach Derry Rd						West Approach Derry Rd						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
17:00	52	62	14	1	4	129	34	137	14	0	17	185	12	334	51	0	4	397	27	137	3	0	10	167	878
17:15	43	55	15	0	3	113	35	150	10	0	13	195	13	342	52	0	3	407	19	164	6	0	15	189	904
17:30	37	89	10	0	8	136	50	125	14	0	7	189	7	297	64	2	7	370	17	169	4	0	18	190	885
17:45	44	59	14	0	8	117	29	114	8	0	5	151	16	309	50	2	8	377	22	225	5	0	10	252	897
Grand Total	**176**	**265**	**53**	**1**	**23**	**495**	**148**	**526**	**46**	**0**	**42**	**720**	**48**	**1282**	**217**	**4**	**22**	**1551**	**85**	**695**	**18**	**0**	**53**	**798**	**3564**
Approach %	35.6	53.5	10.7	0.2		-	20.6	73.1	6.4	0		-	3.1	82.7	14	0.3		-	10.7	87.1	2.3	0		-	
Totals %	4.9	7.4	1.5	0		13.9	4.2	14.8	1.3	0		20.2	1.3	36	6.1	0.1		43.5	2.4	19.5	0.5	0		22.4	
PHF	**0.85**	**0.74**	**0.88**	**0.25**		**0.91**	**0.74**	**0.88**	**0.82**	**0**		**0.92**	**0.75**	**0.94**	**0.85**	**0.5**		**0.95**	**0.79**	**0.77**	**0.75**	**0**		**0.79**	**0.99**
Cars	170	238	52	1		461	148	503	36	0		687	47	1240	214	4		1505	84	632	18	0		734	3387
% Cars	96.6	89.8	98.1	100		93.1	100	95.6	78.3	0		95.4	97.9	96.7	98.6	100		97	98.8	90.9	100	0		92	95
Trucks	6	27	1	0		34	0	23	10	0		33	1	42	3	0		46	1	63	0	0		64	177
% Trucks	3.4	10.2	1.9	0		6.9	0	4.4	21.7	0		4.6	2.1	3.3	1.4	0		3	1.2	9.1	0	0		8	5
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					23	-					42	-					22	-					53	-	140
% Peds					16.4	-					30	-					15.7	-					37.9	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-519 - GHD

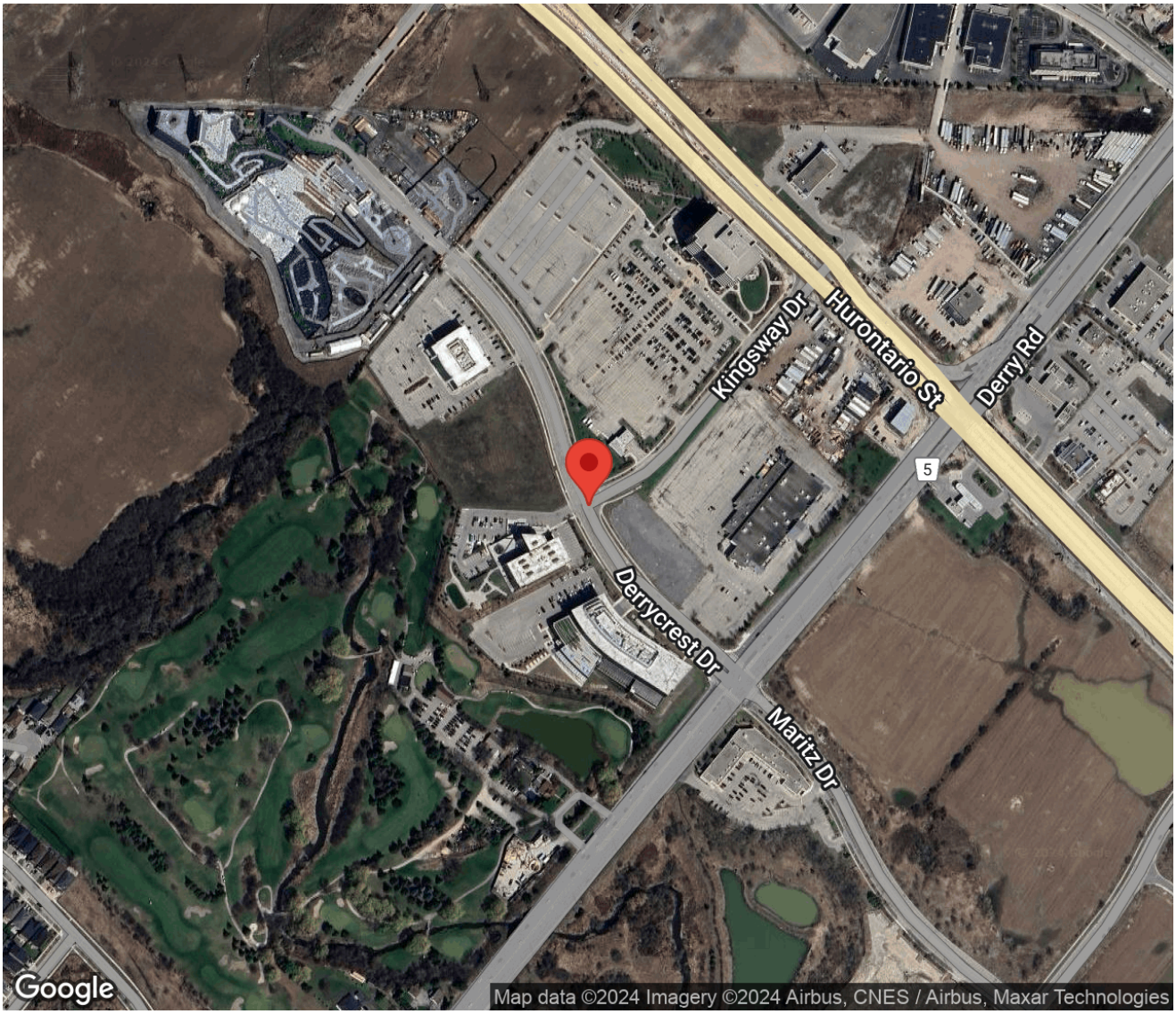
Intersection Count Report

Intersection:	Derrycrest Dr & Kingsway Dr - Private Access
Municipality:	Mississauga
Count Date:	Tuesday, Dec 17, 2024
Site Code:	2451900006
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Derrycrest Dr & Kingsway Dr - Private Access
Site Code:	2451900006
Municipality:	Mississauga
Count Date:	Dec 17, 2024



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection: Derrycrest Dr & Kingsway Dr - Private Access
Site Code: 2451900006
Municipality: Mississauga
Count Date: Dec 17, 2024

Derrycrest Dr - Traffic Summary

Hour	North Approach Totals (Includes Cars, Trucks, Bicycles)						South Approach Totals (Includes Cars, Trucks, Bicycles)						Total
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	1	8	2	0	11	0	16	33	56	0	105	0	116
08:00 - 09:00	2	22	1	0	25	0	22	52	142	0	216	0	241
BREAK													
16:00 - 17:00	7	60	0	0	67	0	4	15	133	1	153	1	220
17:00 - 18:00	3	30	2	0	35	0	2	18	110	2	132	0	167
GRAND TOTAL	**13**	**120**	**5**	**0**	**138**	**0**	**44**	**118**	**441**	**3**	**606**	**1**	**744**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection: Derrycrest Dr & Kingsway Dr - Private Access
Site Code: 2451900006
Municipality: Mississauga
Count Date: Dec 17, 2024

Kingsway Dr - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	82	5	1	0	88	0	0	2	2	0	4	0	92
08:00 - 09:00	96	9	2	0	107	0	0	0	3	0	3	0	110
BREAK													
16:00 - 17:00	154	0	0	0	154	1	0	14	16	0	30	0	184
17:00 - 18:00	146	0	4	0	150	0	2	8	12	0	22	0	172
GRAND TOTAL	**478**	**14**	**7**	**0**	**499**	**1**	**2**	**24**	**33**	**0**	**59**	**0**	**558**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Derrycrest Dr & Kingsway Dr - Private Access
Site Code: 2451900006
Municipality: Mississauga
Count Date: Dec 17, 2024

North Approach - Derrycrest Dr

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
07:30	1	2	2	0	5	0	0	0	0	0	0	0	0	0	0	0
07:45	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0
08:00	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0
08:15	2	6	1	0	9	0	0	0	0	0	0	0	0	0	0	0
08:30	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
08:45	0	6	0	0	6	0	1	0	0	1	0	0	0	0	0	0
SUBTOTAL	3	29	3	0	35	0	1	0	0	1	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Derrycrest Dr & Kingsway Dr - Private Access
Site Code: 2451900006
Municipality: Mississauga
Count Date: Dec 17, 2024

North Approach - Derrycrest Dr

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	1	13	0	0	14	0	0	0	0	0	0	0	0	0	0	0
16:15	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	0
16:30	5	22	0	0	27	0	0	0	0	0	0	0	0	0	0	0
16:45	1	14	0	0	15	0	0	0	0	0	0	0	0	0	0	0
17:00	1	9	0	0	10	0	0	0	0	0	0	0	0	0	0	0
17:15	0	7	2	0	9	0	0	0	0	0	0	0	0	0	0	0
17:30	1	6	0	0	7	0	0	0	0	0	0	0	0	0	0	0
17:45	1	8	0	0	9	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	10	90	2	0	102	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	**13**	**119**	**5**	**0**	**137**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Derrycrest Dr & Kingsway Dr - Private Access
Site Code: 2451900006
Municipality: Mississauga
Count Date: Dec 17, 2024

South Approach - Derrycrest Dr

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	6	4	6	0	16	0	0	1	0	1	0	0	0	0	0	0
07:15	4	7	10	0	21	0	0	0	0	0	0	0	0	0	0	0
07:30	1	8	16	0	25	0	0	1	0	1	0	0	0	0	0	0
07:45	5	14	22	0	41	0	0	0	0	0	0	0	0	0	0	0
08:00	9	13	33	0	55	0	0	0	0	0	0	0	0	0	0	0
08:15	4	17	42	0	63	0	0	0	0	0	0	0	0	0	0	0
08:30	5	15	38	0	58	0	0	1	0	1	0	0	0	0	0	0
08:45	3	6	28	0	37	1	1	0	0	2	0	0	0	0	0	0
SUBTOTAL	37	84	195	0	316	1	1	3	0	5	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Derrycrest Dr & Kingsway Dr - Private Access
Site Code: 2451900006
Municipality: Mississauga
Count Date: Dec 17, 2024

South Approach - Derrycrest Dr

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	1	3	30	0	34	0	0	3	0	3	0	0	0	0	0	0
16:15	0	2	24	0	26	0	0	1	0	1	0	0	0	0	0	0
16:30	1	6	37	1	45	0	0	0	0	0	0	0	0	0	0	1
16:45	2	4	38	0	44	0	0	0	0	0	0	0	0	0	0	0
17:00	0	5	34	1	40	0	0	1	1	2	0	0	0	0	0	0
17:15	1	2	31	0	34	0	0	0	0	0	0	0	0	0	0	0
17:30	1	7	24	0	32	0	0	1	0	1	0	0	0	0	0	0
17:45	0	4	18	0	22	0	0	1	0	1	0	0	0	0	0	0
SUBTOTAL	6	33	236	2	277	0	0	7	1	8	0	0	0	0	0	1
GRAND TOTAL	**43**	**117**	**431**	**2**	**593**	**1**	**1**	**10**	**1**	**13**	**0**	**0**	**0**	**0**	**0**	**1**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Derrycrest Dr & Kingsway Dr - Private Access
Site Code: 2451900006
Municipality: Mississauga
Count Date: Dec 17, 2024

East Approach - Kingsway Dr

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	17	0	0	0	17	1	0	0	0	1	0	0	0	0	0	0
07:15	14	1	0	0	15	0	0	0	0	0	0	0	0	0	0	0
07:30	15	2	1	0	18	1	0	0	0	1	0	0	0	0	0	0
07:45	32	2	0	0	34	2	0	0	0	2	0	0	0	0	0	0
08:00	25	3	1	0	29	1	0	0	0	1	0	0	0	0	0	0
08:15	22	3	1	0	26	0	0	0	0	0	0	0	0	0	0	0
08:30	20	2	0	0	22	0	0	0	0	0	0	0	0	0	0	0
08:45	27	1	0	0	28	1	0	0	0	1	0	0	0	0	0	0
SUBTOTAL	172	14	3	0	189	6	0	0	0	6	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Derrycrest Dr & Kingsway Dr - Private Access
Site Code: 2451900006
Municipality: Mississauga
Count Date: Dec 17, 2024

East Approach - Kingsway Dr

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	33	0	0	0	33	1	0	0	0	1	0	0	0	0	0	1
16:15	20	0	0	0	20	1	0	0	0	1	0	0	0	0	0	0
16:30	53	0	0	0	53	2	0	0	0	2	0	0	0	0	0	0
16:45	44	0	0	0	44	0	0	0	0	0	0	0	0	0	0	0
17:00	42	0	0	0	42	0	0	0	0	0	0	0	0	0	0	0
17:15	38	0	2	0	40	0	0	0	0	0	0	0	0	0	0	0
17:30	30	0	1	0	31	1	0	0	0	1	0	0	0	0	0	0
17:45	33	0	1	0	34	2	0	0	0	2	0	0	0	0	0	0
SUBTOTAL	293	0	4	0	297	7	0	0	0	7	0	0	0	0	0	1
GRAND TOTAL	465	14	7	0	486	13	0	0	0	13	0	0	0	0	0	1

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Derrycrest Dr & Kingsway Dr - Private Access
Site Code: 2451900006
Municipality: Mississauga
Count Date: Dec 17, 2024

West Approach - Private Access

Start Time	Cars					Trucks					Bicycles					Total Peds
					Total					Total					Total	
07:00	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	2	5	0	7	0	0	0	0	0	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Derrycrest Dr & Kingsway Dr - Private Access
Site Code: 2451900006
Municipality: Mississauga
Count Date: Dec 17, 2024

West Approach - Private Access

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	0	2	3	0	5	0	0	0	0	0	0	0	0	0	0	0
16:15	0	3	5	0	8	0	0	0	0	0	0	0	0	0	0	0
16:30	0	6	5	0	11	0	0	0	0	0	0	0	0	0	0	0
16:45	0	3	3	0	6	0	0	0	0	0	0	0	0	0	0	0
17:00	0	3	5	0	8	0	0	0	0	0	0	0	0	0	0	0
17:15	2	4	1	0	7	0	0	0	0	0	0	0	0	0	0	0
17:30	0	1	4	0	5	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	2	22	28	0	52	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	2	24	33	0	59	0	0	0	0	0	0	0	0	0	0	0

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	07:00:00	From:	07:45:00
To:	09:00:00	To:	08:45:00

Intersection: Derrycrest Dr & Kingsway Dr - Private Access
Site Code: 2451900006
Count Date: Dec 17, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Derrycrest Dr runs N/S

North Approach

	Out	In	Total
Cars	23	61	84
Trucks	0	0	0
Bicycles	0	0	0
	23	**61**	**84**

Derrycrest Dr

Bicycles	0	0	0	0
Trucks	0	0	0	0
Cars	1	20	2	0
Totals	**1**	**20**	**2**	**0**

East Approach

	Out	In	Total
Cars	111	137	248
Trucks	3	1	4
Bicycles	0	0	0
	114	**138**	**252**

Peds: 0

Private Access

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	0	0	**0**	
0	0	0	**0**	
0	0	2	**2**	

Peds: 0

Peds: 0

Kingsway Dr

Totals	Cars	Trucks	Bicycles
0	0	0	0
2	2	0	0
10	10	0	0
102	99	3	0

Peds: 0

West Approach

	Out	In	Total
Cars	2	34	36
Trucks	0	0	0
Bicycles	0	0	0
	2	**34**	**36**

Derrycrest Dr

Totals	**23**	**59**	**136**	**0**
Cars	23	59	135	0
Trucks	0	0	1	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	217	121	338
Trucks	1	3	4
Bicycles	0	0	0
	218	**124**	**342**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Derrycrest Dr & Kingsway Dr - Private Access
Site Code: 2451900006
Count Date: Dec 17, 2024
Period: 07:00 - 09:00

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

Start Time	North Approach Derrycrest Dr						South Approach Derrycrest Dr						East Approach Kingsway Dr						West Approach Private Access						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
07:45	0	5	0	0	0	5	5	14	22	0	0	41	34	2	0	0	0	36	0	0	1	0	0	1	83
08:00	0	7	0	0	0	7	9	13	33	0	0	55	26	3	1	0	0	30	0	0	1	0	0	1	93
08:15	2	6	1	0	0	9	4	17	42	0	0	63	22	3	1	0	0	26	0	0	0	0	0	0	98
08:30	0	2	0	0	0	2	5	15	39	0	0	59	20	2	0	0	0	22	0	0	0	0	0	0	83
Grand Total	**2**	**20**	**1**	**0**	**0**	**23**	**23**	**59**	**136**	**0**	**0**	**218**	**102**	**10**	**2**	**0**	**0**	**114**	**0**	**0**	**2**	**0**	**0**	**2**	**357**
Approach %	8.7	87	4.3	0		-	10.6	27.1	62.4	0		-	89.5	8.8	1.8	0		-	0	0	100	0		-	
Totals %	0.6	5.6	0.3	0		6.4	6.4	16.5	38.1	0		61.1	28.6	2.8	0.6	0		31.9	0	0	0.6	0		0.6	
PHF	**0.25**	**0.71**	**0.25**	**0**		**0.64**	**0.64**	**0.87**	**0.81**	**0**		**0.87**	**0.75**	**0.83**	**0.5**	**0**		**0.79**	**0**	**0**	**0.5**	**0**		**0.5**	**0.91**
Cars	2	20	1	0		23	23	59	135	0		217	99	10	2	0		111	0	0	2	0		2	353
% Cars	100	100	100	0		100	100	100	99.3	0		99.5	97.1	100	100	0		97.4	0	0	100	0		100	98.9
Trucks	0	0	0	0		0	0	0	1	0		1	3	0	0	0		3	0	0	0	0		0	4
% Trucks	0	0	0	0		0	0	0	0.7	0		0.5	2.9	0	0	0		2.6	0	0	0	0		0	1.1
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					0	-					0	-					0	-					0	-	0
% Peds					0	-					0	-					0	-					0	-	

Peak Hour Diagram

Specified Period
From: 16:00:00
To: 18:00:00

One Hour Peak
From: 16:30:00
To: 17:30:00

Intersection: Derrycrest Dr & Kingsway Dr - Private Access
Site Code: 2451900006
Count Date: Dec 17, 2024

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Derrycrest Dr runs N/S

North Approach

	Out	In	Total
Cars	61	21	82
Trucks	0	0	0
Bicycles	0	0	0
	61	**21**	**82**

Derrycrest Dr

Bicycles	0	0	0	0
Trucks	0	0	0	0
Cars	2	52	7	0
Totals	**2**	**52**	**7**	**0**

East Approach

	Out	In	Total
Cars	179	163	342
Trucks	2	1	3
Bicycles	0	0	0
	181	**164**	**345**

Peds: 0

Private Access

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	0	2	**2**
0	0	16	**16**
0	0	14	**14**

Peds: 0

Peds: 0

Kingsway Dr

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	2	2	0	0
	0	0	0	0
	179	177	2	0

Peds: 1

West Approach

	Out	In	Total
Cars	32	6	38
Trucks	0	0	0
Bicycles	0	0	0
	32	**6**	**38**

Totals	**4**	**17**	**141**	**3**
Cars	4	17	140	2
Trucks	0	0	1	1
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	163	245	408
Trucks	2	3	5
Bicycles	0	0	0
	165	**248**	**413**

Derrycrest Dr

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Derrycrest Dr & Kingsway Dr - Private Access
Site Code: 2451900006
Count Date: Dec 17, 2024
Period: 16:00 - 18:00

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

Start Time	North Approach Derrycrest Dr						South Approach Derrycrest Dr						East Approach Kingsway Dr						West Approach Private Access						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:30	5	22	0	0	0	27	1	6	37	1	1	45	55	0	0	0	0	55	0	6	5	0	0	11	138
16:45	1	14	0	0	0	15	2	4	38	0	0	44	44	0	0	0	0	44	0	3	3	0	0	6	109
17:00	1	9	0	0	0	10	0	5	35	2	0	42	42	0	0	0	0	42	0	3	5	0	0	8	102
17:15	0	7	2	0	0	9	1	2	31	0	0	34	38	0	2	0	0	40	2	4	1	0	0	7	90
Grand Total	**7**	**52**	**2**	**0**	**0**	**61**	**4**	**17**	**141**	**3**	**1**	**165**	**179**	**0**	**2**	**0**	**0**	**181**	**2**	**16**	**14**	**0**	**0**	**32**	**439**
Approach %	11.5	85.2	3.3	0		-	2.4	10.3	85.5	1.8		-	98.9	0	1.1	0		-	6.3	50	43.8	0		-	
Totals %	1.6	11.8	0.5	0		13.9	0.9	3.9	32.1	0.7		37.6	40.8	0	0.5	0		41.2	0.5	3.6	3.2	0		7.3	
PHF	**0.35**	**0.59**	**0.25**	**0**		**0.56**	**0.5**	**0.71**	**0.93**	**0.38**		**0.92**	**0.81**	**0**	**0.25**	**0**		**0.82**	**0.25**	**0.67**	**0.7**	**0**		**0.73**	**0.8**
Cars	7	52	2	0		61	4	17	140	2		163	177	0	2	0		179	2	16	14	0		32	435
% Cars	100	100	100	0		100	100	100	99.3	66.7		98.8	98.9	0	100	0		98.9	100	100	100	0		100	99.1
Trucks	0	0	0	0		0	0	0	1	1		2	2	0	0	0		2	0	0	0	0		0	4
% Trucks	0	0	0	0		0	0	0	0.7	33.3		1.2	1.1	0	0	0		1.1	0	0	0	0		0	0.9
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					0	-					1	-					0	-					0	-	1
% Peds					0	-					100	-					0	-					0	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-519 - GHD

Intersection Count Report

Intersection:	Derrycrest Dr - Maritz Dr & Derry Rd
Municipality:	Mississauga
Count Date:	Tuesday, Dec 17, 2024
Site Code:	2451900007
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	Derrycrest Dr - Maritz Dr & Derry Rd
Site Code:	2451900007
Municipality:	Mississauga
Count Date:	Dec 17, 2024

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection: Derrycrest Dr - Maritz Dr & Derry Rd
Site Code: 2451900007
Municipality: Mississauga
Count Date: Dec 17, 2024

Derrycrest Dr - Traffic Summary

Hour	North Approach Totals (Includes Cars, Trucks, Bicycles)						South Approach Totals (Includes Cars, Trucks, Bicycles)						Total
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	5	40	43	0	88	1	53	27	24	0	104	5	192
08:00 - 09:00	7	48	61	0	116	2	54	62	45	0	161	0	277
BREAK													
16:00 - 17:00	17	63	183	0	263	4	387	98	103	0	588	10	851
17:00 - 18:00	18	58	182	0	258	3	378	98	73	0	549	5	807
GRAND TOTAL	**47**	**209**	**469**	**0**	**725**	**10**	**872**	**285**	**245**	**0**	**1402**	**20**	**2127**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection: Derrycrest Dr - Maritz Dr & Derry Rd
Site Code: 2451900007
Municipality: Mississauga
Count Date: Dec 17, 2024

Derry Rd - Traffic Summary

Hour	East Approach Totals (Includes Cars, Trucks, Bicycles)						West Approach Totals (Includes Cars, Trucks, Bicycles)						Total
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	47	676	28	0	751	3	76	1287	283	0	1646	3	2397
08:00 - 09:00	82	639	45	0	766	0	156	1247	306	2	1711	1	2477
BREAK													
16:00 - 17:00	32	1449	9	0	1490	7	69	610	119	3	801	4	2291
17:00 - 18:00	32	1367	11	0	1410	3	58	718	100	3	879	2	2289
GRAND TOTAL	**193**	**4131**	**93**	**0**	**4417**	**13**	**359**	**3862**	**808**	**8**	**5037**	**10**	**9454**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Derrycrest Dr - Maritz Dr & Derry Rd
Site Code: 2451900007
Municipality: Mississauga
Count Date: Dec 17, 2024

North Approach - Derrycrest Dr

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	0	9	9	0	18	0	0	0	0	0	0	0	0	0	0	0
07:15	1	8	4	0	13	0	0	1	0	1	0	0	0	0	0	0
07:30	1	7	8	0	16	0	0	1	0	1	0	0	0	0	0	0
07:45	2	15	18	0	35	1	1	2	0	4	0	0	0	0	0	1
08:00	0	15	17	0	32	0	0	1	0	1	0	0	0	0	0	0
08:15	1	11	16	0	28	0	0	0	0	0	0	0	0	0	0	0
08:30	1	11	11	0	23	0	0	0	0	0	0	0	0	0	0	2
08:45	5	11	16	0	32	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	11	87	99	0	197	1	1	5	0	7	0	0	0	0	0	3

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Derrycrest Dr - Maritz Dr & Derry Rd
Site Code: 2451900007
Municipality: Mississauga
Count Date: Dec 17, 2024

North Approach - Derrycrest Dr

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	2	17	36	0	55	0	1	0	0	1	0	0	0	0	0	1
16:15	3	12	37	0	52	0	1	1	0	2	0	0	0	0	0	0
16:30	6	19	60	0	85	1	1	0	0	2	0	0	0	0	0	3
16:45	5	12	48	0	65	0	0	1	0	1	0	0	0	0	0	0
17:00	5	14	76	0	95	0	0	1	0	1	0	0	0	0	0	0
17:15	4	11	46	0	61	0	0	0	0	0	0	0	0	0	0	1
17:30	2	17	26	0	45	0	1	0	0	1	0	0	0	0	0	1
17:45	7	14	32	0	53	0	1	1	0	2	0	0	0	0	0	1
SUBTOTAL	34	116	361	0	511	1	5	4	0	10	0	0	0	0	0	7
GRAND TOTAL	**45**	**203**	**460**	**0**	**708**	**2**	**6**	**9**	**0**	**17**	**0**	**0**	**0**	**0**	**0**	**10**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Derrycrest Dr - Maritz Dr & Derry Rd
Site Code: 2451900007
Municipality: Mississauga
Count Date: Dec 17, 2024

South Approach - Maritz Dr

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	15	2	4	0	21	1	0	4	0	5	0	0	0	0	0	1
07:15	13	5	1	0	19	0	0	0	0	0	0	0	0	0	0	0
07:30	14	12	6	0	32	0	1	2	0	3	0	0	0	0	0	2
07:45	10	7	5	0	22	0	0	2	0	2	0	0	0	0	0	2
08:00	15	12	8	0	35	0	0	1	0	1	0	0	0	0	0	0
08:15	10	23	10	0	43	3	0	4	0	7	0	0	0	0	0	0
08:30	12	13	11	0	36	1	1	3	0	5	0	0	0	0	0	0
08:45	12	12	7	0	31	1	1	1	0	3	0	0	0	0	0	0
SUBTOTAL	101	86	52	0	239	6	3	17	0	26	0	0	0	0	0	5

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Derrycrest Dr - Maritz Dr & Derry Rd
Site Code: 2451900007
Municipality: Mississauga
Count Date: Dec 17, 2024

South Approach - Maritz Dr

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	92	24	24	0	140	2	0	0	0	2	0	0	0	0	0	7
16:15	90	16	22	0	128	4	1	1	0	6	0	0	0	0	0	1
16:30	99	29	35	0	163	5	0	2	0	7	0	0	0	0	0	0
16:45	86	28	18	0	132	9	0	1	0	10	0	0	0	0	0	2
17:00	108	49	22	0	179	6	2	2	0	10	0	0	0	0	0	0
17:15	91	24	20	0	135	2	0	1	0	3	0	0	0	0	0	2
17:30	94	12	10	0	116	5	1	3	0	9	0	0	0	0	0	3
17:45	67	9	14	0	90	5	1	1	0	7	0	0	0	0	0	0
SUBTOTAL	727	191	165	0	1083	38	5	11	0	54	0	0	0	0	0	15
GRAND TOTAL	**828**	**277**	**217**	**0**	**1322**	**44**	**8**	**28**	**0**	**80**	**0**	**0**	**0**	**0**	**0**	**20**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Derrycrest Dr - Maritz Dr & Derry Rd
Site Code: 2451900007
Municipality: Mississauga
Count Date: Dec 17, 2024

East Approach - Derry Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	5	122	9	0	136	1	16	1	0	18	0	0	0	0	0	0
07:15	9	168	6	0	183	3	27	0	0	30	0	0	0	0	0	0
07:30	11	143	5	0	159	4	29	0	0	33	0	0	0	0	0	2
07:45	9	143	6	0	158	5	28	1	0	34	0	0	0	0	0	1
08:00	15	146	7	0	168	6	16	0	0	22	0	0	0	0	0	0
08:15	23	146	15	0	184	2	19	0	0	21	0	0	0	0	0	0
08:30	12	134	9	0	155	2	21	0	0	23	0	0	0	0	0	0
08:45	19	138	13	0	170	3	19	1	0	23	0	0	0	0	0	0
SUBTOTAL	103	1140	70	0	1313	26	175	3	0	204	0	0	0	0	0	3

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Derrycrest Dr - Maritz Dr & Derry Rd
Site Code: 2451900007
Municipality: Mississauga
Count Date: Dec 17, 2024

East Approach - Derry Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	8	340	0	0	348	2	11	1	0	14	0	0	0	0	0	5
16:15	7	332	2	0	341	1	12	0	0	13	0	0	0	0	0	2
16:30	4	384	3	0	391	3	7	1	0	11	0	0	0	0	0	0
16:45	6	359	2	0	367	1	4	0	0	5	0	0	0	0	0	0
17:00	3	360	0	0	363	1	6	0	0	7	0	0	0	0	0	0
17:15	7	342	3	0	352	3	12	0	0	15	0	0	0	0	0	2
17:30	10	302	4	0	316	1	7	0	0	8	0	0	0	0	0	1
17:45	5	331	4	0	340	2	7	0	0	9	0	0	0	0	0	0
SUBTOTAL	50	2750	18	0	2818	14	66	2	0	82	0	0	0	0	0	10
GRAND TOTAL	153	3890	88	0	4131	40	241	5	0	286	0	0	0	0	0	13

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Derrycrest Dr - Maritz Dr & Derry Rd
Site Code: 2451900007
Municipality: Mississauga
Count Date: Dec 17, 2024

West Approach - Derry Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	8	315	39	0	362	0	7	4	0	11	0	0	0	0	0	1
07:15	16	305	62	0	383	0	4	3	0	7	0	0	0	0	0	0
07:30	20	301	74	0	395	0	15	3	0	18	0	0	0	0	0	1
07:45	32	333	97	0	462	0	7	1	0	8	0	0	0	0	0	1
08:00	37	288	82	1	408	0	17	2	0	19	0	0	0	0	0	0
08:15	36	325	91	0	452	0	12	1	0	13	0	0	0	0	0	0
08:30	46	299	56	1	402	0	11	2	0	13	0	0	0	0	0	1
08:45	37	286	70	0	393	0	9	2	0	11	0	0	0	0	0	0
SUBTOTAL	232	2452	571	2	3257	0	82	18	0	100	0	0	0	0	0	4

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: Derrycrest Dr - Maritz Dr & Derry Rd
Site Code: 2451900007
Municipality: Mississauga
Count Date: Dec 17, 2024

West Approach - Derry Rd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	12	124	30	2	168	3	15	2	0	20	0	0	0	0	0	2
16:15	12	153	23	0	188	0	14	0	0	14	0	0	0	0	0	1
16:30	11	141	29	1	182	0	12	1	0	13	0	0	0	0	0	1
16:45	31	139	33	0	203	0	12	1	0	13	0	0	0	0	0	0
17:00	18	145	33	1	197	0	5	1	0	6	0	0	0	0	0	1
17:15	13	170	24	2	209	0	13	1	0	14	0	0	0	0	0	0
17:30	16	179	21	0	216	0	15	0	0	15	0	0	0	0	0	0
17:45	11	172	20	0	203	0	19	0	0	19	0	0	0	0	0	1
SUBTOTAL	124	1223	213	6	1566	3	105	6	0	114	0	0	0	0	0	6
GRAND TOTAL	**356**	**3675**	**784**	**8**	**4823**	**3**	**187**	**24**	**0**	**214**	**0**	**0**	**0**	**0**	**0**	**10**

Peak Hour Diagram

Specified Period
From: 07:00:00
To: 09:00:00

One Hour Peak
From: 07:30:00
To: 08:30:00

Intersection: Derrycrest Dr - Maritz Dr & Derry Rd
Site Code: 2451900007
Count Date: Dec 17, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Derry Rd runs E/W

North Approach

	Out	In	Total
Cars	111	212	323
Trucks	6	2	8
Bicycles	0	0	0
	117	**214**	**331**

Derrycrest Dr

Bicycles	0	0	0	0
Trucks	4	1	1	0
Cars	59	48	4	0
Totals	**63**	**49**	**5**	**0**

Peds: 1

East Approach

	Out	In	Total
Cars	669	1280	1949
Trucks	110	61	171
Bicycles	0	0	0
	779	**1341**	**2120**

Derry Rd

Bicycles	Trucks	Cars	Totals	
0	0	1	**1**	
0	0	125	**125**	
0	51	1247	**1298**	
0	7	344	**351**	

Peds: 2

Peds: 3

Derry Rd

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	34	33	1	0
	670	578	92	0
	75	58	17	0

Peds: 4

West Approach

	Out	In	Total
Cars	1717	687	2404
Trucks	58	99	157
Bicycles	0	0	0
	1775	**786**	**2561**

Totals	**52**	**55**	**38**	**0**
Cars	49	54	29	0
Trucks	3	1	9	0
Bicycles	0	0	0	0

Maritz Dr

South Approach

	Out	In	Total
Cars	132	450	582
Trucks	13	25	38
Bicycles	0	0	0
	145	**475**	**620**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Derrycrest Dr - Maritz Dr & Derry Rd
Site Code: 2451900007
Count Date: Dec 17, 2024
Period: 07:00 - 09:00

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

Start Time	North Approach Derrycrest Dr						South Approach Maritz Dr						East Approach Derry Rd						West Approach Derry Rd						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
07:30	1	7	9	0	0	17	14	13	8	0	2	35	15	172	5	0	2	192	20	316	77	0	1	413	657
07:45	3	16	20	0	1	39	10	7	7	0	2	24	14	171	7	0	1	192	32	340	98	0	1	470	725
08:00	0	15	18	0	0	33	15	12	9	0	0	36	21	162	7	0	0	190	37	305	84	1	0	427	686
08:15	1	11	16	0	0	28	13	23	14	0	0	50	25	165	15	0	0	205	36	337	92	0	0	465	748
Grand Total	**5**	**49**	**63**	**0**	**1**	**117**	**52**	**55**	**38**	**0**	**4**	**145**	**75**	**670**	**34**	**0**	**3**	**779**	**125**	**1298**	**351**	**1**	**2**	**1775**	**2816**
Approach %	4.3	41.9	53.8	0		-	35.9	37.9	26.2	0		-	9.6	86	4.4	0		-	7	73.1	19.8	0.1		-	
Totals %	0.2	1.7	2.2	0		4.2	1.8	2	1.3	0		5.1	2.7	23.8	1.2	0		27.7	4.4	46.1	12.5	0		63	
PHF	**0.42**	**0.77**	**0.79**	**0**		**0.75**	**0.87**	**0.6**	**0.68**	**0**		**0.73**	**0.75**	**0.97**	**0.57**	**0**		**0.95**	**0.84**	**0.95**	**0.9**	**0.25**		**0.94**	**0.94**
Cars	4	48	59	0		111	49	54	29	0		132	58	578	33	0		669	125	1247	344	1		1717	2629
% Cars	80	98	93.7	0		94.9	94.2	98.2	76.3	0		91	77.3	86.3	97.1	0		85.9	100	96.1	98	100		96.7	93.4
Trucks	1	1	4	0		6	3	1	9	0		13	17	92	1	0		110	0	51	7	0		58	187
% Trucks	20	2	6.3	0		5.1	5.8	1.8	23.7	0		9	22.7	13.7	2.9	0		14.1	0	3.9	2	0		3.3	6.6
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					1	-					4	-					3	-					2	-	10
% Peds					10	-					40	-					30	-					20	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	16:00:00	From:	16:30:00
To:	18:00:00	To:	17:30:00

Intersection: Derrycrest Dr - Maritz Dr & Derry Rd
Site Code: 2451900007
Count Date: Dec 17, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: Derry Rd runs E/W

North Approach

	Out	In	Total
Cars	306	211	517
Trucks	4	3	7
Bicycles	0	0	0
	310	**214**	**524**

Derrycrest Dr

Bicycles	0	0	0	0
Trucks	2	1	1	0
Cars	230	56	20	0
Totals	**232**	**57**	**21**	**0**

East Approach

	Out	In	Total
Cars	1473	710	2183
Trucks	38	49	87
Bicycles	0	0	0
	1511	**759**	**2270**

Peds: 4

Derry Rd

Bicycles	Trucks	Cars	Totals	
0	0	4	**4**	
0	0	73	**73**	
0	42	595	**637**	
0	4	119	**123**	

Peds: 2

Peds: 2

Derry Rd

	Totals	Cars	Trucks	Bicycles
	0	0	0	0
	9	8	1	0
	1474	1445	29	0
	28	20	8	0

Peds: 4

West Approach

	Out	In	Total
Cars	791	2063	2854
Trucks	46	53	99
Bicycles	0	0	0
	837	**2116**	**2953**

Totals	**406**	**132**	**101**	**0**
Cars	384	130	95	0
Trucks	22	2	6	0
Bicycles	0	0	0	0

Maritz Dr

South Approach

	Out	In	Total
Cars	609	195	804
Trucks	30	13	43
Bicycles	0	0	0
	639	**208**	**847**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: Derrycrest Dr - Maritz Dr & Derry Rd
Site Code: 2451900007
Count Date: Dec 17, 2024
Period: 16:00 - 18:00

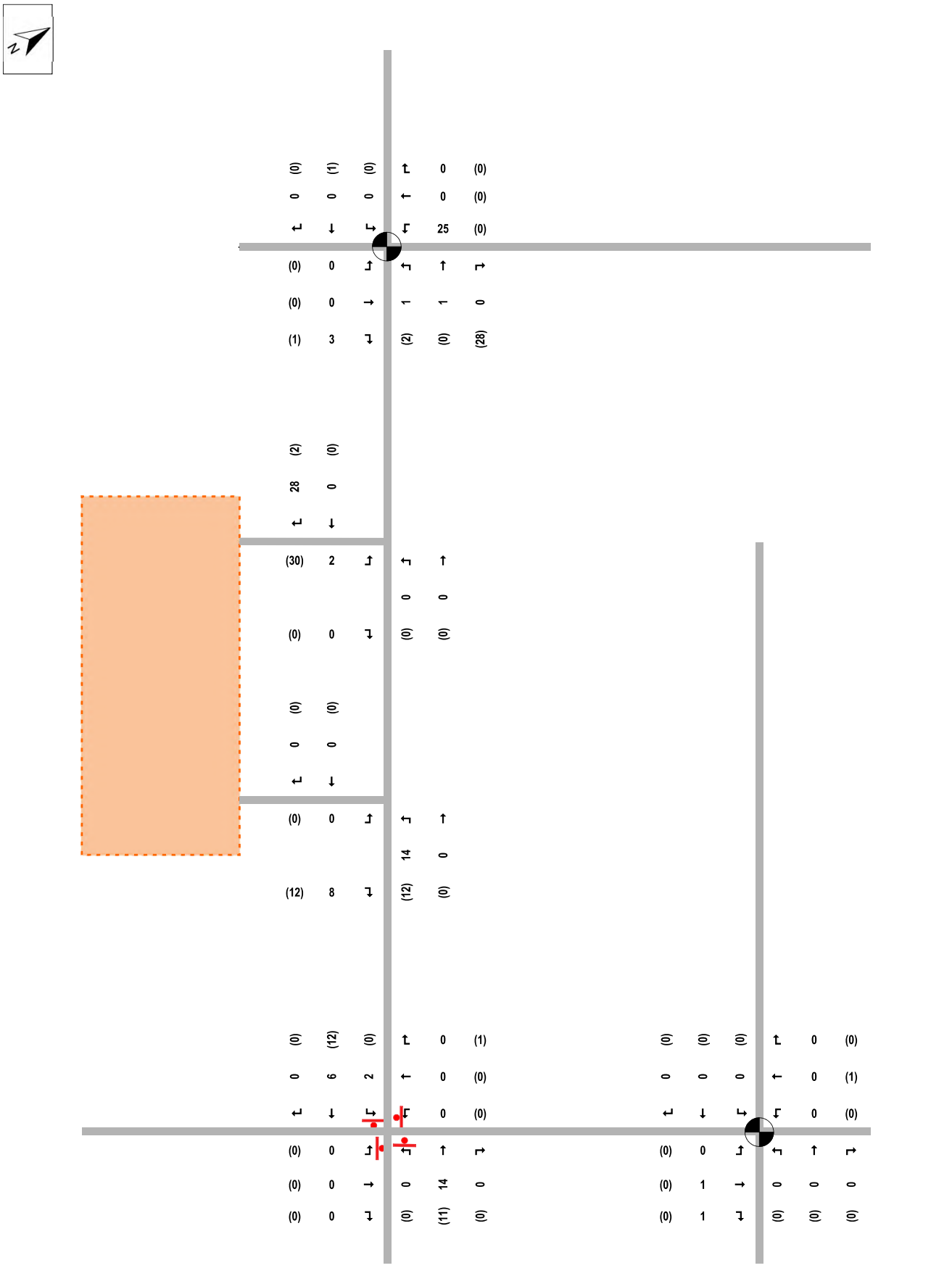
Peak Hour Data (16:30 - 17:30)

Start Time	North Approach Derrycrest Dr						South Approach Maritz Dr						East Approach Derry Rd						West Approach Derry Rd						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:30	7	20	60	0	3	87	104	29	37	0	0	170	7	391	4	0	0	402	11	153	30	1	1	195	854
16:45	5	12	49	0	0	66	95	28	19	0	2	142	7	363	2	0	0	372	31	151	34	0	0	216	796
17:00	5	14	77	0	0	96	114	51	24	0	0	189	4	366	0	0	0	370	18	150	34	1	1	203	858
17:15	4	11	46	0	1	61	93	24	21	0	2	138	10	354	3	0	2	367	13	183	25	2	0	223	789
Grand Total	**21**	**57**	**232**	**0**	**4**	**310**	**406**	**132**	**101**	**0**	**4**	**639**	**28**	**1474**	**9**	**0**	**2**	**1511**	**73**	**637**	**123**	**4**	**2**	**837**	**3297**
Approach %	6.8	18.4	74.8	0		-	63.5	20.7	15.8	0		-	1.9	97.6	0.6	0		-	8.7	76.1	14.7	0.5		-	
Totals %	0.6	1.7	7	0		9.4	12.3	4	3.1	0		19.4	0.8	44.7	0.3	0		45.8	2.2	19.3	3.7	0.1		25.4	
PHF	**0.75**	**0.71**	**0.75**	**0**		**0.81**	**0.89**	**0.65**	**0.68**	**0**		**0.85**	**0.7**	**0.94**	**0.56**	**0**		**0.94**	**0.59**	**0.87**	**0.9**	**0.5**		**0.94**	**0.96**
Cars	20	56	230	0		306	384	130	95	0		609	20	1445	8	0		1473	73	595	119	4		791	3179
% Cars	95.2	98.2	99.1	0		98.7	94.6	98.5	94.1	0		95.3	71.4	98	88.9	0		97.5	100	93.4	96.7	100		94.5	96.4
Trucks	1	1	2	0		4	22	2	6	0		30	8	29	1	0		38	0	42	4	0		46	118
% Trucks	4.8	1.8	0.9	0		1.3	5.4	1.5	5.9	0		4.7	28.6	2	11.1	0		2.5	0	6.6	3.3	0		5.5	3.6
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					4	-					4	-					2	-					2	-	12
% Peds					33.3	-					33.3	-					16.7	-					16.7	-	

Appendix D

Background Developments

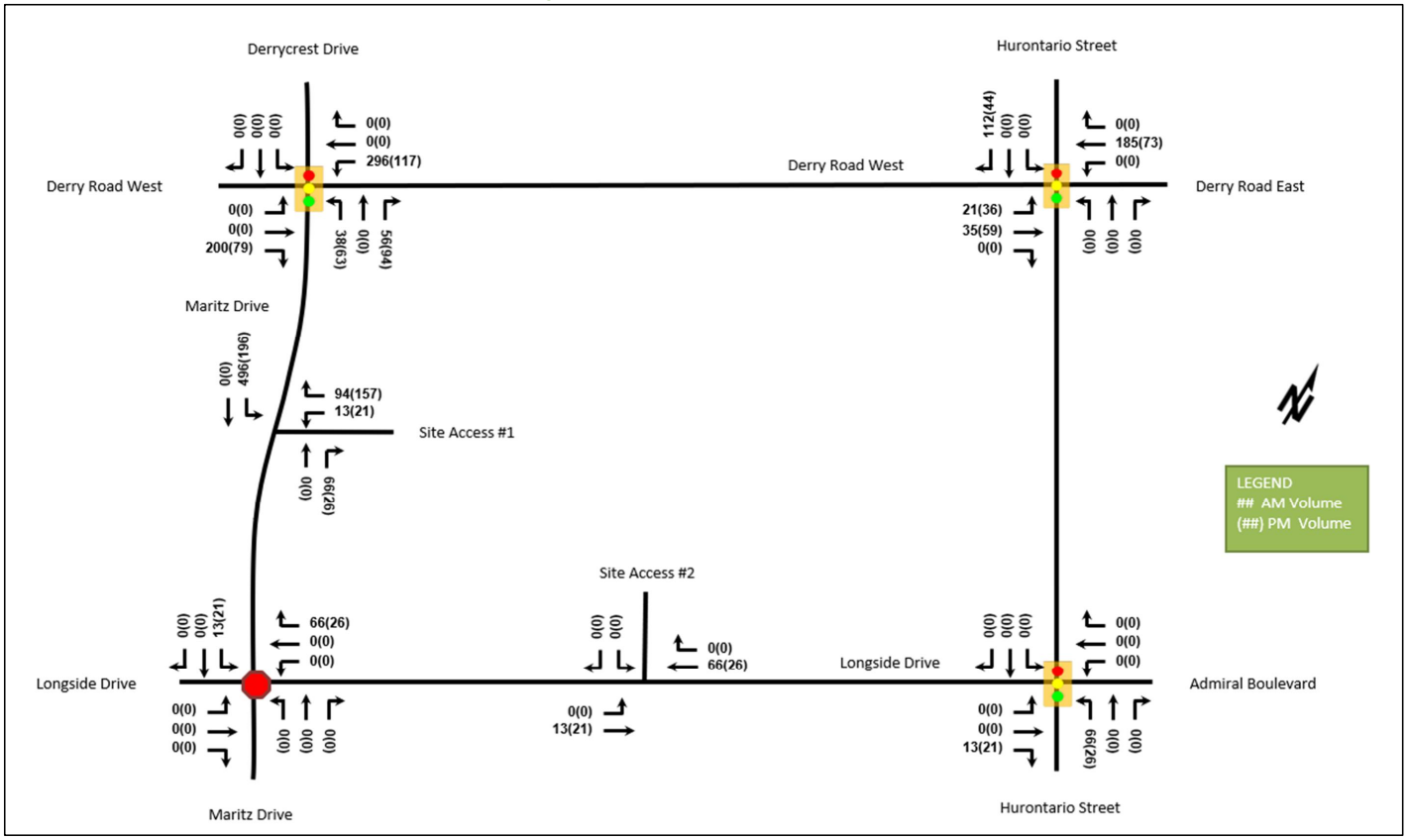
Figure 4-1 - Site Traffic Volumes



LEGEND

Subject Site | xx AM Peak Hour | (xx) PM Peak Hour | Existing Stop Sign | Existing Traffic Signals

Figure 10: New Site Generated Auto Volumes



3.0 Future Transit Improvements

3.1. Road Infrastructure Improvements

Hurontario LRT

Hurontario Street is undergoing extensive roadway infrastructure improvements as a result of the construction of the Hurontario LRT, which is projected to contribute significantly to the improvement of transit connectivity within the City and specifically within the proximity of the subject site. The closest LRT stop to the subject site will be located at the intersection of Derry Road and Hurontario Street, which is less than a 500 m walk from the subject site.

4.0 SITE TRAFFIC

The following section discusses the calculation of trips generated by the site.

4.1. Site Trip Generation

The auto site trip generation was derived from the Institute of Transportation Engineers (ITE) Trip Generation Manual 11th Edition using land use code (LUC) 310 Hotel for the proposed development.

The trip generation summary is shown in **Table 3.1**.

Table 3.1 – Site Traffic Trip Generation

ITE Land Use	Parameter	Morning Peak Hour			Afternoon Peak Hour		
		In	Out	Total	In	Out	Total
Hotel *107 rooms*	Gross Trips	27	22	49	32	31	63
	Gross Rate	0.25	0.21	0.46	0.30	0.29	0.59
Total		**27**	**22**	**49**	**32**	**31**	**63**

Based on trip generation calculations, the proposed development is projected to generate a total of:

- 49 two-way gross trips (27 inbound and 22 outbound) during AM peak hour; and,
- 63 two-way gross trips (32 inbound and 31 outbound) during PM peak hour.

The number of site trips is expected to have an acceptable impact on the road network surrounding the subject site.

It should be noted that the proposed addition is expected to generate less than 100 two-way trips both in the AM and PM peak hours. Hence, a full transportation impact study is not required, as per the City's Transportation Impact Study Guidelines.

5.0 SITE PLAN REVIEW

5.1. Vehicular Site Circulation

AutoTURN software was used to generate a vehicular turning template to confirm and demonstrate the accessibility of the proposed study area. The AutoTURN analysis demonstrates that a P TAC-2017 vehicle, LSU TAC-2017 vehicle and MSU TAC-2017 vehicle can access the site and maneuver internally without conflict. AutoTurn analysis is shown in full detail in **Figure 5-1, Figure 5-2,** and **Figure 5-3.**

Appendix E

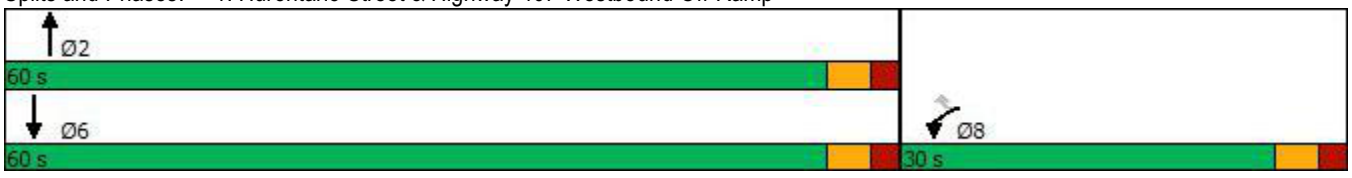
Synchro Outputs

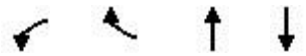
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	213	192	609	0	0	861
Future Volume (vph)	213	192	609	0	0	861
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	115.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Frt	0.965	0.850				
Flt Protected	0.963					
Satd. Flow (prot)	3306	1429	3476	0	0	3544
Flt Permitted	0.963					
Satd. Flow (perm)	3306	1429	3476	0	0	3544
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	45	135				
Link Speed (k/h)	60		60			60
Link Distance (m)	401.2		345.6			144.3
Travel Time (s)	24.1		20.7			8.7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	4%	5%	0%	0%	3%
Adj. Flow (vph)	227	204	648	0	0	916
Shared Lane Traffic (%)		34%				
Lane Group Flow (vph)	296	135	648	0	0	916
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	7.4		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	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0			5.0
Minimum Split (s)	23.0	23.0	23.0			23.0
Total Split (s)	30.0	30.0	60.0			60.0
Total Split (%)	33.3%	33.3%	66.7%			66.7%
Maximum Green (s)	25.0	25.0	55.0			55.0
Yellow Time (s)	3.0	3.0	3.0			3.0
All-Red Time (s)	2.0	2.0	2.0			2.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	Max			Max
Walk Time (s)	7.0	7.0	7.0			7.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	11.1	11.1	55.1			55.1
Actuated g/C Ratio	0.15	0.15	0.72			0.72
v/c Ratio	0.57	0.42	0.26			0.36
Control Delay	30.0	10.0	4.1			4.6
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	30.0	10.0	4.1			4.6
LOS	C	A	A			A
Approach Delay	23.7		4.1			4.6
Approach LOS	C		A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 76.2			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 8.6		Intersection LOS: A	
Intersection Capacity Utilization 41.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & Highway 407 Westbound Off-Ramp





Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	296	135	648	916
v/c Ratio	0.57	0.42	0.26	0.36
Control Delay	30.0	10.0	4.1	4.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	30.0	10.0	4.1	4.6
Queue Length 50th (m)	17.4	0.0	13.4	20.7
Queue Length 95th (m)	28.6	15.1	22.8	34.1
Internal Link Dist (m)	377.2		321.6	120.3
Turn Bay Length (m)		115.0		
Base Capacity (vph)	1116	560	2512	2561
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	0.27	0.24	0.26	0.36

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	213	192	609	0	0	861
Future Volume (vph)	213	192	609	0	0	861
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0			5.0
Lane Util. Factor	0.97	0.91	0.95			0.95
Frt	0.97	0.85	1.00			1.00
Flt Protected	0.96	1.00	1.00			1.00
Satd. Flow (prot)	3306	1429	3476			3544
Flt Permitted	0.96	1.00	1.00			1.00
Satd. Flow (perm)	3306	1429	3476			3544
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	227	204	648	0	0	916
RTOR Reduction (vph)	38	115	0	0	0	0
Lane Group Flow (vph)	258	20	648	0	0	916
Heavy Vehicles (%)	5%	4%	5%	0%	0%	3%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	11.1	11.1	55.1			55.1
Effective Green, g (s)	11.1	11.1	55.1			55.1
Actuated g/C Ratio	0.15	0.15	0.72			0.72
Clearance Time (s)	5.0	5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	481	208	2513			2562
v/s Ratio Prot	c0.08		0.19			c0.26
v/s Ratio Perm		0.01				
v/c Ratio	0.54	0.09	0.26			0.36
Uniform Delay, d1	30.2	28.2	3.6			3.9
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	1.1	0.2	0.2			0.4
Delay (s)	31.3	28.4	3.8			4.3
Level of Service	C	C	A			A
Approach Delay (s)	30.4		3.8			4.3
Approach LOS	C		A			A

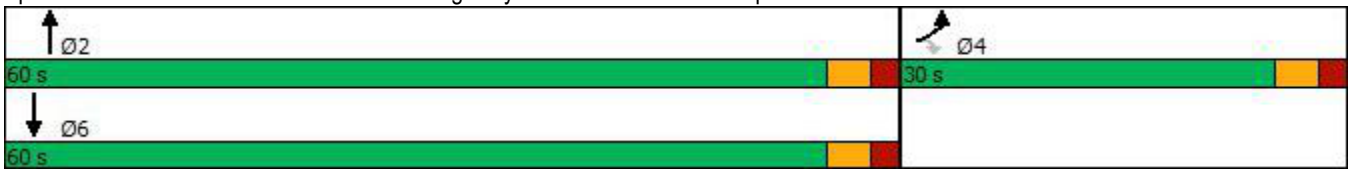
Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	76.2	Sum of lost time (s)	10.0
Intersection Capacity Utilization	41.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

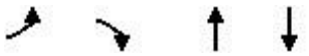
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	90	169	0	553	817	0
Future Volume (vph)	90	169	0	553	817	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	95.0	0.0			0.0
Storage Lanes	2	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3506	1526	0	3444	3510	0
Flt Permitted	0.950					
Satd. Flow (perm)	3506	1526	0	3444	3510	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		169				
Link Speed (k/h)	60			60	60	
Link Distance (m)	401.8			373.3	345.6	
Travel Time (s)	24.1			22.4	20.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	7%	0%	6%	4%	0%
Adj. Flow (vph)	96	180	0	588	869	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	96	180	0	588	869	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.4			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
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	6.1	6.1		30.5	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	6.1		1.8	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Permitted Phases		4				
Detector Phase	4	4		2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0		23.0	23.0	
Total Split (s)	30.0	30.0		60.0	60.0	
Total Split (%)	33.3%	33.3%		66.7%	66.7%	
Maximum Green (s)	25.0	25.0		55.0	55.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Recall Mode	None	None		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	8.1	8.1		57.9	57.9	
Actuated g/C Ratio	0.11	0.11		0.76	0.76	
v/c Ratio	0.26	0.57		0.22	0.33	
Control Delay	31.4	14.1		3.1	3.5	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	31.4	14.1		3.1	3.5	
LOS	C	B		A	A	
Approach Delay	20.1			3.1	3.5	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 76.1			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 6.0		Intersection LOS: A	
Intersection Capacity Utilization 41.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Hurontario Street & Highway 407 Eastbound Off-Ramp





Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	96	180	588	869
v/c Ratio	0.26	0.57	0.22	0.33
Control Delay	31.4	14.1	3.1	3.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	31.4	14.1	3.1	3.5
Queue Length 50th (m)	6.3	1.4	9.0	14.7
Queue Length 95th (m)	12.5	17.6	17.7	27.7
Internal Link Dist (m)	377.8		349.3	321.6
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1156	616	2621	2671
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	0.08	0.29	0.22	0.33

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	90	169	0	553	817	0
Future Volume (vph)	90	169	0	553	817	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	1.00		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3506	1526		3444	3510	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3506	1526		3444	3510	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	96	180	0	588	869	0
RTOR Reduction (vph)	0	151	0	0	0	0
Lane Group Flow (vph)	96	29	0	588	869	0
Heavy Vehicles (%)	1%	7%	0%	6%	4%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	8.1	8.1		57.9	57.9	
Effective Green, g (s)	8.1	8.1		57.9	57.9	
Actuated g/C Ratio	0.11	0.11		0.76	0.76	
Clearance Time (s)	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	373	162		2623	2674	
v/s Ratio Prot	c0.03			0.17	c0.25	
v/s Ratio Perm		0.02				
v/c Ratio	0.26	0.18		0.22	0.32	
Uniform Delay, d1	31.2	30.9		2.6	2.9	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.5		0.2	0.3	
Delay (s)	31.6	31.5		2.8	3.2	
Level of Service	C	C		A	A	
Approach Delay (s)	31.5			2.8	3.2	
Approach LOS	C			A	A	

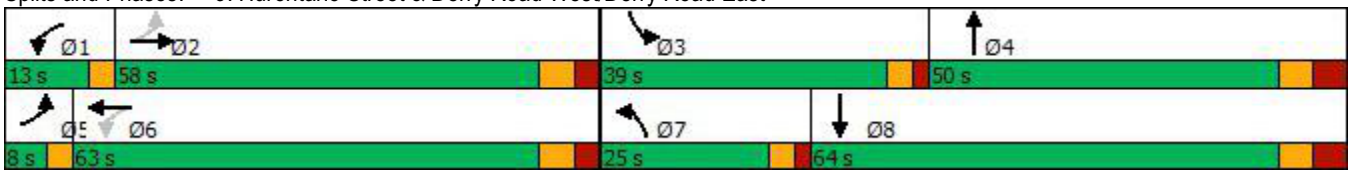
Intersection Summary			
HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	76.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	41.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	1319	7	49	706	151	42	186	40	367	398	32
Future Volume (vph)	50	1319	7	49	706	151	42	186	40	367	398	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		0.0	185.0		0.0	55.0		0.0	100.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	1.00		1.00	0.99		0.95	0.99		0.98	0.99	
Frt		0.999			0.974			0.974			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1690	4986	0	1615	4538	0	1738	3001	0	1755	3344	0
Flt Permitted	0.268			0.100			0.950			0.950		
Satd. Flow (perm)	473	4986	0	169	4538	0	1653	3001	0	1727	3344	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					32			15			6	
Link Speed (k/h)		70			70			60			60	
Link Distance (m)		331.5			999.3			126.9			189.0	
Travel Time (s)		17.0			51.4			7.6			11.3	
Confl. Peds. (#/hr)	27		46	46		27	77		19	19		77
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	5%	14%	13%	13%	6%	5%	13%	40%	4%	7%	9%
Adj. Flow (vph)	52	1360	7	51	728	156	43	192	41	378	410	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	1367	0	51	884	0	43	233	0	378	443	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	8.0	51.4		8.0	51.4		13.0	49.4		13.0	49.4	
Total Split (s)	8.0	58.0		13.0	63.0		25.0	50.0		39.0	64.0	
Total Split (%)	5.0%	36.3%		8.1%	39.4%		15.6%	31.3%		24.4%	40.0%	
Maximum Green (s)	5.0	50.6		10.0	55.6		20.0	41.6		34.0	55.6	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	3.2		0.0	3.2		2.0	4.4		2.0	4.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		13.0			13.0			12.0			12.0	
Flash Dont Walk (s)		31.0			31.0			29.0			29.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	61.6	53.3		66.1	55.7		9.3	14.9		34.1	42.5	
Actuated g/C Ratio	0.47	0.40		0.50	0.42		0.07	0.11		0.26	0.32	
v/c Ratio	0.19	0.68		0.30	0.46		0.35	0.66		0.83	0.41	
Control Delay	19.4	35.3		22.2	27.7		67.9	62.1		63.9	37.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	19.4	35.3		22.2	27.7		67.9	62.1		63.9	37.1	
LOS	B	D		C	C		E	E		E	D	
Approach Delay		34.7			27.4			63.0			49.5	
Approach LOS		C			C			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 131.8			
Natural Cycle: 135			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 38.5		Intersection LOS: D	
Intersection Capacity Utilization 98.8%		ICU Level of Service F	
Analysis Period (min) 15			

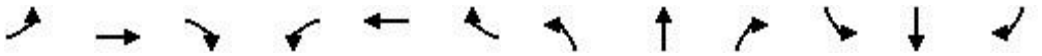
Splits and Phases: 3: Hurontario Street & Derry Road West/Derry Road East



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	52	1367	51	884	43	233	378	443
v/c Ratio	0.19	0.68	0.30	0.46	0.35	0.66	0.83	0.41
Control Delay	19.4	35.3	22.2	27.7	67.9	62.1	63.9	37.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.4	35.3	22.2	27.7	67.9	62.1	63.9	37.1
Queue Length 50th (m)	6.7	108.3	6.6	58.6	11.1	29.4	95.0	48.7
Queue Length 95th (m)	14.6	135.8	14.4	75.1	23.5	43.3	#153.1	66.4
Internal Link Dist (m)		307.5		975.3		102.9		165.0
Turn Bay Length (m)	150.0		185.0		55.0		100.0	
Base Capacity (vph)	267	2015	195	1937	264	959	453	1417
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.68	0.26	0.46	0.16	0.24	0.83	0.31

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	1319	7	49	706	151	42	186	40	367	398	32
Future Volume (vph)	50	1319	7	49	706	151	42	186	40	367	398	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.97		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)	1687	4988		1615	4539		1738	3002		1755	3347	
Flt Permitted	0.27	1.00		0.10	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	476	4988		169	4539		1738	3002		1755	3347	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	52	1360	7	51	728	156	43	192	41	378	410	33
RTOR Reduction (vph)	0	0	0	0	19	0	0	13	0	0	4	0
Lane Group Flow (vph)	52	1367	0	51	865	0	43	220	0	378	439	0
Confl. Peds. (#/hr)	27		46	46		27	77		19	19		77
Heavy Vehicles (%)	8%	5%	14%	13%	13%	6%	5%	13%	40%	4%	7%	9%
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Actuated Green, G (s)	57.2	53.3		62.2	55.8		7.5	15.9		34.1	42.5	
Effective Green, g (s)	57.2	53.3		62.2	55.8		7.5	15.9		34.1	42.5	
Actuated g/C Ratio	0.43	0.40		0.47	0.42		0.06	0.12		0.26	0.32	
Clearance Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	239	1991		148	1897		97	357		448	1065	
v/s Ratio Prot	0.01	c0.27		c0.02	0.19		0.02	c0.07		c0.22	0.13	
v/s Ratio Perm	0.09			0.14								
v/c Ratio	0.22	0.69		0.34	0.46		0.44	0.62		0.84	0.41	
Uniform Delay, d1	22.7	33.2		22.7	27.9		61.0	55.9		47.2	35.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	2.0		1.4	0.8		3.2	3.1		13.5	0.3	
Delay (s)	23.2	35.1		24.1	28.7		64.2	59.0		60.7	36.0	
Level of Service	C	D		C	C		E	E		E	D	
Approach Delay (s)		34.7			28.5			59.8			47.4	
Approach LOS		C			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	38.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	133.5	Sum of lost time (s)	23.8
Intersection Capacity Utilization	98.8%	ICU Level of Service	F
Analysis Period (min)	15		

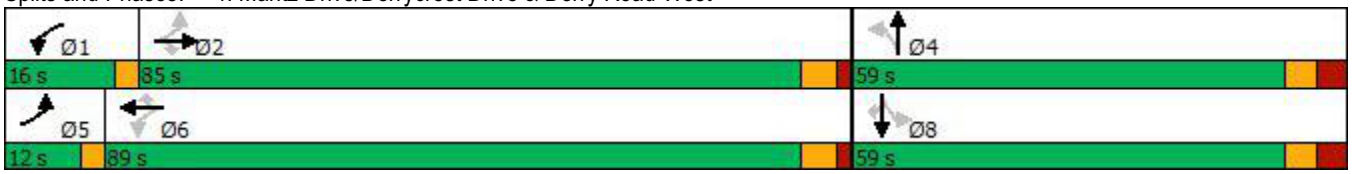
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	1298	351	75	670	34	52	55	38	5	49	63
Future Volume (vph)	126	1298	351	75	670	34	52	55	38	5	49	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	55.0		30.0	0.0		0.0	100.0		0.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97	1.00		0.99	1.00	0.99		1.00		0.99
Frt			0.850			0.850		0.939				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5043	1633	1484	4601	1585	1722	1617	0	1521	1883	1541
Flt Permitted	0.367			0.167			0.723			0.693		
Satd. Flow (perm)	691	5043	1586	261	4601	1564	1308	1617	0	1107	1883	1519
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			97			52		22				67
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		443.5			331.5			130.4			222.4	
Travel Time (s)		22.8			17.0			9.4			16.0	
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	4%	0%	23%	14%	3%	6%	2%	24%	20%	2%	6%
Adj. Flow (vph)	134	1381	373	80	713	36	55	59	40	5	52	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	134	1381	373	80	713	36	55	99	0	5	52	67
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		8
Detector Phase	5	2	2	1	6	6	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	7.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	8.0	41.2	41.2	10.0	41.2	41.2	56.7	56.7		56.7	56.7	56.7
Total Split (s)	12.0	85.0	85.0	16.0	89.0	89.0	59.0	59.0		59.0	59.0	59.0
Total Split (%)	7.5%	53.1%	53.1%	10.0%	55.6%	55.6%	36.9%	36.9%		36.9%	36.9%	36.9%
Maximum Green (s)	9.0	78.8	78.8	13.0	82.8	82.8	51.3	51.3		51.3	51.3	51.3
Yellow Time (s)	3.0	4.2	4.2	3.0	4.2	4.2	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	3.7	3.7		3.7	3.7	3.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0	10.0	10.0	10.0		10.0	10.0	10.0
Flash Dont Walk (s)		25.0	25.0		25.0	25.0	39.0	39.0		39.0	39.0	39.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0		0	0	0
Act Effct Green (s)	94.2	83.3	83.3	93.3	82.8	82.8	12.0	12.0		12.0	12.0	12.0
Actuated g/C Ratio	0.79	0.70	0.70	0.78	0.69	0.69	0.10	0.10		0.10	0.10	0.10
v/c Ratio	0.22	0.39	0.33	0.29	0.22	0.03	0.42	0.55		0.05	0.28	0.32
Control Delay	3.4	8.1	6.1	5.3	7.1	1.1	60.8	51.3		49.2	53.6	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	3.4	8.1	6.1	5.3	7.1	1.1	60.8	51.3		49.2	53.6	15.6
LOS	A	A	A	A	A	A	E	D		D	D	B
Approach Delay		7.4			6.6			54.7			32.9	
Approach LOS		A			A			D			C	

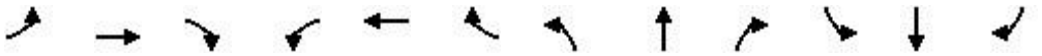
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 119.4			
Natural Cycle: 110			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 10.7		Intersection LOS: B	
Intersection Capacity Utilization 65.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 4: Maritz Drive/Derrycrest Drive & Derry Road West



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	134	1381	373	80	713	36	55	99	5	52	67
v/c Ratio	0.22	0.39	0.33	0.29	0.22	0.03	0.42	0.55	0.05	0.28	0.32
Control Delay	3.4	8.1	6.1	5.3	7.1	1.1	60.8	51.3	49.2	53.6	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.4	8.1	6.1	5.3	7.1	1.1	60.8	51.3	49.2	53.6	15.6
Queue Length 50th (m)	4.8	42.6	20.5	2.8	19.3	0.0	12.3	17.3	1.1	11.5	0.0
Queue Length 95th (m)	10.5	59.8	40.4	6.9	29.1	2.2	25.8	35.0	5.1	23.9	13.1
Internal Link Dist (m)		419.5			307.5			106.4		198.4	
Turn Bay Length (m)	50.0		15.0	55.0		30.0			100.0		
Base Capacity (vph)	635	3517	1135	344	3191	1100	562	707	475	809	691
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.39	0.33	0.23	0.22	0.03	0.10	0.14	0.01	0.06	0.10

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	1298	351	75	670	34	52	55	38	5	49	63
Future Volume (vph)	126	1298	351	75	670	34	52	55	38	5	49	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.99	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1789	5043	1589	1484	4601	1565	1719	1618		1518	1883	1520
Flt Permitted	0.37	1.00	1.00	0.17	1.00	1.00	0.72	1.00		0.69	1.00	1.00
Satd. Flow (perm)	692	5043	1589	261	4601	1565	1309	1618		1107	1883	1520
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	134	1381	373	80	713	36	55	59	40	5	52	67
RTOR Reduction (vph)	0	0	29	0	0	11	0	20	0	0	0	60
Lane Group Flow (vph)	134	1381	344	80	713	25	55	79	0	5	52	7
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Heavy Vehicles (%)	2%	4%	0%	23%	14%	3%	6%	2%	24%	20%	2%	6%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		8
Actuated Green, G (s)	91.0	83.3	83.3	90.2	82.9	82.9	12.0	12.0		12.0	12.0	12.0
Effective Green, g (s)	91.0	83.3	83.3	90.2	82.9	82.9	12.0	12.0		12.0	12.0	12.0
Actuated g/C Ratio	0.76	0.70	0.70	0.75	0.69	0.69	0.10	0.10		0.10	0.10	0.10
Clearance Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	597	3515	1107	271	3191	1085	131	162		111	189	152
v/s Ratio Prot	0.01	c0.27		c0.02	0.15			c0.05			0.03	
v/s Ratio Perm	0.16		0.22	0.20		0.02	0.04			0.00		0.00
v/c Ratio	0.22	0.39	0.31	0.30	0.22	0.02	0.42	0.49		0.05	0.28	0.04
Uniform Delay, d1	3.7	7.6	7.0	4.1	6.6	5.7	50.5	50.8		48.6	49.7	48.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.3	0.7	0.6	0.2	0.0	2.2	2.3		0.2	0.8	0.1
Delay (s)	3.9	7.9	7.7	4.7	6.8	5.7	52.7	53.2		48.7	50.5	48.7
Level of Service	A	A	A	A	A	A	D	D		D	D	D
Approach Delay (s)		7.6			6.6			53.0			49.5	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	119.5	Sum of lost time (s)	16.9
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

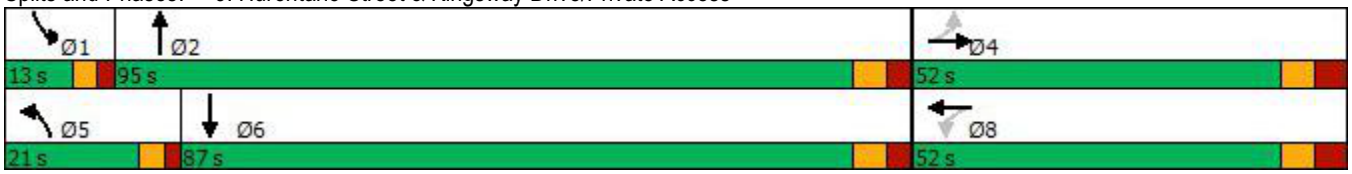
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	0	16	2	5	0	23	406	9	4	777	106
Future Volume (vph)	96	0	16	2	5	0	23	406	9	4	777	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	0.0		0.0	20.0		0.0	30.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor	1.00						1.00	1.00		1.00	1.00	
Frt		0.850						0.997			0.982	
Flt Protected	0.950				0.986		0.950			0.950		
Satd. Flow (prot)	1789	1633	0	0	1894	0	1722	3343	0	1825	3420	0
Flt Permitted	0.753				0.926		0.950			0.950		
Satd. Flow (perm)	1415	1633	0	0	1779	0	1720	3343	0	1823	3420	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		241						2			13	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		318.7			138.1			189.0			440.6	
Travel Time (s)		22.9			9.9			11.3			26.4	
Confl. Peds. (#/hr)	2					2	2		1	1		2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	6%	9%	0%	0%	5%	1%
Adj. Flow (vph)	101	0	17	2	5	0	24	427	9	4	818	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	101	17	0	0	7	0	24	436	0	4	930	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	52.0	52.0		52.0	52.0		13.0	58.0		13.0	58.0	
Total Split (s)	52.0	52.0		52.0	52.0		21.0	95.0		13.0	87.0	
Total Split (%)	32.5%	32.5%		32.5%	32.5%		13.1%	59.4%		8.1%	54.4%	
Maximum Green (s)	44.0	44.0		44.0	44.0		16.0	88.0		8.0	80.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		2.0	3.0		2.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	13.0	13.0		13.0	13.0			15.0			15.0	
Flash Dont Walk (s)	31.0	31.0		31.0	31.0			36.0			36.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	14.1	14.1			14.1		8.3	92.7		8.0	87.1	
Actuated g/C Ratio	0.11	0.11			0.11		0.07	0.75		0.06	0.70	
v/c Ratio	0.63	0.04			0.03		0.21	0.17		0.03	0.39	
Control Delay	70.2	0.2			49.1		61.5	5.7		58.5	9.3	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	70.2	0.2			49.1		61.5	5.7		58.5	9.3	
LOS	E	A			D		E	A		E	A	
Approach Delay		60.1			49.1			8.6			9.5	
Approach LOS		E			D			A			A	

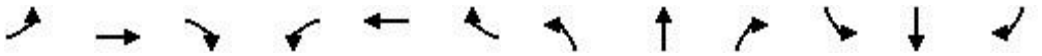
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 124.2			
Natural Cycle: 125			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 13.4		Intersection LOS: B	
Intersection Capacity Utilization 67.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: Hurontario Street & Kingsway Drive/Private Access



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	101	17	7	24	436	4	930
v/c Ratio	0.63	0.04	0.03	0.21	0.17	0.03	0.39
Control Delay	70.2	0.2	49.1	61.5	5.7	58.5	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.2	0.2	49.1	61.5	5.7	58.5	9.3
Queue Length 50th (m)	23.4	0.0	1.5	5.6	12.6	0.9	50.2
Queue Length 95th (m)	44.0	0.0	6.1	15.6	31.2	5.0	75.6
Internal Link Dist (m)		294.7	114.1		165.0		416.6
Turn Bay Length (m)	40.0			20.0		30.0	
Base Capacity (vph)	502	735	631	222	2495	117	2403
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	0.20	0.02	0.01	0.11	0.17	0.03	0.39

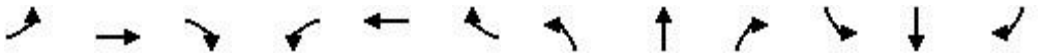
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	0	16	2	5	0	23	406	9	4	777	106
Future Volume (vph)	96	0	16	2	5	0	23	406	9	4	777	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			1.00		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1786	1633			1894		1722	3343		1825	3420	
Flt Permitted	0.75	1.00			0.93		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1416	1633			1779		1722	3343		1825	3420	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	101	0	17	2	5	0	24	427	9	4	818	112
RTOR Reduction (vph)	0	15	0	0	0	0	0	1	0	0	4	0
Lane Group Flow (vph)	101	2	0	0	7	0	24	435	0	4	926	0
Confl. Peds. (#/hr)	2					2	2		1	1		2
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	6%	9%	0%	0%	5%	1%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	14.1	14.1			14.1		5.0	92.7		1.5	89.2	
Effective Green, g (s)	14.1	14.1			14.1		5.0	92.7		1.5	89.2	
Actuated g/C Ratio	0.11	0.11			0.11		0.04	0.72		0.01	0.70	
Clearance Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	155	179			195		67	2415		21	2377	
v/s Ratio Prot		0.00					c0.01	c0.13		0.00	c0.27	
v/s Ratio Perm	c0.07				0.00							
v/c Ratio	0.65	0.01			0.04		0.36	0.18		0.19	0.39	
Uniform Delay, d1	54.7	50.9			51.0		60.1	5.7		62.8	8.2	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.4	0.0			0.1		3.3	0.2		4.4	0.5	
Delay (s)	64.2	50.9			51.1		63.3	5.8		67.2	8.7	
Level of Service	E	D			D		E	A		E	A	
Approach Delay (s)		62.3			51.1			8.8			8.9	
Approach LOS		E			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	128.3	Sum of lost time (s)	20.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

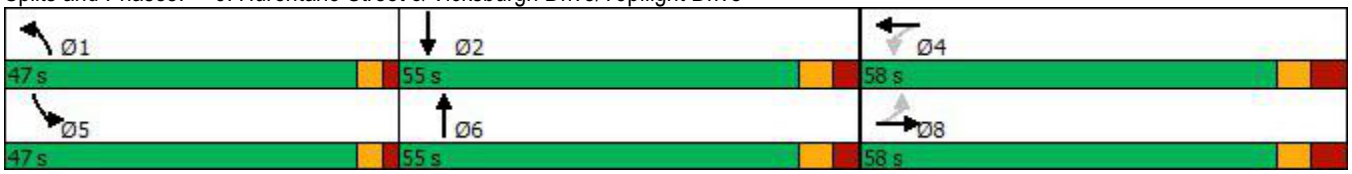


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	3	0	14	1	143	0	474	29	145	896	3
Future Volume (vph)	0	3	0	14	1	143	0	474	29	145	896	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	0.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor					0.99			1.00		1.00		
Frt					0.878			0.991				
Flt Protected					0.996					0.950		
Satd. Flow (prot)	1921	1921	0	0	1495	0	1921	3368	0	1690	3510	0
Flt Permitted					0.968					0.950		
Satd. Flow (perm)	1921	1921	0	0	1453	0	1921	3368	0	1686	3510	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					154			4				
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		237.0			253.7			440.6			373.3	
Travel Time (s)		17.1			18.3			26.4			22.4	
Confl. Peds. (#/hr)	4					4			2	2		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	50%	0%	7%	0%	6%	28%	8%	4%	0%
Adj. Flow (vph)	0	3	0	15	1	154	0	510	31	156	963	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	3	0	0	170	0	0	541	0	156	966	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		8.0	8.0	
Minimum Split (s)	58.0	58.0		58.0	58.0		47.0	55.0		47.0	55.0	
Total Split (s)	58.0	58.0		58.0	58.0		47.0	55.0		47.0	55.0	
Total Split (%)	36.3%	36.3%		36.3%	36.3%		29.4%	34.4%		29.4%	34.4%	
Maximum Green (s)	49.5	49.5		49.5	49.5		42.0	47.5		42.0	47.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.5	4.5		4.5	4.5		2.0	3.5		2.0	3.5	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	14.0	14.0		14.0	14.0			9.0			9.0	
Flash Dont Walk (s)	35.0	35.0		35.0	35.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		9.1			9.1			47.6		13.7	66.4	
Actuated g/C Ratio		0.10			0.10			0.52		0.15	0.73	
v/c Ratio		0.02			0.60			0.31		0.62	0.38	
Control Delay		38.3			18.4			13.7		47.7	5.4	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		38.3			18.4			13.7		47.7	5.4	
LOS		D			B			B		D	A	
Approach Delay		38.3			18.4			13.7			11.2	
Approach LOS		D			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 91.5			
Natural Cycle: 160			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 12.7		Intersection LOS: B	
Intersection Capacity Utilization 71.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Hurontario Street & Vicksburgh Drive/Topflight Drive



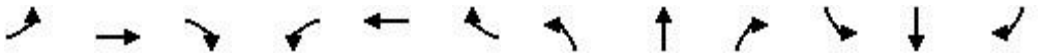
Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	3	170	541	156	966
v/c Ratio	0.02	0.60	0.31	0.62	0.38
Control Delay	38.3	18.4	13.7	47.7	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	38.3	18.4	13.7	47.7	5.4
Queue Length 50th (m)	0.5	2.6	25.9	25.6	26.7
Queue Length 95th (m)	3.1	21.7	45.2	46.9	43.2
Internal Link Dist (m)	213.0	229.7	416.6		349.3
Turn Bay Length (m)				35.0	
Base Capacity (vph)	1042	858	1755	777	2545
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	0.00	0.20	0.31	0.20	0.38

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	3	0	14	1	143	0	474	29	145	896	3
Future Volume (vph)	0	3	0	14	1	143	0	474	29	145	896	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.5			8.5			7.5		5.0	7.5	
Lane Util. Factor		1.00			1.00			0.95		1.00	0.95	
Frpb, ped/bikes		1.00			0.99			1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00			1.00		1.00	1.00	
Frt		1.00			0.88			0.99		1.00	1.00	
Flt Protected		1.00			1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1921			1496			3369		1690	3509	
Flt Permitted		1.00			0.97			1.00		0.95	1.00	
Satd. Flow (perm)		1921			1454			3369		1690	3509	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	3	0	15	1	154	0	510	31	156	963	3
RTOR Reduction (vph)	0	0	0	0	139	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	3	0	0	31	0	0	539	0	156	966	0
Confl. Peds. (#/hr)	4					4			2	2		
Heavy Vehicles (%)	0%	0%	0%	50%	0%	7%	0%	6%	28%	8%	4%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)		9.1			9.1			47.7		13.7	66.4	
Effective Green, g (s)		9.1			9.1			47.7		13.7	66.4	
Actuated g/C Ratio		0.10			0.10			0.52		0.15	0.73	
Clearance Time (s)		8.5			8.5			7.5		5.0	7.5	
Vehicle Extension (s)		3.0			3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		191			144			1756		253	2546	
v/s Ratio Prot		0.00						0.16		c0.09	c0.28	
v/s Ratio Perm					c0.02							
v/c Ratio		0.02			0.22			0.31		0.62	0.38	
Uniform Delay, d1		37.2			37.9			12.5		36.4	4.8	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.0			0.8			0.5		4.4	0.4	
Delay (s)		37.2			38.7			12.9		40.9	5.2	
Level of Service		D			D			B		D	A	
Approach Delay (s)		37.2			38.7			12.9			10.1	
Approach LOS		D			D			B			B	

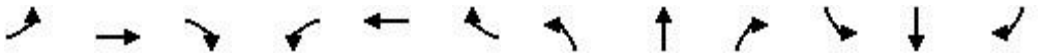
Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	91.5	Sum of lost time (s)	21.0
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	2	102	10	2	23	59	136	2	20	1
Future Volume (vph)	0	0	2	102	10	2	23	59	136	2	20	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	15.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	0		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		0.865			0.977			0.895			0.993	
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	1662	0	1772	1877	0	1825	3244	0	1825	3625	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	1662	0	1772	1877	0	1825	3244	0	1825	3625	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		62.9			318.7			222.4			283.4	
Travel Time (s)		4.5			22.9			16.0			20.4	
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
Heavy Vehicles (%)	0%	0%	0%	3%	0%	0%	0%	0%	1%	0%	0%	0%
Adj. Flow (vph)	0	0	2	111	11	2	25	64	148	2	22	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	0	111	13	0	25	212	0	2	23	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.9%		ICU Level of Service A	
Analysis Period (min) 15			



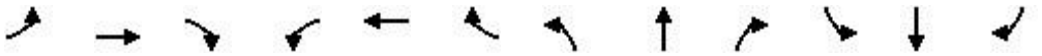
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	2	102	10	2	23	59	136	2	20	1
Future Volume (Veh/h)	0	0	2	102	10	2	23	59	136	2	20	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	2	111	11	2	25	64	148	2	22	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								223				
pX, platoon unblocked												
vC, conflicting volume	116	288	12	205	215	106	23			212		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	116	288	12	205	215	106	23			212		
tC, single (s)	7.5	6.5	6.9	7.6	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	85	98	100	98			100		
cM capacity (veh/h)	831	614	1073	721	675	934	1605			1370		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	2	111	13	25	43	169	2	15	8
Volume Left	0	111	0	25	0	0	2	0	0
Volume Right	2	0	2	0	0	148	0	0	1
cSH	1073	721	705	1605	1700	1700	1370	1700	1700
Volume to Capacity	0.00	0.15	0.02	0.02	0.03	0.10	0.00	0.01	0.00
Queue Length 95th (m)	0.0	4.1	0.4	0.4	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	8.4	10.9	10.2	7.3	0.0	0.0	7.6	0.0	0.0
Lane LOS	A	B	B	A			A		
Approach Delay (s)	8.4	10.8		0.8			0.6		
Approach LOS	A	B							

Intersection Summary				
Average Delay	4.0			
Intersection Capacity Utilization	26.9%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	3579	0	1883	1883	0	0	1883	0	0	1883	0
Flt Permitted												
Satd. Flow (perm)	0	3579	0	1883	1883	0	0	1883	0	0	1883	0
Link Speed (k/h)		50			48			48			50	
Link Distance (m)		152.4			237.0			95.7			60.6	
Travel Time (s)		11.0			17.8			7.2			4.4	
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)	0	0	0	0	0	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			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)	97		24	97		14	14		97	24		97
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					237							
pX, platoon unblocked												
vC, conflicting volume	0			0			0	0	0	0	0	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			0	0	0	0	0	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1622			1622			1023	896	1084	1023	896	1084

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS					A	A
Approach Delay (s)	0.0		0.0		0.0	0.0
Approach LOS					A	A

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	0.0%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	3579	3579	0
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	3579	3579	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	66.3			283.4	152.4	
Travel Time (s)	5.0			20.4	11.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					390	
pX, platoon unblocked						
vC, conflicting volume	0	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1023	1084	1622			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0			0.0	
Approach LOS	A					

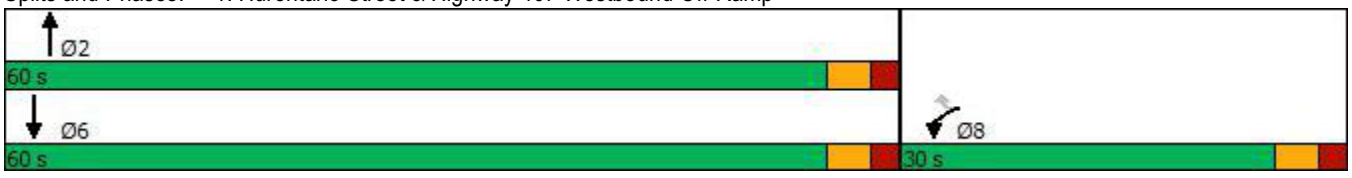
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

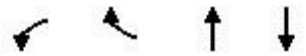
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	132	302	1155	0	0	678
Future Volume (vph)	132	302	1155	0	0	678
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	115.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Frt	0.920	0.850				
Flt Protected	0.977					
Satd. Flow (prot)	3131	1486	3579	0	0	3544
Flt Permitted	0.977					
Satd. Flow (perm)	3131	1486	3579	0	0	3544
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	82	82				
Link Speed (k/h)	60		60			60
Link Distance (m)	401.2		345.6			144.3
Travel Time (s)	24.1		20.7			8.7
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	15%	0%	2%	0%	0%	3%
Adj. Flow (vph)	136	311	1191	0	0	699
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	292	155	1191	0	0	699
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	7.4		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	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0			5.0
Minimum Split (s)	23.0	23.0	23.0			23.0
Total Split (s)	30.0	30.0	60.0			60.0
Total Split (%)	33.3%	33.3%	66.7%			66.7%
Maximum Green (s)	25.0	25.0	55.0			55.0
Yellow Time (s)	3.0	3.0	3.0			3.0
All-Red Time (s)	2.0	2.0	2.0			2.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	Max			Max
Walk Time (s)	7.0	7.0	7.0			7.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	10.6	10.6	55.1			55.1
Actuated g/C Ratio	0.14	0.14	0.73			0.73
v/c Ratio	0.57	0.56	0.46			0.27
Control Delay	26.2	23.4	5.2			4.1
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	26.2	23.4	5.2			4.1
LOS	C	C	A			A
Approach Delay	25.2		5.2			4.1
Approach LOS	C		A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 75.7			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 8.7		Intersection LOS: A	
Intersection Capacity Utilization 52.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & Highway 407 Westbound Off-Ramp





Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	292	155	1191	699
v/c Ratio	0.57	0.56	0.46	0.27
Control Delay	26.2	23.4	5.2	4.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.2	23.4	5.2	4.1
Queue Length 50th (m)	14.4	10.5	28.6	13.9
Queue Length 95th (m)	25.5	28.7	49.6	25.2
Internal Link Dist (m)	377.2		321.6	120.3
Turn Bay Length (m)		115.0		
Base Capacity (vph)	1090	546	2604	2578
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	0.27	0.28	0.46	0.27

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	132	302	1155	0	0	678
Future Volume (vph)	132	302	1155	0	0	678
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0			5.0
Lane Util. Factor	0.97	0.91	0.95			0.95
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3131	1486	3579			3544
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3131	1486	3579			3544
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	136	311	1191	0	0	699
RTOR Reduction (vph)	71	71	0	0	0	0
Lane Group Flow (vph)	221	84	1191	0	0	699
Heavy Vehicles (%)	15%	0%	2%	0%	0%	3%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	10.6	10.6	55.1			55.1
Effective Green, g (s)	10.6	10.6	55.1			55.1
Actuated g/C Ratio	0.14	0.14	0.73			0.73
Clearance Time (s)	5.0	5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	438	208	2605			2579
v/s Ratio Prot	c0.07		c0.33			0.20
v/s Ratio Perm		0.06				
v/c Ratio	0.51	0.41	0.46			0.27
Uniform Delay, d1	30.1	29.7	4.2			3.5
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	0.9	1.3	0.6			0.3
Delay (s)	31.0	31.0	4.8			3.8
Level of Service	C	C	A			A
Approach Delay (s)	31.0		4.8			3.8
Approach LOS	C		A			A

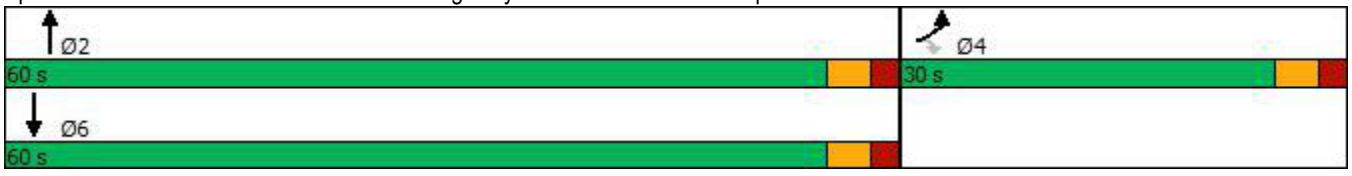
Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	75.7	Sum of lost time (s)	10.0
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

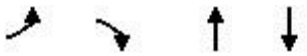
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	106	45	0	1193	582	0
Future Volume (vph)	106	45	0	1193	582	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	95.0	0.0			0.0
Storage Lanes	2	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3471	1384	0	3579	3476	0
Flt Permitted	0.950					
Satd. Flow (perm)	3471	1384	0	3579	3476	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		46				
Link Speed (k/h)	60			60	60	
Link Distance (m)	401.8			373.3	345.6	
Travel Time (s)	24.1			22.4	20.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	18%	0%	2%	5%	0%
Adj. Flow (vph)	109	46	0	1230	600	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	109	46	0	1230	600	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.4			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
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	6.1	6.1		30.5	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	6.1		1.8	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Permitted Phases		4				
Detector Phase	4	4		2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0		23.0	23.0	
Total Split (s)	30.0	30.0		60.0	60.0	
Total Split (%)	33.3%	33.3%		66.7%	66.7%	
Maximum Green (s)	25.0	25.0		55.0	55.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Recall Mode	None	None		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	7.8	7.8		62.4	62.4	
Actuated g/C Ratio	0.10	0.10		0.81	0.81	
v/c Ratio	0.31	0.25		0.42	0.21	
Control Delay	33.6	13.6		3.5	2.6	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	33.6	13.6		3.5	2.6	
LOS	C	B		A	A	
Approach Delay	27.7			3.5	2.6	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 76.9			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.42			
Intersection Signal Delay: 5.1		Intersection LOS: A	
Intersection Capacity Utilization 52.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Hurontario Street & Highway 407 Eastbound Off-Ramp





Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	109	46	1230	600
v/c Ratio	0.31	0.25	0.42	0.21
Control Delay	33.6	13.6	3.5	2.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	33.6	13.6	3.5	2.6
Queue Length 50th (m)	7.6	0.0	24.6	9.5
Queue Length 95th (m)	13.9	8.6	37.1	15.3
Internal Link Dist (m)	377.8		349.3	321.6
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1131	482	2902	2818
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	0.10	0.10	0.42	0.21

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	106	45	0	1193	582	0
Future Volume (vph)	106	45	0	1193	582	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	1.00		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3471	1384		3579	3476	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3471	1384		3579	3476	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	109	46	0	1230	600	0
RTOR Reduction (vph)	0	42	0	0	0	0
Lane Group Flow (vph)	109	4	0	1230	600	0
Heavy Vehicles (%)	2%	18%	0%	2%	5%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	6.6	6.6		61.3	61.3	
Effective Green, g (s)	6.6	6.6		61.3	61.3	
Actuated g/C Ratio	0.08	0.08		0.79	0.79	
Clearance Time (s)	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	294	117		2816	2735	
v/s Ratio Prot	c0.03			c0.34	0.17	
v/s Ratio Perm		0.00				
v/c Ratio	0.37	0.03		0.44	0.22	
Uniform Delay, d1	33.7	32.7		2.7	2.1	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.1		0.5	0.2	
Delay (s)	34.5	32.8		3.2	2.3	
Level of Service	C	C		A	A	
Approach Delay (s)	34.0			3.2	2.3	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	5.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	10.0
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

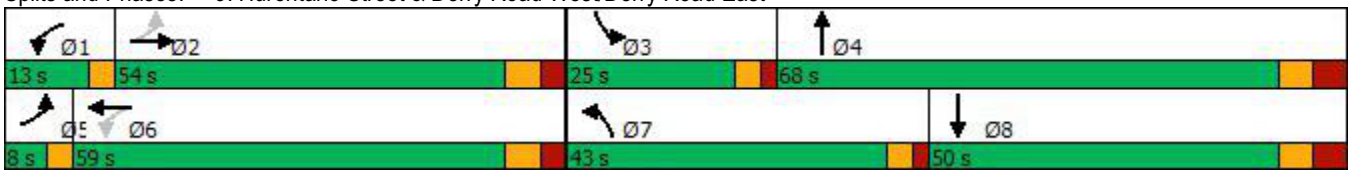
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	695	18	52	1282	217	148	526	46	176	265	53
Future Volume (vph)	85	695	18	52	1282	217	148	526	46	176	265	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		0.0	185.0		0.0	55.0		0.0	100.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00		0.99	0.99		0.96	1.00		0.99	0.99	
Frt		0.996			0.978			0.988			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1807	4795	0	1789	4967	0	1825	3410	0	1772	3235	0
Flt Permitted	0.086			0.321			0.950			0.950		
Satd. Flow (perm)	163	4795	0	596	4967	0	1753	3410	0	1751	3235	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			22			6			14	
Link Speed (k/h)		70			70			60			60	
Link Distance (m)		331.5			999.3			126.9			189.0	
Travel Time (s)		17.0			51.4			7.6			11.3	
Confl. Peds. (#/hr)	23		42	42		23	53		22	22		53
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	1%	9%	0%	2%	3%	1%	0%	4%	22%	3%	10%	2%
Adj. Flow (vph)	86	702	18	53	1295	219	149	531	46	178	268	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	86	720	0	53	1514	0	149	577	0	178	322	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	8.0	51.4		8.0	51.4		13.0	49.4		13.0	49.4	
Total Split (s)	8.0	54.0		13.0	59.0		43.0	68.0		25.0	50.0	
Total Split (%)	5.0%	33.8%		8.1%	36.9%		26.9%	42.5%		15.6%	31.3%	
Maximum Green (s)	5.0	46.6		10.0	51.6		38.0	59.6		20.0	41.6	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	3.2		0.0	3.2		2.0	4.4		2.0	4.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		13.0			13.0			12.0			12.0	
Flash Dont Walk (s)		31.0			31.0			29.0			29.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	59.7	51.4		63.4	51.8		15.4	26.8		17.3	28.6	
Actuated g/C Ratio	0.48	0.41		0.51	0.42		0.12	0.21		0.14	0.23	
v/c Ratio	0.60	0.36		0.14	0.73		0.66	0.78		0.73	0.43	
Control Delay	37.3	27.9		18.4	33.7		67.3	54.1		70.0	41.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	37.3	27.9		18.4	33.7		67.3	54.1		70.0	41.3	
LOS	D	C		B	C		E	D		E	D	
Approach Delay		28.9			33.2			56.8			51.6	
Approach LOS		C			C			E			D	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 124.8
Natural Cycle: 125
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 39.5 Intersection LOS: D
Intersection Capacity Utilization 100.2% ICU Level of Service G
Analysis Period (min) 15

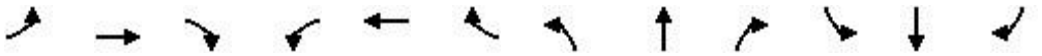
Splits and Phases: 3: Hurontario Street & Derry Road West/Derry Road East



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	86	720	53	1514	149	577	178	322
v/c Ratio	0.60	0.36	0.14	0.73	0.66	0.78	0.73	0.43
Control Delay	37.3	27.9	18.4	33.7	67.3	54.1	70.0	41.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.3	27.9	18.4	33.7	67.3	54.1	70.0	41.3
Queue Length 50th (m)	10.8	46.4	6.5	113.8	35.9	71.0	42.5	34.1
Queue Length 95th (m)	#29.0	65.7	15.2	147.6	59.3	92.1	#71.0	50.5
Internal Link Dist (m)		307.5		975.3		102.9		165.0
Turn Bay Length (m)	150.0		185.0		55.0		100.0	
Base Capacity (vph)	144	1975	403	2076	558	1639	285	1092
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.36	0.13	0.73	0.27	0.35	0.62	0.29

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	695	18	52	1282	217	148	526	46	176	265	53
Future Volume (vph)	85	695	18	52	1282	217	148	526	46	176	265	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		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)	1807	4798		1783	4973		1825	3412		1772	3242	
Flt Permitted	0.09	1.00		0.32	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	163	4798		603	4973		1825	3412		1772	3242	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	86	702	18	53	1295	219	149	531	46	178	268	54
RTOR Reduction (vph)	0	1	0	0	13	0	0	5	0	0	11	0
Lane Group Flow (vph)	86	719	0	53	1501	0	149	572	0	178	311	0
Confl. Peds. (#/hr)	23		42	42		23	53		22	22		53
Heavy Vehicles (%)	1%	9%	0%	2%	3%	1%	0%	4%	22%	3%	10%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Actuated Green, G (s)	56.4	51.4		58.8	52.6		15.4	26.7		17.3	28.6	
Effective Green, g (s)	56.4	51.4		58.8	52.6		15.4	26.7		17.3	28.6	
Actuated g/C Ratio	0.45	0.41		0.47	0.42		0.12	0.21		0.14	0.23	
Clearance Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	138	1966		341	2085		224	726		244	739	
v/s Ratio Prot	c0.02	0.15		c0.01	c0.30		0.08	c0.17		c0.10	0.10	
v/s Ratio Perm	0.25			0.07								
v/c Ratio	0.62	0.37		0.16	0.72		0.67	0.79		0.73	0.42	
Uniform Delay, d1	23.1	25.7		18.4	30.3		52.5	46.7		51.8	41.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.5	0.5		0.2	2.2		7.3	5.7		10.4	0.4	
Delay (s)	31.6	26.2		18.6	32.5		59.8	52.4		62.2	41.7	
Level of Service	C	C		B	C		E	D		E	D	
Approach Delay (s)		26.8			32.0			53.9			49.0	
Approach LOS		C			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	37.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	125.4	Sum of lost time (s)	23.8
Intersection Capacity Utilization	100.2%	ICU Level of Service	G
Analysis Period (min)	15		

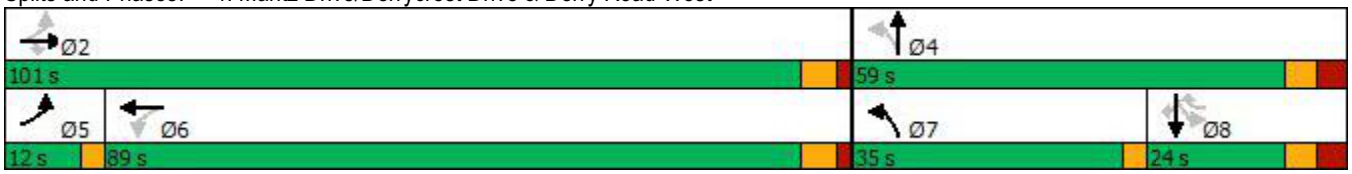
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	637	123	28	1474	9	406	132	101	21	57	232
Future Volume (vph)	77	637	123	28	1474	9	406	132	101	21	57	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	55.0		30.0	0.0		0.0	100.0		0.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97	1.00		0.98	1.00	0.99		1.00		0.99
Frt			0.850			0.850		0.935				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4902	1585	1415	5142	1471	1738	1721	0	1738	1883	1617
Flt Permitted	0.101			0.388			0.597			0.608		
Satd. Flow (perm)	194	4902	1539	576	5142	1448	1090	1721	0	1111	1883	1594
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			86			63		25				134
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		443.5			331.5			130.4			222.4	
Travel Time (s)		22.8			17.0			9.4			16.0	
Confl. Peds. (#/hr)	4		4	4		4	2		2	2		2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	7%	3%	29%	2%	11%	5%	2%	6%	5%	2%	1%
Adj. Flow (vph)	80	664	128	29	1535	9	423	138	105	22	59	242
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	664	128	29	1535	9	423	243	0	22	59	242
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	Perm	NA	custom	pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2			6		7	4			8	
Permitted Phases	2		2	6		8	4			8		8
Detector Phase	5	2	2	6	6	8	7	4		8	8	8
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	10.0		10.0	10.0	10.0
Minimum Split (s)	10.0	41.2	41.2	41.2	41.2	56.7	10.0	56.7		56.7	56.7	56.7
Total Split (s)	12.0	101.0	101.0	89.0	89.0	24.0	35.0	59.0		24.0	24.0	24.0
Total Split (%)	7.5%	63.1%	63.1%	55.6%	55.6%	15.0%	21.9%	36.9%		15.0%	15.0%	15.0%
Maximum Green (s)	9.0	94.8	94.8	82.8	82.8	16.3	32.0	51.3		16.3	16.3	16.3
Yellow Time (s)	3.0	4.2	4.2	4.2	4.2	4.0	3.0	4.0		4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	3.7	0.0	3.7		3.7	3.7	3.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	None	None	None		None	None	None
Walk Time (s)		10.0	10.0	10.0	10.0	10.0		10.0		10.0	10.0	10.0
Flash Dont Walk (s)		25.0	25.0	25.0	25.0	39.0		39.0		39.0	39.0	39.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0		0	0	0
Act Effct Green (s)	98.0	94.8	94.8	83.7	83.7	14.7	54.4	49.7		14.7	14.7	14.7
Actuated g/C Ratio	0.62	0.60	0.60	0.53	0.53	0.09	0.34	0.31		0.09	0.09	0.09
v/c Ratio	0.39	0.23	0.13	0.10	0.57	0.05	0.84	0.44		0.21	0.34	0.90
Control Delay	18.1	15.2	5.5	20.6	26.4	0.4	61.2	41.3		71.5	72.7	65.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	18.1	15.2	5.5	20.6	26.4	0.4	61.2	41.3		71.5	72.7	65.5
LOS	B	B	A	C	C	A	E	D		E	E	E
Approach Delay		14.0			26.2			53.9			67.3	
Approach LOS		B			C			D			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 158.4			
Natural Cycle: 120			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 32.3		Intersection LOS: C	
Intersection Capacity Utilization 84.2%		ICU Level of Service E	
Analysis Period (min) 15			

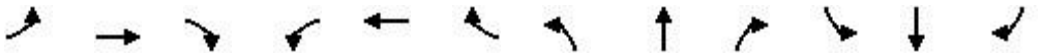
Splits and Phases: 4: Maritz Drive/Derrycrest Drive & Derry Road West



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	80	664	128	29	1535	9	423	243	22	59	242
v/c Ratio	0.39	0.23	0.13	0.10	0.57	0.05	0.84	0.44	0.21	0.34	0.90
Control Delay	18.1	15.2	5.5	20.6	26.4	0.4	61.2	41.3	71.5	72.7	65.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.1	15.2	5.5	20.6	26.4	0.4	61.2	41.3	71.5	72.7	65.5
Queue Length 50th (m)	9.9	35.2	5.4	4.5	119.3	0.0	115.7	54.7	6.5	17.7	35.0
Queue Length 95th (m)	17.2	42.4	14.5	10.8	134.7	0.0	#162.0	81.1	16.2	33.0	#82.0
Internal Link Dist (m)		419.5			307.5			106.4		198.4	
Turn Bay Length (m)	50.0		15.0	55.0		30.0			100.0		
Base Capacity (vph)	212	2934	955	304	2716	205	505	574	114	193	284
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.23	0.13	0.10	0.57	0.04	0.84	0.42	0.19	0.31	0.85

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	637	123	28	1474	9	406	132	101	21	57	232
Future Volume (vph)	77	637	123	28	1474	9	406	132	101	21	57	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1825	4902	1540	1410	5142	1448	1736	1722		1736	1883	1594
Flt Permitted	0.10	1.00	1.00	0.39	1.00	1.00	0.60	1.00		0.61	1.00	1.00
Satd. Flow (perm)	194	4902	1540	576	5142	1448	1091	1722		1111	1883	1594
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	80	664	128	29	1535	9	423	138	105	22	59	242
RTOR Reduction (vph)	0	0	35	0	0	8	0	17	0	0	0	122
Lane Group Flow (vph)	80	664	93	29	1535	1	423	226	0	22	59	120
Confl. Peds. (#/hr)	4		4	4		4	2		2	2		2
Heavy Vehicles (%)	0%	7%	3%	29%	2%	11%	5%	2%	6%	5%	2%	1%
Turn Type	pm+pt	NA	Perm	Perm	NA	custom	pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2			6		7	4			8	
Permitted Phases	2		2	6		8	4			8		8
Actuated Green, G (s)	94.8	94.8	94.8	83.7	83.7	14.7	49.7	49.7		14.7	14.7	14.7
Effective Green, g (s)	94.8	94.8	94.8	83.7	83.7	14.7	49.7	49.7		14.7	14.7	14.7
Actuated g/C Ratio	0.60	0.60	0.60	0.53	0.53	0.09	0.31	0.31		0.09	0.09	0.09
Clearance Time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	199	2933	921	304	2717	134	472	540		103	174	147
v/s Ratio Prot	c0.02	0.14			c0.30		c0.18	0.13			0.03	
v/s Ratio Perm	0.22		0.06	0.05		0.00	c0.10			0.02		0.08
v/c Ratio	0.40	0.23	0.10	0.10	0.56	0.01	0.90	0.42		0.21	0.34	0.82
Uniform Delay, d1	17.4	14.8	13.6	18.5	25.1	65.2	49.7	42.9		66.5	67.3	70.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.3	0.2	0.2	0.6	0.9	0.0	19.2	0.5		1.0	1.2	28.6
Delay (s)	18.8	14.9	13.8	19.2	26.0	65.2	68.9	43.5		67.5	68.5	99.1
Level of Service	B	B	B	B	C	E	E	D		E	E	F
Approach Delay (s)		15.1			26.1			59.6			91.4	
Approach LOS		B			C			E			F	

Intersection Summary			
HCM 2000 Control Delay	35.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	158.4	Sum of lost time (s)	19.9
Intersection Capacity Utilization	84.2%	ICU Level of Service	E
Analysis Period (min)	15		

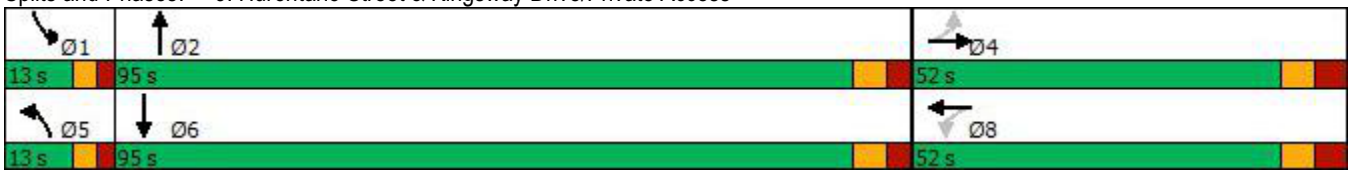
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	1	22	2	2	4	6	848	2	4	480	126
Future Volume (vph)	181	1	22	2	2	4	6	848	2	4	480	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	0.0		0.0	20.0		0.0	30.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor	1.00				0.99		1.00				0.99	
Frt		0.857			0.932						0.969	
Flt Protected	0.950				0.988		0.950			0.950		
Satd. Flow (prot)	1807	1571	0	0	1756	0	1521	3544	0	1825	3345	0
Flt Permitted	0.752				0.952		0.950			0.950		
Satd. Flow (perm)	1427	1571	0	0	1692	0	1517	3544	0	1825	3345	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			4						33	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		318.7			138.1			189.0			440.6	
Travel Time (s)		22.9			9.9			11.3			26.4	
Confl. Peds. (#/hr)	2					2	4					4
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	0%	5%	0%	0%	0%	20%	3%	0%	0%	6%	2%
Adj. Flow (vph)	185	1	22	2	2	4	6	865	2	4	490	129
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	23	0	0	8	0	6	867	0	4	619	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	52.0	52.0		52.0	52.0		13.0	58.0		13.0	58.0	
Total Split (s)	52.0	52.0		52.0	52.0		13.0	95.0		13.0	95.0	
Total Split (%)	32.5%	32.5%		32.5%	32.5%		8.1%	59.4%		8.1%	59.4%	
Maximum Green (s)	44.0	44.0		44.0	44.0		8.0	88.0		8.0	88.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		2.0	3.0		2.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	13.0	13.0		13.0	13.0			15.0			15.0	
Flash Dont Walk (s)	31.0	31.0		31.0	31.0			36.0			36.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	21.7	21.7			21.7		8.1	88.8		8.1	88.8	
Actuated g/C Ratio	0.17	0.17			0.17		0.06	0.69		0.06	0.69	
v/c Ratio	0.76	0.08			0.03		0.06	0.35		0.03	0.27	
Control Delay	71.4	17.6			33.8		63.3	9.7		62.8	8.4	
Queue Delay	0.0	0.0			0.0		0.0	0.3		0.0	0.0	
Total Delay	71.4	17.6			33.8		63.3	10.0		62.8	8.4	
LOS	E	B			C		E	A		E	A	
Approach Delay		65.4			33.8			10.3			8.8	
Approach LOS		E			C			B			A	

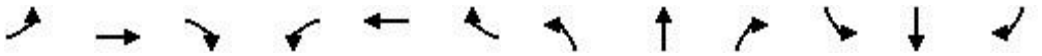
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 127.8			
Natural Cycle: 125			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 16.6		Intersection LOS: B	
Intersection Capacity Utilization 71.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: Hurontario Street & Kingsway Drive/Private Access



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	185	23	8	6	867	4	619
v/c Ratio	0.76	0.08	0.03	0.06	0.35	0.03	0.27
Control Delay	71.4	17.6	33.8	63.3	9.7	62.8	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	71.4	17.6	33.8	63.3	10.0	62.8	8.4
Queue Length 50th (m)	43.5	0.2	0.8	1.4	38.5	0.9	23.8
Queue Length 95th (m)	75.9	8.1	5.7	6.7	84.4	5.2	54.8
Internal Link Dist (m)		294.7	114.1		165.0		416.6
Turn Bay Length (m)	40.0			20.0		30.0	
Base Capacity (vph)	494	558	589	95	2462	115	2333
Starvation Cap Reductn	0	0	0	0	903	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	0.37	0.04	0.01	0.06	0.56	0.03	0.27

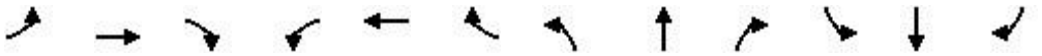
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	1	22	2	2	4	6	848	2	4	480	126
Future Volume (vph)	181	1	22	2	2	4	6	848	2	4	480	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86			0.93		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	1570			1757		1521	3543		1825	3345	
Flt Permitted	0.75	1.00			0.95		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1429	1570			1693		1521	3543		1825	3345	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	185	1	22	2	2	4	6	865	2	4	490	129
RTOR Reduction (vph)	0	18	0	0	3	0	0	0	0	0	11	0
Lane Group Flow (vph)	185	5	0	0	5	0	6	867	0	4	608	0
Confl. Peds. (#/hr)	2					2	4					4
Heavy Vehicles (%)	1%	0%	5%	0%	0%	0%	20%	3%	0%	0%	6%	2%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	21.7	21.7			21.7		1.4	88.8		1.4	88.8	
Effective Green, g (s)	21.7	21.7			21.7		1.4	88.8		1.4	88.8	
Actuated g/C Ratio	0.16	0.16			0.16		0.01	0.67		0.01	0.67	
Clearance Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	235	258			278		16	2385		19	2251	
v/s Ratio Prot		0.00					c0.00	c0.24		0.00	0.18	
v/s Ratio Perm	c0.13				0.00							
v/c Ratio	0.79	0.02			0.02		0.38	0.36		0.21	0.27	
Uniform Delay, d1	52.9	46.2			46.2		64.8	9.3		64.7	8.6	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.9	0.0			0.0		14.1	0.4		5.5	0.3	
Delay (s)	68.7	46.2			46.2		79.0	9.8		70.2	8.9	
Level of Service	E	D			D		E	A		E	A	
Approach Delay (s)		66.2			46.2			10.2			9.3	
Approach LOS		E			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	131.9	Sum of lost time (s)	20.0
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

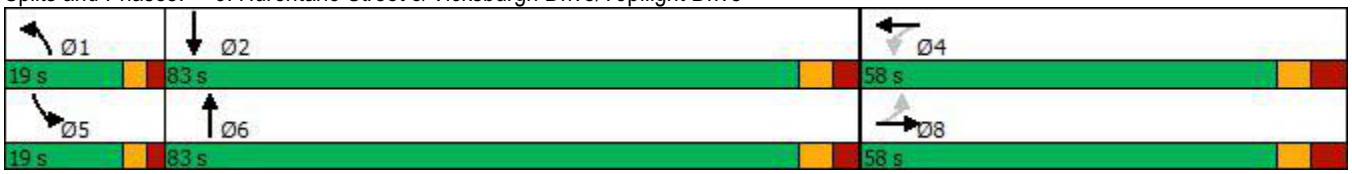


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	2	31	1	440	0	1029	20	72	607	1
Future Volume (vph)	0	0	2	31	1	440	0	1029	20	72	607	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	0.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor											1.00	
Frt		0.850			0.874			0.997				
Flt Protected					0.997					0.950		
Satd. Flow (prot)	1921	1633	0	0	1648	0	1921	3559	0	1547	3510	0
Flt Permitted					0.978					0.950		
Satd. Flow (perm)	1921	1633	0	0	1616	0	1921	3559	0	1547	3510	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		335			217			2				
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		237.0			253.7			440.6			373.3	
Travel Time (s)		17.1			18.3			26.4			22.4	
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	10%	0%	1%	0%	2%	15%	18%	4%	0%
Adj. Flow (vph)	0	0	2	32	1	449	0	1050	20	73	619	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	0	0	482	0	0	1070	0	73	620	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		8.0	8.0	
Minimum Split (s)	57.5	57.5		57.5	57.5		10.0	38.5		13.0	38.5	
Total Split (s)	58.0	58.0		58.0	58.0		19.0	83.0		19.0	83.0	
Total Split (%)	36.3%	36.3%		36.3%	36.3%		11.9%	51.9%		11.9%	51.9%	
Maximum Green (s)	49.5	49.5		49.5	49.5		14.0	75.5		14.0	75.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.5	4.5		4.5	4.5		2.0	3.5		2.0	3.5	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	14.0	14.0		14.0	14.0			9.0			9.0	
Flash Dont Walk (s)	35.0	35.0		35.0	35.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)		31.7			31.7			76.9		11.5	90.1	
Actuated g/C Ratio		0.23			0.23			0.56		0.08	0.65	
v/c Ratio		0.00			0.90			0.54		0.57	0.27	
Control Delay		0.0			48.3			23.7		82.9	11.7	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		0.0			48.3			23.7		82.9	11.7	
LOS		A			D			C		F	B	
Approach Delay					48.3			23.7			19.2	
Approach LOS					D			C			B	

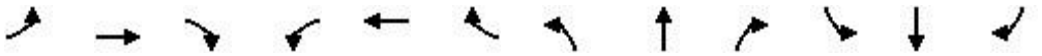
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 138.1			
Natural Cycle: 110			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 27.6		Intersection LOS: C	
Intersection Capacity Utilization 88.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 6: Hurontario Street & Vicksburgh Drive/Topflight Drive



Lane Group	EBT	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	2	482	1070	73	620
v/c Ratio	0.00	0.90	0.54	0.57	0.27
Control Delay	0.0	48.3	23.7	82.9	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	0.0	48.3	23.7	82.9	11.7
Queue Length 50th (m)	0.0	77.8	101.1	19.9	35.5
Queue Length 95th (m)	0.0	124.4	156.3	40.6	61.2
Internal Link Dist (m)	213.0	229.7	416.6		349.3
Turn Bay Length (m)				35.0	
Base Capacity (vph)	808	727	1983	159	2291
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	0.00	0.66	0.54	0.46	0.27

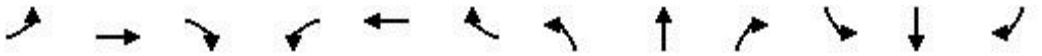
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	2	31	1	440	0	1029	20	72	607	1
Future Volume (vph)	0	0	2	31	1	440	0	1029	20	72	607	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		8.5			8.5			7.5		5.0	7.5	
Lane Util. Factor		1.00			1.00			0.95		1.00	0.95	
Frpb, ped/bikes		1.00			1.00			1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00			1.00		1.00	1.00	
Frt		0.85			0.87			1.00		1.00	1.00	
Flt Protected		1.00			1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1633			1648			3560		1547	3509	
Flt Permitted		1.00			0.98			1.00		0.95	1.00	
Satd. Flow (perm)		1633			1617			3560		1547	3509	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	2	32	1	449	0	1050	20	73	619	1
RTOR Reduction (vph)	0	2	0	0	168	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	314	0	0	1069	0	73	620	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	10%	0%	1%	0%	2%	15%	18%	4%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)		31.6			31.6			76.9		9.4	91.3	
Effective Green, g (s)		31.6			31.6			76.9		9.4	91.3	
Actuated g/C Ratio		0.23			0.23			0.55		0.07	0.66	
Clearance Time (s)		8.5			8.5			7.5		5.0	7.5	
Vehicle Extension (s)		3.0			3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		371			367			1970		104	2306	
v/s Ratio Prot		0.00						c0.30		c0.05	0.18	
v/s Ratio Perm					c0.19							
v/c Ratio		0.00			0.86			0.54		0.70	0.27	
Uniform Delay, d1		41.5			51.5			19.8		63.4	9.9	
Progression Factor		1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2		0.0			17.5			1.1		19.2	0.3	
Delay (s)		41.5			69.0			20.9		82.6	10.2	
Level of Service		D			E			C		F	B	
Approach Delay (s)		41.5			69.0			20.9			17.8	
Approach LOS		D			E			C			B	

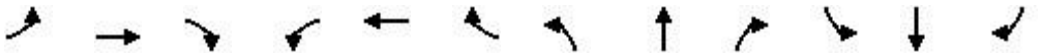
Intersection Summary			
HCM 2000 Control Delay	30.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	138.9	Sum of lost time (s)	21.0
Intersection Capacity Utilization	88.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	16	14	179	0	2	7	17	141	7	52	2
Future Volume (vph)	2	16	14	179	0	2	7	17	141	7	52	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	15.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	0		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
Ped Bike Factor												
Frt		0.940			0.850			0.866			0.995	
Flt Protected		0.997		0.950			0.950			0.950		
Satd. Flow (prot)	0	1800	0	1807	1633	0	1825	3133	0	1825	3632	0
Flt Permitted		0.997		0.950			0.950			0.950		
Satd. Flow (perm)	0	1800	0	1807	1633	0	1825	3133	0	1825	3632	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		62.9			318.7			222.4			283.4	
Travel Time (s)		4.5			22.9			16.0			20.4	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%
Adj. Flow (vph)	2	17	15	195	0	2	8	18	153	8	57	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	34	0	195	2	0	8	171	0	8	59	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.1%		ICU Level of Service A	
Analysis Period (min) 15			



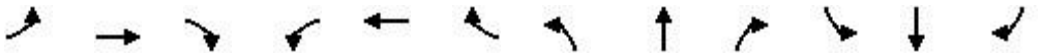
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	16	14	179	0	2	7	17	141	7	52	2
Future Volume (Veh/h)	2	16	14	179	0	2	7	17	141	7	52	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	17	15	195	0	2	8	18	153	8	57	2
Pedestrians								1				
Lane Width (m)								3.7				
Walking Speed (m/s)								1.1				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								223				
pX, platoon unblocked												
vC, conflicting volume	101	261	30	180	186	86	59			171		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	101	261	30	180	186	86	59			171		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	97	99	73	100	100	99			99		
cM capacity (veh/h)	866	640	1042	735	705	963	1558			1418		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	34	195	2	8	12	159	8	38	21
Volume Left	2	195	0	8	0	0	8	0	0
Volume Right	15	0	2	0	0	153	0	0	2
cSH	786	735	963	1558	1700	1700	1418	1700	1700
Volume to Capacity	0.04	0.27	0.00	0.01	0.01	0.09	0.01	0.02	0.01
Queue Length 95th (m)	1.0	8.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0
Control Delay (s)	9.8	11.7	8.7	7.3	0.0	0.0	7.6	0.0	0.0
Lane LOS	A	B	A	A			A		
Approach Delay (s)	9.8	11.6		0.3			0.9		
Approach LOS	A	B							

Intersection Summary				
Average Delay	5.7			
Intersection Capacity Utilization	29.1%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	3579	0	1883	1883	0	0	1883	0	0	1883	0
Flt Permitted												
Satd. Flow (perm)	0	3579	0	1883	1883	0	0	1883	0	0	1883	0
Link Speed (k/h)		50			48			48			50	
Link Distance (m)		152.4			237.0			95.7			60.6	
Travel Time (s)		11.0			17.8			7.2			4.4	
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)	0	0	0	0	0	0	0	0	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			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)	97		24	97		14	14		97	24		97
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					237							
pX, platoon unblocked												
vC, conflicting volume	0			0			0	0	0	0	0	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			0	0	0	0	0	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1622			1622			1023	896	1084	1023	896	1084

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS					A	A
Approach Delay (s)	0.0		0.0		0.0	0.0
Approach LOS					A	A

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	0.0%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	3579	3579	0
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	3579	3579	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	66.3			283.4	152.4	
Travel Time (s)	5.0			20.4	11.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					390	
pX, platoon unblocked						
vC, conflicting volume	0	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1023	1084	1622			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0			0.0	
Approach LOS	A					

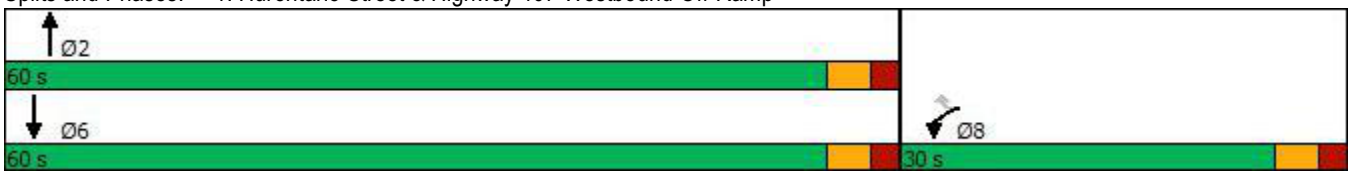
Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	0.0%	ICU Level of Service		A
Analysis Period (min)	15			

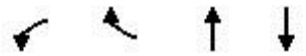
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	240	204	624	0	0	975
Future Volume (vph)	240	204	624	0	0	975
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	115.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Frt	0.968	0.850				
Flt Protected	0.962					
Satd. Flow (prot)	3312	1429	3476	0	0	3544
Flt Permitted	0.962					
Satd. Flow (perm)	3312	1429	3476	0	0	3544
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	39	148				
Link Speed (k/h)	60		60			60
Link Distance (m)	401.2		345.6			144.3
Travel Time (s)	24.1		20.7			8.7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	4%	5%	0%	0%	3%
Adj. Flow (vph)	255	217	664	0	0	1037
Shared Lane Traffic (%)		32%				
Lane Group Flow (vph)	324	148	664	0	0	1037
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	7.4		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	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0			5.0
Minimum Split (s)	23.0	23.0	23.0			23.0
Total Split (s)	30.0	30.0	60.0			60.0
Total Split (%)	33.3%	33.3%	66.7%			66.7%
Maximum Green (s)	25.0	25.0	55.0			55.0
Yellow Time (s)	3.0	3.0	3.0			3.0
All-Red Time (s)	2.0	2.0	2.0			2.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	Max			Max
Walk Time (s)	7.0	7.0	7.0			7.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	11.9	11.9	55.1			55.1
Actuated g/C Ratio	0.15	0.15	0.72			0.72
v/c Ratio	0.60	0.43	0.27			0.41
Control Delay	31.2	9.5	4.4			5.3
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	31.2	9.5	4.4			5.3
LOS	C	A	A			A
Approach Delay	24.4		4.4			5.3
Approach LOS	C		A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 77			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 9.2		Intersection LOS: A	
Intersection Capacity Utilization 46.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & Highway 407 Westbound Off-Ramp





Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	324	148	664	1037
v/c Ratio	0.60	0.43	0.27	0.41
Control Delay	31.2	9.5	4.4	5.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	31.2	9.5	4.4	5.3
Queue Length 50th (m)	20.0	0.0	14.4	26.0
Queue Length 95th (m)	31.9	15.7	24.7	42.5
Internal Link Dist (m)	377.2		321.6	120.3
Turn Bay Length (m)		115.0		
Base Capacity (vph)	1103	564	2486	2535
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.29	0.26	0.27	0.41

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	240	204	624	0	0	975
Future Volume (vph)	240	204	624	0	0	975
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0			5.0
Lane Util. Factor	0.97	0.91	0.95			0.95
Frt	0.97	0.85	1.00			1.00
Flt Protected	0.96	1.00	1.00			1.00
Satd. Flow (prot)	3313	1429	3476			3544
Flt Permitted	0.96	1.00	1.00			1.00
Satd. Flow (perm)	3313	1429	3476			3544
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	255	217	664	0	0	1037
RTOR Reduction (vph)	33	125	0	0	0	0
Lane Group Flow (vph)	291	23	664	0	0	1037
Heavy Vehicles (%)	5%	4%	5%	0%	0%	3%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	11.9	11.9	55.1			55.1
Effective Green, g (s)	11.9	11.9	55.1			55.1
Actuated g/C Ratio	0.15	0.15	0.72			0.72
Clearance Time (s)	5.0	5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	512	220	2487			2536
v/s Ratio Prot	c0.09		0.19			c0.29
v/s Ratio Perm		0.02				
v/c Ratio	0.57	0.10	0.27			0.41
Uniform Delay, d1	30.2	28.0	3.8			4.4
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	1.5	0.2	0.3			0.5
Delay (s)	31.6	28.2	4.1			4.9
Level of Service	C	C	A			A
Approach Delay (s)	30.5		4.1			4.9
Approach LOS	C		A			A

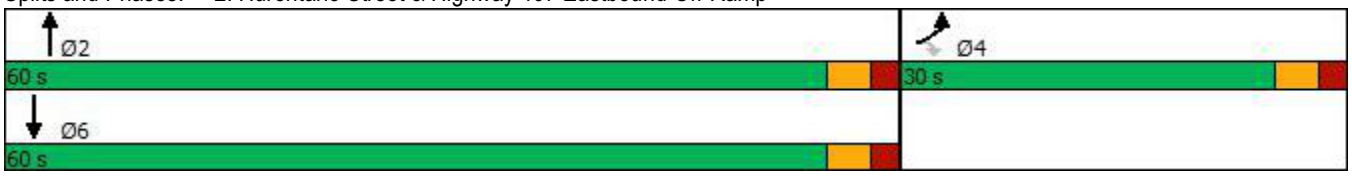
Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	77.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

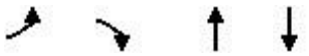
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	96	193	0	573	952	0
Future Volume (vph)	96	193	0	573	952	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	95.0	0.0			0.0
Storage Lanes	2	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3506	1526	0	3444	3510	0
Flt Permitted	0.950					
Satd. Flow (perm)	3506	1526	0	3444	3510	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		122				
Link Speed (k/h)	60			60	60	
Link Distance (m)	401.8			373.3	345.6	
Travel Time (s)	24.1			22.4	20.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	7%	0%	6%	4%	0%
Adj. Flow (vph)	102	205	0	610	1013	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	102	205	0	610	1013	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.4			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
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	6.1	6.1		30.5	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	6.1		1.8	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Permitted Phases		4				
Detector Phase	4	4		2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0		23.0	23.0	
Total Split (s)	30.0	30.0		60.0	60.0	
Total Split (%)	33.3%	33.3%		66.7%	66.7%	
Maximum Green (s)	25.0	25.0		55.0	55.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Recall Mode	None	None		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	10.3	10.3		57.1	57.1	
Actuated g/C Ratio	0.13	0.13		0.74	0.74	
v/c Ratio	0.22	0.66		0.24	0.39	
Control Delay	29.6	24.1		4.0	4.7	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	29.6	24.1		4.0	4.7	
LOS	C	C		A	A	
Approach Delay	25.9			4.0	4.7	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 77.4			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 7.9		Intersection LOS: A	
Intersection Capacity Utilization 46.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Hurontario Street & Highway 407 Eastbound Off-Ramp





Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	102	205	610	1013
v/c Ratio	0.22	0.66	0.24	0.39
Control Delay	29.6	24.1	4.0	4.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	29.6	24.1	4.0	4.7
Queue Length 50th (m)	6.7	10.9	11.2	21.6
Queue Length 95th (m)	12.9	30.2	23.5	43.1
Internal Link Dist (m)	377.8		349.3	321.6
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1134	576	2539	2588
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	0.09	0.36	0.24	0.39

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	96	193	0	573	952	0
Future Volume (vph)	96	193	0	573	952	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	1.00		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3506	1526		3444	3510	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3506	1526		3444	3510	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	102	205	0	610	1013	0
RTOR Reduction (vph)	0	106	0	0	0	0
Lane Group Flow (vph)	102	99	0	610	1013	0
Heavy Vehicles (%)	1%	7%	0%	6%	4%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	10.3	10.3		57.1	57.1	
Effective Green, g (s)	10.3	10.3		57.1	57.1	
Actuated g/C Ratio	0.13	0.13		0.74	0.74	
Clearance Time (s)	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	466	203		2540	2589	
v/s Ratio Prot	0.03			0.18	c0.29	
v/s Ratio Perm		c0.07				
v/c Ratio	0.22	0.49		0.24	0.39	
Uniform Delay, d1	30.0	31.1		3.2	3.7	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	1.9		0.2	0.4	
Delay (s)	30.2	33.0		3.5	4.2	
Level of Service	C	C		A	A	
Approach Delay (s)	32.0			3.5	4.2	
Approach LOS	C			A	A	

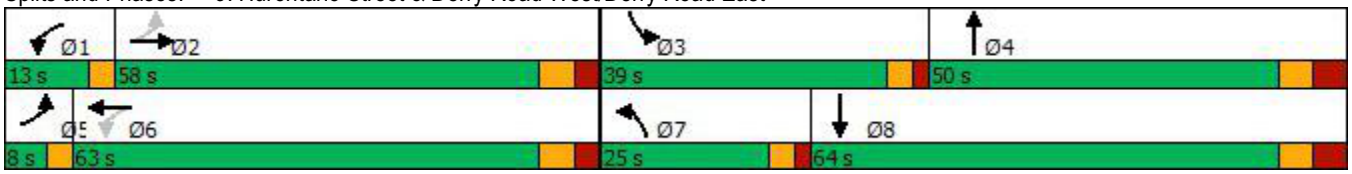
Intersection Summary			
HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	77.4	Sum of lost time (s)	10.0
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	1443	9	52	953	199	45	205	39	364	388	155
Future Volume (vph)	74	1443	9	52	953	199	45	205	39	364	388	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		0.0	185.0		0.0	55.0		0.0	100.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00		1.00	0.99		0.96	0.99		0.98	0.97	
Frt		0.999			0.974			0.976			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1690	4985	0	1615	4537	0	1738	3021	0	1755	3154	0
Flt Permitted	0.158			0.077			0.950			0.950		
Satd. Flow (perm)	280	4985	0	130	4537	0	1666	3021	0	1727	3154	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			31			13			41	
Link Speed (k/h)		70			70			60			60	
Link Distance (m)		331.5			999.3			126.9			189.0	
Travel Time (s)		17.0			51.4			7.6			11.3	
Confl. Peds. (#/hr)	27		46	46		27	77		19	19		77
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	5%	14%	13%	13%	6%	5%	13%	40%	4%	7%	9%
Adj. Flow (vph)	76	1488	9	54	982	205	46	211	40	375	400	160
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	1497	0	54	1187	0	46	251	0	375	560	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	8.0	51.4		8.0	51.4		13.0	49.4		13.0	49.4	
Total Split (s)	8.0	58.0		13.0	63.0		25.0	50.0		39.0	64.0	
Total Split (%)	5.0%	36.3%		8.1%	39.4%		15.6%	31.3%		24.4%	40.0%	
Maximum Green (s)	5.0	50.6		10.0	55.6		20.0	41.6		34.0	55.6	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	3.2		0.0	3.2		2.0	4.4		2.0	4.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		13.0			13.0			12.0			12.0	
Flash Dont Walk (s)		31.0			31.0			29.0			29.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	63.1	54.7		67.3	55.6		9.5	15.8		34.0	43.1	
Actuated g/C Ratio	0.47	0.41		0.50	0.41		0.07	0.12		0.25	0.32	
v/c Ratio	0.41	0.74		0.36	0.63		0.38	0.68		0.84	0.54	
Control Delay	25.7	37.5		24.5	32.3		69.1	63.7		66.1	37.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	25.7	37.5		24.5	32.3		69.1	63.7		66.1	37.7	
LOS	C	D		C	C		E	E		E	D	
Approach Delay		37.0			32.0			64.5			49.1	
Approach LOS		D			C			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 134.3			
Natural Cycle: 145			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 40.3		Intersection LOS: D	
Intersection Capacity Utilization 101.5%		ICU Level of Service G	
Analysis Period (min) 15			

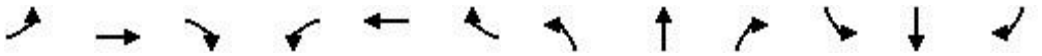
Splits and Phases: 3: Hurontario Street & Derry Road West/Derry Road East



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	76	1497	54	1187	46	251	375	560
v/c Ratio	0.41	0.74	0.36	0.63	0.38	0.68	0.84	0.54
Control Delay	25.7	37.5	24.5	32.3	69.1	63.7	66.1	37.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.7	37.5	24.5	32.3	69.1	63.7	66.1	37.7
Queue Length 50th (m)	10.1	124.5	7.1	87.7	11.9	32.3	94.9	60.8
Queue Length 95th (m)	20.0	155.5	15.2	109.5	25.1	46.8	#153.0	82.0
Internal Link Dist (m)		307.5		975.3		102.9		165.0
Turn Bay Length (m)	150.0		185.0		55.0		100.0	
Base Capacity (vph)	184	2030	176	1897	259	945	444	1330
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	0.41	0.74	0.31	0.63	0.18	0.27	0.84	0.42

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	1443	9	52	953	199	45	205	39	364	388	155
Future Volume (vph)	74	1443	9	52	953	199	45	205	39	364	388	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.97		1.00	0.98		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)	1689	4986		1615	4541		1738	3023		1755	3167	
Flt Permitted	0.16	1.00		0.08	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	281	4986		130	4541		1738	3023		1755	3167	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	76	1488	9	54	982	205	46	211	40	375	400	160
RTOR Reduction (vph)	0	1	0	0	18	0	0	11	0	0	28	0
Lane Group Flow (vph)	76	1496	0	54	1169	0	46	240	0	375	532	0
Confl. Peds. (#/hr)	27		46	46		27	77		19	19		77
Heavy Vehicles (%)	8%	5%	14%	13%	13%	6%	5%	13%	40%	4%	7%	9%
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Actuated Green, G (s)	59.7	54.7		62.9	56.3		7.8	16.9		34.0	43.1	
Effective Green, g (s)	59.7	54.7		62.9	56.3		7.8	16.9		34.0	43.1	
Actuated g/C Ratio	0.44	0.40		0.46	0.41		0.06	0.12		0.25	0.32	
Clearance Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	175	2005		132	1879		99	375		438	1003	
v/s Ratio Prot	0.02	c0.30		c0.02	0.26		0.03	c0.08		c0.21	0.17	
v/s Ratio Perm	0.17			0.17								
v/c Ratio	0.43	0.75		0.41	0.62		0.46	0.64		0.86	0.53	
Uniform Delay, d1	23.6	34.7		24.4	31.5		62.1	56.6		48.7	38.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.7	2.6		2.1	1.6		3.4	3.6		15.1	0.5	
Delay (s)	25.4	37.3		26.4	33.0		65.5	60.2		63.7	38.7	
Level of Service	C	D		C	C		E	E		E	D	
Approach Delay (s)		36.7			32.7			61.0			48.7	
Approach LOS		D			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	40.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	23.8
Intersection Capacity Utilization	101.5%	ICU Level of Service	G
Analysis Period (min)	15		

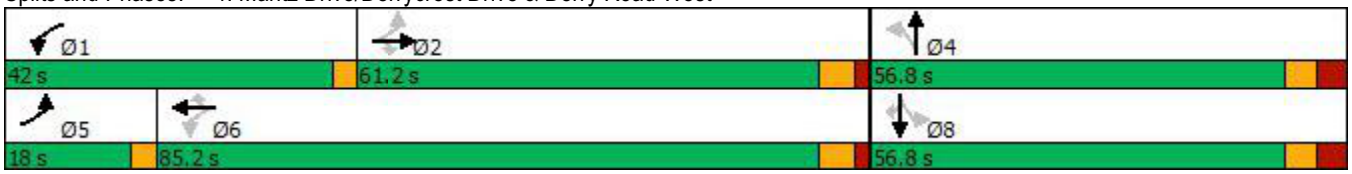
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	198	1377	575	401	711	47	92	57	94	16	49	71
Future Volume (vph)	198	1377	575	401	711	47	92	57	94	16	49	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	55.0		30.0	0.0		0.0	100.0		0.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97			0.99	1.00	0.99		1.00		0.99
Frt			0.850			0.850		0.907				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5043	1633	1484	4601	1585	1722	1493	0	1521	1883	1541
Flt Permitted	0.353			0.090			0.723			0.517		
Satd. Flow (perm)	665	5043	1586	141	4601	1564	1308	1493	0	826	1883	1519
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116			52		53				76
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		443.5			331.5			130.4			222.4	
Travel Time (s)		22.8			17.0			9.4			16.0	
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	4%	0%	23%	14%	3%	6%	2%	24%	20%	2%	6%
Adj. Flow (vph)	211	1465	612	427	756	50	98	61	100	17	52	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	211	1465	612	427	756	50	98	161	0	17	52	76
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		8
Detector Phase	5	2	2	1	6	6	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	7.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	8.0	41.2	41.2	10.0	41.2	41.2	56.7	56.7		56.7	56.7	56.7
Total Split (s)	18.0	61.2	61.2	42.0	85.2	85.2	56.8	56.8		56.8	56.8	56.8
Total Split (%)	11.3%	38.3%	38.3%	26.3%	53.3%	53.3%	35.5%	35.5%		35.5%	35.5%	35.5%
Maximum Green (s)	15.0	55.0	55.0	39.0	79.0	79.0	49.1	49.1		49.1	49.1	49.1
Yellow Time (s)	3.0	4.2	4.2	3.0	4.2	4.2	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	3.7	3.7		3.7	3.7	3.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0	10.0	10.0	10.0		10.0	10.0	10.0
Flash Dont Walk (s)		25.0	25.0		25.0	25.0	39.0	39.0		39.0	39.0	39.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0		0	0	0
Act Effct Green (s)	67.4	55.0	55.0	100.3	85.0	85.0	15.2	15.2		15.2	15.2	15.2
Actuated g/C Ratio	0.53	0.44	0.44	0.79	0.67	0.67	0.12	0.12		0.12	0.12	0.12
v/c Ratio	0.48	0.67	0.81	0.81	0.24	0.05	0.62	0.71		0.17	0.23	0.31
Control Delay	13.6	30.6	35.3	42.5	8.9	2.5	69.9	52.8		53.0	52.0	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	13.6	30.6	35.3	42.5	8.9	2.5	69.9	52.8		53.0	52.0	13.7
LOS	B	C	D	D	A	A	E	D		D	D	B
Approach Delay		30.3			20.3			59.3			32.0	
Approach LOS		C			C			E			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 126.2			
Natural Cycle: 150			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 29.1		Intersection LOS: C	
Intersection Capacity Utilization 83.6%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4: Maritz Drive/Derrycrest Drive & Derry Road West



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	211	1465	612	427	756	50	98	161	17	52	76
v/c Ratio	0.48	0.67	0.81	0.81	0.24	0.05	0.62	0.71	0.17	0.23	0.31
Control Delay	13.6	30.6	35.3	42.5	8.9	2.5	69.9	52.8	53.0	52.0	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	30.6	35.3	42.5	8.9	2.5	69.9	52.8	53.0	52.0	13.7
Queue Length 50th (m)	13.7	103.0	107.6	76.3	23.9	0.0	23.5	26.1	3.9	11.9	0.0
Queue Length 95th (m)	20.6	132.2	#188.4	#142.6	38.7	4.6	41.8	49.5	11.0	24.2	13.8
Internal Link Dist (m)		419.5			307.5			106.4		198.4	
Turn Bay Length (m)	50.0		15.0	55.0		30.0			100.0		
Base Capacity (vph)	519	2199	757	527	3097	1070	509	613	321	733	637
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.67	0.81	0.81	0.24	0.05	0.19	0.26	0.05	0.07	0.12

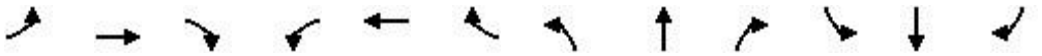
Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	198	1377	575	401	711	47	92	57	94	16	49	71
Future Volume (vph)	198	1377	575	401	711	47	92	57	94	16	49	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.99	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1789	5043	1589	1484	4601	1565	1719	1493		1518	1883	1520
Flt Permitted	0.35	1.00	1.00	0.09	1.00	1.00	0.72	1.00		0.52	1.00	1.00
Satd. Flow (perm)	665	5043	1589	141	4601	1565	1309	1493		826	1883	1520
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	211	1465	612	427	756	50	98	61	100	17	52	76
RTOR Reduction (vph)	0	0	65	0	0	16	0	47	0	0	0	67
Lane Group Flow (vph)	211	1465	547	427	756	34	98	114	0	17	52	9
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Heavy Vehicles (%)	2%	4%	0%	23%	14%	3%	6%	2%	24%	20%	2%	6%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		8
Actuated Green, G (s)	64.2	55.1	55.1	97.1	85.0	85.0	15.2	15.2		15.2	15.2	15.2
Effective Green, g (s)	64.2	55.1	55.1	97.1	85.0	85.0	15.2	15.2		15.2	15.2	15.2
Actuated g/C Ratio	0.51	0.44	0.44	0.77	0.67	0.67	0.12	0.12		0.12	0.12	0.12
Clearance Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	419	2201	693	523	3098	1054	157	179		99	226	183
v/s Ratio Prot	0.04	0.29		c0.25	0.16			c0.08			0.03	
v/s Ratio Perm	0.22		0.34	c0.38		0.02	0.07			0.02		0.01
v/c Ratio	0.50	0.67	0.79	0.82	0.24	0.03	0.62	0.64		0.17	0.23	0.05
Uniform Delay, d1	22.3	28.2	30.6	30.8	8.0	6.9	52.8	52.9		49.8	50.2	49.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.0	1.6	8.9	9.6	0.2	0.1	7.5	7.3		0.8	0.5	0.1
Delay (s)	23.3	29.8	39.4	40.3	8.2	6.9	60.3	60.2		50.7	50.7	49.2
Level of Service	C	C	D	D	A	A	E	E		D	D	D
Approach Delay (s)		31.8			19.3			60.2			49.9	
Approach LOS		C			B			E			D	

Intersection Summary			
HCM 2000 Control Delay	30.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	126.2	Sum of lost time (s)	16.9
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

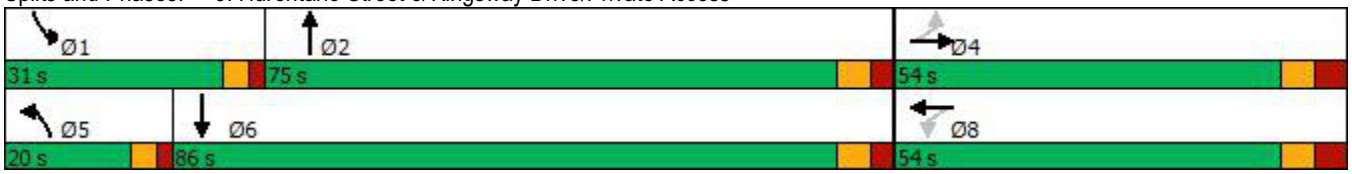


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	0	16	2	5	0	22	481	9	4	887	103
Future Volume (vph)	97	0	16	2	5	0	22	481	9	4	887	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	0.0		0.0	20.0		0.0	30.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor	1.00						1.00	1.00		1.00	1.00	
Frt		0.850						0.997			0.984	
Flt Protected	0.950				0.986		0.950			0.950		
Satd. Flow (prot)	1789	1633	0	0	1894	0	1722	3342	0	1825	3426	0
Flt Permitted	0.753				0.926		0.950			0.950		
Satd. Flow (perm)	1415	1633	0	0	1779	0	1720	3342	0	1824	3426	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		256						1			11	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		318.7			138.1			189.0			440.6	
Travel Time (s)		22.9			9.9			11.3			26.4	
Confl. Peds. (#/hr)	2					2	2		1	1		2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	6%	9%	0%	0%	5%	1%
Adj. Flow (vph)	102	0	17	2	5	0	23	506	9	4	934	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	102	17	0	0	7	0	23	515	0	4	1042	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	52.0	52.0		52.0	52.0		13.0	58.0		13.0	58.0	
Total Split (s)	54.0	54.0		54.0	54.0		20.0	75.0		31.0	86.0	
Total Split (%)	33.8%	33.8%		33.8%	33.8%		12.5%	46.9%		19.4%	53.8%	
Maximum Green (s)	46.0	46.0		46.0	46.0		15.0	68.0		26.0	79.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		2.0	3.0		2.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	13.0	13.0		13.0	13.0			15.0			15.0	
Flash Dont Walk (s)	31.0	31.0		31.0	31.0			36.0			36.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	13.9	13.9			13.9		8.3	88.4		8.0	83.1	
Actuated g/C Ratio	0.12	0.12			0.12		0.07	0.74		0.07	0.69	
v/c Ratio	0.62	0.04			0.03		0.19	0.21		0.03	0.44	
Control Delay	67.2	0.2			47.0		58.7	6.0		56.0	10.1	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	67.2	0.2			47.0		58.7	6.0		56.0	10.1	
LOS	E	A			D		E	A		E	B	
Approach Delay		57.6			47.0			8.3			10.3	
Approach LOS		E			D			A			B	

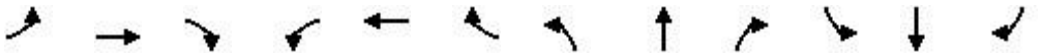
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 119.8			
Natural Cycle: 125			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 13.1		Intersection LOS: B	
Intersection Capacity Utilization 67.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: Hurontario Street & Kingsway Drive/Private Access



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	102	17	7	23	515	4	1042
v/c Ratio	0.62	0.04	0.03	0.19	0.21	0.03	0.44
Control Delay	67.2	0.2	47.0	58.7	6.0	56.0	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.2	0.2	47.0	58.7	6.0	56.0	10.1
Queue Length 50th (m)	23.5	0.0	1.5	5.3	15.5	0.9	59.1
Queue Length 95th (m)	42.0	0.0	5.9	14.6	37.0	4.6	86.9
Internal Link Dist (m)		294.7	114.1		165.0		416.6
Turn Bay Length (m)	40.0			20.0		30.0	
Base Capacity (vph)	544	786	684	216	2466	397	2378
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	0.19	0.02	0.01	0.11	0.21	0.01	0.44

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	0	16	2	5	0	22	481	9	4	887	103
Future Volume (vph)	97	0	16	2	5	0	22	481	9	4	887	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			1.00		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1786	1633			1894		1722	3344		1825	3428	
Flt Permitted	0.75	1.00			0.93		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1416	1633			1778		1722	3344		1825	3428	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	102	0	17	2	5	0	23	506	9	4	934	108
RTOR Reduction (vph)	0	15	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	102	2	0	0	7	0	23	515	0	4	1039	0
Confl. Peds. (#/hr)	2					2	2		1	1		2
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	6%	9%	0%	0%	5%	1%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	13.9	13.9			13.9		4.9	88.4		1.5	85.0	
Effective Green, g (s)	13.9	13.9			13.9		4.9	88.4		1.5	85.0	
Actuated g/C Ratio	0.11	0.11			0.11		0.04	0.71		0.01	0.69	
Clearance Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	158	183			199		68	2387		22	2353	
v/s Ratio Prot		0.00					c0.01	c0.15		0.00	c0.30	
v/s Ratio Perm	c0.07				0.00							
v/c Ratio	0.65	0.01			0.04		0.34	0.22		0.18	0.44	
Uniform Delay, d1	52.6	48.8			49.0		57.9	6.0		60.5	8.7	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.7	0.0			0.1		2.9	0.2		4.0	0.6	
Delay (s)	61.3	48.9			49.0		60.8	6.2		64.5	9.3	
Level of Service	E	D			D		E	A		E	A	
Approach Delay (s)		59.5			49.0			8.5			9.5	
Approach LOS		E			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	123.8	Sum of lost time (s)	20.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

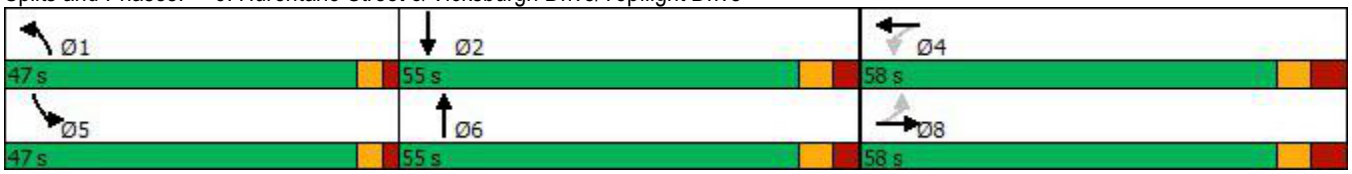
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	3	10	14	1	143	62	487	28	140	993	48
Future Volume (vph)	12	3	10	14	1	143	62	487	28	140	993	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	0.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor	1.00				0.99			1.00		1.00		
Frt		0.882			0.878			0.992			0.993	
Flt Protected	0.950				0.996		0.950			0.950		
Satd. Flow (prot)	1825	1694	0	0	1495	0	1825	3373	0	1690	3491	0
Flt Permitted	0.522				0.966		0.950			0.950		
Satd. Flow (perm)	1000	1694	0	0	1450	0	1825	3373	0	1686	3491	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			154			4			3	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		237.0			253.7			440.6			373.3	
Travel Time (s)		17.1			18.3			26.4			22.4	
Confl. Peds. (#/hr)	4					4			2	2		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	50%	0%	7%	0%	6%	28%	8%	4%	0%
Adj. Flow (vph)	13	3	11	15	1	154	67	524	30	151	1068	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	14	0	0	170	0	67	554	0	151	1120	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		8.0	8.0	
Minimum Split (s)	58.0	58.0		58.0	58.0		47.0	55.0		47.0	55.0	
Total Split (s)	58.0	58.0		58.0	58.0		47.0	55.0		47.0	55.0	
Total Split (%)	36.3%	36.3%		36.3%	36.3%		29.4%	34.4%		29.4%	34.4%	
Maximum Green (s)	49.5	49.5		49.5	49.5		42.0	47.5		42.0	47.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.5	4.5		4.5	4.5		2.0	3.5		2.0	3.5	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	14.0	14.0		14.0	14.0			9.0			9.0	
Flash Dont Walk (s)	35.0	35.0		35.0	35.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	9.1	9.1			9.1		8.8	47.6		13.4	54.6	
Actuated g/C Ratio	0.10	0.10			0.10		0.10	0.52		0.15	0.60	
v/c Ratio	0.13	0.08			0.60		0.38	0.31		0.61	0.54	
Control Delay	41.7	23.7			18.4		45.7	13.6		47.5	13.1	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	41.7	23.7			18.4		45.7	13.6		47.5	13.1	
LOS	D	C			B		D	B		D	B	
Approach Delay		32.3			18.4			17.1			17.2	
Approach LOS		C			B			B			B	

Intersection Summary

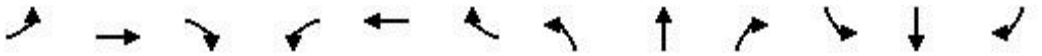
Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 91.2
Natural Cycle: 160
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.61
Intersection Signal Delay: 17.5 Intersection LOS: B
Intersection Capacity Utilization 70.8% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Hurontario Street & Vicksburgh Drive/Topflight Drive



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	13	14	170	67	554	151	1120
v/c Ratio	0.13	0.08	0.60	0.38	0.31	0.61	0.54
Control Delay	41.7	23.7	18.4	45.7	13.6	47.5	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.7	23.7	18.4	45.7	13.6	47.5	13.1
Queue Length 50th (m)	2.1	0.5	2.6	11.0	26.4	24.7	57.9
Queue Length 95th (m)	7.9	6.1	21.8	24.8	45.9	45.7	92.2
Internal Link Dist (m)		213.0	229.7		416.6		349.3
Turn Bay Length (m)	25.0			25.0		35.0	
Base Capacity (vph)	544	927	859	842	1763	780	2091
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	0.02	0.02	0.20	0.08	0.31	0.19	0.54

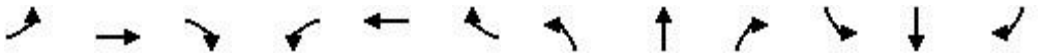
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	3	10	14	1	143	62	487	28	140	993	48
Future Volume (vph)	12	3	10	14	1	143	62	487	28	140	993	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.88			0.88		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1822	1695			1496		1825	3373		1690	3492	
Flt Permitted	0.52	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1002	1695			1452		1825	3373		1690	3492	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	13	3	11	15	1	154	67	524	30	151	1068	52
RTOR Reduction (vph)	0	10	0	0	139	0	0	2	0	0	1	0
Lane Group Flow (vph)	13	4	0	0	31	0	67	552	0	151	1119	0
Confl. Peds. (#/hr)	4					4			2	2		
Heavy Vehicles (%)	0%	0%	0%	50%	0%	7%	0%	6%	28%	8%	4%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)	9.1	9.1			9.1		7.5	48.7		13.4	54.6	
Effective Green, g (s)	9.1	9.1			9.1		7.5	48.7		13.4	54.6	
Actuated g/C Ratio	0.10	0.10			0.10		0.08	0.53		0.15	0.59	
Clearance Time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	98	167			143		148	1781		245	2067	
v/s Ratio Prot		0.00					0.04	0.16		c0.09	c0.32	
v/s Ratio Perm	0.01				c0.02							
v/c Ratio	0.13	0.02			0.22		0.45	0.31		0.62	0.54	
Uniform Delay, d1	37.9	37.5			38.3		40.4	12.3		37.0	11.3	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.1			0.8		2.2	0.5		4.6	1.0	
Delay (s)	38.6	37.6			39.0		42.6	12.7		41.5	12.3	
Level of Service	D	D			D		D	B		D	B	
Approach Delay (s)		38.1			39.0			15.9			15.8	
Approach LOS		D			D			B			B	

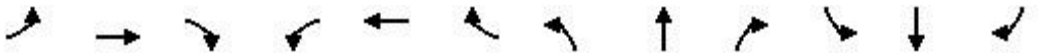
Intersection Summary			
HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	92.2	Sum of lost time (s)	21.0
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	2	102	10	2	23	120	137	2	30	1
Future Volume (vph)	0	0	2	102	10	2	23	120	137	2	30	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	15.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	0		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		0.865			0.977			0.920			0.996	
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	1662	0	1772	1877	0	1825	3340	0	1825	3636	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	1662	0	1772	1877	0	1825	3340	0	1825	3636	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		62.9			318.7			222.4			283.4	
Travel Time (s)		4.5			22.9			16.0			20.4	
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
Heavy Vehicles (%)	0%	0%	0%	3%	0%	0%	0%	0%	1%	0%	0%	0%
Adj. Flow (vph)	0	0	2	111	11	2	25	130	149	2	33	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	0	111	13	0	25	279	0	2	34	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

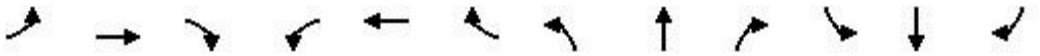
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	2	102	10	2	23	120	137	2	30	1
Future Volume (Veh/h)	0	0	2	102	10	2	23	120	137	2	30	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	2	111	11	2	25	130	149	2	33	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								223				
pX, platoon unblocked												
vC, conflicting volume	160	366	17	277	292	140	34			279		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	160	366	17	277	292	140	34			279		
tC, single (s)	7.5	6.5	6.9	7.6	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	83	98	100	98			100		
cM capacity (veh/h)	773	556	1064	641	611	889	1591			1295		

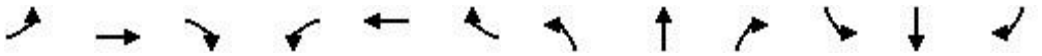
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	2	111	13	25	87	192	2	22	12
Volume Left	0	111	0	25	0	0	2	0	0
Volume Right	2	0	2	0	0	149	0	0	1
cSH	1064	641	642	1591	1700	1700	1295	1700	1700
Volume to Capacity	0.00	0.17	0.02	0.02	0.05	0.11	0.00	0.01	0.01
Queue Length 95th (m)	0.0	4.7	0.5	0.4	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	8.4	11.8	10.7	7.3	0.0	0.0	7.8	0.0	0.0
Lane LOS	A	B	B	A			A		
Approach Delay (s)	8.4	11.7		0.6			0.4		
Approach LOS	A	B							

Intersection Summary				
Average Delay	3.6			
Intersection Capacity Utilization	26.9%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	10	0	0	0	0	61	0	0	0
Future Volume (vph)	0	0	0	10	0	0	0	0	61	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.865				
Flt Protected				0.950								
Satd. Flow (prot)	0	3579	0	1789	1883	0	0	1629	0	0	1883	0
Flt Permitted				0.950								
Satd. Flow (perm)	0	3579	0	1789	1883	0	0	1629	0	0	1883	0
Link Speed (k/h)		50			48			48			50	
Link Distance (m)		152.4			237.0			95.7			60.6	
Travel Time (s)		11.0			17.8			7.2			4.4	
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)	0	0	0	11	0	0	0	0	66	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	11	0	0	0	66	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			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)	97		24	97		14	14		97	24		97
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	10	0	0	0	0	61	0	0	0
Future Volume (Veh/h)	0	0	0	10	0	0	0	0	61	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	11	0	0	0	0	66	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					237							
pX, platoon unblocked												
vC, conflicting volume	0			0			22	22	0	88	22	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			22	22	0	88	22	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	94	100	100	100
cM capacity (veh/h)	1622			1622			982	865	1084	829	865	1084

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	0	0	11	0	66	0
Volume Left	0	0	11	0	0	0
Volume Right	0	0	0	0	66	0
cSH	1700	1700	1622	1700	1084	1700
Volume to Capacity	0.00	0.00	0.01	0.00	0.06	0.00
Queue Length 95th (m)	0.0	0.0	0.2	0.0	1.5	0.0
Control Delay (s)	0.0	0.0	7.2	0.0	8.5	0.0
Lane LOS			A		A	A
Approach Delay (s)	0.0		7.2		8.5	0.0
Approach LOS					A	A

Intersection Summary				
Average Delay	8.3			
Intersection Capacity Utilization	13.8%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	61	10	0
Future Volume (vph)	0	0	0	61	10	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	3579	3579	0
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	3579	3579	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	66.3			283.4	152.4	
Travel Time (s)	5.0			20.4	11.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	66	11	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	66	11	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 6.7%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	61	10	0
Future Volume (Veh/h)	0	0	0	61	10	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	66	11	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)					390	
pX, platoon unblocked						
vC, conflicting volume	44	6	11			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	44	6	11			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	961	1076	1607			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	0	33	33	7	4
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.02	0.02	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0			0.0	
Approach LOS	A					

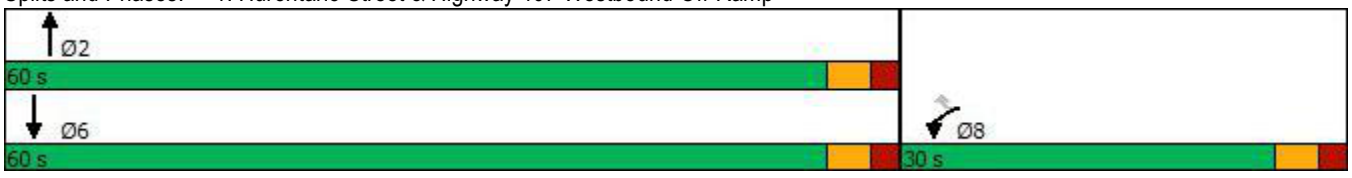
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

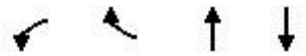
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	146	320	1221	0	0	702
Future Volume (vph)	146	320	1221	0	0	702
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	115.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Frt	0.922	0.850				
Flt Protected	0.977					
Satd. Flow (prot)	3133	1486	3579	0	0	3544
Flt Permitted	0.977					
Satd. Flow (perm)	3133	1486	3579	0	0	3544
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	70	70				
Link Speed (k/h)	60		60			60
Link Distance (m)	401.2		345.6			144.3
Travel Time (s)	24.1		20.7			8.7
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	15%	0%	2%	0%	0%	3%
Adj. Flow (vph)	151	330	1259	0	0	724
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	316	165	1259	0	0	724
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	7.4		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	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0			5.0
Minimum Split (s)	23.0	23.0	23.0			23.0
Total Split (s)	30.0	30.0	60.0			60.0
Total Split (%)	33.3%	33.3%	66.7%			66.7%
Maximum Green (s)	25.0	25.0	55.0			55.0
Yellow Time (s)	3.0	3.0	3.0			3.0
All-Red Time (s)	2.0	2.0	2.0			2.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	Max			Max
Walk Time (s)	7.0	7.0	7.0			7.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	11.6	11.6	55.1			55.1
Actuated g/C Ratio	0.15	0.15	0.72			0.72
v/c Ratio	0.59	0.58	0.49			0.28
Control Delay	28.1	26.4	5.8			4.5
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	28.1	26.4	5.8			4.5
LOS	C	C	A			A
Approach Delay	27.5		5.8			4.5
Approach LOS	C		A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 76.7			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 9.7		Intersection LOS: A	
Intersection Capacity Utilization 55.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & Highway 407 Westbound Off-Ramp





Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	316	165	1259	724
v/c Ratio	0.59	0.58	0.49	0.28
Control Delay	28.1	26.4	5.8	4.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	28.1	26.4	5.8	4.5
Queue Length 50th (m)	17.1	13.9	33.1	15.4
Queue Length 95th (m)	28.7	33.2	57.7	28.1
Internal Link Dist (m)	377.2		321.6	120.3
Turn Bay Length (m)		115.0		
Base Capacity (vph)	1070	532	2571	2546
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	0.30	0.31	0.49	0.28

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	146	320	1221	0	0	702
Future Volume (vph)	146	320	1221	0	0	702
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0			5.0
Lane Util. Factor	0.97	0.91	0.95			0.95
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3131	1486	3579			3544
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3131	1486	3579			3544
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	151	330	1259	0	0	724
RTOR Reduction (vph)	59	59	0	0	0	0
Lane Group Flow (vph)	257	106	1259	0	0	724
Heavy Vehicles (%)	15%	0%	2%	0%	0%	3%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	11.6	11.6	55.1			55.1
Effective Green, g (s)	11.6	11.6	55.1			55.1
Actuated g/C Ratio	0.15	0.15	0.72			0.72
Clearance Time (s)	5.0	5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	473	224	2571			2545
v/s Ratio Prot	c0.08		c0.35			0.20
v/s Ratio Perm		0.07				
v/c Ratio	0.54	0.47	0.49			0.28
Uniform Delay, d1	30.1	29.7	4.7			3.8
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	1.3	1.6	0.7			0.3
Delay (s)	31.4	31.3	5.4			4.1
Level of Service	C	C	A			A
Approach Delay (s)	31.4		5.4			4.1
Approach LOS	C		A			A

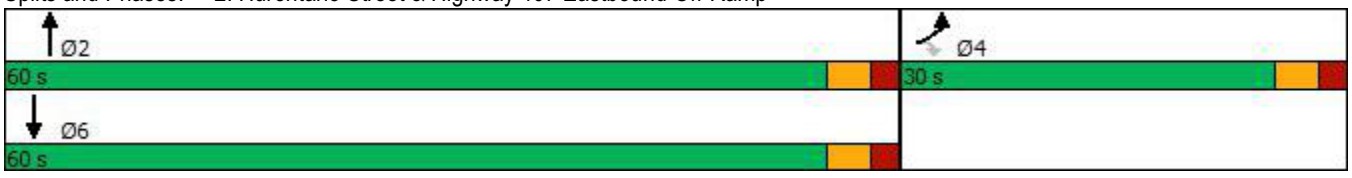
Intersection Summary			
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	76.7	Sum of lost time (s)	10.0
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

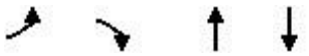
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	112	54	0	1272	620	0
Future Volume (vph)	112	54	0	1272	620	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	95.0	0.0			0.0
Storage Lanes	2	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3471	1384	0	3579	3476	0
Flt Permitted	0.950					
Satd. Flow (perm)	3471	1384	0	3579	3476	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		56				
Link Speed (k/h)	60			60	60	
Link Distance (m)	401.8			373.3	345.6	
Travel Time (s)	24.1			22.4	20.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	18%	0%	2%	5%	0%
Adj. Flow (vph)	115	56	0	1311	639	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	115	56	0	1311	639	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.4			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
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	6.1	6.1		30.5	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	6.1		1.8	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Permitted Phases		4				
Detector Phase	4	4		2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0		23.0	23.0	
Total Split (s)	30.0	30.0		60.0	60.0	
Total Split (%)	33.3%	33.3%		66.7%	66.7%	
Maximum Green (s)	25.0	25.0		55.0	55.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Recall Mode	None	None		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	7.9	7.9		61.5	61.5	
Actuated g/C Ratio	0.10	0.10		0.81	0.81	
v/c Ratio	0.32	0.29		0.45	0.23	
Control Delay	33.4	13.3		3.7	2.7	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	33.4	13.3		3.7	2.7	
LOS	C	B		A	A	
Approach Delay	26.8			3.7	2.7	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 76.1			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay: 5.3		Intersection LOS: A	
Intersection Capacity Utilization 55.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: Hurontario Street & Highway 407 Eastbound Off-Ramp





Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	115	56	1311	639
v/c Ratio	0.32	0.29	0.45	0.23
Control Delay	33.4	13.3	3.7	2.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	33.4	13.3	3.7	2.7
Queue Length 50th (m)	7.8	0.0	27.1	10.3
Queue Length 95th (m)	14.6	9.5	41.6	16.6
Internal Link Dist (m)	377.8		349.3	321.6
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1142	493	2890	2807
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	0.10	0.11	0.45	0.23

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	112	54	0	1272	620	0
Future Volume (vph)	112	54	0	1272	620	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	1.00		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3471	1384		3579	3476	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3471	1384		3579	3476	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	115	56	0	1311	639	0
RTOR Reduction (vph)	0	51	0	0	0	0
Lane Group Flow (vph)	115	5	0	1311	639	0
Heavy Vehicles (%)	2%	18%	0%	2%	5%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	6.7	6.7		60.4	60.4	
Effective Green, g (s)	6.7	6.7		60.4	60.4	
Actuated g/C Ratio	0.09	0.09		0.78	0.78	
Clearance Time (s)	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	301	120		2803	2723	
v/s Ratio Prot	c0.03			c0.37	0.18	
v/s Ratio Perm		0.00				
v/c Ratio	0.38	0.04		0.47	0.23	
Uniform Delay, d1	33.2	32.3		2.9	2.2	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.1		0.6	0.2	
Delay (s)	34.1	32.4		3.4	2.4	
Level of Service	C	C		A	A	
Approach Delay (s)	33.5			3.4	2.4	
Approach LOS	C			A	A	

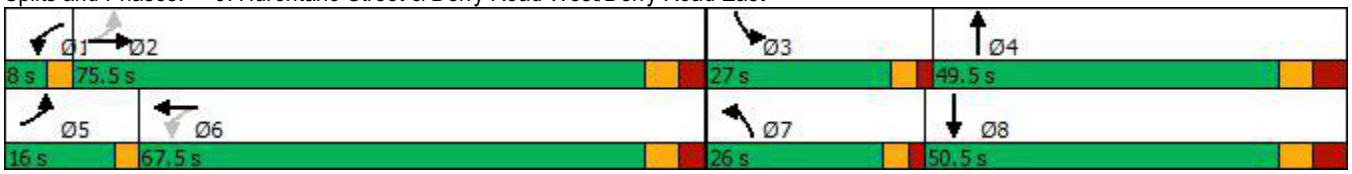
Intersection Summary			
HCM 2000 Control Delay	5.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	77.1	Sum of lost time (s)	10.0
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	817	24	55	1445	241	150	520	45	198	277	95
Future Volume (vph)	141	817	24	55	1445	241	150	520	45	198	277	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		0.0	185.0		0.0	55.0		0.0	100.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00		0.99	0.99		0.96	1.00		0.99	0.98	
Frt		0.996			0.979			0.988			0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1807	4796	0	1789	4973	0	1825	3411	0	1772	3192	0
Flt Permitted	0.062			0.314			0.950			0.950		
Satd. Flow (perm)	118	4796	0	583	4973	0	1758	3411	0	1751	3192	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			23			5			29	
Link Speed (k/h)		70			70			60			60	
Link Distance (m)		331.5			999.3			126.9			189.0	
Travel Time (s)		17.0			51.4			7.6			11.3	
Confl. Peds. (#/hr)	23		42	42		23	53		22	22		53
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	1%	9%	0%	2%	3%	1%	0%	4%	22%	3%	10%	2%
Adj. Flow (vph)	142	825	24	56	1460	243	152	525	45	200	280	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	142	849	0	56	1703	0	152	570	0	200	376	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	8.0	51.4		8.0	51.4		13.0	49.4		13.0	49.4	
Total Split (s)	16.0	75.5		8.0	67.5		26.0	49.5		27.0	50.5	
Total Split (%)	10.0%	47.2%		5.0%	42.2%		16.3%	30.9%		16.9%	31.6%	
Maximum Green (s)	13.0	68.1		5.0	60.1		21.0	41.1		22.0	42.1	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	3.2		0.0	3.2		2.0	4.4		2.0	4.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		13.0			13.0			12.0			12.0	
Flash Dont Walk (s)		31.0			31.0			29.0			29.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	79.8	69.2		70.5	61.1		16.7	30.0		19.9	33.2	
Actuated g/C Ratio	0.55	0.47		0.48	0.42		0.11	0.21		0.14	0.23	
v/c Ratio	0.73	0.37		0.17	0.81		0.73	0.81		0.83	0.50	
Control Delay	51.6	26.6		19.4	42.2		83.8	64.9		89.3	48.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	51.6	26.6		19.4	42.2		83.8	64.9		89.3	48.1	
LOS	D	C		B	D		F	E		F	D	
Approach Delay		30.2			41.5			68.9			62.5	
Approach LOS		C			D			E			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 146.2			
Natural Cycle: 125			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 46.6		Intersection LOS: D	
Intersection Capacity Utilization 103.8%		ICU Level of Service G	
Analysis Period (min) 15			

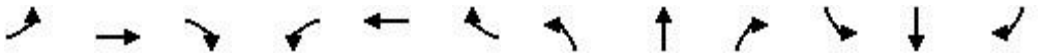
Splits and Phases: 3: Hurontario Street & Derry Road West/Derry Road East



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	142	849	56	1703	152	570	200	376
v/c Ratio	0.73	0.37	0.17	0.81	0.73	0.81	0.83	0.50
Control Delay	51.6	26.6	19.4	42.2	83.8	64.9	89.3	48.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.6	26.6	19.4	42.2	83.8	64.9	89.3	48.1
Queue Length 50th (m)	24.2	59.9	7.7	164.0	44.1	85.0	57.8	47.2
Queue Length 95th (m)	#56.7	78.9	16.7	202.5	70.8	105.8	#102.2	64.9
Internal Link Dist (m)		307.5		975.3		102.9		165.0
Turn Bay Length (m)	150.0		185.0		55.0		100.0	
Base Capacity (vph)	215	2270	322	2090	263	967	267	944
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	0.66	0.37	0.17	0.81	0.58	0.59	0.75	0.40

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	817	24	55	1445	241	150	520	45	198	277	95
Future Volume (vph)	141	817	24	55	1445	241	150	520	45	198	277	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		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)	1807	4795		1783	4972		1825	3412		1772	3195	
Flt Permitted	0.06	1.00		0.31	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	117	4795		588	4972		1825	3412		1772	3195	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	142	825	24	56	1460	243	152	525	45	200	280	96
RTOR Reduction (vph)	0	2	0	0	13	0	0	4	0	0	22	0
Lane Group Flow (vph)	142	847	0	56	1690	0	152	566	0	200	354	0
Confl. Peds. (#/hr)	23		42	42		23	53		22	22		53
Heavy Vehicles (%)	1%	9%	0%	2%	3%	1%	0%	4%	22%	3%	10%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Actuated Green, G (s)	76.1	69.2		65.7	61.8		16.7	30.0		19.9	33.2	
Effective Green, g (s)	76.1	69.2		65.7	61.8		16.7	30.0		19.9	33.2	
Actuated g/C Ratio	0.52	0.47		0.45	0.42		0.11	0.20		0.14	0.23	
Clearance Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	190	2260		294	2093		207	697		240	722	
v/s Ratio Prot	c0.06	0.18		0.01	c0.34		0.08	c0.17		c0.11	c0.11	
v/s Ratio Perm	0.33			0.08								
v/c Ratio	0.75	0.37		0.19	0.81		0.73	0.81		0.83	0.49	
Uniform Delay, d1	34.3	24.9		23.1	37.3		62.9	55.7		61.8	49.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	14.8	0.5		0.3	3.5		12.6	7.2		21.3	0.5	
Delay (s)	49.1	25.4		23.5	40.7		75.6	62.9		83.1	50.0	
Level of Service	D	C		C	D		E	E		F	D	
Approach Delay (s)		28.8			40.2			65.5			61.5	
Approach LOS		C			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	44.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	146.8	Sum of lost time (s)	23.8
Intersection Capacity Utilization	103.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

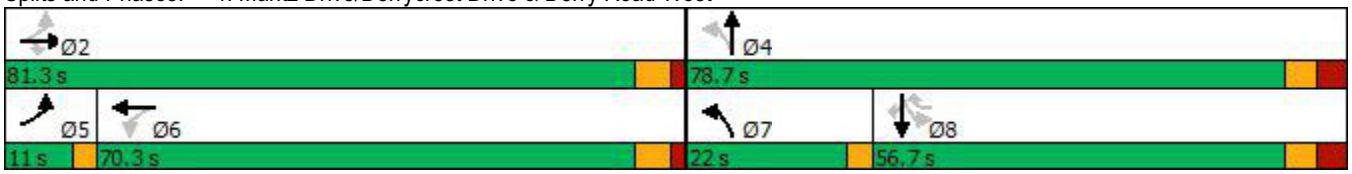
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	676	210	147	1564	25	483	136	226	32	58	285
Future Volume (vph)	94	676	210	147	1564	25	483	136	226	32	58	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	55.0		30.0	0.0		0.0	100.0		0.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97	1.00		0.98	1.00	0.99		1.00		0.99
Frt			0.850			0.850		0.906				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4902	1585	1415	5142	1471	1738	1651	0	1738	1883	1617
Flt Permitted	0.079			0.372			0.624			0.538		
Satd. Flow (perm)	152	4902	1539	552	5142	1448	1140	1651	0	983	1883	1594
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			107			63		67				133
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		443.5			331.5			130.4			222.4	
Travel Time (s)		22.8			17.0			9.4			16.0	
Confl. Peds. (#/hr)	4		4	4		4	2		2	2		2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	7%	3%	29%	2%	11%	5%	2%	6%	5%	2%	1%
Adj. Flow (vph)	98	704	219	153	1629	26	503	142	235	33	60	297
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	704	219	153	1629	26	503	377	0	33	60	297
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	Perm	NA	custom	pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2			6		7	4			8	
Permitted Phases	2		2	6		8	4			8		8
Detector Phase	5	2	2	6	6	8	7	4		8	8	8
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	10.0		10.0	10.0	10.0
Minimum Split (s)	10.0	41.2	41.2	41.2	41.2	56.7	10.0	56.7		56.7	56.7	56.7
Total Split (s)	11.0	81.3	81.3	70.3	70.3	56.7	22.0	78.7		56.7	56.7	56.7
Total Split (%)	6.9%	50.8%	50.8%	43.9%	43.9%	35.4%	13.8%	49.2%		35.4%	35.4%	35.4%
Maximum Green (s)	8.0	75.1	75.1	64.1	64.1	49.0	19.0	71.0		49.0	49.0	49.0
Yellow Time (s)	3.0	4.2	4.2	4.2	4.2	4.0	3.0	4.0		4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	3.7	0.0	3.7		3.7	3.7	3.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	None	None	None		None	None	None
Walk Time (s)		10.0	10.0	10.0	10.0	10.0		10.0		10.0	10.0	10.0
Flash Dont Walk (s)		25.0	25.0	25.0	25.0	39.0		39.0		39.0	39.0	39.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0		0	0	0
Act Effct Green (s)	78.6	75.4	75.4	64.6	64.6	19.9	46.7	42.0		19.9	19.9	19.9
Actuated g/C Ratio	0.60	0.57	0.57	0.49	0.49	0.15	0.36	0.32		0.15	0.15	0.15
v/c Ratio	0.52	0.25	0.24	0.56	0.64	0.10	1.02	0.66		0.22	0.21	0.84
Control Delay	23.6	15.0	8.4	35.9	27.3	0.7	85.8	36.8		51.0	49.1	49.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	23.6	15.0	8.4	35.9	27.3	0.7	85.8	36.8		51.0	49.1	49.7
LOS	C	B	A	D	C	A	F	D		D	D	D
Approach Delay		14.4			27.6			64.8			49.7	
Approach LOS		B			C			E			D	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 131.3
Natural Cycle: 120
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 34.4 Intersection LOS: C
Intersection Capacity Utilization 91.2% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 4: Maritz Drive/Derrycrest Drive & Derry Road West

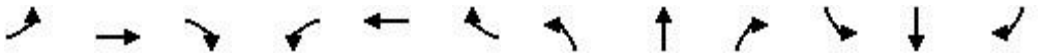


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	98	704	219	153	1629	26	503	377	33	60	297
v/c Ratio	0.52	0.25	0.24	0.56	0.64	0.10	1.02	0.66	0.22	0.21	0.84
Control Delay	23.6	15.0	8.4	35.9	27.3	0.7	85.8	36.8	51.0	49.1	49.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.6	15.0	8.4	35.9	27.3	0.7	85.8	36.8	51.0	49.1	49.7
Queue Length 50th (m)	10.1	31.3	12.6	27.0	111.2	0.0	~121.5	69.3	7.6	13.8	42.6
Queue Length 95th (m)	23.5	47.6	30.8	60.4	151.0	0.0	#190.8	101.9	17.2	26.4	75.0
Internal Link Dist (m)		419.5			307.5			106.4		198.4	
Turn Bay Length (m)	50.0		15.0	55.0		30.0			100.0		
Base Capacity (vph)	193	2813	928	271	2528	581	492	926	368	705	680
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.25	0.24	0.56	0.64	0.04	1.02	0.41	0.09	0.09	0.44

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	676	210	147	1564	25	483	136	226	32	58	285
Future Volume (vph)	94	676	210	147	1564	25	483	136	226	32	58	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1825	4902	1542	1411	5142	1449	1737	1652		1736	1883	1595
Flt Permitted	0.08	1.00	1.00	0.37	1.00	1.00	0.62	1.00		0.54	1.00	1.00
Satd. Flow (perm)	151	4902	1542	553	5142	1449	1140	1652		983	1883	1595
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	98	704	219	153	1629	26	503	142	235	33	60	297
RTOR Reduction (vph)	0	0	46	0	0	22	0	46	0	0	0	113
Lane Group Flow (vph)	98	704	173	153	1629	4	503	331	0	33	60	184
Confl. Peds. (#/hr)	4		4	4		4	2		2	2		2
Heavy Vehicles (%)	0%	7%	3%	29%	2%	11%	5%	2%	6%	5%	2%	1%
Turn Type	pm+pt	NA	Perm	Perm	NA	custom	pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2			6		7	4			8	
Permitted Phases	2		2	6		8	4			8		8
Actuated Green, G (s)	75.4	75.4	75.4	64.6	64.6	19.9	42.0	42.0		19.9	19.9	19.9
Effective Green, g (s)	75.4	75.4	75.4	64.6	64.6	19.9	42.0	42.0		19.9	19.9	19.9
Actuated g/C Ratio	0.57	0.57	0.57	0.49	0.49	0.15	0.32	0.32		0.15	0.15	0.15
Clearance Time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	186	2815	885	272	2529	219	451	528		148	285	241
v/s Ratio Prot	c0.03	0.14			c0.32		c0.16	0.20			0.03	
v/s Ratio Perm	0.27		0.11	0.28		0.00	c0.19			0.03		0.12
v/c Ratio	0.53	0.25	0.20	0.56	0.64	0.02	1.12	0.63		0.22	0.21	0.76
Uniform Delay, d1	17.9	13.9	13.4	23.4	24.8	47.4	43.1	38.0		48.9	48.8	53.4
Progression Factor	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	2.7	0.2	0.5	8.2	1.3	0.0	77.7	2.3		0.8	0.4	13.4
Delay (s)	20.6	14.1	13.9	31.6	26.1	47.4	120.8	40.3		49.7	49.2	66.9
Level of Service	C	B	B	C	C	D	F	D		D	D	E
Approach Delay (s)		14.7			26.9			86.3			62.7	
Approach LOS		B			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	40.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	131.3	Sum of lost time (s)	19.9
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		

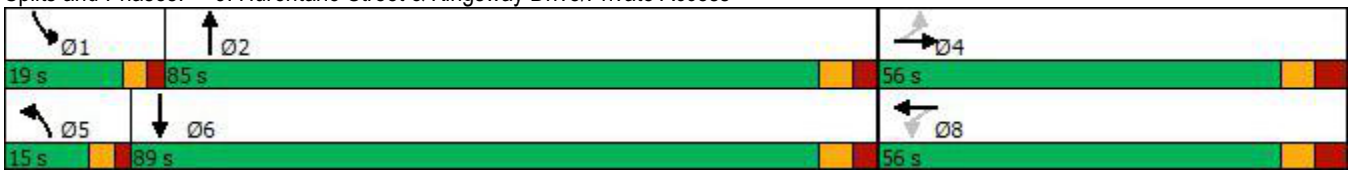
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	1	22	2	2	4	6	897	2	4	556	122
Future Volume (vph)	181	1	22	2	2	4	6	897	2	4	556	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	0.0		0.0	20.0		0.0	30.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor	1.00				0.99		1.00				1.00	
Frt		0.857			0.932						0.973	
Flt Protected	0.950				0.988		0.950			0.950		
Satd. Flow (prot)	1807	1571	0	0	1756	0	1521	3544	0	1825	3358	0
Flt Permitted	0.752				0.951		0.950			0.950		
Satd. Flow (perm)	1427	1571	0	0	1691	0	1517	3544	0	1825	3358	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			4						24	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		318.7			138.1			189.0			440.6	
Travel Time (s)		22.9			9.9			11.3			26.4	
Confl. Peds. (#/hr)	2					2	4					4
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	0%	5%	0%	0%	0%	20%	3%	0%	0%	6%	2%
Adj. Flow (vph)	185	1	22	2	2	4	6	915	2	4	567	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	23	0	0	8	0	6	917	0	4	691	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	52.0	52.0		52.0	52.0		13.0	58.0		13.0	58.0	
Total Split (s)	56.0	56.0		56.0	56.0		15.0	85.0		19.0	89.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		9.4%	53.1%		11.9%	55.6%	
Maximum Green (s)	48.0	48.0		48.0	48.0		10.0	78.0		14.0	82.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		2.0	3.0		2.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	13.0	13.0		13.0	13.0			15.0			15.0	
Flash Dont Walk (s)	31.0	31.0		31.0	31.0			36.0			36.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	20.8	20.8			20.8		8.1	82.8		8.1	82.8	
Actuated g/C Ratio	0.17	0.17			0.17		0.07	0.68		0.07	0.68	
v/c Ratio	0.76	0.08			0.03		0.06	0.38		0.03	0.30	
Control Delay	67.4	17.0			31.9		59.7	10.0		59.0	8.9	
Queue Delay	0.0	0.0			0.0		0.0	0.3		0.0	0.0	
Total Delay	67.4	17.0			31.9		59.7	10.3		59.0	8.9	
LOS	E	B			C		E	B		E	A	
Approach Delay		61.9			31.9			10.6			9.2	
Approach LOS		E			C			B			A	

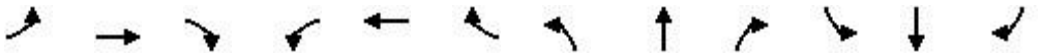
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 120.9			
Natural Cycle: 125			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 16.0		Intersection LOS: B	
Intersection Capacity Utilization 71.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: Hurontario Street & Kingsway Drive/Private Access



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	185	23	8	6	917	4	691
v/c Ratio	0.76	0.08	0.03	0.06	0.38	0.03	0.30
Control Delay	67.4	17.0	31.9	59.7	10.0	59.0	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	67.4	17.0	31.9	59.7	10.3	59.0	8.9
Queue Length 50th (m)	40.8	0.2	0.8	1.3	40.3	0.9	27.2
Queue Length 95th (m)	72.5	7.9	5.3	6.3	88.7	5.2	62.1
Internal Link Dist (m)		294.7	114.1		165.0		416.6
Turn Bay Length (m)	40.0			20.0		30.0	
Base Capacity (vph)	570	641	678	126	2426	212	2306
Starvation Cap Reductn	0	0	0	0	811	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	0.32	0.04	0.01	0.05	0.57	0.02	0.30

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	1	22	2	2	4	6	897	2	4	556	122
Future Volume (vph)	181	1	22	2	2	4	6	897	2	4	556	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86			0.93		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	1570			1757		1521	3543		1825	3359	
Flt Permitted	0.75	1.00			0.95		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1429	1570			1691		1521	3543		1825	3359	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	185	1	22	2	2	4	6	915	2	4	567	124
RTOR Reduction (vph)	0	18	0	0	3	0	0	0	0	0	8	0
Lane Group Flow (vph)	185	5	0	0	5	0	6	917	0	4	683	0
Confl. Peds. (#/hr)	2					2	4					4
Heavy Vehicles (%)	1%	0%	5%	0%	0%	0%	20%	3%	0%	0%	6%	2%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	20.8	20.8			20.8		1.4	82.8		1.4	82.8	
Effective Green, g (s)	20.8	20.8			20.8		1.4	82.8		1.4	82.8	
Actuated g/C Ratio	0.17	0.17			0.17		0.01	0.66		0.01	0.66	
Clearance Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	237	261			281		17	2346		20	2225	
v/s Ratio Prot		0.00					c0.00	c0.26		0.00	0.20	
v/s Ratio Perm	c0.13				0.00							
v/c Ratio	0.78	0.02			0.02		0.35	0.39		0.20	0.31	
Uniform Delay, d1	49.9	43.6			43.6		61.4	9.6		61.2	8.9	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.3	0.0			0.0		12.2	0.5		4.9	0.4	
Delay (s)	65.2	43.6			43.6		73.5	10.1		66.1	9.3	
Level of Service	E	D			D		E	B		E	A	
Approach Delay (s)		62.8			43.6			10.5			9.6	
Approach LOS		E			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	71.7%	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)	62	0	53	31	1	440	16	1058	19	69	628	21
Future Volume (vph)	62	0	53	31	1	440	16	1058	19	69	628	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	0.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor							1.00				1.00	
Frt		0.850			0.874			0.997			0.995	
Flt Protected	0.950				0.997		0.950			0.950		
Satd. Flow (prot)	1825	1633	0	0	1648	0	1825	3560	0	1547	3495	0
Flt Permitted	0.239				0.975		0.950			0.950		
Satd. Flow (perm)	459	1633	0	0	1611	0	1824	3560	0	1547	3495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		255			136			1			3	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		237.0			253.7			440.6			373.3	
Travel Time (s)		17.1			18.3			26.4			22.4	
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	10%	0%	1%	0%	2%	15%	18%	4%	0%
Adj. Flow (vph)	63	0	54	32	1	449	16	1080	19	70	641	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	54	0	0	482	0	16	1099	0	70	662	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		8.0	8.0	
Minimum Split (s)	57.5	57.5		57.5	57.5		10.0	38.5		13.0	38.5	
Total Split (s)	67.0	67.0		67.0	67.0		12.0	80.0		13.0	81.0	
Total Split (%)	41.9%	41.9%		41.9%	41.9%		7.5%	50.0%		8.1%	50.6%	
Maximum Green (s)	58.5	58.5		58.5	58.5		7.0	72.5		8.0	73.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.5	4.5		4.5	4.5		2.0	3.5		2.0	3.5	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	14.0	14.0		14.0	14.0			9.0			9.0	
Flash Dont Walk (s)	35.0	35.0		35.0	35.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	38.1	38.1			38.1		6.4	73.0		8.1	81.7	
Actuated g/C Ratio	0.27	0.27			0.27		0.05	0.52		0.06	0.58	
v/c Ratio	0.51	0.09			0.90		0.19	0.59		0.80	0.33	
Control Delay	56.9	0.3			55.0		74.4	26.6		117.0	18.3	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	56.9	0.3			55.0		74.4	26.6		117.0	18.3	
LOS	E	A			E		E	C		F	B	
Approach Delay		30.8			55.0			27.3			27.7	
Approach LOS		C			E			C			C	

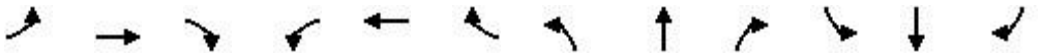
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 140.3			
Natural Cycle: 110			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 33.1		Intersection LOS: C	
Intersection Capacity Utilization 89.7%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 6: Hurontario Street & Vicksburgh Drive/Topflight Drive

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	63	54	482	16	1099	70	662
v/c Ratio	0.51	0.09	0.90	0.19	0.59	0.80	0.33
Control Delay	56.9	0.3	55.0	74.4	26.6	117.0	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	0.3	55.0	74.4	26.6	117.0	18.3
Queue Length 50th (m)	14.7	0.0	97.2	4.3	108.3	19.5	43.6
Queue Length 95th (m)	30.3	0.0	141.3	13.2	164.5	#53.9	87.0
Internal Link Dist (m)		213.0	229.7		416.6		349.3
Turn Bay Length (m)	25.0			25.0		35.0	
Base Capacity (vph)	192	833	755	91	1852	88	2035
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	0.33	0.06	0.64	0.18	0.59	0.80	0.33

Intersection Summary

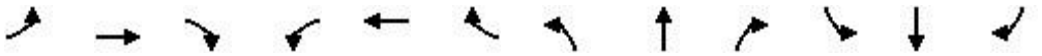
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	0	53	31	1	440	16	1058	19	69	628	21
Future Volume (vph)	62	0	53	31	1	440	16	1058	19	69	628	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.87		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	1633			1648		1825	3561		1547	3496	
Flt Permitted	0.24	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	460	1633			1611		1825	3561		1547	3496	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	63	0	54	32	1	449	16	1080	19	70	641	21
RTOR Reduction (vph)	0	40	0	0	100	0	0	0	0	0	1	0
Lane Group Flow (vph)	63	14	0	0	382	0	16	1099	0	70	661	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	10%	0%	1%	0%	2%	15%	18%	4%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)	38.1	38.1			38.1		2.6	76.2		8.1	81.7	
Effective Green, g (s)	38.1	38.1			38.1		2.6	76.2		8.1	81.7	
Actuated g/C Ratio	0.27	0.27			0.27		0.02	0.53		0.06	0.57	
Clearance Time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	122	433			428		33	1892		87	1991	
v/s Ratio Prot		0.01					0.01	c0.31		c0.05	0.19	
v/s Ratio Perm	0.14				c0.24							
v/c Ratio	0.52	0.03			0.89		0.48	0.58		0.80	0.33	
Uniform Delay, d1	44.8	39.0			50.7		69.7	22.8		66.9	16.4	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.7	0.0			20.3		10.8	1.3		39.9	0.4	
Delay (s)	48.5	39.0			71.0		80.5	24.1		106.7	16.8	
Level of Service	D	D			E		F	C		F	B	
Approach Delay (s)		44.1			71.0			24.9			25.4	
Approach LOS		D			E			C			C	

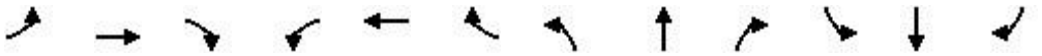
Intersection Summary			
HCM 2000 Control Delay	35.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	143.4	Sum of lost time (s)	21.0
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	16	14	180	0	2	7	35	141	7	106	2
Future Volume (vph)	2	16	14	180	0	2	7	35	141	7	106	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	15.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	0		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
Ped Bike Factor												
Frt		0.940			0.850			0.880			0.997	
Flt Protected		0.997		0.950			0.950			0.950		
Satd. Flow (prot)	0	1800	0	1807	1633	0	1825	3187	0	1825	3639	0
Flt Permitted		0.997		0.950			0.950			0.950		
Satd. Flow (perm)	0	1800	0	1807	1633	0	1825	3187	0	1825	3639	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		62.9			318.7			222.4			283.4	
Travel Time (s)		4.5			22.9			16.0			20.4	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%
Adj. Flow (vph)	2	17	15	196	0	2	8	38	153	8	115	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	34	0	196	2	0	8	191	0	8	117	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

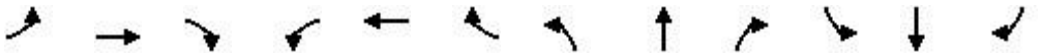
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	16	14	180	0	2	7	35	141	7	106	2
Future Volume (Veh/h)	2	16	14	180	0	2	7	35	141	7	106	2
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)	2	17	15	196	0	2	8	38	153	8	115	2
Pedestrians								1				
Lane Width (m)								3.7				
Walking Speed (m/s)								1.1				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								223				
pX, platoon unblocked												
vC, conflicting volume	169	339	60	228	264	96	117			191		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	169	339	60	228	264	96	117			191		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	97	98	71	100	100	99			99		
cM capacity (veh/h)	776	579	999	677	638	949	1484			1395		

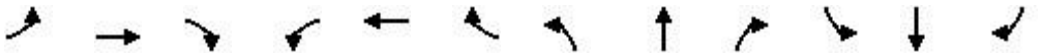
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	34	196	2	8	25	166	8	77	40
Volume Left	2	196	0	8	0	0	8	0	0
Volume Right	15	0	2	0	0	153	0	0	2
cSH	724	677	949	1484	1700	1700	1395	1700	1700
Volume to Capacity	0.05	0.29	0.00	0.01	0.01	0.10	0.01	0.05	0.02
Queue Length 95th (m)	1.1	9.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0
Control Delay (s)	10.2	12.5	8.8	7.4	0.0	0.0	7.6	0.0	0.0
Lane LOS	B	B	A	A			A		
Approach Delay (s)	10.2	12.4		0.3			0.5		
Approach LOS	B	B							

Intersection Summary				
Average Delay	5.3			
Intersection Capacity Utilization	29.1%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	54	0	0	0	0	18	0	0	0
Future Volume (vph)	0	0	0	54	0	0	0	0	18	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.865				
Flt Protected				0.950								
Satd. Flow (prot)	0	3579	0	1789	1883	0	0	1629	0	0	1883	0
Flt Permitted				0.950								
Satd. Flow (perm)	0	3579	0	1789	1883	0	0	1629	0	0	1883	0
Link Speed (k/h)		50			48			48			50	
Link Distance (m)		152.4			237.0			95.7			60.6	
Travel Time (s)		11.0			17.8			7.2			4.4	
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)	0	0	0	59	0	0	0	0	20	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	59	0	0	0	20	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			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)	97		24	97		14	14		97	24		97
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	54	0	0	0	0	18	0	0	0
Future Volume (Veh/h)	0	0	0	54	0	0	0	0	18	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	59	0	0	0	0	20	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					237							
pX, platoon unblocked												
vC, conflicting volume	0			0			118	118	0	138	118	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			118	118	0	138	118	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			96			100	100	98	100	100	100
cM capacity (veh/h)	1622			1622			822	743	1084	781	743	1084

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	0	0	59	0	20	0
Volume Left	0	0	59	0	0	0
Volume Right	0	0	0	0	20	0
cSH	1700	1700	1622	1700	1084	1700
Volume to Capacity	0.00	0.00	0.04	0.00	0.02	0.00
Queue Length 95th (m)	0.0	0.0	0.9	0.0	0.4	0.0
Control Delay (s)	0.0	0.0	7.3	0.0	8.4	0.0
Lane LOS			A		A	A
Approach Delay (s)	0.0		7.3		8.4	0.0
Approach LOS					A	A

Intersection Summary				
Average Delay	7.6			
Intersection Capacity Utilization	13.3%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	18	54	0
Future Volume (vph)	0	0	0	18	54	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	3579	3579	0
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	3579	3579	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	66.3			283.4	152.4	
Travel Time (s)	5.0			20.4	11.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	20	59	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	20	59	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 6.7%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	18	54	0
Future Volume (Veh/h)	0	0	0	18	54	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	20	59	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)					390	
pX, platoon unblocked						
vC, conflicting volume	69	30	59			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	69	30	59			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	928	1038	1543			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	0	10	10	39	20
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.01	0.01	0.02	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0			0.0	
Approach LOS	A					

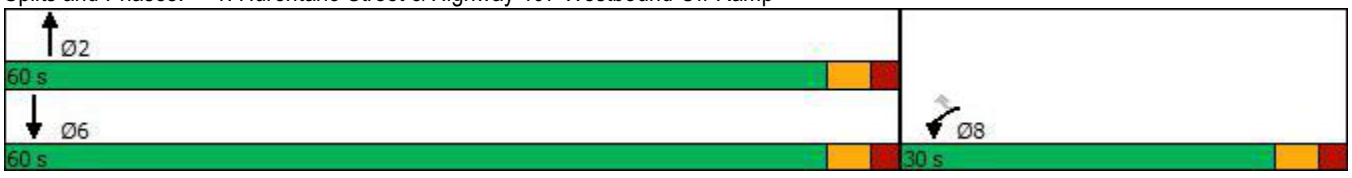
Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	6.7%	ICU Level of Service		A
Analysis Period (min)	15			

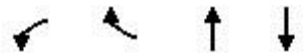
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	264	225	639	0	0	997
Future Volume (vph)	264	225	639	0	0	997
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	115.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Frt	0.968	0.850				
Flt Protected	0.962					
Satd. Flow (prot)	3312	1429	3476	0	0	3544
Flt Permitted	0.962					
Satd. Flow (perm)	3312	1429	3476	0	0	3544
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	39	163				
Link Speed (k/h)	60		60			60
Link Distance (m)	401.2		345.6			144.3
Travel Time (s)	24.1		20.7			8.7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	4%	5%	0%	0%	3%
Adj. Flow (vph)	281	239	680	0	0	1061
Shared Lane Traffic (%)		32%				
Lane Group Flow (vph)	357	163	680	0	0	1061
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	7.4		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	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0			5.0
Minimum Split (s)	23.0	23.0	23.0			23.0
Total Split (s)	30.0	30.0	60.0			60.0
Total Split (%)	33.3%	33.3%	66.7%			66.7%
Maximum Green (s)	25.0	25.0	55.0			55.0
Yellow Time (s)	3.0	3.0	3.0			3.0
All-Red Time (s)	2.0	2.0	2.0			2.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	Max			Max
Walk Time (s)	7.0	7.0	7.0			7.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	12.9	12.9	55.1			55.1
Actuated g/C Ratio	0.17	0.17	0.71			0.71
v/c Ratio	0.62	0.44	0.28			0.42
Control Delay	31.5	9.0	4.9			5.8
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	31.5	9.0	4.9			5.8
LOS	C	A	A			A
Approach Delay	24.5		4.9			5.8
Approach LOS	C		A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 78			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 9.8		Intersection LOS: A	
Intersection Capacity Utilization 48.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & Highway 407 Westbound Off-Ramp





Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	357	163	680	1061
v/c Ratio	0.62	0.44	0.28	0.42
Control Delay	31.5	9.0	4.9	5.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	31.5	9.0	4.9	5.8
Queue Length 50th (m)	22.5	0.0	15.7	28.1
Queue Length 95th (m)	35.1	16.0	28.0	48.1
Internal Link Dist (m)	377.2		321.6	120.3
Turn Bay Length (m)		115.0		
Base Capacity (vph)	1089	569	2454	2502
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.33	0.29	0.28	0.42

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	264	225	639	0	0	997
Future Volume (vph)	264	225	639	0	0	997
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0			5.0
Lane Util. Factor	0.97	0.91	0.95			0.95
Frt	0.97	0.85	1.00			1.00
Flt Protected	0.96	1.00	1.00			1.00
Satd. Flow (prot)	3313	1429	3476			3544
Flt Permitted	0.96	1.00	1.00			1.00
Satd. Flow (perm)	3313	1429	3476			3544
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	281	239	680	0	0	1061
RTOR Reduction (vph)	33	136	0	0	0	0
Lane Group Flow (vph)	324	27	680	0	0	1061
Heavy Vehicles (%)	5%	4%	5%	0%	0%	3%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	12.9	12.9	55.1			55.1
Effective Green, g (s)	12.9	12.9	55.1			55.1
Actuated g/C Ratio	0.17	0.17	0.71			0.71
Clearance Time (s)	5.0	5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	547	236	2455			2503
v/s Ratio Prot	c0.10		0.20			c0.30
v/s Ratio Perm		0.02				
v/c Ratio	0.59	0.11	0.28			0.42
Uniform Delay, d1	30.1	27.7	4.2			4.8
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	1.7	0.2	0.3			0.5
Delay (s)	31.9	27.9	4.5			5.3
Level of Service	C	C	A			A
Approach Delay (s)	30.6		4.5			5.3
Approach LOS	C		A			A

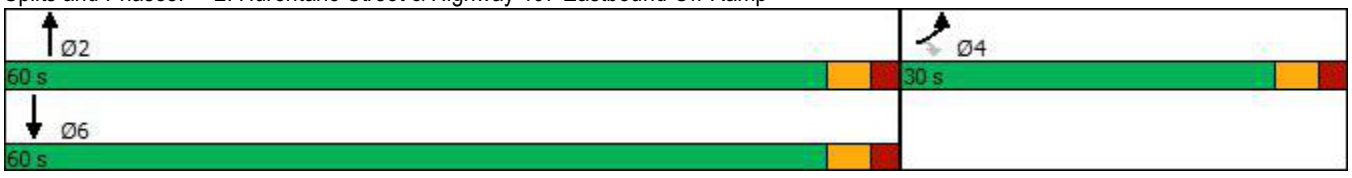
Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	78.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

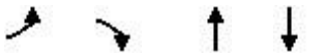
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	106	212	0	587	972	0
Future Volume (vph)	106	212	0	587	972	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	95.0	0.0			0.0
Storage Lanes	2	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3506	1526	0	3444	3510	0
Flt Permitted	0.950					
Satd. Flow (perm)	3506	1526	0	3444	3510	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		117				
Link Speed (k/h)	60			60	60	
Link Distance (m)	401.8			373.3	345.6	
Travel Time (s)	24.1			22.4	20.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	7%	0%	6%	4%	0%
Adj. Flow (vph)	113	226	0	624	1034	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	113	226	0	624	1034	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.4			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
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	6.1	6.1		30.5	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	6.1		1.8	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Permitted Phases		4				
Detector Phase	4	4		2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0		23.0	23.0	
Total Split (s)	30.0	30.0		60.0	60.0	
Total Split (%)	33.3%	33.3%		66.7%	66.7%	
Maximum Green (s)	25.0	25.0		55.0	55.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Recall Mode	None	None		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	11.5	11.5		56.4	56.4	
Actuated g/C Ratio	0.15	0.15		0.72	0.72	
v/c Ratio	0.22	0.70		0.25	0.41	
Control Delay	29.0	26.8		4.5	5.4	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	29.0	26.8		4.5	5.4	
LOS	C	C		A	A	
Approach Delay	27.5			4.5	5.4	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 77.9			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 8.8		Intersection LOS: A	
Intersection Capacity Utilization 48.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Hurontario Street & Highway 407 Eastbound Off-Ramp





Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	113	226	624	1034
v/c Ratio	0.22	0.70	0.25	0.41
Control Delay	29.0	26.8	4.5	5.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	29.0	26.8	4.5	5.4
Queue Length 50th (m)	7.4	14.6	12.7	24.6
Queue Length 95th (m)	13.9	35.6	26.4	48.6
Internal Link Dist (m)	377.8		349.3	321.6
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1126	569	2492	2540
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	0.10	0.40	0.25	0.41

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	106	212	0	587	972	0
Future Volume (vph)	106	212	0	587	972	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	1.00		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3506	1526		3444	3510	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3506	1526		3444	3510	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	113	226	0	624	1034	0
RTOR Reduction (vph)	0	100	0	0	0	0
Lane Group Flow (vph)	113	126	0	624	1034	0
Heavy Vehicles (%)	1%	7%	0%	6%	4%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	11.5	11.5		56.4	56.4	
Effective Green, g (s)	11.5	11.5		56.4	56.4	
Actuated g/C Ratio	0.15	0.15		0.72	0.72	
Clearance Time (s)	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	517	225		2493	2541	
v/s Ratio Prot	0.03			0.18	c0.29	
v/s Ratio Perm		c0.08				
v/c Ratio	0.22	0.56		0.25	0.41	
Uniform Delay, d1	29.2	30.9		3.6	4.2	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	3.2		0.2	0.5	
Delay (s)	29.5	34.0		3.9	4.7	
Level of Service	C	C		A	A	
Approach Delay (s)	32.5			3.9	4.7	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	10.0
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

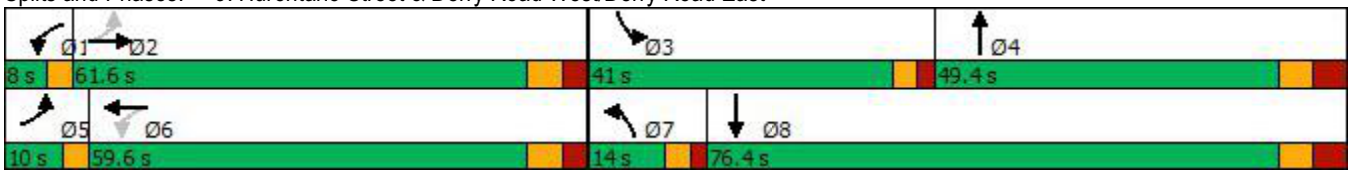
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	1589	9	57	1031	216	46	210	40	373	398	155
Future Volume (vph)	79	1589	9	57	1031	216	46	210	40	373	398	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		0.0	185.0		0.0	55.0		0.0	100.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00		1.00	0.99		0.96	0.99		0.98	0.97	
Frt		0.999			0.974			0.976			0.958	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1690	4986	0	1615	4537	0	1738	3021	0	1755	3159	0
Flt Permitted	0.112			0.076			0.950			0.950		
Satd. Flow (perm)	199	4986	0	129	4537	0	1667	3021	0	1728	3159	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			30			13			45	
Link Speed (k/h)		70			70			60			60	
Link Distance (m)		331.5			999.3			126.9			189.0	
Travel Time (s)		17.0			51.4			7.6			11.3	
Confl. Peds. (#/hr)	27		46	46		27	77		19	19		77
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	5%	14%	13%	13%	6%	5%	13%	40%	4%	7%	9%
Adj. Flow (vph)	81	1638	9	59	1063	223	47	216	41	385	410	160
Shared Lane Traffic (%)												
Lane Group Flow (vph)	81	1647	0	59	1286	0	47	257	0	385	570	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	8.0	51.4		8.0	51.4		13.0	49.4		13.0	49.4	
Total Split (s)	10.0	61.6		8.0	59.6		14.0	49.4		41.0	76.4	
Total Split (%)	6.3%	38.5%		5.0%	37.3%		8.8%	30.9%		25.6%	47.8%	
Maximum Green (s)	7.0	54.2		5.0	52.2		9.0	41.0		36.0	68.0	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	3.2		0.0	3.2		2.0	4.4		2.0	4.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		13.0			13.0			12.0			12.0	
Flash Dont Walk (s)		31.0			31.0			29.0			29.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	65.9	55.9		61.7	52.3		8.6	16.2		35.1	45.5	
Actuated g/C Ratio	0.49	0.42		0.46	0.39		0.06	0.12		0.26	0.34	
v/c Ratio	0.47	0.79		0.52	0.72		0.42	0.69		0.84	0.52	
Control Delay	27.8	38.7		35.7	37.3		74.0	63.7		64.6	35.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.8	38.7		35.7	37.3		74.0	63.7		64.6	35.2	
LOS	C	D		D	D		E	E		E	D	
Approach Delay		38.2			37.2			65.3			47.0	
Approach LOS		D			D			E			D	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 134.4
Natural Cycle: 145
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 41.7 Intersection LOS: D
Intersection Capacity Utilization 102.3% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 3: Hurontario Street & Derry Road West/Derry Road East



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	81	1647	59	1286	47	257	385	570
v/c Ratio	0.47	0.79	0.52	0.72	0.42	0.69	0.84	0.52
Control Delay	27.8	38.7	35.7	37.3	74.0	63.7	64.6	35.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.8	38.7	35.7	37.3	74.0	63.7	64.6	35.2
Queue Length 50th (m)	11.3	142.6	8.1	104.2	12.3	33.4	97.0	60.8
Queue Length 95th (m)	21.7	171.9	#17.3	128.7	26.2	48.1	#154.2	78.7
Internal Link Dist (m)		307.5		975.3		102.9		165.0
Turn Bay Length (m)	150.0		185.0		55.0		100.0	
Base Capacity (vph)	175	2075	114	1783	116	932	470	1622
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	0.46	0.79	0.52	0.72	0.41	0.28	0.82	0.35

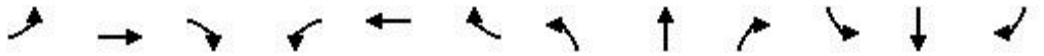
Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	1589	9	57	1031	216	46	210	40	373	398	155
Future Volume (vph)	79	1589	9	57	1031	216	46	210	40	373	398	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.97		1.00	0.98		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)	1690	4987		1615	4541		1738	3022		1755	3171	
Flt Permitted	0.11	1.00		0.08	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	199	4987		129	4541		1738	3022		1755	3171	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	81	1638	9	59	1063	223	47	216	41	385	410	160
RTOR Reduction (vph)	0	1	0	0	18	0	0	11	0	0	30	0
Lane Group Flow (vph)	81	1646	0	59	1268	0	47	246	0	385	540	0
Confl. Peds. (#/hr)	27		46	46		27	77		19	19		77
Heavy Vehicles (%)	8%	5%	14%	13%	13%	6%	5%	13%	40%	4%	7%	9%
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Actuated Green, G (s)	62.8	55.9		56.7	52.8		6.9	17.3		35.1	45.5	
Effective Green, g (s)	62.8	55.9		56.7	52.8		6.9	17.3		35.1	45.5	
Actuated g/C Ratio	0.46	0.41		0.42	0.39		0.05	0.13		0.26	0.33	
Clearance Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	168	2049		96	1762		88	384		452	1060	
v/s Ratio Prot	c0.02	c0.33		c0.02	0.28		0.03	c0.08		c0.22	0.17	
v/s Ratio Perm	0.20			0.24								
v/c Ratio	0.48	0.80		0.61	0.72		0.53	0.64		0.85	0.51	
Uniform Delay, d1	23.7	35.2		28.1	35.3		63.0	56.4		48.0	36.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.2	3.5		11.1	2.6		6.1	3.5		14.3	0.4	
Delay (s)	25.8	38.7		39.2	37.9		69.1	59.9		62.3	36.7	
Level of Service	C	D		D	D		E	E		E	D	
Approach Delay (s)		38.1			37.9			61.3			47.0	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	41.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	23.8
Intersection Capacity Utilization	102.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

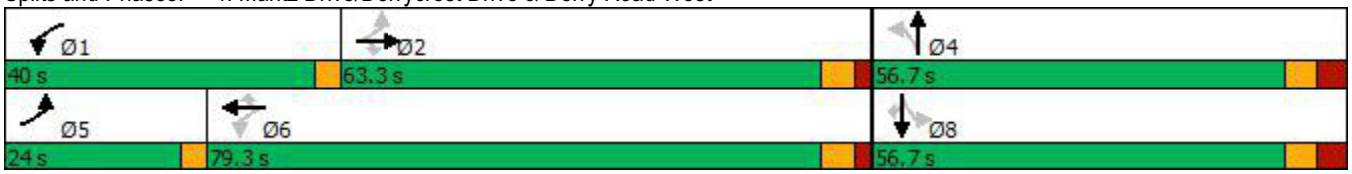


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	212	1520	614	409	786	51	94	59	96	16	49	71
Future Volume (vph)	212	1520	614	409	786	51	94	59	96	16	49	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	55.0		30.0	0.0		0.0	100.0		0.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97			0.99	1.00	0.99		1.00		0.99
Frt			0.850			0.850		0.907				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5043	1633	1484	4601	1585	1722	1493	0	1521	1883	1541
Flt Permitted	0.325			0.070			0.723			0.505		
Satd. Flow (perm)	612	5043	1586	109	4601	1564	1308	1493	0	807	1883	1519
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			115			52		53				76
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		443.5			331.5			130.4			222.4	
Travel Time (s)		22.8			17.0			9.4			16.0	
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	4%	0%	23%	14%	3%	6%	2%	24%	20%	2%	6%
Adj. Flow (vph)	226	1617	653	435	836	54	100	63	102	17	52	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	226	1617	653	435	836	54	100	165	0	17	52	76
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		8
Detector Phase	5	2	2	1	6	6	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	7.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	8.0	41.2	41.2	10.0	41.2	41.2	56.7	56.7		56.7	56.7	56.7
Total Split (s)	24.0	63.3	63.3	40.0	79.3	79.3	56.7	56.7		56.7	56.7	56.7
Total Split (%)	15.0%	39.6%	39.6%	25.0%	49.6%	49.6%	35.4%	35.4%		35.4%	35.4%	35.4%
Maximum Green (s)	21.0	57.1	57.1	37.0	73.1	73.1	49.0	49.0		49.0	49.0	49.0
Yellow Time (s)	3.0	4.2	4.2	3.0	4.2	4.2	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	3.7	3.7		3.7	3.7	3.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0	10.0	10.0	10.0		10.0	10.0	10.0
Flash Dont Walk (s)		25.0	25.0		25.0	25.0	39.0	39.0		39.0	39.0	39.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0		0	0	0
Act Effct Green (s)	69.8	57.2	57.2	100.4	84.7	84.7	15.5	15.5		15.5	15.5	15.5
Actuated g/C Ratio	0.55	0.45	0.45	0.79	0.67	0.67	0.12	0.12		0.12	0.12	0.12
v/c Ratio	0.53	0.71	0.84	0.89	0.27	0.05	0.62	0.72		0.17	0.23	0.30
Control Delay	14.2	30.7	36.9	55.7	9.4	2.8	69.9	53.7		53.0	51.8	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	14.2	30.7	36.9	55.7	9.4	2.8	69.9	53.7		53.0	51.8	13.5
LOS	B	C	D	E	A	A	E	D		D	D	B
Approach Delay		30.8			24.3			59.8			31.9	
Approach LOS		C			C			E			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 126.6			
Natural Cycle: 150			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 30.6		Intersection LOS: C	
Intersection Capacity Utilization 86.5%		ICU Level of Service E	
Analysis Period (min) 15			

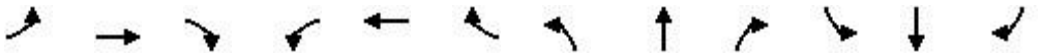
Splits and Phases: 4: Maritz Drive/Derrycrest Drive & Derry Road West



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	226	1617	653	435	836	54	100	165	17	52	76
v/c Ratio	0.53	0.71	0.84	0.89	0.27	0.05	0.62	0.72	0.17	0.23	0.30
Control Delay	14.2	30.7	36.9	55.7	9.4	2.8	69.9	53.7	53.0	51.8	13.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.2	30.7	36.9	55.7	9.4	2.8	69.9	53.7	53.0	51.8	13.5
Queue Length 50th (m)	13.6	115.8	119.0	87.2	27.7	0.2	24.0	27.2	3.9	11.9	0.0
Queue Length 95th (m)	22.5	148.2	#207.7	#162.0	44.2	5.4	42.4	51.0	11.1	24.2	13.6
Internal Link Dist (m)		419.5			307.5			106.4		198.4	
Turn Bay Length (m)	50.0		15.0	55.0		30.0			100.0		
Base Capacity (vph)	588	2276	779	488	3079	1064	506	610	312	729	634
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.71	0.84	0.89	0.27	0.05	0.20	0.27	0.05	0.07	0.12

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	212	1520	614	409	786	51	94	59	96	16	49	71
Future Volume (vph)	212	1520	614	409	786	51	94	59	96	16	49	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.99	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1789	5043	1589	1484	4601	1565	1719	1494		1518	1883	1520
Flt Permitted	0.33	1.00	1.00	0.07	1.00	1.00	0.72	1.00		0.50	1.00	1.00
Satd. Flow (perm)	612	5043	1589	109	4601	1565	1309	1494		807	1883	1520
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	226	1617	653	435	836	54	100	63	102	17	52	76
RTOR Reduction (vph)	0	0	63	0	0	17	0	47	0	0	0	67
Lane Group Flow (vph)	226	1617	590	435	836	37	100	118	0	17	52	9
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Heavy Vehicles (%)	2%	4%	0%	23%	14%	3%	6%	2%	24%	20%	2%	6%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		8
Actuated Green, G (s)	66.6	57.2	57.2	97.2	84.8	84.8	15.5	15.5		15.5	15.5	15.5
Effective Green, g (s)	66.6	57.2	57.2	97.2	84.8	84.8	15.5	15.5		15.5	15.5	15.5
Actuated g/C Ratio	0.53	0.45	0.45	0.77	0.67	0.67	0.12	0.12		0.12	0.12	0.12
Clearance Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	409	2278	717	485	3081	1048	160	182		98	230	186
v/s Ratio Prot	0.04	0.32		c0.26	0.18			c0.08			0.03	
v/s Ratio Perm	0.25		0.37	c0.43		0.02	0.08			0.02		0.01
v/c Ratio	0.55	0.71	0.82	0.90	0.27	0.04	0.62	0.65		0.17	0.23	0.05
Uniform Delay, d1	22.5	28.0	30.3	35.5	8.4	7.1	52.8	53.0		49.8	50.1	49.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.6	1.9	10.3	18.9	0.2	0.1	7.4	8.1		0.8	0.5	0.1
Delay (s)	24.2	29.9	40.6	54.5	8.7	7.1	60.2	61.0		50.7	50.6	49.2
Level of Service	C	C	D	D	A	A	E	E		D	D	D
Approach Delay (s)		32.2			23.6			60.7			49.9	
Approach LOS		C			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	31.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	126.6	Sum of lost time (s)	16.9
Intersection Capacity Utilization	86.5%	ICU Level of Service	E
Analysis Period (min)	15		

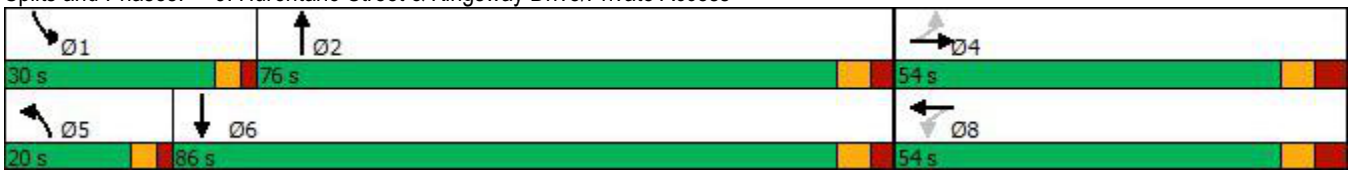
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	0	16	2	5	0	22	491	9	4	906	106
Future Volume (vph)	97	0	16	2	5	0	22	491	9	4	906	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	0.0		0.0	20.0		0.0	30.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor	1.00						1.00	1.00		1.00	1.00	
Frt		0.850						0.997			0.984	
Flt Protected	0.950				0.986		0.950			0.950		
Satd. Flow (prot)	1789	1633	0	0	1894	0	1722	3342	0	1825	3426	0
Flt Permitted	0.753				0.926		0.950			0.950		
Satd. Flow (perm)	1415	1633	0	0	1779	0	1721	3342	0	1824	3426	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		252						1			11	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		318.7			138.1			189.0			440.6	
Travel Time (s)		22.9			9.9			11.3			26.4	
Confl. Peds. (#/hr)	2					2	2		1	1		2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	6%	9%	0%	0%	5%	1%
Adj. Flow (vph)	102	0	17	2	5	0	23	517	9	4	954	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	102	17	0	0	7	0	23	526	0	4	1066	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	52.0	52.0		52.0	52.0		13.0	58.0		13.0	58.0	
Total Split (s)	54.0	54.0		54.0	54.0		20.0	76.0		30.0	86.0	
Total Split (%)	33.8%	33.8%		33.8%	33.8%		12.5%	47.5%		18.8%	53.8%	
Maximum Green (s)	46.0	46.0		46.0	46.0		15.0	69.0		25.0	79.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		2.0	3.0		2.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	13.0	13.0		13.0	13.0			15.0			15.0	
Flash Dont Walk (s)	31.0	31.0		31.0	31.0			36.0			36.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	13.9	13.9			13.9		8.3	88.4		8.0	83.1	
Actuated g/C Ratio	0.12	0.12			0.12		0.07	0.74		0.07	0.69	
v/c Ratio	0.62	0.04			0.03		0.19	0.21		0.03	0.45	
Control Delay	67.2	0.2			47.0		58.7	6.0		56.0	10.2	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	67.2	0.2			47.0		58.7	6.0		56.0	10.2	
LOS	E	A			D		E	A		E	B	
Approach Delay		57.6			47.0			8.3			10.4	
Approach LOS		E			D			A			B	

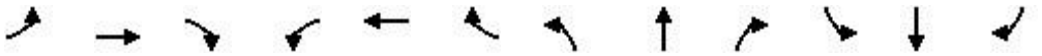
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 119.8			
Natural Cycle: 125			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 13.1		Intersection LOS: B	
Intersection Capacity Utilization 67.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: Hurontario Street & Kingsway Drive/Private Access



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	102	17	7	23	526	4	1066
v/c Ratio	0.62	0.04	0.03	0.19	0.21	0.03	0.45
Control Delay	67.2	0.2	47.0	58.7	6.0	56.0	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.2	0.2	47.0	58.7	6.0	56.0	10.2
Queue Length 50th (m)	23.5	0.0	1.5	5.3	15.9	0.9	61.1
Queue Length 95th (m)	42.0	0.0	5.9	14.6	37.8	4.6	89.7
Internal Link Dist (m)		294.7	114.1		165.0		416.6
Turn Bay Length (m)	40.0			20.0		30.0	
Base Capacity (vph)	544	784	684	216	2466	382	2378
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	0.19	0.02	0.01	0.11	0.21	0.01	0.45

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	0	16	2	5	0	22	491	9	4	906	106
Future Volume (vph)	97	0	16	2	5	0	22	491	9	4	906	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			1.00		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1786	1633			1894		1722	3344		1825	3427	
Flt Permitted	0.75	1.00			0.93		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1416	1633			1778		1722	3344		1825	3427	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	102	0	17	2	5	0	23	517	9	4	954	112
RTOR Reduction (vph)	0	15	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	102	2	0	0	7	0	23	526	0	4	1063	0
Confl. Peds. (#/hr)	2					2	2		1	1		2
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	6%	9%	0%	0%	5%	1%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	13.9	13.9			13.9		4.9	88.4		1.5	85.0	
Effective Green, g (s)	13.9	13.9			13.9		4.9	88.4		1.5	85.0	
Actuated g/C Ratio	0.11	0.11			0.11		0.04	0.71		0.01	0.69	
Clearance Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	158	183			199		68	2387		22	2352	
v/s Ratio Prot		0.00					c0.01	c0.16		0.00	c0.31	
v/s Ratio Perm	c0.07				0.00							
v/c Ratio	0.65	0.01			0.04		0.34	0.22		0.18	0.45	
Uniform Delay, d1	52.6	48.8			49.0		57.9	6.0		60.5	8.8	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.7	0.0			0.1		2.9	0.2		4.0	0.6	
Delay (s)	61.3	48.9			49.0		60.8	6.2		64.5	9.4	
Level of Service	E	D			D		E	A		E	A	
Approach Delay (s)		59.5			49.0			8.5			9.6	
Approach LOS		E			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	123.8	Sum of lost time (s)	20.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

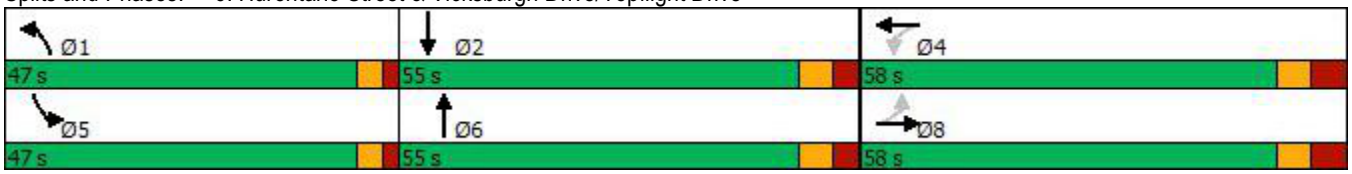
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	3	10	14	1	143	62	499	28	143	1015	48
Future Volume (vph)	12	3	10	14	1	143	62	499	28	143	1015	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	0.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor	1.00				0.99			1.00		1.00		
Frt		0.882			0.878			0.992			0.993	
Flt Protected	0.950				0.996		0.950			0.950		
Satd. Flow (prot)	1825	1694	0	0	1495	0	1825	3374	0	1690	3491	0
Flt Permitted	0.521				0.966		0.950			0.950		
Satd. Flow (perm)	998	1694	0	0	1450	0	1825	3374	0	1686	3491	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			154			4			3	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		237.0			253.7			440.6			373.3	
Travel Time (s)		17.1			18.3			26.4			22.4	
Confl. Peds. (#/hr)	4					4			2	2		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	50%	0%	7%	0%	6%	28%	8%	4%	0%
Adj. Flow (vph)	13	3	11	15	1	154	67	537	30	154	1091	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	14	0	0	170	0	67	567	0	154	1143	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		8.0	8.0	
Minimum Split (s)	58.0	58.0		58.0	58.0		47.0	55.0		47.0	55.0	
Total Split (s)	58.0	58.0		58.0	58.0		47.0	55.0		47.0	55.0	
Total Split (%)	36.3%	36.3%		36.3%	36.3%		29.4%	34.4%		29.4%	34.4%	
Maximum Green (s)	49.5	49.5		49.5	49.5		42.0	47.5		42.0	47.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.5	4.5		4.5	4.5		2.0	3.5		2.0	3.5	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	14.0	14.0		14.0	14.0			9.0			9.0	
Flash Dont Walk (s)	35.0	35.0		35.0	35.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	9.1	9.1			9.1		8.8	47.6		13.6	54.8	
Actuated g/C Ratio	0.10	0.10			0.10		0.10	0.52		0.15	0.60	
v/c Ratio	0.13	0.08			0.60		0.38	0.32		0.61	0.55	
Control Delay	41.8	23.8			18.4		45.9	13.8		47.6	13.2	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	41.8	23.8			18.4		45.9	13.8		47.6	13.2	
LOS	D	C			B		D	B		D	B	
Approach Delay		32.4			18.4			17.2			17.3	
Approach LOS		C			B			B			B	

Intersection Summary

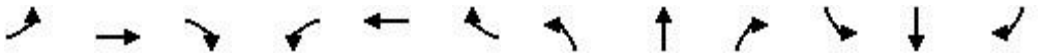
Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 91.4
Natural Cycle: 160
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.61
Intersection Signal Delay: 17.6 Intersection LOS: B
Intersection Capacity Utilization 71.0% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 6: Hurontario Street & Vicksburgh Drive/Topflight Drive



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	13	14	170	67	567	154	1143
v/c Ratio	0.13	0.08	0.60	0.38	0.32	0.61	0.55
Control Delay	41.8	23.8	18.4	45.9	13.8	47.6	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	23.8	18.4	45.9	13.8	47.6	13.2
Queue Length 50th (m)	2.1	0.5	2.6	11.0	27.3	25.2	59.7
Queue Length 95th (m)	7.9	6.1	21.9	24.9	47.3	46.3	94.7
Internal Link Dist (m)		213.0	229.7		416.6		349.3
Turn Bay Length (m)	25.0			25.0		35.0	
Base Capacity (vph)	542	925	858	841	1760	778	2094
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	0.02	0.02	0.20	0.08	0.32	0.20	0.55

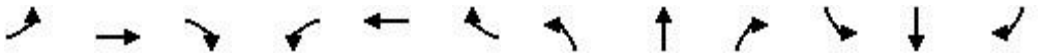
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	3	10	14	1	143	62	499	28	143	1015	48
Future Volume (vph)	12	3	10	14	1	143	62	499	28	143	1015	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.88			0.88		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1822	1695			1496		1825	3375		1690	3492	
Flt Permitted	0.52	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	999	1695			1452		1825	3375		1690	3492	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	13	3	11	15	1	154	67	537	30	154	1091	52
RTOR Reduction (vph)	0	10	0	0	139	0	0	2	0	0	1	0
Lane Group Flow (vph)	13	4	0	0	31	0	67	565	0	154	1142	0
Confl. Peds. (#/hr)	4					4			2	2		
Heavy Vehicles (%)	0%	0%	0%	50%	0%	7%	0%	6%	28%	8%	4%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)	9.1	9.1			9.1		7.5	48.7		13.6	54.8	
Effective Green, g (s)	9.1	9.1			9.1		7.5	48.7		13.6	54.8	
Actuated g/C Ratio	0.10	0.10			0.10		0.08	0.53		0.15	0.59	
Clearance Time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	98	166			143		148	1778		248	2071	
v/s Ratio Prot		0.00					0.04	0.17		c0.09	c0.33	
v/s Ratio Perm	0.01				c0.02							
v/c Ratio	0.13	0.02			0.22		0.45	0.32		0.62	0.55	
Uniform Delay, d1	38.0	37.6			38.4		40.5	12.4		37.0	11.4	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.1			0.8		2.2	0.5		4.8	1.1	
Delay (s)	38.7	37.7			39.1		42.7	12.9		41.7	12.4	
Level of Service	D	D			D		D	B		D	B	
Approach Delay (s)		38.2			39.1			16.0			15.9	
Approach LOS		D			D			B			B	

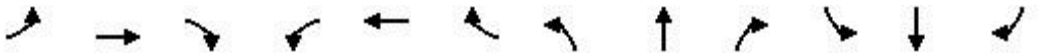
Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	92.4	Sum of lost time (s)	21.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	2	102	10	2	23	120	137	2	30	1
Future Volume (vph)	0	0	2	102	10	2	23	120	137	2	30	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	15.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	0		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		0.865			0.977			0.920			0.996	
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	1662	0	1772	1877	0	1825	3340	0	1825	3636	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	1662	0	1772	1877	0	1825	3340	0	1825	3636	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		62.9			318.7			222.4			283.4	
Travel Time (s)		4.5			22.9			16.0			20.4	
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
Heavy Vehicles (%)	0%	0%	0%	3%	0%	0%	0%	0%	1%	0%	0%	0%
Adj. Flow (vph)	0	0	2	111	11	2	25	130	149	2	33	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	0	111	13	0	25	279	0	2	34	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

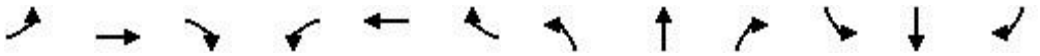
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	2	102	10	2	23	120	137	2	30	1
Future Volume (Veh/h)	0	0	2	102	10	2	23	120	137	2	30	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	2	111	11	2	25	130	149	2	33	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								223				
pX, platoon unblocked												
vC, conflicting volume	160	366	17	277	292	140	34			279		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	160	366	17	277	292	140	34			279		
tC, single (s)	7.5	6.5	6.9	7.6	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	83	98	100	98			100		
cM capacity (veh/h)	773	556	1064	641	611	889	1591			1295		

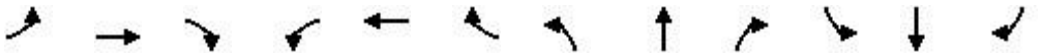
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	2	111	13	25	87	192	2	22	12
Volume Left	0	111	0	25	0	0	2	0	0
Volume Right	2	0	2	0	0	149	0	0	1
cSH	1064	641	642	1591	1700	1700	1295	1700	1700
Volume to Capacity	0.00	0.17	0.02	0.02	0.05	0.11	0.00	0.01	0.01
Queue Length 95th (m)	0.0	4.7	0.5	0.4	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	8.4	11.8	10.7	7.3	0.0	0.0	7.8	0.0	0.0
Lane LOS	A	B	B	A			A		
Approach Delay (s)	8.4	11.7		0.6			0.4		
Approach LOS	A	B							

Intersection Summary				
Average Delay	3.6			
Intersection Capacity Utilization	26.9%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	10	0	0	0	0	61	0	0	0
Future Volume (vph)	0	0	0	10	0	0	0	0	61	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.865				
Flt Protected				0.950								
Satd. Flow (prot)	0	3579	0	1789	1883	0	0	1629	0	0	1883	0
Flt Permitted				0.950								
Satd. Flow (perm)	0	3579	0	1789	1883	0	0	1629	0	0	1883	0
Link Speed (k/h)		50			48			48			50	
Link Distance (m)		152.4			237.0			95.7			60.6	
Travel Time (s)		11.0			17.8			7.2			4.4	
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)	0	0	0	11	0	0	0	0	66	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	11	0	0	0	66	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			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)	97		24	97		14	14		97	24		97
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	10	0	0	0	0	61	0	0	0
Future Volume (Veh/h)	0	0	0	10	0	0	0	0	61	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	11	0	0	0	0	66	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					237							
pX, platoon unblocked												
vC, conflicting volume	0			0			22	22	0	88	22	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			22	22	0	88	22	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	94	100	100	100
cM capacity (veh/h)	1622			1622			982	865	1084	829	865	1084

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	0	0	11	0	66	0
Volume Left	0	0	11	0	0	0
Volume Right	0	0	0	0	66	0
cSH	1700	1700	1622	1700	1084	1700
Volume to Capacity	0.00	0.00	0.01	0.00	0.06	0.00
Queue Length 95th (m)	0.0	0.0	0.2	0.0	1.5	0.0
Control Delay (s)	0.0	0.0	7.2	0.0	8.5	0.0
Lane LOS			A		A	A
Approach Delay (s)	0.0		7.2		8.5	0.0
Approach LOS					A	A

Intersection Summary				
Average Delay	8.3			
Intersection Capacity Utilization	13.8%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	61	10	0
Future Volume (vph)	0	0	0	61	10	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	3579	3579	0
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	3579	3579	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	66.3			283.4	152.4	
Travel Time (s)	5.0			20.4	11.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	66	11	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	66	11	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 6.7%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	61	10	0
Future Volume (Veh/h)	0	0	0	61	10	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	66	11	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)					390	
pX, platoon unblocked						
vC, conflicting volume	44	6	11			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	44	6	11			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	961	1076	1607			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	0	33	33	7	4
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.02	0.02	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0			0.0	
Approach LOS	A					

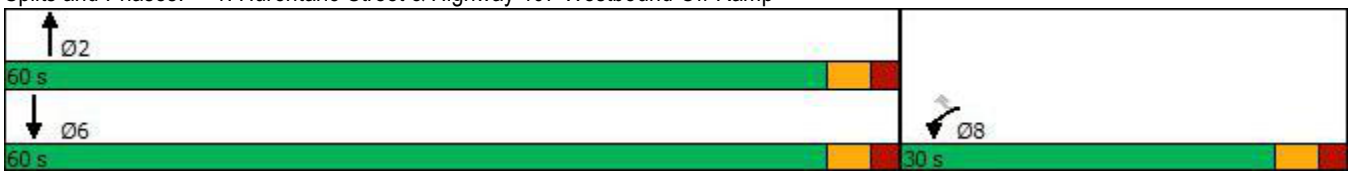
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

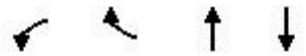
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	161	354	1250	0	0	719
Future Volume (vph)	161	354	1250	0	0	719
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	115.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Frt	0.921	0.850				
Flt Protected	0.977					
Satd. Flow (prot)	3130	1486	3579	0	0	3544
Flt Permitted	0.977					
Satd. Flow (perm)	3130	1486	3579	0	0	3544
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	65	65				
Link Speed (k/h)	60		60			60
Link Distance (m)	401.2		345.6			144.3
Travel Time (s)	24.1		20.7			8.7
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	15%	0%	2%	0%	0%	3%
Adj. Flow (vph)	166	365	1289	0	0	741
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	349	182	1289	0	0	741
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	7.4		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	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0			5.0
Minimum Split (s)	23.0	23.0	23.0			23.0
Total Split (s)	30.0	30.0	60.0			60.0
Total Split (%)	33.3%	33.3%	66.7%			66.7%
Maximum Green (s)	25.0	25.0	55.0			55.0
Yellow Time (s)	3.0	3.0	3.0			3.0
All-Red Time (s)	2.0	2.0	2.0			2.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	Max			Max
Walk Time (s)	7.0	7.0	7.0			7.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	12.8	12.8	55.1			55.1
Actuated g/C Ratio	0.16	0.16	0.71			0.71
v/c Ratio	0.61	0.61	0.51			0.30
Control Delay	29.1	28.2	6.6			5.0
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	29.1	28.2	6.6			5.0
LOS	C	C	A			A
Approach Delay	28.8		6.6			5.0
Approach LOS	C		A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 78			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 10.7		Intersection LOS: B	
Intersection Capacity Utilization 57.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & Highway 407 Westbound Off-Ramp





Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	349	182	1289	741
v/c Ratio	0.61	0.61	0.51	0.30
Control Delay	29.1	28.2	6.6	5.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	29.1	28.2	6.6	5.0
Queue Length 50th (m)	20.1	17.3	36.5	17.0
Queue Length 95th (m)	32.3	37.9	67.1	32.6
Internal Link Dist (m)	377.2		321.6	120.3
Turn Bay Length (m)		115.0		
Base Capacity (vph)	1050	521	2530	2505
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.33	0.35	0.51	0.30

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	161	354	1250	0	0	719
Future Volume (vph)	161	354	1250	0	0	719
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0			5.0
Lane Util. Factor	0.97	0.91	0.95			0.95
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3131	1486	3579			3544
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3131	1486	3579			3544
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	166	365	1289	0	0	741
RTOR Reduction (vph)	54	54	0	0	0	0
Lane Group Flow (vph)	295	128	1289	0	0	741
Heavy Vehicles (%)	15%	0%	2%	0%	0%	3%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	12.8	12.8	55.1			55.1
Effective Green, g (s)	12.8	12.8	55.1			55.1
Actuated g/C Ratio	0.16	0.16	0.71			0.71
Clearance Time (s)	5.0	5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	514	244	2531			2506
v/s Ratio Prot	c0.09		c0.36			0.21
v/s Ratio Perm		0.09				
v/c Ratio	0.57	0.52	0.51			0.30
Uniform Delay, d1	30.0	29.8	5.2			4.2
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	1.5	2.0	0.7			0.3
Delay (s)	31.6	31.8	6.0			4.5
Level of Service	C	C	A			A
Approach Delay (s)	31.6		6.0			4.5
Approach LOS	C		A			A

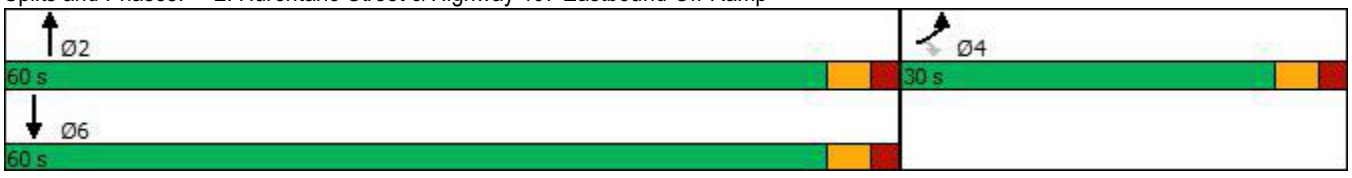
Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	77.9	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

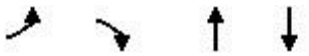
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	124	59	0	1302	634	0
Future Volume (vph)	124	59	0	1302	634	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	95.0	0.0			0.0
Storage Lanes	2	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3471	1384	0	3579	3476	0
Flt Permitted	0.950					
Satd. Flow (perm)	3471	1384	0	3579	3476	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		61				
Link Speed (k/h)	60			60	60	
Link Distance (m)	401.8			373.3	345.6	
Travel Time (s)	24.1			22.4	20.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	18%	0%	2%	5%	0%
Adj. Flow (vph)	128	61	0	1342	654	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	128	61	0	1342	654	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.4			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
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	6.1	6.1		30.5	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	6.1		1.8	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Permitted Phases		4				
Detector Phase	4	4		2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0		23.0	23.0	
Total Split (s)	30.0	30.0		60.0	60.0	
Total Split (%)	33.3%	33.3%		66.7%	66.7%	
Maximum Green (s)	25.0	25.0		55.0	55.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Recall Mode	None	None		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	8.2	8.2		59.5	59.5	
Actuated g/C Ratio	0.11	0.11		0.77	0.77	
v/c Ratio	0.35	0.30		0.49	0.25	
Control Delay	33.7	13.1		4.3	3.0	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	33.7	13.1		4.3	3.0	
LOS	C	B		A	A	
Approach Delay	27.0			4.3	3.0	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 77.7			
Natural Cycle: 55			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 5.9		Intersection LOS: A	
Intersection Capacity Utilization 57.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: Hurontario Street & Highway 407 Eastbound Off-Ramp





Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	128	61	1342	654
v/c Ratio	0.35	0.30	0.49	0.25
Control Delay	33.7	13.1	4.3	3.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	33.7	13.1	4.3	3.0
Queue Length 50th (m)	8.6	0.0	28.8	10.7
Queue Length 95th (m)	15.9	9.8	44.2	17.5
Internal Link Dist (m)	377.8		349.3	321.6
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1120	488	2739	2660
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	0.11	0.13	0.49	0.25

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	124	59	0	1302	634	0
Future Volume (vph)	124	59	0	1302	634	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	1.00		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3471	1384		3579	3476	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3471	1384		3579	3476	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	128	61	0	1342	654	0
RTOR Reduction (vph)	0	55	0	0	0	0
Lane Group Flow (vph)	128	6	0	1342	654	0
Heavy Vehicles (%)	2%	18%	0%	2%	5%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	8.2	8.2		59.5	59.5	
Effective Green, g (s)	8.2	8.2		59.5	59.5	
Actuated g/C Ratio	0.11	0.11		0.77	0.77	
Clearance Time (s)	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	366	146		2740	2661	
v/s Ratio Prot	c0.04			c0.38	0.19	
v/s Ratio Perm		0.00				
v/c Ratio	0.35	0.04		0.49	0.25	
Uniform Delay, d1	32.3	31.2		3.4	2.6	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.1		0.6	0.2	
Delay (s)	32.9	31.4		4.0	2.8	
Level of Service	C	C		A	A	
Approach Delay (s)	32.4			4.0	2.8	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	77.7	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
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)	151	894	26	60	1586	265	153	533	46	203	284	97
Future Volume (vph)	151	894	26	60	1586	265	153	533	46	203	284	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		0.0	185.0		0.0	55.0		0.0	100.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00		0.99	0.99		0.96	1.00		0.99	0.98	
Frt		0.996			0.979			0.988			0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1807	4796	0	1789	4973	0	1825	3411	0	1772	3192	0
Flt Permitted	0.060			0.277			0.950			0.950		
Satd. Flow (perm)	114	4796	0	516	4973	0	1759	3411	0	1752	3192	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			24			5			29	
Link Speed (k/h)		70			70			60			60	
Link Distance (m)		331.5			999.3			126.9			189.0	
Travel Time (s)		17.0			51.4			7.6			11.3	
Confl. Peds. (#/hr)	23		42	42		23	53		22	22		53
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	1%	9%	0%	2%	3%	1%	0%	4%	22%	3%	10%	2%
Adj. Flow (vph)	153	903	26	61	1602	268	155	538	46	205	287	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	153	929	0	61	1870	0	155	584	0	205	385	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	8.0	51.4		8.0	51.4		13.0	49.4		13.0	49.4	
Total Split (s)	14.0	76.5		8.0	70.5		22.0	49.5		26.0	53.5	
Total Split (%)	8.8%	47.8%		5.0%	44.1%		13.8%	30.9%		16.3%	33.4%	
Maximum Green (s)	11.0	69.1		5.0	63.1		17.0	41.1		21.0	45.1	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	3.2		0.0	3.2		2.0	4.4		2.0	4.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		13.0			13.0			12.0			12.0	
Flash Dont Walk (s)		31.0			31.0			29.0			29.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	81.6	70.9		72.7	63.3		15.8	31.2		20.1	35.4	
Actuated g/C Ratio	0.55	0.47		0.49	0.42		0.11	0.21		0.13	0.24	
v/c Ratio	0.83	0.41		0.21	0.88		0.80	0.82		0.86	0.49	
Control Delay	65.8	27.3		19.6	45.6		94.7	65.7		95.2	47.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	65.8	27.3		19.6	45.6		94.7	65.7		95.2	47.4	
LOS	E	C		B	D		F	E		F	D	
Approach Delay		32.8			44.8			71.8			64.0	
Approach LOS		C			D			E			E	

Intersection Summary

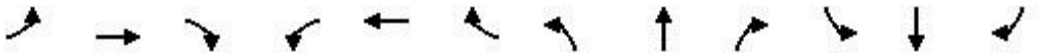
Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 149.3
Natural Cycle: 145
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 49.0 Intersection LOS: D
Intersection Capacity Utilization 104.7% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 3: Hurontario Street & Derry Road West/Derry Road East

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	153	929	61	1870	155	584	205	385
v/c Ratio	0.83	0.41	0.21	0.88	0.80	0.82	0.86	0.49
Control Delay	65.8	27.3	19.6	45.6	94.7	65.7	95.2	47.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.8	27.3	19.6	45.6	94.7	65.7	95.2	47.4
Queue Length 50th (m)	28.5	66.7	8.4	185.4	45.5	87.6	60.3	48.7
Queue Length 95th (m)	#73.5	87.1	17.8	#228.0	#84.9	108.8	#110.2	64.6
Internal Link Dist (m)		307.5		975.3		102.9		165.0
Turn Bay Length (m)	150.0		185.0		55.0		100.0	
Base Capacity (vph)	187	2279	294	2121	208	945	249	987
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.41	0.21	0.88	0.75	0.62	0.82	0.39

Intersection Summary

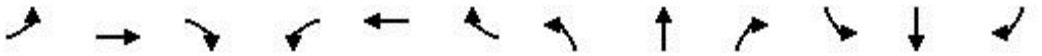
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	894	26	60	1586	265	153	533	46	203	284	97
Future Volume (vph)	151	894	26	60	1586	265	153	533	46	203	284	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		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)	1807	4795		1784	4971		1825	3412		1772	3195	
Flt Permitted	0.06	1.00		0.28	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	114	4795		520	4971		1825	3412		1772	3195	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	153	903	26	61	1602	268	155	538	46	205	287	98
RTOR Reduction (vph)	0	2	0	0	14	0	0	4	0	0	22	0
Lane Group Flow (vph)	153	927	0	61	1856	0	155	580	0	205	363	0
Confl. Peds. (#/hr)	23		42	42		23	53		22	22		53
Heavy Vehicles (%)	1%	9%	0%	2%	3%	1%	0%	4%	22%	3%	10%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Actuated Green, G (s)	77.8	70.9		67.8	63.9		15.8	31.2		20.1	35.5	
Effective Green, g (s)	77.8	70.9		67.8	63.9		15.8	31.2		20.1	35.5	
Actuated g/C Ratio	0.52	0.47		0.45	0.43		0.11	0.21		0.13	0.24	
Clearance Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	182	2267		268	2119		192	710		237	756	
v/s Ratio Prot	c0.06	0.19		0.01	c0.37		0.08	c0.17		c0.12	c0.11	
v/s Ratio Perm	0.38			0.10								
v/c Ratio	0.84	0.41		0.23	0.88		0.81	0.82		0.86	0.48	
Uniform Delay, d1	39.9	25.8		23.3	39.4		65.6	56.6		63.6	49.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	27.9	0.5		0.4	5.5		21.4	7.2		26.3	0.5	
Delay (s)	67.9	26.4		23.8	44.8		87.0	63.9		89.9	49.7	
Level of Service	E	C		C	D		F	E		F	D	
Approach Delay (s)		32.2			44.2			68.7			63.7	
Approach LOS		C			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	48.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	149.9	Sum of lost time (s)	23.8
Intersection Capacity Utilization	104.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

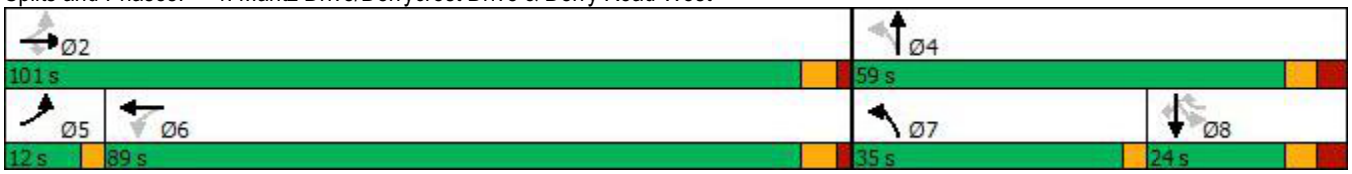


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	746	224	150	1727	26	505	143	231	32	58	285
Future Volume (vph)	103	746	224	150	1727	26	505	143	231	32	58	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	55.0		30.0	0.0		0.0	100.0		0.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97	1.00		0.98	1.00	0.99		1.00		0.99
Frt			0.850			0.850		0.907				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4902	1585	1415	5142	1471	1738	1654	0	1738	1883	1617
Flt Permitted	0.062			0.346			0.606			0.531		
Satd. Flow (perm)	119	4902	1539	514	5142	1448	1107	1654	0	970	1883	1594
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			134			63		54				112
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		443.5			331.5			130.4			222.4	
Travel Time (s)		22.8			17.0			9.4			16.0	
Confl. Peds. (#/hr)	4		4	4		4	2		2	2		2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	7%	3%	29%	2%	11%	5%	2%	6%	5%	2%	1%
Adj. Flow (vph)	107	777	233	156	1799	27	526	149	241	33	60	297
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	777	233	156	1799	27	526	390	0	33	60	297
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	Perm	NA	custom	pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2			6		7	4			8	
Permitted Phases	2		2	6		8	4			8		8
Detector Phase	5	2	2	6	6	8	7	4		8	8	8
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	10.0		10.0	10.0	10.0
Minimum Split (s)	10.0	41.2	41.2	41.2	41.2	56.7	10.0	56.7		56.7	56.7	56.7
Total Split (s)	12.0	101.0	101.0	89.0	89.0	24.0	35.0	59.0		24.0	24.0	24.0
Total Split (%)	7.5%	63.1%	63.1%	55.6%	55.6%	15.0%	21.9%	36.9%		15.0%	15.0%	15.0%
Maximum Green (s)	9.0	94.8	94.8	82.8	82.8	16.3	32.0	51.3		16.3	16.3	16.3
Yellow Time (s)	3.0	4.2	4.2	4.2	4.2	4.0	3.0	4.0		4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	3.7	0.0	3.7		3.7	3.7	3.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	None	None	None		None	None	None
Walk Time (s)		10.0	10.0	10.0	10.0	10.0		10.0		10.0	10.0	10.0
Flash Dont Walk (s)		25.0	25.0	25.0	25.0	39.0		39.0		39.0	39.0	39.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0		0	0	0
Act Effct Green (s)	98.0	94.8	94.8	83.3	83.3	16.3	56.0	51.3		16.3	16.3	16.3
Actuated g/C Ratio	0.61	0.59	0.59	0.52	0.52	0.10	0.35	0.32		0.10	0.10	0.10
v/c Ratio	0.66	0.27	0.24	0.58	0.67	0.13	1.03	0.69		0.34	0.31	1.13
Control Delay	39.5	16.1	6.9	37.5	29.9	1.3	93.9	47.7		77.1	71.5	133.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	39.5	16.1	6.9	37.5	29.9	1.3	93.9	47.7		77.1	71.5	133.9
LOS	D	B	A	D	C	A	F	D		E	E	F
Approach Delay		16.4			30.1			74.2			119.5	
Approach LOS		B			C			E			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Natural Cycle: 120			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.13			
Intersection Signal Delay: 43.7		Intersection LOS: D	
Intersection Capacity Utilization 95.6%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 4: Maritz Drive/Derrycrest Drive & Derry Road West

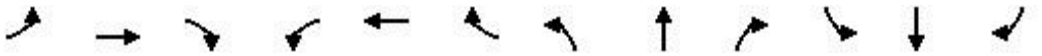


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	107	777	233	156	1799	27	526	390	33	60	297
v/c Ratio	0.66	0.27	0.24	0.58	0.67	0.13	1.03	0.69	0.34	0.31	1.13
Control Delay	39.5	16.1	6.9	37.5	29.9	1.3	93.9	47.7	77.1	71.5	133.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.5	16.1	6.9	37.5	29.9	1.3	93.9	47.7	77.1	71.5	133.9
Queue Length 50th (m)	13.4	42.2	13.2	33.7	152.4	0.0	~161.7	94.4	9.9	18.0	~75.4
Queue Length 95th (m)	#32.5	50.2	26.7	61.6	168.3	0.0	#249.2	133.4	21.9	33.3	#136.1
Internal Link Dist (m)		419.5			307.5			106.4		198.4	
Turn Bay Length (m)	50.0		15.0	55.0		30.0			100.0		
Base Capacity (vph)	168	2904	966	267	2677	204	513	567	98	191	262
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.27	0.24	0.58	0.67	0.13	1.03	0.69	0.34	0.31	1.13

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	746	224	150	1727	26	505	143	231	32	58	285
Future Volume (vph)	103	746	224	150	1727	26	505	143	231	32	58	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1825	4902	1539	1410	5142	1448	1736	1654		1736	1883	1594
Flt Permitted	0.06	1.00	1.00	0.35	1.00	1.00	0.61	1.00		0.53	1.00	1.00
Satd. Flow (perm)	118	4902	1539	513	5142	1448	1108	1654		971	1883	1594
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	107	777	233	156	1799	27	526	149	241	33	60	297
RTOR Reduction (vph)	0	0	55	0	0	24	0	37	0	0	0	101
Lane Group Flow (vph)	107	777	178	156	1799	3	526	353	0	33	60	196
Confl. Peds. (#/hr)	4		4	4		4	2		2	2		2
Heavy Vehicles (%)	0%	7%	3%	29%	2%	11%	5%	2%	6%	5%	2%	1%
Turn Type	pm+pt	NA	Perm	Perm	NA	custom	pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2			6		7	4			8	
Permitted Phases	2		2	6		8	4			8		8
Actuated Green, G (s)	94.8	94.8	94.8	83.3	83.3	16.3	51.3	51.3		16.3	16.3	16.3
Effective Green, g (s)	94.8	94.8	94.8	83.3	83.3	16.3	51.3	51.3		16.3	16.3	16.3
Actuated g/C Ratio	0.59	0.59	0.59	0.52	0.52	0.10	0.32	0.32		0.10	0.10	0.10
Clearance Time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	160	2904	911	267	2677	147	480	530		98	191	162
v/s Ratio Prot	c0.04	0.16			0.35		c0.22	0.21			0.03	
v/s Ratio Perm	c0.36		0.12	0.30		0.00	c0.13			0.03		0.12
v/c Ratio	0.67	0.27	0.20	0.58	0.67	0.02	1.10	0.67		0.34	0.31	1.21
Uniform Delay, d1	24.1	15.8	15.0	26.4	28.3	64.7	52.2	47.0		66.8	66.7	71.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	10.1	0.2	0.5	9.0	1.4	0.1	69.7	3.2		2.0	0.9	139.1
Delay (s)	34.3	16.0	15.5	35.5	29.6	64.7	121.9	50.1		68.9	67.6	211.0
Level of Service	C	B	B	D	C	E	F	D		E	E	F
Approach Delay (s)		17.7			30.6			91.3			176.9	
Approach LOS		B			C			F			F	

Intersection Summary			
HCM 2000 Control Delay	52.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	19.9
Intersection Capacity Utilization	95.6%	ICU Level of Service	F
Analysis Period (min)	15		

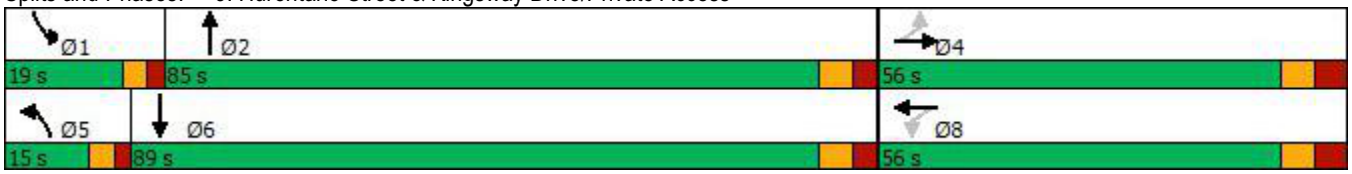
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	1	22	2	2	4	6	918	2	4	568	125
Future Volume (vph)	181	1	22	2	2	4	6	918	2	4	568	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	0.0		0.0	20.0		0.0	30.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor	1.00				0.99		1.00				1.00	
Frt		0.857			0.932						0.973	
Flt Protected	0.950				0.988		0.950			0.950		
Satd. Flow (prot)	1807	1571	0	0	1756	0	1521	3544	0	1825	3358	0
Flt Permitted	0.752				0.951		0.950			0.950		
Satd. Flow (perm)	1427	1571	0	0	1691	0	1517	3544	0	1825	3358	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			4						24	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		318.7			138.1			189.0			440.6	
Travel Time (s)		22.9			9.9			11.3			26.4	
Confl. Peds. (#/hr)	2					2	4					4
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	0%	5%	0%	0%	0%	20%	3%	0%	0%	6%	2%
Adj. Flow (vph)	185	1	22	2	2	4	6	937	2	4	580	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	23	0	0	8	0	6	939	0	4	708	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	52.0	52.0		52.0	52.0		13.0	58.0		13.0	58.0	
Total Split (s)	56.0	56.0		56.0	56.0		15.0	85.0		19.0	89.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		9.4%	53.1%		11.9%	55.6%	
Maximum Green (s)	48.0	48.0		48.0	48.0		10.0	78.0		14.0	82.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		2.0	3.0		2.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	13.0	13.0		13.0	13.0			15.0			15.0	
Flash Dont Walk (s)	31.0	31.0		31.0	31.0			36.0			36.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	20.8	20.8			20.8		8.1	82.8		8.1	82.8	
Actuated g/C Ratio	0.17	0.17			0.17		0.07	0.68		0.07	0.68	
v/c Ratio	0.76	0.08			0.03		0.06	0.39		0.03	0.31	
Control Delay	67.4	17.0			31.9		59.7	10.1		59.0	9.0	
Queue Delay	0.0	0.0			0.0		0.0	0.3		0.0	0.0	
Total Delay	67.4	17.0			31.9		59.7	10.4		59.0	9.0	
LOS	E	B			C		E	B		E	A	
Approach Delay		61.9			31.9			10.7			9.3	
Approach LOS		E			C			B			A	

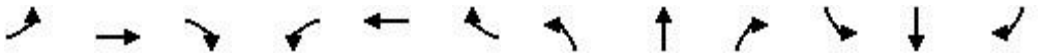
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 120.9			
Natural Cycle: 125			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 15.9		Intersection LOS: B	
Intersection Capacity Utilization 71.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: Hurontario Street & Kingsway Drive/Private Access



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	185	23	8	6	939	4	708
v/c Ratio	0.76	0.08	0.03	0.06	0.39	0.03	0.31
Control Delay	67.4	17.0	31.9	59.7	10.1	59.0	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	67.4	17.0	31.9	59.7	10.4	59.0	9.0
Queue Length 50th (m)	40.8	0.2	0.8	1.3	41.6	0.9	28.0
Queue Length 95th (m)	72.5	7.9	5.3	6.3	91.5	5.2	64.0
Internal Link Dist (m)		294.7	114.1		165.0		416.6
Turn Bay Length (m)	40.0			20.0		30.0	
Base Capacity (vph)	570	641	678	126	2426	212	2306
Starvation Cap Reductn	0	0	0	0	805	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	0.32	0.04	0.01	0.05	0.58	0.02	0.31

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	1	22	2	2	4	6	918	2	4	568	125
Future Volume (vph)	181	1	22	2	2	4	6	918	2	4	568	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86			0.93		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	1570			1757		1521	3543		1825	3358	
Flt Permitted	0.75	1.00			0.95		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1429	1570			1691		1521	3543		1825	3358	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	185	1	22	2	2	4	6	937	2	4	580	128
RTOR Reduction (vph)	0	18	0	0	3	0	0	0	0	0	8	0
Lane Group Flow (vph)	185	5	0	0	5	0	6	939	0	4	700	0
Confl. Peds. (#/hr)	2					2	4					4
Heavy Vehicles (%)	1%	0%	5%	0%	0%	0%	20%	3%	0%	0%	6%	2%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	20.8	20.8			20.8		1.4	82.8		1.4	82.8	
Effective Green, g (s)	20.8	20.8			20.8		1.4	82.8		1.4	82.8	
Actuated g/C Ratio	0.17	0.17			0.17		0.01	0.66		0.01	0.66	
Clearance Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	237	261			281		17	2346		20	2224	
v/s Ratio Prot		0.00					c0.00	c0.27		0.00	0.21	
v/s Ratio Perm	c0.13				0.00							
v/c Ratio	0.78	0.02			0.02		0.35	0.40		0.20	0.31	
Uniform Delay, d1	49.9	43.6			43.6		61.4	9.7		61.2	9.0	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.3	0.0			0.0		12.2	0.5		4.9	0.4	
Delay (s)	65.2	43.6			43.6		73.5	10.2		66.1	9.4	
Level of Service	E	D			D		E	B		E	A	
Approach Delay (s)		62.8			43.6			10.6			9.7	
Approach LOS		E			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	71.7%	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)	62	0	53	31	1	440	16	1083	19	71	643	21
Future Volume (vph)	62	0	53	31	1	440	16	1083	19	71	643	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	0.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor							1.00				1.00	
Frt		0.850			0.874			0.997			0.995	
Flt Protected	0.950				0.997		0.950			0.950		
Satd. Flow (prot)	1825	1633	0	0	1648	0	1825	3560	0	1547	3495	0
Flt Permitted	0.240				0.975		0.950			0.950		
Satd. Flow (perm)	461	1633	0	0	1611	0	1824	3560	0	1547	3495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		251			134			1			3	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		237.0			253.7			440.6			373.3	
Travel Time (s)		17.1			18.3			26.4			22.4	
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	10%	0%	1%	0%	2%	15%	18%	4%	0%
Adj. Flow (vph)	63	0	54	32	1	449	16	1105	19	72	656	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	54	0	0	482	0	16	1124	0	72	677	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		8.0	8.0	
Minimum Split (s)	57.5	57.5		57.5	57.5		10.0	38.5		13.0	38.5	
Total Split (s)	66.0	66.0		66.0	66.0		12.0	81.0		13.0	82.0	
Total Split (%)	41.3%	41.3%		41.3%	41.3%		7.5%	50.6%		8.1%	51.3%	
Maximum Green (s)	57.5	57.5		57.5	57.5		7.0	73.5		8.0	74.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.5	4.5		4.5	4.5		2.0	3.5		2.0	3.5	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	14.0	14.0		14.0	14.0			9.0			9.0	
Flash Dont Walk (s)	35.0	35.0		35.0	35.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	38.6	38.6			38.6		6.4	74.0		8.1	82.7	
Actuated g/C Ratio	0.27	0.27			0.27		0.05	0.52		0.06	0.58	
v/c Ratio	0.50	0.09			0.90		0.20	0.60		0.83	0.33	
Control Delay	56.9	0.3			55.7		75.4	27.1		123.3	18.5	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	56.9	0.3			55.7		75.4	27.1		123.3	18.5	
LOS	E	A			E		E	C		F	B	
Approach Delay		30.8			55.7			27.8			28.5	
Approach LOS		C			E			C			C	

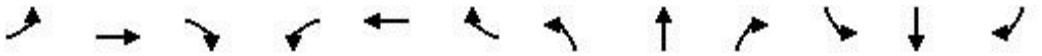
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 141.8			
Natural Cycle: 110			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 33.6		Intersection LOS: C	
Intersection Capacity Utilization 90.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 6: Hurontario Street & Vicksburgh Drive/Topflight Drive

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	63	54	482	16	1124	72	677
v/c Ratio	0.50	0.09	0.90	0.20	0.60	0.83	0.33
Control Delay	56.9	0.3	55.7	75.4	27.1	123.3	18.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	0.3	55.7	75.4	27.1	123.3	18.5
Queue Length 50th (m)	14.9	0.0	98.8	4.4	112.7	20.3	45.3
Queue Length 95th (m)	30.5	0.0	143.0	13.3	170.9	#56.1	89.7
Internal Link Dist (m)		213.0	229.7		416.6		349.3
Turn Bay Length (m)	25.0			25.0		35.0	
Base Capacity (vph)	187	815	737	90	1858	87	2039
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	0.34	0.07	0.65	0.18	0.60	0.83	0.33

Intersection Summary

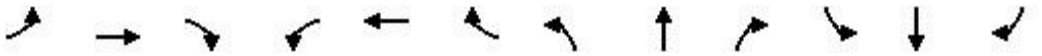
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	0	53	31	1	440	16	1083	19	71	643	21
Future Volume (vph)	62	0	53	31	1	440	16	1083	19	71	643	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.87		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	1633			1648		1825	3562		1547	3496	
Flt Permitted	0.24	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	461	1633			1612		1825	3562		1547	3496	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	63	0	54	32	1	449	16	1105	19	72	656	21
RTOR Reduction (vph)	0	40	0	0	98	0	0	0	0	0	1	0
Lane Group Flow (vph)	63	14	0	0	384	0	16	1124	0	72	676	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	10%	0%	1%	0%	2%	15%	18%	4%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)	38.6	38.6			38.6		2.6	77.2		8.1	82.7	
Effective Green, g (s)	38.6	38.6			38.6		2.6	77.2		8.1	82.7	
Actuated g/C Ratio	0.27	0.27			0.27		0.02	0.53		0.06	0.57	
Clearance Time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	122	435			429		32	1897		86	1995	
v/s Ratio Prot		0.01					0.01	c0.32		c0.05	0.19	
v/s Ratio Perm	0.14				c0.24							
v/c Ratio	0.52	0.03			0.89		0.50	0.59		0.84	0.34	
Uniform Delay, d1	45.2	39.3			51.2		70.5	23.1		67.7	16.5	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.7	0.0			20.5		11.8	1.4		47.5	0.5	
Delay (s)	48.9	39.4			71.7		82.3	24.5		115.3	17.0	
Level of Service	D	D			E		F	C		F	B	
Approach Delay (s)		44.5			71.7			25.3			26.5	
Approach LOS		D			E			C			C	

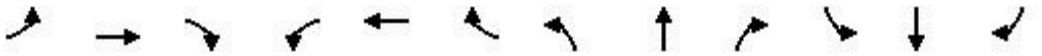
Intersection Summary			
HCM 2000 Control Delay	35.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	144.9	Sum of lost time (s)	21.0
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	16	14	180	0	2	7	35	141	7	106	2
Future Volume (vph)	2	16	14	180	0	2	7	35	141	7	106	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	15.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	0		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
Ped Bike Factor												
Frt		0.940			0.850			0.880			0.997	
Flt Protected		0.997		0.950			0.950			0.950		
Satd. Flow (prot)	0	1800	0	1807	1633	0	1825	3187	0	1825	3639	0
Flt Permitted		0.997		0.950			0.950			0.950		
Satd. Flow (perm)	0	1800	0	1807	1633	0	1825	3187	0	1825	3639	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		62.9			318.7			222.4			283.4	
Travel Time (s)		4.5			22.9			16.0			20.4	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%
Adj. Flow (vph)	2	17	15	196	0	2	8	38	153	8	115	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	34	0	196	2	0	8	191	0	8	117	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.1%		ICU Level of Service A	
Analysis Period (min) 15			



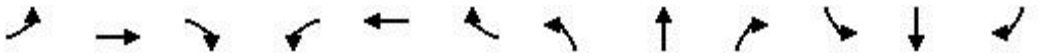
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	16	14	180	0	2	7	35	141	7	106	2
Future Volume (Veh/h)	2	16	14	180	0	2	7	35	141	7	106	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	17	15	196	0	2	8	38	153	8	115	2
Pedestrians								1				
Lane Width (m)								3.7				
Walking Speed (m/s)								1.1				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								223				
pX, platoon unblocked												
vC, conflicting volume	169	339	60	228	264	96	117			191		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	169	339	60	228	264	96	117			191		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	97	98	71	100	100	99			99		
cM capacity (veh/h)	776	579	999	677	638	949	1484			1395		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	34	196	2	8	25	166	8	77	40
Volume Left	2	196	0	8	0	0	8	0	0
Volume Right	15	0	2	0	0	153	0	0	2
cSH	724	677	949	1484	1700	1700	1395	1700	1700
Volume to Capacity	0.05	0.29	0.00	0.01	0.01	0.10	0.01	0.05	0.02
Queue Length 95th (m)	1.1	9.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0
Control Delay (s)	10.2	12.5	8.8	7.4	0.0	0.0	7.6	0.0	0.0
Lane LOS	B	B	A	A			A		
Approach Delay (s)	10.2	12.4		0.3			0.5		
Approach LOS	B	B							

Intersection Summary				
Average Delay	5.3			
Intersection Capacity Utilization	29.1%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	54	0	0	0	0	18	0	0	0
Future Volume (vph)	0	0	0	54	0	0	0	0	18	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.865				
Flt Protected				0.950								
Satd. Flow (prot)	0	3579	0	1789	1883	0	0	1629	0	0	1883	0
Flt Permitted				0.950								
Satd. Flow (perm)	0	3579	0	1789	1883	0	0	1629	0	0	1883	0
Link Speed (k/h)		50			48			48			50	
Link Distance (m)		152.4			237.0			95.7			60.6	
Travel Time (s)		11.0			17.8			7.2			4.4	
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)	0	0	0	59	0	0	0	0	20	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	59	0	0	0	20	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			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)	97		24	97		14	14		97	24		97
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	54	0	0	0	0	18	0	0	0
Future Volume (Veh/h)	0	0	0	54	0	0	0	0	18	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	59	0	0	0	0	20	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					237							
pX, platoon unblocked												
vC, conflicting volume	0			0			118	118	0	138	118	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			118	118	0	138	118	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			96			100	100	98	100	100	100
cM capacity (veh/h)	1622			1622			822	743	1084	781	743	1084

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	0	0	59	0	20	0
Volume Left	0	0	59	0	0	0
Volume Right	0	0	0	0	20	0
cSH	1700	1700	1622	1700	1084	1700
Volume to Capacity	0.00	0.00	0.04	0.00	0.02	0.00
Queue Length 95th (m)	0.0	0.0	0.9	0.0	0.4	0.0
Control Delay (s)	0.0	0.0	7.3	0.0	8.4	0.0
Lane LOS			A		A	A
Approach Delay (s)	0.0		7.3		8.4	0.0
Approach LOS					A	A

Intersection Summary				
Average Delay	7.6			
Intersection Capacity Utilization	13.3%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	18	54	0
Future Volume (vph)	0	0	0	18	54	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	3579	3579	0
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	3579	3579	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	66.3			283.4	152.4	
Travel Time (s)	5.0			20.4	11.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	20	59	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	20	59	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 6.7%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	18	54	0
Future Volume (Veh/h)	0	0	0	18	54	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	20	59	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)					390	
pX, platoon unblocked						
vC, conflicting volume	69	30	59			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	69	30	59			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	928	1038	1543			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	0	10	10	39	20
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.01	0.01	0.02	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0			0.0	
Approach LOS	A					

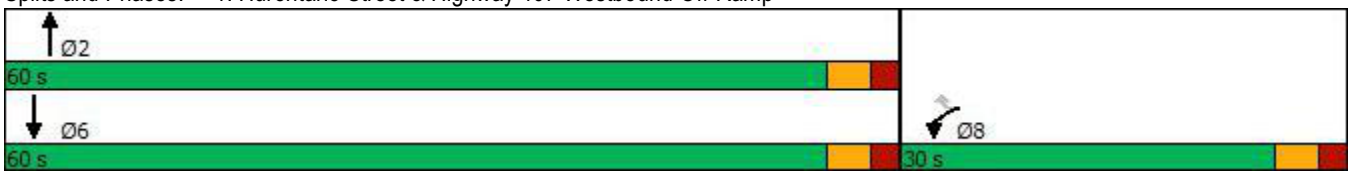
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

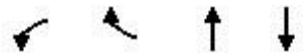
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	290	248	654	0	0	1019
Future Volume (vph)	290	248	654	0	0	1019
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	115.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Frt	0.968	0.850				
Flt Protected	0.962					
Satd. Flow (prot)	3312	1429	3476	0	0	3544
Flt Permitted	0.962					
Satd. Flow (perm)	3312	1429	3476	0	0	3544
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	39	180				
Link Speed (k/h)	60		60			60
Link Distance (m)	401.2		345.6			144.3
Travel Time (s)	24.1		20.7			8.7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	4%	5%	0%	0%	3%
Adj. Flow (vph)	309	264	696	0	0	1084
Shared Lane Traffic (%)		32%				
Lane Group Flow (vph)	393	180	696	0	0	1084
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	7.4		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	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0			5.0
Minimum Split (s)	23.0	23.0	23.0			23.0
Total Split (s)	30.0	30.0	60.0			60.0
Total Split (%)	33.3%	33.3%	66.7%			66.7%
Maximum Green (s)	25.0	25.0	55.0			55.0
Yellow Time (s)	3.0	3.0	3.0			3.0
All-Red Time (s)	2.0	2.0	2.0			2.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	Max			Max
Walk Time (s)	7.0	7.0	7.0			7.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	13.9	13.9	55.1			55.1
Actuated g/C Ratio	0.18	0.18	0.70			0.70
v/c Ratio	0.64	0.45	0.29			0.44
Control Delay	32.1	8.6	5.2			6.3
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	32.1	8.6	5.2			6.3
LOS	C	A	A			A
Approach Delay	24.7		5.2			6.3
Approach LOS	C		A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 79			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 10.4		Intersection LOS: B	
Intersection Capacity Utilization 50.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & Highway 407 Westbound Off-Ramp





Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	393	180	696	1084
v/c Ratio	0.64	0.45	0.29	0.44
Control Delay	32.1	8.6	5.2	6.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	32.1	8.6	5.2	6.3
Queue Length 50th (m)	25.5	0.0	17.0	30.5
Queue Length 95th (m)	38.5	16.7	30.3	52.4
Internal Link Dist (m)	377.2		321.6	120.3
Turn Bay Length (m)		115.0		
Base Capacity (vph)	1076	576	2425	2472
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	0.37	0.31	0.29	0.44

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	290	248	654	0	0	1019
Future Volume (vph)	290	248	654	0	0	1019
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0			5.0
Lane Util. Factor	0.97	0.91	0.95			0.95
Frt	0.97	0.85	1.00			1.00
Flt Protected	0.96	1.00	1.00			1.00
Satd. Flow (prot)	3312	1429	3476			3544
Flt Permitted	0.96	1.00	1.00			1.00
Satd. Flow (perm)	3312	1429	3476			3544
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	309	264	696	0	0	1084
RTOR Reduction (vph)	32	148	0	0	0	0
Lane Group Flow (vph)	361	32	696	0	0	1084
Heavy Vehicles (%)	5%	4%	5%	0%	0%	3%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	13.9	13.9	55.1			55.1
Effective Green, g (s)	13.9	13.9	55.1			55.1
Actuated g/C Ratio	0.18	0.18	0.70			0.70
Clearance Time (s)	5.0	5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	582	251	2424			2471
v/s Ratio Prot	c0.11		0.20			c0.31
v/s Ratio Perm		0.02				
v/c Ratio	0.62	0.13	0.29			0.44
Uniform Delay, d1	30.1	27.4	4.5			5.2
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	2.1	0.2	0.3			0.6
Delay (s)	32.2	27.7	4.8			5.8
Level of Service	C	C	A			A
Approach Delay (s)	30.7		4.8			5.8
Approach LOS	C		A			A

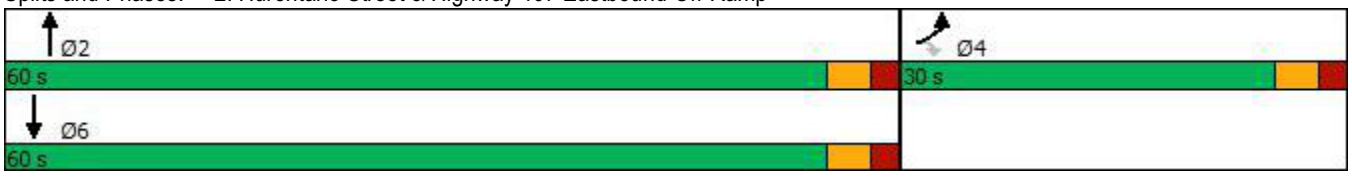
Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	79.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	50.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

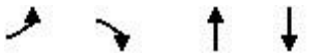
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	117	233	0	601	993	0
Future Volume (vph)	117	233	0	601	993	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	95.0	0.0			0.0
Storage Lanes	2	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3506	1526	0	3444	3510	0
Flt Permitted	0.950					
Satd. Flow (perm)	3506	1526	0	3444	3510	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		111				
Link Speed (k/h)	60			60	60	
Link Distance (m)	401.8			373.3	345.6	
Travel Time (s)	24.1			22.4	20.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	7%	0%	6%	4%	0%
Adj. Flow (vph)	124	248	0	639	1056	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	124	248	0	639	1056	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.4			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
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	6.1	6.1		30.5	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	6.1		1.8	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Permitted Phases		4				
Detector Phase	4	4		2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0		23.0	23.0	
Total Split (s)	30.0	30.0		60.0	60.0	
Total Split (%)	33.3%	33.3%		66.7%	66.7%	
Maximum Green (s)	25.0	25.0		55.0	55.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Recall Mode	None	None		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	12.9	12.9		55.9	55.9	
Actuated g/C Ratio	0.16	0.16		0.71	0.71	
v/c Ratio	0.22	0.73		0.26	0.42	
Control Delay	28.4	29.2		5.1	6.1	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	28.4	29.2		5.1	6.1	
LOS	C	C		A	A	
Approach Delay	28.9			5.1	6.1	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 78.8			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 9.9		Intersection LOS: A	
Intersection Capacity Utilization 50.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Hurontario Street & Highway 407 Eastbound Off-Ramp





Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	124	248	639	1056
v/c Ratio	0.22	0.73	0.26	0.42
Control Delay	28.4	29.2	5.1	6.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	28.4	29.2	5.1	6.1
Queue Length 50th (m)	8.2	18.8	14.5	28.0
Queue Length 95th (m)	15.0	41.6	29.7	54.8
Internal Link Dist (m)	377.8		349.3	321.6
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1114	560	2443	2490
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	0.11	0.44	0.26	0.42

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	117	233	0	601	993	0
Future Volume (vph)	117	233	0	601	993	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	1.00		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3506	1526		3444	3510	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3506	1526		3444	3510	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	124	248	0	639	1056	0
RTOR Reduction (vph)	0	93	0	0	0	0
Lane Group Flow (vph)	124	155	0	639	1056	0
Heavy Vehicles (%)	1%	7%	0%	6%	4%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	12.9	12.9		55.9	55.9	
Effective Green, g (s)	12.9	12.9		55.9	55.9	
Actuated g/C Ratio	0.16	0.16		0.71	0.71	
Clearance Time (s)	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	573	249		2443	2489	
v/s Ratio Prot	0.04			0.19	c0.30	
v/s Ratio Perm		c0.10				
v/c Ratio	0.22	0.62		0.26	0.42	
Uniform Delay, d1	28.6	30.7		4.1	4.8	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	4.8		0.3	0.5	
Delay (s)	28.8	35.5		4.3	5.3	
Level of Service	C	D		A	A	
Approach Delay (s)	33.2			4.3	5.3	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	78.8	Sum of lost time (s)	10.0
Intersection Capacity Utilization	50.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

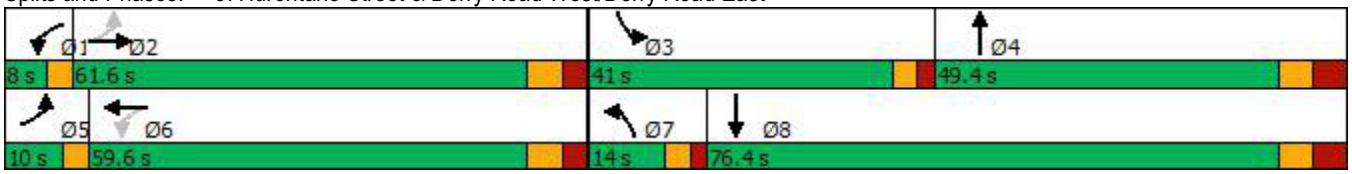
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	1750	10	63	1117	234	47	215	41	382	408	156
Future Volume (vph)	85	1750	10	63	1117	234	47	215	41	382	408	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		0.0	185.0		0.0	55.0		0.0	100.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00			0.99		0.96	0.99		0.98	0.97	
Frt		0.999			0.974			0.976			0.959	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1690	4986	0	1615	4537	0	1738	3021	0	1755	3164	0
Flt Permitted	0.088			0.077			0.950			0.950		
Satd. Flow (perm)	156	4986	0	131	4537	0	1668	3021	0	1728	3164	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			30			13			43	
Link Speed (k/h)		70			70			60			60	
Link Distance (m)		331.5			999.3			126.9			189.0	
Travel Time (s)		17.0			51.4			7.6			11.3	
Confl. Peds. (#/hr)	27		46	46		27	77		19	19		77
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	5%	14%	13%	13%	6%	5%	13%	40%	4%	7%	9%
Adj. Flow (vph)	88	1804	10	65	1152	241	48	222	42	394	421	161
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	1814	0	65	1393	0	48	264	0	394	582	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	8.0	51.4		8.0	51.4		13.0	49.4		13.0	49.4	
Total Split (s)	10.0	61.6		8.0	59.6		14.0	49.4		41.0	76.4	
Total Split (%)	6.3%	38.5%		5.0%	37.3%		8.8%	30.9%		25.6%	47.8%	
Maximum Green (s)	7.0	54.2		5.0	52.2		9.0	41.0		36.0	68.0	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	3.2		0.0	3.2		2.0	4.4		2.0	4.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		13.0			13.0			12.0			12.0	
Flash Dont Walk (s)		31.0			31.0			29.0			29.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	65.6	54.2		61.6	52.2		8.6	16.5		36.0	46.6	
Actuated g/C Ratio	0.48	0.40		0.45	0.38		0.06	0.12		0.27	0.34	
v/c Ratio	0.57	0.91		0.57	0.79		0.44	0.70		0.85	0.52	
Control Delay	34.0	46.4		40.2	40.3		74.9	64.4		65.1	35.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	34.0	46.4		40.2	40.3		74.9	64.4		65.1	35.4	
LOS	C	D		D	D		E	E		E	D	
Approach Delay		45.9			40.3			66.0			47.4	
Approach LOS		D			D			E			D	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 135.6
Natural Cycle: 145
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 45.8 Intersection LOS: D
Intersection Capacity Utilization 103.2% ICU Level of Service G
Analysis Period (min) 15

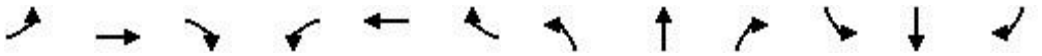
Splits and Phases: 3: Hurontario Street & Derry Road West/Derry Road East



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	88	1814	65	1393	48	264	394	582
v/c Ratio	0.57	0.91	0.57	0.79	0.44	0.70	0.85	0.52
Control Delay	34.0	46.4	40.2	40.3	74.9	64.4	65.1	35.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	46.4	40.2	40.3	74.9	64.4	65.1	35.4
Queue Length 50th (m)	12.3	165.9	9.0	117.4	12.6	34.4	100.4	62.8
Queue Length 95th (m)	23.4	#203.6	#21.1	144.2	26.6	49.2	#160.2	81.0
Internal Link Dist (m)		307.5		975.3		102.9		165.0
Turn Bay Length (m)	150.0		185.0		55.0		100.0	
Base Capacity (vph)	154	1995	114	1766	115	923	466	1609
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	0.57	0.91	0.57	0.79	0.42	0.29	0.85	0.36

Intersection Summary

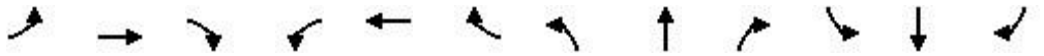
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	1750	10	63	1117	234	47	215	41	382	408	156
Future Volume (vph)	85	1750	10	63	1117	234	47	215	41	382	408	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.97		1.00	0.98		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)	1690	4987		1615	4541		1738	3023		1755	3174	
Flt Permitted	0.09	1.00		0.08	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	156	4987		130	4541		1738	3023		1755	3174	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	88	1804	10	65	1152	241	48	222	42	394	421	161
RTOR Reduction (vph)	0	1	0	0	19	0	0	11	0	0	28	0
Lane Group Flow (vph)	88	1813	0	65	1374	0	48	253	0	394	554	0
Confl. Peds. (#/hr)	27		46	46		27	77		19	19		77
Heavy Vehicles (%)	8%	5%	14%	13%	13%	6%	5%	13%	40%	4%	7%	9%
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Actuated Green, G (s)	61.2	54.2		57.2	52.2		6.9	17.5		36.0	46.6	
Effective Green, g (s)	61.2	54.2		57.2	52.2		6.9	17.5		36.0	46.6	
Actuated g/C Ratio	0.45	0.40		0.42	0.38		0.05	0.13		0.26	0.34	
Clearance Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	148	1980		108	1736		87	387		462	1083	
v/s Ratio Prot	c0.03	c0.36		0.02	0.30		0.03	c0.08		c0.22	0.17	
v/s Ratio Perm	0.23			0.23								
v/c Ratio	0.59	0.92		0.60	0.79		0.55	0.65		0.85	0.51	
Uniform Delay, d1	25.8	39.0		30.3	37.3		63.3	56.6		47.7	35.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.3	8.1		9.1	3.8		7.4	3.9		14.1	0.4	
Delay (s)	32.1	47.1		39.4	41.1		70.7	60.5		61.9	36.3	
Level of Service	C	D		D	D		E	E		E	D	
Approach Delay (s)		46.4			41.0			62.1			46.6	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	45.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	136.5	Sum of lost time (s)	23.8
Intersection Capacity Utilization	103.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

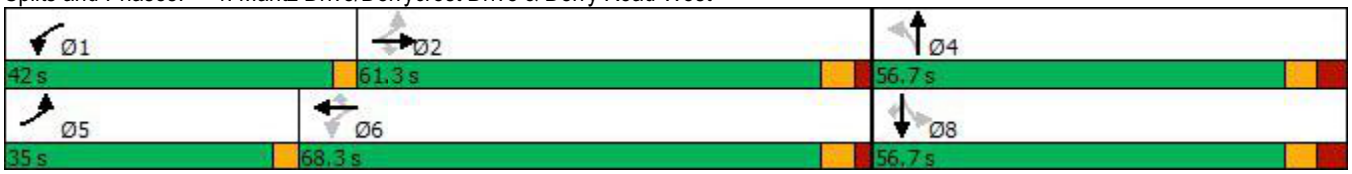


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	227	1678	657	418	868	55	97	62	98	16	49	71
Future Volume (vph)	227	1678	657	418	868	55	97	62	98	16	49	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	55.0		30.0	0.0		0.0	100.0		0.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97			0.99	1.00	0.99		1.00		0.99
Frt			0.850			0.850		0.908				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5043	1633	1484	4601	1585	1722	1497	0	1521	1883	1541
Flt Permitted	0.297			0.069			0.723			0.490		
Satd. Flow (perm)	559	5043	1586	108	4601	1564	1308	1497	0	783	1883	1519
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			52		51				76
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		443.5			331.5			130.4			222.4	
Travel Time (s)		22.8			17.0			9.4			16.0	
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	4%	0%	23%	14%	3%	6%	2%	24%	20%	2%	6%
Adj. Flow (vph)	241	1785	699	445	923	59	103	66	104	17	52	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	241	1785	699	445	923	59	103	170	0	17	52	76
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		8
Detector Phase	5	2	2	1	6	6	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	7.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	8.0	41.2	41.2	10.0	41.2	41.2	56.7	56.7		56.7	56.7	56.7
Total Split (s)	35.0	61.3	61.3	42.0	68.3	68.3	56.7	56.7		56.7	56.7	56.7
Total Split (%)	21.9%	38.3%	38.3%	26.3%	42.7%	42.7%	35.4%	35.4%		35.4%	35.4%	35.4%
Maximum Green (s)	32.0	55.1	55.1	39.0	62.1	62.1	49.0	49.0		49.0	49.0	49.0
Yellow Time (s)	3.0	4.2	4.2	3.0	4.2	4.2	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	3.7	3.7		3.7	3.7	3.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0	10.0	10.0	10.0		10.0	10.0	10.0
Flash Dont Walk (s)		25.0	25.0		25.0	25.0	39.0	39.0		39.0	39.0	39.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0		0	0	0
Act Effct Green (s)	68.3	55.2	55.2	100.4	84.3	84.3	15.9	15.9		15.9	15.9	15.9
Actuated g/C Ratio	0.54	0.43	0.43	0.79	0.66	0.66	0.13	0.13		0.13	0.13	0.13
v/c Ratio	0.61	0.82	0.93	0.88	0.30	0.06	0.63	0.73		0.17	0.22	0.30
Control Delay	17.8	35.9	49.9	52.9	10.1	3.4	69.6	55.5		52.9	51.4	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	17.8	35.9	49.9	52.9	10.1	3.4	69.6	55.5		52.9	51.4	13.4
LOS	B	D	D	D	B	A	E	E		D	D	B
Approach Delay		37.9			23.2			60.8			31.6	
Approach LOS		D			C			E			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 127.1			
Natural Cycle: 150			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 34.4		Intersection LOS: C	
Intersection Capacity Utilization 89.6%		ICU Level of Service E	
Analysis Period (min) 15			

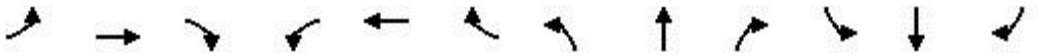
Splits and Phases: 4: Maritz Drive/Derrycrest Drive & Derry Road West



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	241	1785	699	445	923	59	103	170	17	52	76
v/c Ratio	0.61	0.82	0.93	0.88	0.30	0.06	0.63	0.73	0.17	0.22	0.30
Control Delay	17.8	35.9	49.9	52.9	10.1	3.4	69.6	55.5	52.9	51.4	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	35.9	49.9	52.9	10.1	3.4	69.6	55.5	52.9	51.4	13.4
Queue Length 50th (m)	15.6	140.0	143.4	89.5	32.1	0.5	24.8	29.0	3.9	11.9	0.0
Queue Length 95th (m)	24.7	177.6	#244.5	#164.9	51.7	6.4	43.3	53.1	11.1	23.9	13.6
Internal Link Dist (m)		419.5			307.5			106.4		198.4	
Turn Bay Length (m)	50.0		15.0	55.0		30.0			100.0		
Base Capacity (vph)	707	2189	750	508	3050	1054	505	609	302	726	633
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.82	0.93	0.88	0.30	0.06	0.20	0.28	0.06	0.07	0.12

Intersection Summary

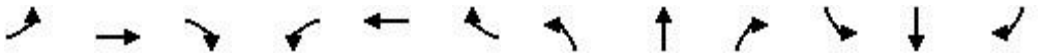
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	227	1678	657	418	868	55	97	62	98	16	49	71
Future Volume (vph)	227	1678	657	418	868	55	97	62	98	16	49	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.99	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1789	5043	1589	1484	4601	1565	1719	1498		1518	1883	1520
Flt Permitted	0.30	1.00	1.00	0.07	1.00	1.00	0.72	1.00		0.49	1.00	1.00
Satd. Flow (perm)	560	5043	1589	107	4601	1565	1309	1498		784	1883	1520
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	241	1785	699	445	923	59	103	66	104	17	52	76
RTOR Reduction (vph)	0	0	62	0	0	17	0	45	0	0	0	66
Lane Group Flow (vph)	241	1785	637	445	923	42	103	125	0	17	52	10
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Heavy Vehicles (%)	2%	4%	0%	23%	14%	3%	6%	2%	24%	20%	2%	6%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		8
Actuated Green, G (s)	65.1	55.2	55.2	97.3	84.4	84.4	15.9	15.9		15.9	15.9	15.9
Effective Green, g (s)	65.1	55.2	55.2	97.3	84.4	84.4	15.9	15.9		15.9	15.9	15.9
Actuated g/C Ratio	0.51	0.43	0.43	0.77	0.66	0.66	0.13	0.13		0.13	0.13	0.13
Clearance Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	382	2190	690	505	3055	1039	163	187		98	235	190
v/s Ratio Prot	0.05	0.35		c0.27	0.20			c0.08			0.03	
v/s Ratio Perm	0.27		c0.40	0.40		0.03	0.08			0.02		0.01
v/c Ratio	0.63	0.82	0.92	0.88	0.30	0.04	0.63	0.67		0.17	0.22	0.05
Uniform Delay, d1	26.6	31.5	34.0	35.3	9.0	7.4	52.8	53.1		49.7	50.0	49.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.4	3.5	20.0	16.4	0.3	0.1	7.8	9.1		0.8	0.5	0.1
Delay (s)	29.9	35.0	53.9	51.6	9.2	7.4	60.6	62.2		50.6	50.5	49.1
Level of Service	C	C	D	D	A	A	E	E		D	D	D
Approach Delay (s)		39.4			22.4			61.6			49.8	
Approach LOS		D			C			E			D	

Intersection Summary					
HCM 2000 Control Delay	35.7	HCM 2000 Level of Service	D		
HCM 2000 Volume to Capacity ratio	0.87				
Actuated Cycle Length (s)	127.1	Sum of lost time (s)	16.9		
Intersection Capacity Utilization	89.6%	ICU Level of Service	E		
Analysis Period (min)	15				

c Critical Lane Group

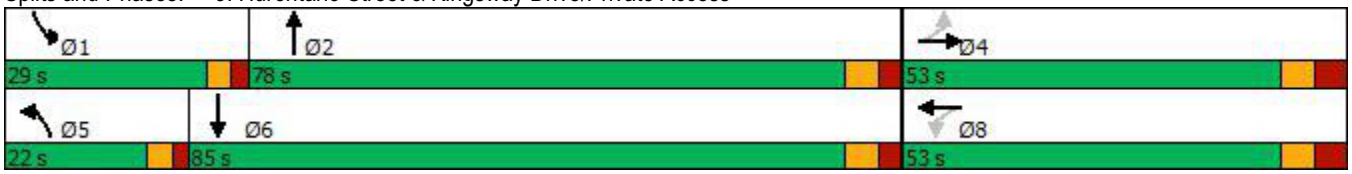


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	0	16	2	5	0	23	501	9	4	925	109
Future Volume (vph)	97	0	16	2	5	0	23	501	9	4	925	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	0.0		0.0	20.0		0.0	30.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor	1.00						1.00	1.00		1.00	1.00	
Frt		0.850						0.997			0.984	
Flt Protected	0.950				0.986		0.950			0.950		
Satd. Flow (prot)	1789	1633	0	0	1894	0	1722	3342	0	1825	3426	0
Flt Permitted	0.753				0.925		0.950			0.950		
Satd. Flow (perm)	1415	1633	0	0	1777	0	1721	3342	0	1824	3426	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		267						1			11	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		318.7			138.1			189.0			440.6	
Travel Time (s)		22.9			9.9			11.3			26.4	
Confl. Peds. (#/hr)	2					2	2		1	1		2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	6%	9%	0%	0%	5%	1%
Adj. Flow (vph)	102	0	17	2	5	0	24	527	9	4	974	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	102	17	0	0	7	0	24	536	0	4	1089	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	52.0	52.0		52.0	52.0		13.0	58.0		13.0	58.0	
Total Split (s)	53.0	53.0		53.0	53.0		22.0	78.0		29.0	85.0	
Total Split (%)	33.1%	33.1%		33.1%	33.1%		13.8%	48.8%		18.1%	53.1%	
Maximum Green (s)	45.0	45.0		45.0	45.0		17.0	71.0		24.0	78.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		2.0	3.0		2.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	13.0	13.0		13.0	13.0			15.0			15.0	
Flash Dont Walk (s)	31.0	31.0		31.0	31.0			36.0			36.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	13.8	13.8			13.8		8.3	87.4		8.0	82.0	
Actuated g/C Ratio	0.12	0.12			0.12		0.07	0.74		0.07	0.69	
v/c Ratio	0.62	0.04			0.03		0.20	0.22		0.03	0.46	
Control Delay	66.5	0.2			46.6		58.2	6.1		55.5	10.4	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	66.5	0.2			46.6		58.2	6.1		55.5	10.4	
LOS	E	A			D		E	A		E	B	
Approach Delay		57.0			46.6			8.3			10.6	
Approach LOS		E			D			A			B	

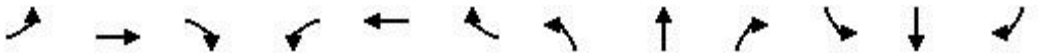
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 118.7			
Natural Cycle: 125			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 13.1		Intersection LOS: B	
Intersection Capacity Utilization 67.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: Hurontario Street & Kingsway Drive/Private Access



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	102	17	7	24	536	4	1089
v/c Ratio	0.62	0.04	0.03	0.20	0.22	0.03	0.46
Control Delay	66.5	0.2	46.6	58.2	6.1	55.5	10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.5	0.2	46.6	58.2	6.1	55.5	10.4
Queue Length 50th (m)	23.2	0.0	1.5	5.4	16.2	0.9	62.9
Queue Length 95th (m)	41.6	0.0	5.9	14.7	38.5	4.6	92.6
Internal Link Dist (m)		294.7	114.1		165.0		416.6
Turn Bay Length (m)	40.0			20.0		30.0	
Base Capacity (vph)	538	786	675	247	2460	370	2371
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	0.19	0.02	0.01	0.10	0.22	0.01	0.46

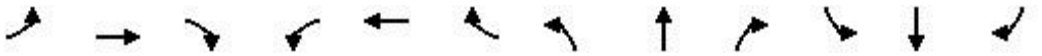
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	0	16	2	5	0	23	501	9	4	925	109
Future Volume (vph)	97	0	16	2	5	0	23	501	9	4	925	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			1.00		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1786	1633			1894		1722	3344		1825	3427	
Flt Permitted	0.75	1.00			0.93		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1416	1633			1778		1722	3344		1825	3427	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	102	0	17	2	5	0	24	527	9	4	974	115
RTOR Reduction (vph)	0	15	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	102	2	0	0	7	0	24	536	0	4	1086	0
Confl. Peds. (#/hr)	2					2	2		1	1		2
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	6%	9%	0%	0%	5%	1%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	13.8	13.8			13.8		4.9	87.4		1.5	84.0	
Effective Green, g (s)	13.8	13.8			13.8		4.9	87.4		1.5	84.0	
Actuated g/C Ratio	0.11	0.11			0.11		0.04	0.71		0.01	0.68	
Clearance Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	159	183			199		68	2381		22	2346	
v/s Ratio Prot		0.00					c0.01	c0.16		0.00	c0.32	
v/s Ratio Perm	c0.07				0.00							
v/c Ratio	0.64	0.01			0.04		0.35	0.22		0.18	0.46	
Uniform Delay, d1	52.1	48.4			48.5		57.4	6.0		60.0	8.9	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.5	0.0			0.1		3.1	0.2		4.0	0.7	
Delay (s)	60.6	48.4			48.6		60.5	6.3		63.9	9.6	
Level of Service	E	D			D		E	A		E	A	
Approach Delay (s)		58.9			48.6			8.6			9.8	
Approach LOS		E			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	122.7	Sum of lost time (s)	20.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

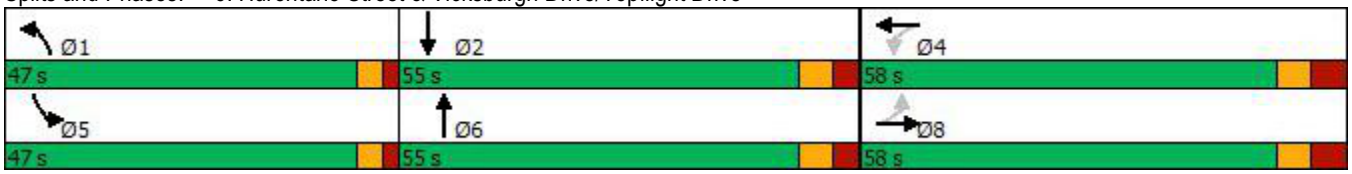


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	3	10	14	1	143	62	511	29	147	1037	48
Future Volume (vph)	12	3	10	14	1	143	62	511	29	147	1037	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	0.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor	1.00				0.99			1.00		1.00		
Frt		0.882			0.878			0.992			0.993	
Flt Protected	0.950				0.996		0.950			0.950		
Satd. Flow (prot)	1825	1694	0	0	1495	0	1825	3374	0	1690	3491	0
Flt Permitted	0.519				0.966		0.950			0.950		
Satd. Flow (perm)	994	1694	0	0	1450	0	1825	3374	0	1686	3491	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			154			4			3	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		237.0			253.7			440.6			373.3	
Travel Time (s)		17.1			18.3			26.4			22.4	
Confl. Peds. (#/hr)	4					4			2	2		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	50%	0%	7%	0%	6%	28%	8%	4%	0%
Adj. Flow (vph)	13	3	11	15	1	154	67	549	31	158	1115	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	14	0	0	170	0	67	580	0	158	1167	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		8.0	8.0	
Minimum Split (s)	58.0	58.0		58.0	58.0		47.0	55.0		47.0	55.0	
Total Split (s)	58.0	58.0		58.0	58.0		47.0	55.0		47.0	55.0	
Total Split (%)	36.3%	36.3%		36.3%	36.3%		29.4%	34.4%		29.4%	34.4%	
Maximum Green (s)	49.5	49.5		49.5	49.5		42.0	47.5		42.0	47.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.5	4.5		4.5	4.5		2.0	3.5		2.0	3.5	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	14.0	14.0		14.0	14.0			9.0			9.0	
Flash Dont Walk (s)	35.0	35.0		35.0	35.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	9.1	9.1			9.1		8.9	47.6		13.8	55.0	
Actuated g/C Ratio	0.10	0.10			0.10		0.10	0.52		0.15	0.60	
v/c Ratio	0.13	0.08			0.60		0.38	0.33		0.62	0.56	
Control Delay	42.0	23.8			18.5		46.0	14.0		47.7	13.4	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	42.0	23.8			18.5		46.0	14.0		47.7	13.4	
LOS	D	C			B		D	B		D	B	
Approach Delay		32.6			18.5			17.3			17.5	
Approach LOS		C			B			B			B	

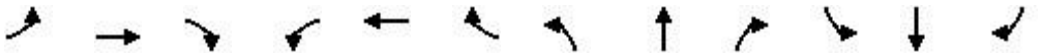
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 91.6			
Natural Cycle: 160			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 17.7		Intersection LOS: B	
Intersection Capacity Utilization 71.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Hurontario Street & Vicksburgh Drive/Topflight Drive



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	13	14	170	67	580	158	1167
v/c Ratio	0.13	0.08	0.60	0.38	0.33	0.62	0.56
Control Delay	42.0	23.8	18.5	46.0	14.0	47.7	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.0	23.8	18.5	46.0	14.0	47.7	13.4
Queue Length 50th (m)	2.1	0.5	2.6	11.1	28.2	25.9	61.7
Queue Length 95th (m)	7.8	6.2	21.8	25.0	48.8	47.6	98.1
Internal Link Dist (m)		213.0	229.7		416.6		349.3
Turn Bay Length (m)	25.0			25.0		35.0	
Base Capacity (vph)	538	922	856	839	1756	776	2096
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	0.02	0.02	0.20	0.08	0.33	0.20	0.56

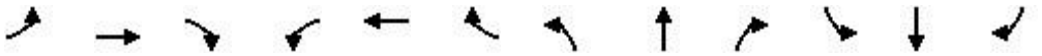
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	3	10	14	1	143	62	511	29	147	1037	48
Future Volume (vph)	12	3	10	14	1	143	62	511	29	147	1037	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.88			0.88		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1822	1695			1496		1825	3374		1690	3492	
Flt Permitted	0.52	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	995	1695			1452		1825	3374		1690	3492	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	13	3	11	15	1	154	67	549	31	158	1115	52
RTOR Reduction (vph)	0	10	0	0	139	0	0	2	0	0	1	0
Lane Group Flow (vph)	13	4	0	0	31	0	67	578	0	158	1166	0
Confl. Peds. (#/hr)	4					4			2	2		
Heavy Vehicles (%)	0%	0%	0%	50%	0%	7%	0%	6%	28%	8%	4%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)	9.1	9.1			9.1		7.5	48.7		13.8	55.0	
Effective Green, g (s)	9.1	9.1			9.1		7.5	48.7		13.8	55.0	
Actuated g/C Ratio	0.10	0.10			0.10		0.08	0.53		0.15	0.59	
Clearance Time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	97	166			142		147	1774		251	2074	
v/s Ratio Prot		0.00					0.04	0.17		c0.09	c0.33	
v/s Ratio Perm	0.01				c0.02							
v/c Ratio	0.13	0.02			0.22		0.46	0.33		0.63	0.56	
Uniform Delay, d1	38.1	37.7			38.5		40.6	12.6		37.0	11.5	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.1			0.8		2.2	0.5		4.9	1.1	
Delay (s)	38.8	37.8			39.3		42.8	13.0		41.9	12.6	
Level of Service	D	D			D		D	B		D	B	
Approach Delay (s)		38.3			39.3			16.1			16.1	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	92.6	Sum of lost time (s)	21.0
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



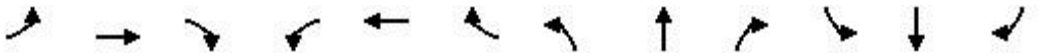
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	2	102	10	2	23	120	137	2	30	1
Future Volume (vph)	0	0	2	102	10	2	23	120	137	2	30	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	15.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	0		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		0.865			0.977			0.920			0.996	
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	1662	0	1772	1877	0	1825	3340	0	1825	3636	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	1662	0	1772	1877	0	1825	3340	0	1825	3636	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		62.9			318.7			222.4			283.4	
Travel Time (s)		4.5			22.9			16.0			20.4	
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
Heavy Vehicles (%)	0%	0%	0%	3%	0%	0%	0%	0%	1%	0%	0%	0%
Adj. Flow (vph)	0	0	2	111	11	2	25	130	149	2	33	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	0	111	13	0	25	279	0	2	34	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.9%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	2	102	10	2	23	120	137	2	30	1
Future Volume (Veh/h)	0	0	2	102	10	2	23	120	137	2	30	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	2	111	11	2	25	130	149	2	33	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								223				
pX, platoon unblocked												
vC, conflicting volume	160	366	17	277	292	140	34			279		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	160	366	17	277	292	140	34			279		
tC, single (s)	7.5	6.5	6.9	7.6	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	83	98	100	98			100		
cM capacity (veh/h)	773	556	1064	641	611	889	1591			1295		

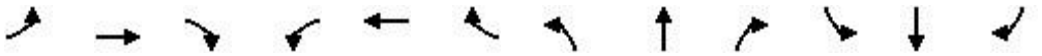
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	2	111	13	25	87	192	2	22	12
Volume Left	0	111	0	25	0	0	2	0	0
Volume Right	2	0	2	0	0	149	0	0	1
cSH	1064	641	642	1591	1700	1700	1295	1700	1700
Volume to Capacity	0.00	0.17	0.02	0.02	0.05	0.11	0.00	0.01	0.01
Queue Length 95th (m)	0.0	4.7	0.5	0.4	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	8.4	11.8	10.7	7.3	0.0	0.0	7.8	0.0	0.0
Lane LOS	A	B	B	A			A		
Approach Delay (s)	8.4	11.7		0.6			0.4		
Approach LOS	A	B							

Intersection Summary				
Average Delay	3.6			
Intersection Capacity Utilization	26.9%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	10	0	0	0	0	61	0	0	0
Future Volume (vph)	0	0	0	10	0	0	0	0	61	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.865				
Flt Protected				0.950								
Satd. Flow (prot)	0	3579	0	1789	1883	0	0	1629	0	0	1883	0
Flt Permitted				0.950								
Satd. Flow (perm)	0	3579	0	1789	1883	0	0	1629	0	0	1883	0
Link Speed (k/h)		50			48			48			50	
Link Distance (m)		152.4			237.0			95.7			60.6	
Travel Time (s)		11.0			17.8			7.2			4.4	
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)	0	0	0	11	0	0	0	0	66	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	11	0	0	0	66	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			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)	97		24	97		14	14		97	24		97
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	10	0	0	0	0	61	0	0	0
Future Volume (Veh/h)	0	0	0	10	0	0	0	0	61	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	11	0	0	0	0	66	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					237							
pX, platoon unblocked												
vC, conflicting volume	0			0			22	22	0	88	22	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			22	22	0	88	22	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	94	100	100	100
cM capacity (veh/h)	1622			1622			982	865	1084	829	865	1084

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	0	0	11	0	66	0
Volume Left	0	0	11	0	0	0
Volume Right	0	0	0	0	66	0
cSH	1700	1700	1622	1700	1084	1700
Volume to Capacity	0.00	0.00	0.01	0.00	0.06	0.00
Queue Length 95th (m)	0.0	0.0	0.2	0.0	1.5	0.0
Control Delay (s)	0.0	0.0	7.2	0.0	8.5	0.0
Lane LOS			A		A	A
Approach Delay (s)	0.0		7.2		8.5	0.0
Approach LOS					A	A

Intersection Summary				
Average Delay	8.3			
Intersection Capacity Utilization	13.8%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	61	10	0
Future Volume (vph)	0	0	0	61	10	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	3579	3579	0
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	3579	3579	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	66.3			283.4	152.4	
Travel Time (s)	5.0			20.4	11.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	66	11	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	66	11	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 6.7%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	61	10	0
Future Volume (Veh/h)	0	0	0	61	10	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	66	11	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)					390	
pX, platoon unblocked						
vC, conflicting volume	44	6	11			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	44	6	11			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	961	1076	1607			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	0	33	33	7	4
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.02	0.02	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0			0.0	
Approach LOS	A					

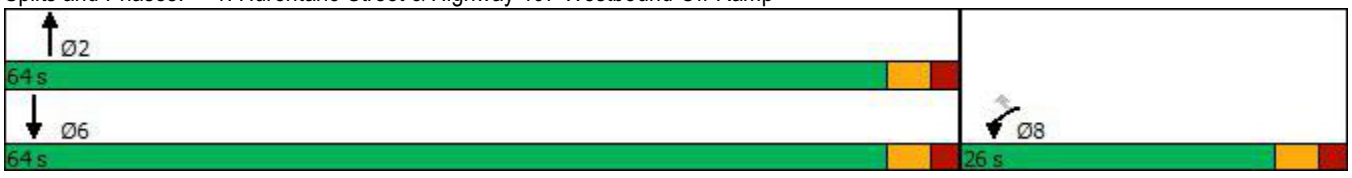
Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	6.7%	ICU Level of Service		A
Analysis Period (min)	15			

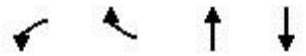
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	177	391	1279	0	0	736
Future Volume (vph)	177	391	1279	0	0	736
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	115.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Frt	0.921	0.850				
Flt Protected	0.977					
Satd. Flow (prot)	3131	1486	3579	0	0	3544
Flt Permitted	0.977					
Satd. Flow (perm)	3131	1486	3579	0	0	3544
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	75	75				
Link Speed (k/h)	60		60			60
Link Distance (m)	401.2		345.6			144.3
Travel Time (s)	24.1		20.7			8.7
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	15%	0%	2%	0%	0%	3%
Adj. Flow (vph)	182	403	1319	0	0	759
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	384	201	1319	0	0	759
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	7.4		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	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0			5.0
Minimum Split (s)	23.0	23.0	23.0			23.0
Total Split (s)	26.0	26.0	64.0			64.0
Total Split (%)	28.9%	28.9%	71.1%			71.1%
Maximum Green (s)	21.0	21.0	59.0			59.0
Yellow Time (s)	3.0	3.0	3.0			3.0
All-Red Time (s)	2.0	2.0	2.0			2.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	Max			Max
Walk Time (s)	7.0	7.0	7.0			7.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	14.0	14.0	59.1			59.1
Actuated g/C Ratio	0.17	0.17	0.71			0.71
v/c Ratio	0.65	0.64	0.52			0.30
Control Delay	31.1	29.7	6.9			5.2
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	31.1	29.7	6.9			5.2
LOS	C	C	A			A
Approach Delay	30.6		6.9			5.2
Approach LOS	C		A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 83.1			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 11.6		Intersection LOS: B	
Intersection Capacity Utilization 59.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & Highway 407 Westbound Off-Ramp





Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	384	201	1319	759
v/c Ratio	0.65	0.64	0.52	0.30
Control Delay	31.1	29.7	6.9	5.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	31.1	29.7	6.9	5.2
Queue Length 50th (m)	23.6	20.1	40.6	18.8
Queue Length 95th (m)	36.9	42.9	74.0	35.7
Internal Link Dist (m)	377.2		321.6	120.3
Turn Bay Length (m)		115.0		
Base Capacity (vph)	848	432	2545	2520
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	0.45	0.47	0.52	0.30

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	177	391	1279	0	0	736
Future Volume (vph)	177	391	1279	0	0	736
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0			5.0
Lane Util. Factor	0.97	0.91	0.95			0.95
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3131	1486	3579			3544
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3131	1486	3579			3544
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	182	403	1319	0	0	759
RTOR Reduction (vph)	62	62	0	0	0	0
Lane Group Flow (vph)	322	139	1319	0	0	759
Heavy Vehicles (%)	15%	0%	2%	0%	0%	3%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	14.0	14.0	59.1			59.1
Effective Green, g (s)	14.0	14.0	59.1			59.1
Actuated g/C Ratio	0.17	0.17	0.71			0.71
Clearance Time (s)	5.0	5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	527	250	2545			2520
v/s Ratio Prot	c0.10		c0.37			0.21
v/s Ratio Perm		0.09				
v/c Ratio	0.61	0.55	0.52			0.30
Uniform Delay, d1	32.0	31.7	5.5			4.4
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	2.1	2.7	0.8			0.3
Delay (s)	34.1	34.3	6.2			4.7
Level of Service	C	C	A			A
Approach Delay (s)	34.2		6.2			4.7
Approach LOS	C		A			A

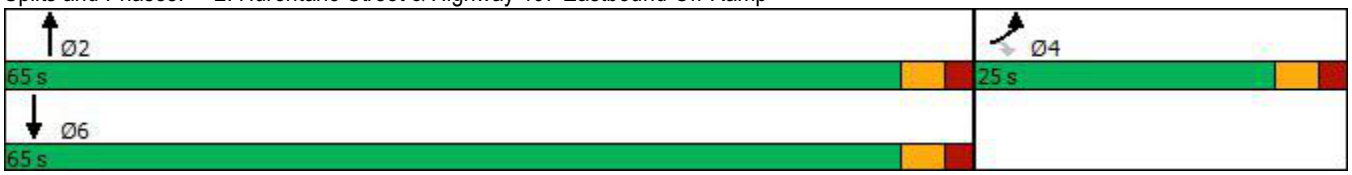
Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	83.1	Sum of lost time (s)	10.0
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

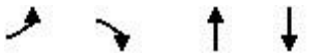
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	137	65	0	1332	648	0
Future Volume (vph)	137	65	0	1332	648	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	95.0	0.0			0.0
Storage Lanes	2	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3471	1384	0	3579	3476	0
Flt Permitted	0.950					
Satd. Flow (perm)	3471	1384	0	3579	3476	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		67				
Link Speed (k/h)	60			60	60	
Link Distance (m)	401.8			373.3	345.6	
Travel Time (s)	24.1			22.4	20.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	18%	0%	2%	5%	0%
Adj. Flow (vph)	141	67	0	1373	668	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	141	67	0	1373	668	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.4			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
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	6.1	6.1		30.5	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	6.1		1.8	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Permitted Phases		4				
Detector Phase	4	4		2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0		23.0	23.0	
Total Split (s)	25.0	25.0		65.0	65.0	
Total Split (%)	27.8%	27.8%		72.2%	72.2%	
Maximum Green (s)	20.0	20.0		60.0	60.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Recall Mode	None	None		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	8.7	8.7		63.9	63.9	
Actuated g/C Ratio	0.11	0.11		0.77	0.77	
v/c Ratio	0.39	0.33		0.50	0.25	
Control Delay	36.4	13.5		4.3	3.0	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	36.4	13.5		4.3	3.0	
LOS	D	B		A	A	
Approach Delay	29.0			4.3	3.0	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 82.6			
Natural Cycle: 55			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 6.2		Intersection LOS: A	
Intersection Capacity Utilization 59.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: Hurontario Street & Highway 407 Eastbound Off-Ramp





Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	141	67	1373	668
v/c Ratio	0.39	0.33	0.50	0.25
Control Delay	36.4	13.5	4.3	3.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	36.4	13.5	4.3	3.0
Queue Length 50th (m)	10.2	0.0	31.0	11.5
Queue Length 95th (m)	18.2	10.6	47.7	18.7
Internal Link Dist (m)	377.8		349.3	321.6
Turn Bay Length (m)		95.0		
Base Capacity (vph)	842	386	2767	2687
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	0.17	0.17	0.50	0.25

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	137	65	0	1332	648	0
Future Volume (vph)	137	65	0	1332	648	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	1.00		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3471	1384		3579	3476	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3471	1384		3579	3476	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	141	67	0	1373	668	0
RTOR Reduction (vph)	0	60	0	0	0	0
Lane Group Flow (vph)	141	7	0	1373	668	0
Heavy Vehicles (%)	2%	18%	0%	2%	5%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	8.7	8.7		63.9	63.9	
Effective Green, g (s)	8.7	8.7		63.9	63.9	
Actuated g/C Ratio	0.11	0.11		0.77	0.77	
Clearance Time (s)	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	365	145		2768	2689	
v/s Ratio Prot	c0.04			c0.38	0.19	
v/s Ratio Perm		0.01				
v/c Ratio	0.39	0.05		0.50	0.25	
Uniform Delay, d1	34.5	33.2		3.4	2.6	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.1		0.6	0.2	
Delay (s)	35.1	33.4		4.1	2.8	
Level of Service	D	C		A	A	
Approach Delay (s)	34.6			4.1	2.8	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	82.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	59.8%	ICU Level of Service	B
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)	162	979	28	66	1742	291	157	546	47	207	291	98
Future Volume (vph)	162	979	28	66	1742	291	157	546	47	207	291	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		0.0	185.0		0.0	55.0		0.0	100.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00		0.99	0.99		0.96	1.00		0.99	0.98	
Frt		0.996			0.979			0.988			0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1807	4796	0	1789	4973	0	1825	3411	0	1772	3192	0
Flt Permitted	0.060			0.243			0.950			0.950		
Satd. Flow (perm)	114	4796	0	453	4973	0	1759	3411	0	1752	3192	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			24			5			29	
Link Speed (k/h)		70			70			60			60	
Link Distance (m)		331.5			999.3			126.9			189.0	
Travel Time (s)		17.0			51.4			7.6			11.3	
Confl. Peds. (#/hr)	23		42	42		23	53		22	22		53
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	1%	9%	0%	2%	3%	1%	0%	4%	22%	3%	10%	2%
Adj. Flow (vph)	164	989	28	67	1760	294	159	552	47	209	294	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	164	1017	0	67	2054	0	159	599	0	209	393	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	8.0	51.4		8.0	51.4		13.0	49.4		13.0	49.4	
Total Split (s)	14.0	76.5		8.0	70.5		22.0	49.5		26.0	53.5	
Total Split (%)	8.8%	47.8%		5.0%	44.1%		13.8%	30.9%		16.3%	33.4%	
Maximum Green (s)	11.0	69.1		5.0	63.1		17.0	41.1		21.0	45.1	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	3.2		0.0	3.2		2.0	4.4		2.0	4.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		13.0			13.0			12.0			12.0	
Flash Dont Walk (s)		31.0			31.0			29.0			29.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	81.7	71.0		72.7	63.2		16.1	32.0		20.2	36.1	
Actuated g/C Ratio	0.54	0.47		0.48	0.42		0.11	0.21		0.13	0.24	
v/c Ratio	0.89	0.45		0.25	0.98		0.82	0.82		0.88	0.50	
Control Delay	76.4	28.5		20.9	56.9		96.4	66.0		97.8	47.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	76.4	28.5		20.9	56.9		96.4	66.0		97.8	47.6	
LOS	E	C		C	E		F	E		F	D	
Approach Delay		35.1			55.8			72.4			65.0	
Approach LOS		D			E			E			E	

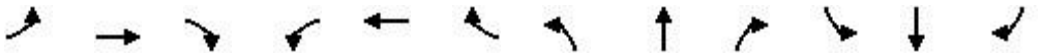
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 150.3			
Natural Cycle: 145			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 54.4		Intersection LOS: D	
Intersection Capacity Utilization 109.2%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 3: Hurontario Street & Derry Road West/Derry Road East

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	164	1017	67	2054	159	599	209	393
v/c Ratio	0.89	0.45	0.25	0.98	0.82	0.82	0.88	0.50
Control Delay	76.4	28.5	20.9	56.9	96.4	66.0	97.8	47.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.4	28.5	20.9	56.9	96.4	66.0	97.8	47.6
Queue Length 50th (m)	32.4	75.4	9.3	218.9	47.0	90.3	62.0	50.0
Queue Length 95th (m)	#82.9	97.8	19.4	#283.3	#88.3	111.7	#114.5	66.1
Internal Link Dist (m)		307.5		975.3		102.9		165.0
Turn Bay Length (m)	150.0		185.0		55.0		100.0	
Base Capacity (vph)	185	2266	263	2106	206	938	248	980
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	0.89	0.45	0.25	0.98	0.77	0.64	0.84	0.40

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	979	28	66	1742	291	157	546	47	207	291	98
Future Volume (vph)	162	979	28	66	1742	291	157	546	47	207	291	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		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)	1807	4795		1786	4971		1825	3412		1772	3196	
Flt Permitted	0.06	1.00		0.24	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	114	4795		456	4971		1825	3412		1772	3196	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	164	989	28	67	1760	294	159	552	47	209	294	99
RTOR Reduction (vph)	0	2	0	0	14	0	0	4	0	0	22	0
Lane Group Flow (vph)	164	1015	0	67	2040	0	159	595	0	209	371	0
Confl. Peds. (#/hr)	23		42	42		23	53		22	22		53
Heavy Vehicles (%)	1%	9%	0%	2%	3%	1%	0%	4%	22%	3%	10%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Actuated Green, G (s)	77.9	71.0		67.8	63.9		16.1	32.0		20.2	36.1	
Effective Green, g (s)	77.9	71.0		67.8	63.9		16.1	32.0		20.2	36.1	
Actuated g/C Ratio	0.52	0.47		0.45	0.42		0.11	0.21		0.13	0.24	
Clearance Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	182	2256		239	2105		194	723		237	764	
v/s Ratio Prot	c0.07	0.21		0.01	c0.41		0.09	c0.17		c0.12	c0.12	
v/s Ratio Perm	0.40			0.12								
v/c Ratio	0.90	0.45		0.28	0.97		0.82	0.82		0.88	0.49	
Uniform Delay, d1	43.9	26.8		23.9	42.5		66.0	56.7		64.2	49.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	39.9	0.7		0.6	13.6		22.9	7.5		29.5	0.5	
Delay (s)	83.9	27.5		24.6	56.1		88.9	64.3		93.6	49.9	
Level of Service	F	C		C	E		F	E		F	D	
Approach Delay (s)		35.3			55.1			69.4			65.1	
Approach LOS		D			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	53.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	150.9	Sum of lost time (s)	23.8
Intersection Capacity Utilization	109.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

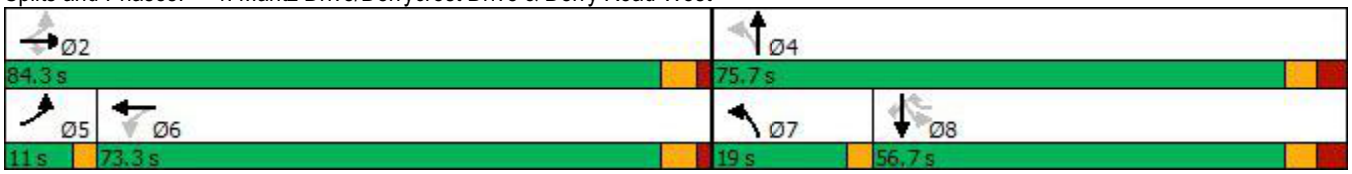
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	824	239	153	1907	27	527	150	237	32	58	285
Future Volume (vph)	112	824	239	153	1907	27	527	150	237	32	58	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	55.0		30.0	0.0		0.0	100.0		0.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97	1.00		0.98	1.00	0.99		1.00		0.99
Frt			0.850			0.850		0.908				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4902	1585	1415	5142	1471	1738	1656	0	1738	1883	1617
Flt Permitted	0.057			0.318			0.629			0.525		
Satd. Flow (perm)	110	4902	1539	472	5142	1448	1149	1656	0	959	1883	1594
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			104			63		62				119
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		443.5			331.5			130.4			222.4	
Travel Time (s)		22.8			17.0			9.4			16.0	
Confl. Peds. (#/hr)	4		4	4		4	2		2	2		2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	7%	3%	29%	2%	11%	5%	2%	6%	5%	2%	1%
Adj. Flow (vph)	117	858	249	159	1986	28	549	156	247	33	60	297
Shared Lane Traffic (%)												
Lane Group Flow (vph)	117	858	249	159	1986	28	549	403	0	33	60	297
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	Perm	NA	custom	pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2			6		7	4			8	
Permitted Phases	2		2	6		8	4			8		8
Detector Phase	5	2	2	6	6	8	7	4		8	8	8
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	10.0		10.0	10.0	10.0
Minimum Split (s)	10.0	41.2	41.2	41.2	41.2	56.7	10.0	56.7		56.7	56.7	56.7
Total Split (s)	11.0	84.3	84.3	73.3	73.3	56.7	19.0	75.7		56.7	56.7	56.7
Total Split (%)	6.9%	52.7%	52.7%	45.8%	45.8%	35.4%	11.9%	47.3%		35.4%	35.4%	35.4%
Maximum Green (s)	8.0	78.1	78.1	67.1	67.1	49.0	16.0	68.0		49.0	49.0	49.0
Yellow Time (s)	3.0	4.2	4.2	4.2	4.2	4.0	3.0	4.0		4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	3.7	0.0	3.7		3.7	3.7	3.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	None	None	None		None	None	None
Walk Time (s)		10.0	10.0	10.0	10.0	10.0		10.0		10.0	10.0	10.0
Flash Dont Walk (s)		25.0	25.0	25.0	25.0	39.0		39.0		39.0	39.0	39.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0		0	0	0
Act Effct Green (s)	81.6	78.4	78.4	67.3	67.3	21.3	45.1	40.4		21.3	21.3	21.3
Actuated g/C Ratio	0.61	0.59	0.59	0.51	0.51	0.16	0.34	0.30		0.16	0.16	0.16
v/c Ratio	0.68	0.30	0.26	0.67	0.76	0.10	1.19	0.74		0.22	0.20	0.84
Control Delay	42.4	14.6	9.0	42.7	29.6	0.7	142.7	43.1		50.3	48.4	51.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	42.4	14.6	9.0	42.7	29.6	0.7	142.7	43.1		50.3	48.4	51.8
LOS	D	B	A	D	C	A	F	D		D	D	D
Approach Delay		16.1			30.2			100.5			51.2	
Approach LOS		B			C			F			D	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 132.7
Natural Cycle: 130
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.19
Intersection Signal Delay: 42.4 Intersection LOS: D
Intersection Capacity Utilization 100.3% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 4: Maritz Drive/Derrycrest Drive & Derry Road West

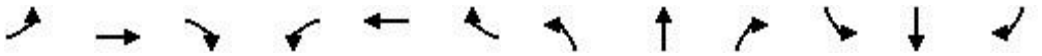


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	117	858	249	159	1986	28	549	403	33	60	297
v/c Ratio	0.68	0.30	0.26	0.67	0.76	0.10	1.19	0.74	0.22	0.20	0.84
Control Delay	42.4	14.6	9.0	42.7	29.6	0.7	142.7	43.1	50.3	48.4	51.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.4	14.6	9.0	42.7	29.6	0.7	142.7	43.1	50.3	48.4	51.8
Queue Length 50th (m)	12.9	38.4	16.2	29.8	147.2	0.0	~172.3	80.8	7.6	13.8	46.6
Queue Length 95th (m)	#46.2	57.6	36.9	#75.3	197.8	0.2	#242.0	116.7	17.3	26.4	79.4
Internal Link Dist (m)		419.5			307.5			106.4		198.4	
Turn Bay Length (m)	50.0		15.0	55.0		30.0			100.0		
Base Capacity (vph)	171	2895	951	239	2609	576	461	881	355	697	665
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.30	0.26	0.67	0.76	0.05	1.19	0.46	0.09	0.09	0.45

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	824	239	153	1907	27	527	150	237	32	58	285
Future Volume (vph)	112	824	239	153	1907	27	527	150	237	32	58	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1825	4902	1542	1412	5142	1449	1737	1656		1737	1883	1595
Flt Permitted	0.06	1.00	1.00	0.32	1.00	1.00	0.63	1.00		0.53	1.00	1.00
Satd. Flow (perm)	109	4902	1542	472	5142	1449	1150	1656		960	1883	1595
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	117	858	249	159	1986	28	549	156	247	33	60	297
RTOR Reduction (vph)	0	0	43	0	0	24	0	43	0	0	0	100
Lane Group Flow (vph)	117	858	206	159	1986	4	549	360	0	33	60	197
Confl. Peds. (#/hr)	4		4	4		4	2		2	2		2
Heavy Vehicles (%)	0%	7%	3%	29%	2%	11%	5%	2%	6%	5%	2%	1%
Turn Type	pm+pt	NA	Perm	Perm	NA	custom	pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2			6		7	4			8	
Permitted Phases	2		2	6		8	4			8		8
Actuated Green, G (s)	78.4	78.4	78.4	67.4	67.4	21.3	40.4	40.4		21.3	21.3	21.3
Effective Green, g (s)	78.4	78.4	78.4	67.4	67.4	21.3	40.4	40.4		21.3	21.3	21.3
Actuated g/C Ratio	0.59	0.59	0.59	0.51	0.51	0.16	0.30	0.30		0.16	0.16	0.16
Clearance Time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	167	2896	911	239	2611	232	421	504		154	302	256
v/s Ratio Prot	c0.04	0.18			c0.39		c0.16	0.22			0.03	
v/s Ratio Perm	0.37		0.13	0.34		0.00	c0.24			0.03		0.12
v/c Ratio	0.70	0.30	0.23	0.67	0.76	0.02	1.30	0.71		0.21	0.20	0.77
Uniform Delay, d1	25.4	13.5	12.8	24.3	26.2	46.9	44.8	41.0		48.4	48.3	53.4
Progression Factor	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	12.5	0.3	0.6	13.7	2.1	0.0	153.2	4.8		0.7	0.3	13.0
Delay (s)	37.8	13.7	13.4	38.0	28.3	46.9	198.0	45.8		49.1	48.6	66.4
Level of Service	D	B	B	D	C	D	F	D		D	D	E
Approach Delay (s)		16.0			29.3			133.6			62.2	
Approach LOS		B			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	49.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	132.7	Sum of lost time (s)	19.9
Intersection Capacity Utilization	100.3%	ICU Level of Service	G
Analysis Period (min)	15		

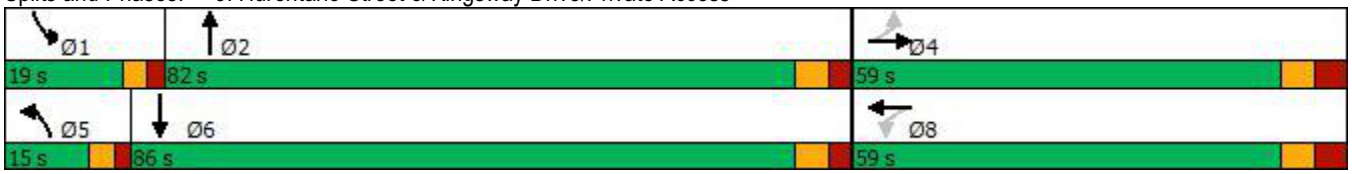
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	1	22	2	2	4	6	940	2	4	580	128
Future Volume (vph)	181	1	22	2	2	4	6	940	2	4	580	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	0.0		0.0	20.0		0.0	30.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor	1.00				0.99		1.00				1.00	
Frt		0.857			0.932						0.973	
Flt Protected	0.950				0.988		0.950			0.950		
Satd. Flow (prot)	1807	1571	0	0	1756	0	1521	3544	0	1825	3358	0
Flt Permitted	0.752				0.950		0.950			0.950		
Satd. Flow (perm)	1427	1571	0	0	1689	0	1517	3544	0	1825	3358	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		22			4						23	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		318.7			138.1			189.0			440.6	
Travel Time (s)		22.9			9.9			11.3			26.4	
Confl. Peds. (#/hr)	2					2	4					4
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	0%	5%	0%	0%	0%	20%	3%	0%	0%	6%	2%
Adj. Flow (vph)	185	1	22	2	2	4	6	959	2	4	592	131
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	23	0	0	8	0	6	961	0	4	723	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	52.0	52.0		52.0	52.0		13.0	58.0		13.0	58.0	
Total Split (s)	59.0	59.0		59.0	59.0		15.0	82.0		19.0	86.0	
Total Split (%)	36.9%	36.9%		36.9%	36.9%		9.4%	51.3%		11.9%	53.8%	
Maximum Green (s)	51.0	51.0		51.0	51.0		10.0	75.0		14.0	79.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		2.0	3.0		2.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	13.0	13.0		13.0	13.0			15.0			15.0	
Flash Dont Walk (s)	31.0	31.0		31.0	31.0			36.0			36.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	20.3	20.3			20.3		8.1	79.8		8.1	79.8	
Actuated g/C Ratio	0.17	0.17			0.17		0.07	0.68		0.07	0.68	
v/c Ratio	0.75	0.08			0.03		0.06	0.40		0.03	0.32	
Control Delay	65.5	16.5			31.1		57.8	10.2		57.0	9.1	
Queue Delay	0.0	0.0			0.0		0.0	0.3		0.0	0.0	
Total Delay	65.5	16.5			31.1		57.8	10.5		57.0	9.1	
LOS	E	B			C		E	B		E	A	
Approach Delay		60.1			31.1			10.8			9.4	
Approach LOS		E			C			B			A	

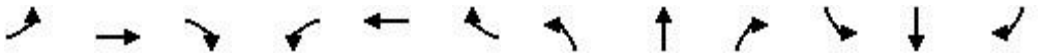
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 117.4			
Natural Cycle: 125			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 15.7		Intersection LOS: B	
Intersection Capacity Utilization 71.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: Hurontario Street & Kingsway Drive/Private Access



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	185	23	8	6	961	4	723
v/c Ratio	0.75	0.08	0.03	0.06	0.40	0.03	0.32
Control Delay	65.5	16.5	31.1	57.8	10.2	57.0	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	65.5	16.5	31.1	57.8	10.5	57.0	9.1
Queue Length 50th (m)	39.5	0.2	0.8	1.3	42.2	0.9	28.4
Queue Length 95th (m)	70.7	7.6	5.4	6.4	93.5	5.0	65.2
Internal Link Dist (m)		294.7	114.1		165.0		416.6
Turn Bay Length (m)	40.0			20.0		30.0	
Base Capacity (vph)	624	699	741	130	2407	219	2288
Starvation Cap Reductn	0	0	0	0	758	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	0.30	0.03	0.01	0.05	0.58	0.02	0.32

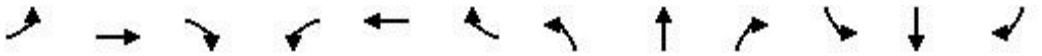
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	1	22	2	2	4	6	940	2	4	580	128
Future Volume (vph)	181	1	22	2	2	4	6	940	2	4	580	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86			0.93		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	1570			1757		1521	3543		1825	3358	
Flt Permitted	0.75	1.00			0.95		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1429	1570			1690		1521	3543		1825	3358	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	185	1	22	2	2	4	6	959	2	4	592	131
RTOR Reduction (vph)	0	18	0	0	3	0	0	0	0	0	8	0
Lane Group Flow (vph)	185	5	0	0	5	0	6	961	0	4	715	0
Confl. Peds. (#/hr)	2					2	4					4
Heavy Vehicles (%)	1%	0%	5%	0%	0%	0%	20%	3%	0%	0%	6%	2%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	20.3	20.3			20.3		1.4	79.8		1.4	79.8	
Effective Green, g (s)	20.3	20.3			20.3		1.4	79.8		1.4	79.8	
Actuated g/C Ratio	0.17	0.17			0.17		0.01	0.66		0.01	0.66	
Clearance Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	238	262			282		17	2327		21	2205	
v/s Ratio Prot		0.00					c0.00	c0.27		0.00	0.21	
v/s Ratio Perm	c0.13				0.00							
v/c Ratio	0.78	0.02			0.02		0.35	0.41		0.19	0.32	
Uniform Delay, d1	48.4	42.3			42.3		59.6	9.8		59.5	9.1	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	14.7	0.0			0.0		12.2	0.5		4.4	0.4	
Delay (s)	63.1	42.3			42.3		71.8	10.4		63.9	9.5	
Level of Service	E	D			D		E	B		E	A	
Approach Delay (s)		60.8			42.3			10.7			9.8	
Approach LOS		E			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	121.5	Sum of lost time (s)	20.0
Intersection Capacity Utilization	71.7%	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)	62	0	53	31	1	440	16	1109	19	73	658	21
Future Volume (vph)	62	0	53	31	1	440	16	1109	19	73	658	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	0.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor							1.00				1.00	
Frt		0.850			0.874			0.998			0.995	
Flt Protected	0.950				0.997		0.950			0.950		
Satd. Flow (prot)	1825	1633	0	0	1648	0	1825	3564	0	1547	3495	0
Flt Permitted	0.242				0.975		0.950			0.950		
Satd. Flow (perm)	465	1633	0	0	1611	0	1824	3564	0	1547	3495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		244			131			1			3	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		237.0			253.7			440.6			373.3	
Travel Time (s)		17.1			18.3			26.4			22.4	
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	10%	0%	1%	0%	2%	15%	18%	4%	0%
Adj. Flow (vph)	63	0	54	32	1	449	16	1132	19	74	671	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	54	0	0	482	0	16	1151	0	74	692	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		8.0	8.0	
Minimum Split (s)	57.5	57.5		57.5	57.5		10.0	38.5		13.0	38.5	
Total Split (s)	66.0	66.0		66.0	66.0		12.0	81.0		13.0	82.0	
Total Split (%)	41.3%	41.3%		41.3%	41.3%		7.5%	50.6%		8.1%	51.3%	
Maximum Green (s)	57.5	57.5		57.5	57.5		7.0	73.5		8.0	74.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.5	4.5		4.5	4.5		2.0	3.5		2.0	3.5	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	14.0	14.0		14.0	14.0			9.0			9.0	
Flash Dont Walk (s)	35.0	35.0		35.0	35.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	38.9	38.9			38.9		6.4	74.0		8.1	82.7	
Actuated g/C Ratio	0.27	0.27			0.27		0.05	0.52		0.06	0.58	
v/c Ratio	0.50	0.09			0.90		0.20	0.62		0.85	0.34	
Control Delay	56.3	0.3			56.1		75.6	27.6		127.6	18.7	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	56.3	0.3			56.1		75.6	27.6		127.6	18.7	
LOS	E	A			E		E	C		F	B	
Approach Delay		30.4			56.1			28.3			29.2	
Approach LOS		C			E			C			C	

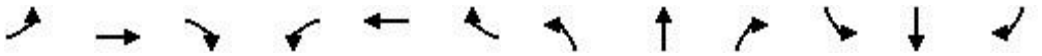
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 142.1			
Natural Cycle: 110			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 33.9		Intersection LOS: C	
Intersection Capacity Utilization 91.1%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 6: Hurontario Street & Vicksburgh Drive/Topflight Drive

Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	63	54	482	16	1151	74	692
v/c Ratio	0.50	0.09	0.90	0.20	0.62	0.85	0.34
Control Delay	56.3	0.3	56.1	75.6	27.6	127.6	18.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.3	0.3	56.1	75.6	27.6	127.6	18.7
Queue Length 50th (m)	14.9	0.0	99.7	4.4	117.1	20.9	46.7
Queue Length 95th (m)	30.4	0.0	144.0	13.4	177.2	#58.2	92.3
Internal Link Dist (m)		213.0	229.7		416.6		349.3
Turn Bay Length (m)	25.0			25.0		35.0	
Base Capacity (vph)	189	810	734	90	1856	87	2034
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	0.33	0.07	0.66	0.18	0.62	0.85	0.34

Intersection Summary

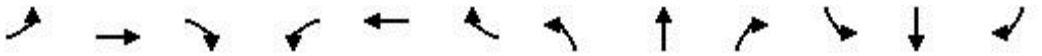
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	0	53	31	1	440	16	1109	19	73	658	21
Future Volume (vph)	62	0	53	31	1	440	16	1109	19	73	658	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.87		1.00	1.00		1.00	1.00	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	1633			1648		1825	3562		1547	3496	
Flt Permitted	0.24	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	465	1633			1612		1825	3562		1547	3496	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	63	0	54	32	1	449	16	1132	19	74	671	21
RTOR Reduction (vph)	0	40	0	0	96	0	0	0	0	0	1	0
Lane Group Flow (vph)	63	14	0	0	386	0	16	1151	0	74	691	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	10%	0%	1%	0%	2%	15%	18%	4%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)	38.9	38.9			38.9		2.6	77.2		8.1	82.7	
Effective Green, g (s)	38.9	38.9			38.9		2.6	77.2		8.1	82.7	
Actuated g/C Ratio	0.27	0.27			0.27		0.02	0.53		0.06	0.57	
Clearance Time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	124	437			431		32	1893		86	1991	
v/s Ratio Prot		0.01					0.01	c0.32		c0.05	0.20	
v/s Ratio Perm	0.14				c0.24							
v/c Ratio	0.51	0.03			0.90		0.50	0.61		0.86	0.35	
Uniform Delay, d1	45.0	39.3			51.2		70.7	23.5		68.0	16.8	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.3	0.0			20.6		11.8	1.5		53.9	0.5	
Delay (s)	48.3	39.3			71.8		82.4	25.0		121.9	17.2	
Level of Service	D	D			E		F	C		F	B	
Approach Delay (s)		44.1			71.8			25.8			27.4	
Approach LOS		D			E			C			C	

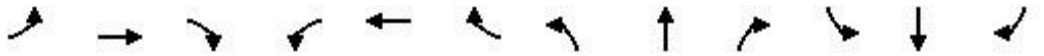
Intersection Summary			
HCM 2000 Control Delay	35.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	145.2	Sum of lost time (s)	21.0
Intersection Capacity Utilization	91.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	16	14	180	0	2	7	35	141	7	106	2
Future Volume (vph)	2	16	14	180	0	2	7	35	141	7	106	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	15.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	0		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
Ped Bike Factor												
Frt		0.940			0.850			0.880			0.997	
Flt Protected		0.997		0.950			0.950			0.950		
Satd. Flow (prot)	0	1800	0	1807	1633	0	1825	3187	0	1825	3639	0
Flt Permitted		0.997		0.950			0.950			0.950		
Satd. Flow (perm)	0	1800	0	1807	1633	0	1825	3187	0	1825	3639	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		62.9			318.7			222.4			283.4	
Travel Time (s)		4.5			22.9			16.0			20.4	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%
Adj. Flow (vph)	2	17	15	196	0	2	8	38	153	8	115	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	34	0	196	2	0	8	191	0	8	117	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

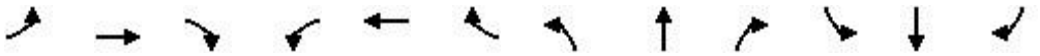
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	16	14	180	0	2	7	35	141	7	106	2
Future Volume (Veh/h)	2	16	14	180	0	2	7	35	141	7	106	2
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)	2	17	15	196	0	2	8	38	153	8	115	2
Pedestrians								1				
Lane Width (m)								3.7				
Walking Speed (m/s)								1.1				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								223				
pX, platoon unblocked												
vC, conflicting volume	169	339	60	228	264	96	117			191		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	169	339	60	228	264	96	117			191		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	97	98	71	100	100	99			99		
cM capacity (veh/h)	776	579	999	677	638	949	1484			1395		

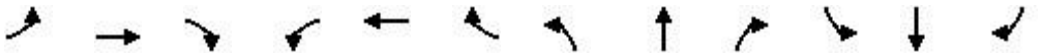
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	34	196	2	8	25	166	8	77	40
Volume Left	2	196	0	8	0	0	8	0	0
Volume Right	15	0	2	0	0	153	0	0	2
cSH	724	677	949	1484	1700	1700	1395	1700	1700
Volume to Capacity	0.05	0.29	0.00	0.01	0.01	0.10	0.01	0.05	0.02
Queue Length 95th (m)	1.1	9.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0
Control Delay (s)	10.2	12.5	8.8	7.4	0.0	0.0	7.6	0.0	0.0
Lane LOS	B	B	A	A			A		
Approach Delay (s)	10.2	12.4		0.3			0.5		
Approach LOS	B	B							

Intersection Summary				
Average Delay	5.3			
Intersection Capacity Utilization	29.1%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	54	0	0	0	0	18	0	0	0
Future Volume (vph)	0	0	0	54	0	0	0	0	18	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.865				
Flt Protected				0.950								
Satd. Flow (prot)	0	3579	0	1789	1883	0	0	1629	0	0	1883	0
Flt Permitted				0.950								
Satd. Flow (perm)	0	3579	0	1789	1883	0	0	1629	0	0	1883	0
Link Speed (k/h)		50			48			48			50	
Link Distance (m)		152.4			237.0			95.7			60.6	
Travel Time (s)		11.0			17.8			7.2			4.4	
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)	0	0	0	59	0	0	0	0	20	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	59	0	0	0	20	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			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)	97		24	97		14	14		97	24		97
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	54	0	0	0	0	18	0	0	0
Future Volume (Veh/h)	0	0	0	54	0	0	0	0	18	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	59	0	0	0	0	20	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)					237							
pX, platoon unblocked												
vC, conflicting volume	0			0			118	118	0	138	118	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			118	118	0	138	118	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			96			100	100	98	100	100	100
cM capacity (veh/h)	1622			1622			822	743	1084	781	743	1084

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	0	0	59	0	20	0
Volume Left	0	0	59	0	0	0
Volume Right	0	0	0	0	20	0
cSH	1700	1700	1622	1700	1084	1700
Volume to Capacity	0.00	0.00	0.04	0.00	0.02	0.00
Queue Length 95th (m)	0.0	0.0	0.9	0.0	0.4	0.0
Control Delay (s)	0.0	0.0	7.3	0.0	8.4	0.0
Lane LOS			A		A	A
Approach Delay (s)	0.0		7.3		8.4	0.0
Approach LOS					A	A

Intersection Summary				
Average Delay	7.6			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	18	54	0
Future Volume (vph)	0	0	0	18	54	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt						
Flt Protected						
Satd. Flow (prot)	1883	0	1883	3579	3579	0
Flt Permitted						
Satd. Flow (perm)	1883	0	1883	3579	3579	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	66.3			283.4	152.4	
Travel Time (s)	5.0			20.4	11.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	20	59	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	20	59	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 6.7%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	18	54	0
Future Volume (Veh/h)	0	0	0	18	54	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	20	59	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)					390	
pX, platoon unblocked						
vC, conflicting volume	69	30	59			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	69	30	59			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	928	1038	1543			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	0	0	10	10	39	20
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.01	0.01	0.02	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0			0.0	
Approach LOS	A					

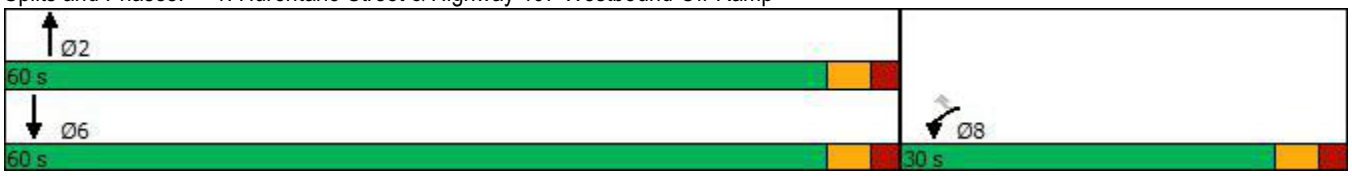
Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	6.7%	ICU Level of Service		A
Analysis Period (min)	15			

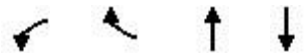
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	249	204	634	0	0	1001
Future Volume (vph)	249	204	634	0	0	1001
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	115.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Frt	0.970	0.850				
Flt Protected	0.961					
Satd. Flow (prot)	3315	1429	3476	0	0	3544
Flt Permitted	0.961					
Satd. Flow (perm)	3315	1429	3476	0	0	3544
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	34	152				
Link Speed (k/h)	60		60			60
Link Distance (m)	401.2		345.6			144.3
Travel Time (s)	24.1		20.7			8.7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	4%	5%	0%	0%	3%
Adj. Flow (vph)	265	217	674	0	0	1065
Shared Lane Traffic (%)		30%				
Lane Group Flow (vph)	330	152	674	0	0	1065
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	7.4		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	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0			5.0
Minimum Split (s)	23.0	23.0	23.0			23.0
Total Split (s)	30.0	30.0	60.0			60.0
Total Split (%)	33.3%	33.3%	66.7%			66.7%
Maximum Green (s)	25.0	25.0	55.0			55.0
Yellow Time (s)	3.0	3.0	3.0			3.0
All-Red Time (s)	2.0	2.0	2.0			2.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	Max			Max
Walk Time (s)	7.0	7.0	7.0			7.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	12.2	12.2	55.0			55.0
Actuated g/C Ratio	0.16	0.16	0.71			0.71
v/c Ratio	0.60	0.43	0.27			0.42
Control Delay	31.8	9.4	4.5			5.4
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	31.8	9.4	4.5			5.4
LOS	C	A	A			A
Approach Delay	24.7		4.5			5.4
Approach LOS	C		A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 77.2			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 9.3		Intersection LOS: A	
Intersection Capacity Utilization 48.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & Highway 407 Westbound Off-Ramp





Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	330	152	674	1065
v/c Ratio	0.60	0.43	0.27	0.42
Control Delay	31.8	9.4	4.5	5.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	31.8	9.4	4.5	5.4
Queue Length 50th (m)	20.8	0.0	15.0	27.2
Queue Length 95th (m)	32.8	15.7	25.5	44.7
Internal Link Dist (m)	377.2		321.6	120.3
Turn Bay Length (m)		115.0		
Base Capacity (vph)	1096	565	2477	2526
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	0.30	0.27	0.27	0.42

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	249	204	634	0	0	1001
Future Volume (vph)	249	204	634	0	0	1001
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0			5.0
Lane Util. Factor	0.97	0.91	0.95			0.95
Frt	0.97	0.85	1.00			1.00
Flt Protected	0.96	1.00	1.00			1.00
Satd. Flow (prot)	3318	1429	3476			3544
Flt Permitted	0.96	1.00	1.00			1.00
Satd. Flow (perm)	3318	1429	3476			3544
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	265	217	674	0	0	1065
RTOR Reduction (vph)	29	128	0	0	0	0
Lane Group Flow (vph)	301	24	674	0	0	1065
Heavy Vehicles (%)	5%	4%	5%	0%	0%	3%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	12.2	12.2	55.1			55.1
Effective Green, g (s)	12.2	12.2	55.1			55.1
Actuated g/C Ratio	0.16	0.16	0.71			0.71
Clearance Time (s)	5.0	5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	523	225	2477			2526
v/s Ratio Prot	c0.09		0.19			c0.30
v/s Ratio Perm		0.02				
v/c Ratio	0.58	0.11	0.27			0.42
Uniform Delay, d1	30.2	27.9	4.0			4.6
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	1.5	0.2	0.3			0.5
Delay (s)	31.7	28.1	4.2			5.1
Level of Service	C	C	A			A
Approach Delay (s)	30.6		4.2			5.1
Approach LOS	C		A			A

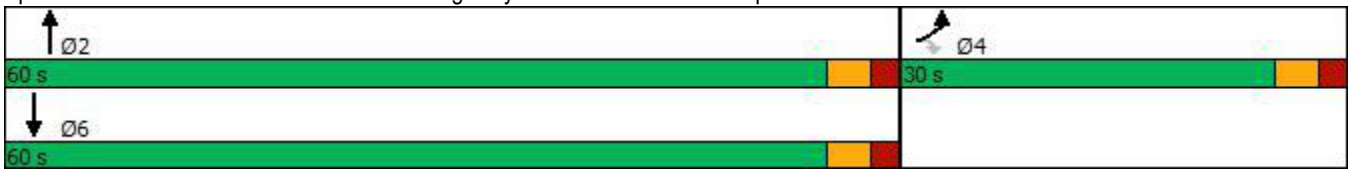
Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	77.3	Sum of lost time (s)	10.0
Intersection Capacity Utilization	48.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

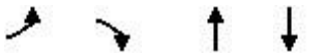
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	96	202	0	586	987	0
Future Volume (vph)	96	202	0	586	987	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	95.0	0.0			0.0
Storage Lanes	2	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3506	1526	0	3444	3510	0
Flt Permitted	0.950					
Satd. Flow (perm)	3506	1526	0	3444	3510	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		112				
Link Speed (k/h)	60			60	60	
Link Distance (m)	401.8			373.3	345.6	
Travel Time (s)	24.1			22.4	20.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	7%	0%	6%	4%	0%
Adj. Flow (vph)	102	215	0	623	1050	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	102	215	0	623	1050	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.4			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
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	6.1	6.1		30.5	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	6.1		1.8	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Permitted Phases		4				
Detector Phase	4	4		2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0		23.0	23.0	
Total Split (s)	30.0	30.0		60.0	60.0	
Total Split (%)	33.3%	33.3%		66.7%	66.7%	
Maximum Green (s)	25.0	25.0		55.0	55.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Recall Mode	None	None		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	11.2	11.2		56.9	56.9	
Actuated g/C Ratio	0.14	0.14		0.73	0.73	
v/c Ratio	0.20	0.68		0.25	0.41	
Control Delay	29.0	26.5		4.3	5.2	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	29.0	26.5		4.3	5.2	
LOS	C	C		A	A	
Approach Delay	27.3			4.3	5.2	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 78.1			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 8.5		Intersection LOS: A	
Intersection Capacity Utilization 48.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Hurontario Street & Highway 407 Eastbound Off-Ramp



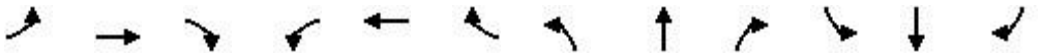


Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	102	215	623	1050
v/c Ratio	0.20	0.68	0.25	0.41
Control Delay	29.0	26.5	4.3	5.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	29.0	26.5	4.3	5.2
Queue Length 50th (m)	6.7	13.8	12.5	24.6
Queue Length 95th (m)	12.9	34.2	25.6	48.1
Internal Link Dist (m)	377.8		349.3	321.6
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1124	565	2508	2556
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	0.09	0.38	0.25	0.41

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	96	202	0	586	987	0
Future Volume (vph)	96	202	0	586	987	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	1.00		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3506	1526		3444	3510	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3506	1526		3444	3510	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	102	215	0	623	1050	0
RTOR Reduction (vph)	0	96	0	0	0	0
Lane Group Flow (vph)	102	119	0	623	1050	0
Heavy Vehicles (%)	1%	7%	0%	6%	4%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	11.2	11.2		56.9	56.9	
Effective Green, g (s)	11.2	11.2		56.9	56.9	
Actuated g/C Ratio	0.14	0.14		0.73	0.73	
Clearance Time (s)	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	502	218		2509	2557	
v/s Ratio Prot	0.03			0.18	c0.30	
v/s Ratio Perm		c0.08				
v/c Ratio	0.20	0.55		0.25	0.41	
Uniform Delay, d1	29.5	31.1		3.5	4.1	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	2.8		0.2	0.5	
Delay (s)	29.7	33.9		3.7	4.6	
Level of Service	C	C		A	A	
Approach Delay (s)	32.5			3.7	4.6	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	78.1	Sum of lost time (s)	10.0
Intersection Capacity Utilization	48.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



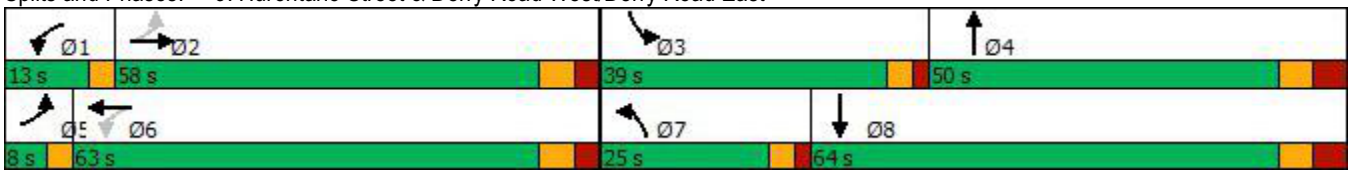
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	1463	9	52	997	199	45	218	39	364	391	155
Future Volume (vph)	74	1463	9	52	997	199	45	218	39	364	391	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		0.0	185.0		0.0	55.0		0.0	100.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00			0.99		0.96	0.99		0.98	0.97	
Frt		0.999			0.975			0.977			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1690	4986	0	1615	4541	0	1738	3030	0	1755	3155	0
Flt Permitted	0.144			0.072			0.950			0.950		
Satd. Flow (perm)	255	4986	0	122	4541	0	1666	3030	0	1728	3155	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			29			12			41	
Link Speed (k/h)		70			70			60			60	
Link Distance (m)		331.5			999.3			126.9			189.0	
Travel Time (s)		17.0			51.4			7.6			11.3	
Confl. Peds. (#/hr)	27		46	46		27	77		19	19		77
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	5%	14%	13%	13%	6%	5%	13%	40%	4%	7%	9%
Adj. Flow (vph)	76	1508	9	54	1028	205	46	225	40	375	403	160
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	1517	0	54	1233	0	46	265	0	375	563	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	8.0	51.4		8.0	51.4		13.0	49.4		13.0	49.4	
Total Split (s)	8.0	58.0		13.0	63.0		25.0	50.0		39.0	64.0	
Total Split (%)	5.0%	36.3%		8.1%	39.4%		15.6%	31.3%		24.4%	40.0%	
Maximum Green (s)	5.0	50.6		10.0	55.6		20.0	41.6		34.0	55.6	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	3.2		0.0	3.2		2.0	4.4		2.0	4.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		13.0			13.0			12.0			12.0	
Flash Dont Walk (s)		31.0			31.0			29.0			29.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	63.0	54.6		67.3	55.6		9.5	16.5		34.0	43.8	
Actuated g/C Ratio	0.47	0.40		0.50	0.41		0.07	0.12		0.25	0.32	
v/c Ratio	0.44	0.75		0.37	0.65		0.38	0.70		0.85	0.54	
Control Delay	27.5	38.4		25.2	33.4		69.6	64.2		67.0	37.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.5	38.4		25.2	33.4		69.6	64.2		67.0	37.5	
LOS	C	D		C	C		E	E		E	D	
Approach Delay		37.9			33.1			65.0			49.3	
Approach LOS		D			C			E			D	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 135
Natural Cycle: 145
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 41.0 Intersection LOS: D
Intersection Capacity Utilization 101.7% ICU Level of Service G
Analysis Period (min) 15

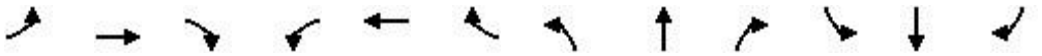
Splits and Phases: 3: Hurontario Street & Derry Road West/Derry Road East



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	76	1517	54	1233	46	265	375	563
v/c Ratio	0.44	0.75	0.37	0.65	0.38	0.70	0.85	0.54
Control Delay	27.5	38.4	25.2	33.4	69.6	64.2	67.0	37.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.5	38.4	25.2	33.4	69.6	64.2	67.0	37.5
Queue Length 50th (m)	10.2	128.2	7.2	93.5	12.0	34.5	95.6	61.2
Queue Length 95th (m)	20.2	159.7	15.4	116.3	25.2	49.3	#154.7	82.6
Internal Link Dist (m)		307.5		975.3		102.9		165.0
Turn Bay Length (m)	150.0		185.0		55.0		100.0	
Base Capacity (vph)	171	2018	172	1888	257	942	442	1324
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	0.75	0.31	0.65	0.18	0.28	0.85	0.43

Intersection Summary

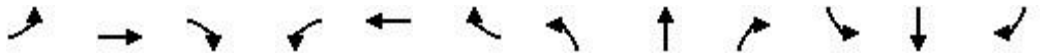
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	1463	9	52	997	199	45	218	39	364	391	155
Future Volume (vph)	74	1463	9	52	997	199	45	218	39	364	391	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.98		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)	1689	4986		1615	4545		1738	3033		1755	3168	
Flt Permitted	0.14	1.00		0.07	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	257	4986		122	4545		1738	3033		1755	3168	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	76	1508	9	54	1028	205	46	225	40	375	403	160
RTOR Reduction (vph)	0	1	0	0	17	0	0	10	0	0	28	0
Lane Group Flow (vph)	76	1516	0	54	1216	0	46	255	0	375	535	0
Confl. Peds. (#/hr)	27		46	46		27	77		19	19		77
Heavy Vehicles (%)	8%	5%	14%	13%	13%	6%	5%	13%	40%	4%	7%	9%
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Actuated Green, G (s)	59.6	54.6		62.8	56.2		7.8	17.6		34.0	43.8	
Effective Green, g (s)	59.6	54.6		62.8	56.2		7.8	17.6		34.0	43.8	
Actuated g/C Ratio	0.44	0.40		0.46	0.41		0.06	0.13		0.25	0.32	
Clearance Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	164	1992		128	1869		99	390		436	1015	
v/s Ratio Prot	0.02	c0.30		c0.02	0.27		0.03	c0.08		c0.21	0.17	
v/s Ratio Perm	0.18			0.17								
v/c Ratio	0.46	0.76		0.42	0.65		0.46	0.65		0.86	0.53	
Uniform Delay, d1	24.2	35.4		25.0	32.3		62.4	56.6		49.0	37.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	2.8		2.2	1.8		3.4	3.9		15.8	0.5	
Delay (s)	26.3	38.2		27.2	34.1		65.8	60.5		64.8	38.4	
Level of Service	C	D		C	C		E	E		E	D	
Approach Delay (s)		37.6			33.8			61.3			49.0	
Approach LOS		D			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	40.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	136.6	Sum of lost time (s)	23.8
Intersection Capacity Utilization	101.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



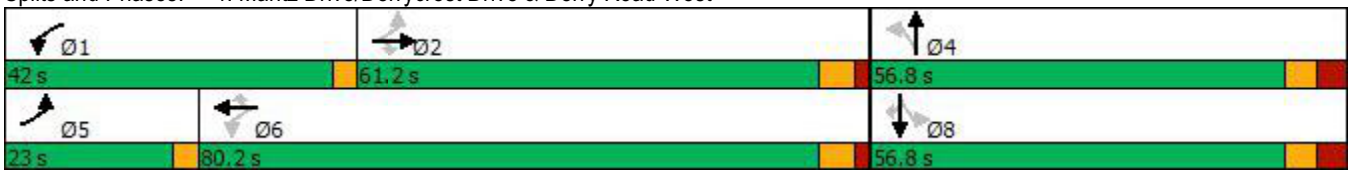
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	259	1377	575	401	711	91	92	70	94	36	52	81
Future Volume (vph)	259	1377	575	401	711	91	92	70	94	36	52	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	55.0		30.0	0.0		0.0	100.0		0.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97			0.99	1.00	0.99		1.00		0.99
Frt			0.850			0.850		0.914				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5043	1633	1484	4601	1585	1722	1519	0	1521	1883	1541
Flt Permitted	0.353			0.088			0.721			0.484		
Satd. Flow (perm)	665	5043	1586	137	4601	1564	1304	1519	0	773	1883	1519
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116			73		44				86
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		443.5			331.5			130.4			222.4	
Travel Time (s)		22.8			17.0			9.4			16.0	
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	4%	0%	23%	14%	3%	6%	2%	24%	20%	2%	6%
Adj. Flow (vph)	276	1465	612	427	756	97	98	74	100	38	55	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	276	1465	612	427	756	97	98	174	0	38	55	86
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		8
Detector Phase	5	2	2	1	6	6	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	7.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	8.0	41.2	41.2	10.0	41.2	41.2	56.7	56.7		56.7	56.7	56.7
Total Split (s)	23.0	61.2	61.2	42.0	80.2	80.2	56.8	56.8		56.8	56.8	56.8
Total Split (%)	14.4%	38.3%	38.3%	26.3%	50.1%	50.1%	35.5%	35.5%		35.5%	35.5%	35.5%
Maximum Green (s)	20.0	55.0	55.0	39.0	74.0	74.0	49.1	49.1		49.1	49.1	49.1
Yellow Time (s)	3.0	4.2	4.2	3.0	4.2	4.2	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	3.7	3.7		3.7	3.7	3.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0	10.0	10.0	10.0		10.0	10.0	10.0
Flash Dont Walk (s)		25.0	25.0		25.0	25.0	39.0	39.0		39.0	39.0	39.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0		0	0	0
Act Effct Green (s)	69.0	55.1	55.1	100.3	83.4	83.4	16.6	16.6		16.6	16.6	16.6
Actuated g/C Ratio	0.54	0.43	0.43	0.79	0.65	0.65	0.13	0.13		0.13	0.13	0.13
v/c Ratio	0.61	0.67	0.82	0.82	0.25	0.09	0.58	0.74		0.38	0.23	0.32
Control Delay	16.5	31.5	36.4	44.5	10.2	3.8	65.9	58.3		61.4	51.2	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
Total Delay	16.5	31.5	36.4	44.5	10.2	3.8	65.9	58.3		61.4	51.2	12.8
LOS	B	C	D	D	B	A	E	E		E	D	B
Approach Delay		31.0			21.2			61.0			34.9	
Approach LOS		C			C			E			C	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 127.6
Natural Cycle: 150
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 30.1 Intersection LOS: C
Intersection Capacity Utilization 93.6% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 4: Maritz Drive/Derrycrest Drive & Derry Road West



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	276	1465	612	427	756	97	98	174	38	55	86
v/c Ratio	0.61	0.67	0.82	0.82	0.25	0.09	0.58	0.74	0.38	0.23	0.32
Control Delay	16.5	31.5	36.4	44.5	10.2	3.8	65.9	58.3	61.4	51.2	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
Total Delay	16.5	31.5	36.4	44.5	10.2	3.8	65.9	58.3	61.4	51.2	12.8
Queue Length 50th (m)	17.6	105.9	110.7	79.3	26.3	2.0	23.5	31.9	8.9	12.6	0.0
Queue Length 95th (m)	29.0	135.8	#192.8	#147.3	42.7	10.1	41.6	56.1	20.0	24.9	14.6
Internal Link Dist (m)		419.5			307.5			106.4		198.4	
Turn Bay Length (m)	50.0		15.0	55.0		30.0			100.0		
Base Capacity (vph)	584	2176	750	520	3007	1047	502	612	297	725	638
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.67	0.82	0.82	0.25	0.09	0.20	0.28	0.13	0.08	0.13

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	259	1377	575	401	711	91	92	70	94	36	52	81
Future Volume (vph)	259	1377	575	401	711	91	92	70	94	36	52	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.99	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1789	5043	1589	1484	4601	1565	1719	1519		1518	1883	1520
Flt Permitted	0.35	1.00	1.00	0.09	1.00	1.00	0.72	1.00		0.48	1.00	1.00
Satd. Flow (perm)	665	5043	1589	138	4601	1565	1305	1519		773	1883	1520
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	276	1465	612	427	756	97	98	74	100	38	55	86
RTOR Reduction (vph)	0	0	66	0	0	25	0	38	0	0	0	75
Lane Group Flow (vph)	276	1465	546	427	756	72	98	136	0	38	55	11
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Heavy Vehicles (%)	2%	4%	0%	23%	14%	3%	6%	2%	24%	20%	2%	6%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		8
Actuated Green, G (s)	65.8	55.1	55.1	97.2	83.5	83.5	16.6	16.6		16.6	16.6	16.6
Effective Green, g (s)	65.8	55.1	55.1	97.2	83.5	83.5	16.6	16.6		16.6	16.6	16.6
Actuated g/C Ratio	0.52	0.43	0.43	0.76	0.65	0.65	0.13	0.13		0.13	0.13	0.13
Clearance Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	436	2175	685	517	3008	1023	169	197		100	244	197
v/s Ratio Prot	0.05	0.29		c0.25	0.16			c0.09			0.03	
v/s Ratio Perm	0.27		0.34	c0.38		0.05	0.08			0.05		0.01
v/c Ratio	0.63	0.67	0.80	0.83	0.25	0.07	0.58	0.69		0.38	0.23	0.06
Uniform Delay, d1	25.6	29.1	31.5	31.7	9.2	8.0	52.3	53.1		50.8	49.8	48.7
Progression Factor	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	3.0	1.7	9.4	10.4	0.2	0.1	4.8	9.6		2.4	0.5	0.1
Delay (s)	28.6	30.8	40.8	42.1	9.4	8.1	57.0	62.7		53.2	50.3	48.8
Level of Service	C	C	D	D	A	A	E	E		D	D	D
Approach Delay (s)		33.1			20.2			60.7			50.2	
Approach LOS		C			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	31.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	127.7	Sum of lost time (s)	16.9
Intersection Capacity Utilization	93.6%	ICU Level of Service	F
Analysis Period (min)	15		

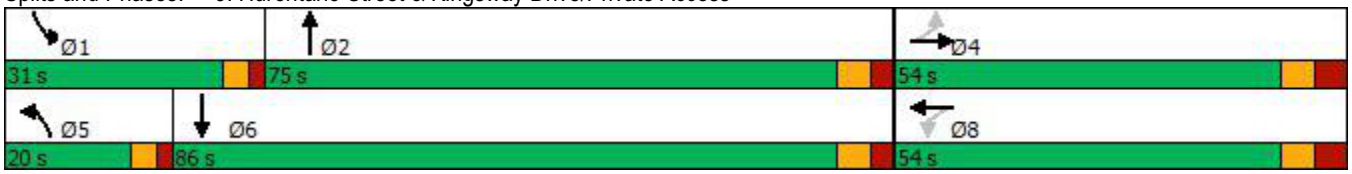
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	0	17	2	5	0	26	490	9	4	889	103
Future Volume (vph)	97	0	17	2	5	0	26	490	9	4	889	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	0.0		0.0	20.0		0.0	30.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor	1.00						1.00	1.00		1.00	1.00	
Frt		0.850						0.997			0.984	
Flt Protected	0.950				0.986		0.950			0.950		
Satd. Flow (prot)	1789	1633	0	0	1894	0	1722	3342	0	1825	3426	0
Flt Permitted	0.753				0.926		0.950			0.950		
Satd. Flow (perm)	1415	1633	0	0	1779	0	1720	3342	0	1824	3426	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		256						1			11	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		318.7			138.1			189.0			440.6	
Travel Time (s)		22.9			9.9			11.3			26.4	
Confl. Peds. (#/hr)	2					2	2		1	1		2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	6%	9%	0%	0%	5%	1%
Adj. Flow (vph)	102	0	18	2	5	0	27	516	9	4	936	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	102	18	0	0	7	0	27	525	0	4	1044	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	52.0	52.0		52.0	52.0		13.0	58.0		13.0	58.0	
Total Split (s)	54.0	54.0		54.0	54.0		20.0	75.0		31.0	86.0	
Total Split (%)	33.8%	33.8%		33.8%	33.8%		12.5%	46.9%		19.4%	53.8%	
Maximum Green (s)	46.0	46.0		46.0	46.0		15.0	68.0		26.0	79.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		2.0	3.0		2.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	13.0	13.0		13.0	13.0			15.0			15.0	
Flash Dont Walk (s)	31.0	31.0		31.0	31.0			36.0			36.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	14.0	14.0			14.0		8.4	88.5		8.0	83.0	
Actuated g/C Ratio	0.12	0.12			0.12		0.07	0.74		0.07	0.69	
v/c Ratio	0.62	0.04			0.03		0.23	0.21		0.03	0.44	
Control Delay	67.2	0.2			47.1		59.3	6.0		56.2	10.2	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	67.2	0.2			47.1		59.3	6.0		56.2	10.2	
LOS	E	A			D		E	A		E	B	
Approach Delay		57.2			47.1			8.6			10.4	
Approach LOS		E			D			A			B	

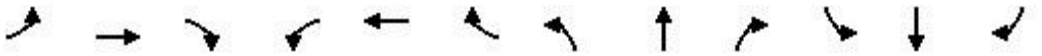
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 119.9			
Natural Cycle: 125			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 67.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: Hurontario Street & Kingsway Drive/Private Access



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	102	18	7	27	525	4	1044
v/c Ratio	0.62	0.04	0.03	0.23	0.21	0.03	0.44
Control Delay	67.2	0.2	47.1	59.3	6.0	56.2	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.2	0.2	47.1	59.3	6.0	56.2	10.2
Queue Length 50th (m)	23.5	0.0	1.5	6.2	15.8	0.9	59.4
Queue Length 95th (m)	42.2	0.0	6.0	16.2	37.8	4.7	88.4
Internal Link Dist (m)		294.7	114.1		165.0		416.6
Turn Bay Length (m)	40.0			20.0		30.0	
Base Capacity (vph)	544	786	685	216	2466	397	2374
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	0.19	0.02	0.01	0.13	0.21	0.01	0.44

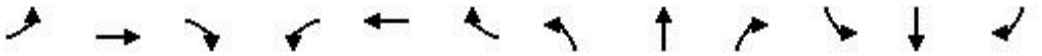
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	0	17	2	5	0	26	490	9	4	889	103
Future Volume (vph)	97	0	17	2	5	0	26	490	9	4	889	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			1.00		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1786	1633			1894		1722	3344		1825	3428	
Flt Permitted	0.75	1.00			0.93		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1416	1633			1778		1722	3344		1825	3428	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	102	0	18	2	5	0	27	516	9	4	936	108
RTOR Reduction (vph)	0	16	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	102	2	0	0	7	0	27	525	0	4	1041	0
Confl. Peds. (#/hr)	2					2	2		1	1		2
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	6%	9%	0%	0%	5%	1%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	13.9	13.9			13.9		5.0	88.5		1.5	85.0	
Effective Green, g (s)	13.9	13.9			13.9		5.0	88.5		1.5	85.0	
Actuated g/C Ratio	0.11	0.11			0.11		0.04	0.71		0.01	0.69	
Clearance Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	158	183			199		69	2388		22	2351	
v/s Ratio Prot		0.00					c0.02	c0.16		0.00	c0.30	
v/s Ratio Perm	c0.07				0.00							
v/c Ratio	0.65	0.01			0.04		0.39	0.22		0.18	0.44	
Uniform Delay, d1	52.6	48.9			49.0		58.0	6.0		60.6	8.8	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.7	0.0			0.1		3.6	0.2		4.0	0.6	
Delay (s)	61.4	48.9			49.1		61.6	6.2		64.5	9.4	
Level of Service	E	D			D		E	A		E	A	
Approach Delay (s)		59.5			49.1			8.9			9.6	
Approach LOS		E			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	123.9	Sum of lost time (s)	20.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

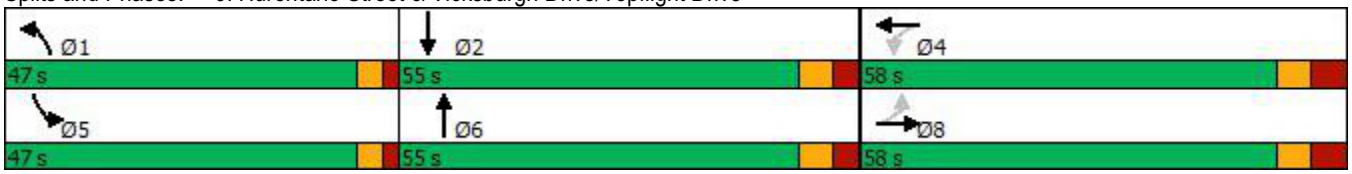


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	3	12	14	1	143	71	487	28	140	993	92
Future Volume (vph)	27	3	12	14	1	143	71	487	28	140	993	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	0.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor	1.00				0.99			1.00		1.00		
Frt		0.878			0.878			0.992			0.987	
Flt Protected	0.950				0.996		0.950			0.950		
Satd. Flow (prot)	1825	1687	0	0	1495	0	1825	3373	0	1690	3475	0
Flt Permitted	0.522				0.966		0.950			0.950		
Satd. Flow (perm)	1000	1687	0	0	1450	0	1825	3373	0	1686	3475	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			154			4			6	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		237.0			253.7			440.6			373.3	
Travel Time (s)		17.1			18.3			26.4			22.4	
Confl. Peds. (#/hr)	4					4			2	2		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	50%	0%	7%	0%	6%	28%	8%	4%	0%
Adj. Flow (vph)	29	3	13	15	1	154	76	524	30	151	1068	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	16	0	0	170	0	76	554	0	151	1167	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		8.0	8.0	
Minimum Split (s)	58.0	58.0		58.0	58.0		47.0	55.0		47.0	55.0	
Total Split (s)	58.0	58.0		58.0	58.0		47.0	55.0		47.0	55.0	
Total Split (%)	36.3%	36.3%		36.3%	36.3%		29.4%	34.4%		29.4%	34.4%	
Maximum Green (s)	49.5	49.5		49.5	49.5		42.0	47.5		42.0	47.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.5	4.5		4.5	4.5		2.0	3.5		2.0	3.5	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	14.0	14.0		14.0	14.0			9.0			9.0	
Flash Dont Walk (s)	35.0	35.0		35.0	35.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	9.1	9.1			9.1		9.3	47.6		13.4	54.2	
Actuated g/C Ratio	0.10	0.10			0.10		0.10	0.52		0.15	0.59	
v/c Ratio	0.29	0.09			0.60		0.41	0.31		0.61	0.56	
Control Delay	47.0	22.5			18.4		45.9	13.6		47.5	13.8	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	47.0	22.5			18.4		45.9	13.6		47.5	13.8	
LOS	D	C			B		D	B		D	B	
Approach Delay		38.3			18.4			17.5			17.7	
Approach LOS		D			B			B			B	

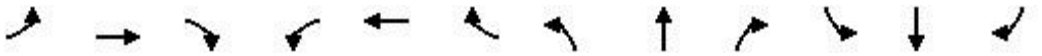
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 91.2			
Natural Cycle: 160			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 18.1		Intersection LOS: B	
Intersection Capacity Utilization 71.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Hurontario Street & Vicksburgh Drive/Topflight Drive



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	29	16	170	76	554	151	1167
v/c Ratio	0.29	0.09	0.60	0.41	0.31	0.61	0.56
Control Delay	47.0	22.5	18.4	45.9	13.6	47.5	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.0	22.5	18.4	45.9	13.6	47.5	13.8
Queue Length 50th (m)	4.8	0.5	2.6	12.5	26.4	24.7	62.5
Queue Length 95th (m)	13.7	6.5	21.8	27.2	45.9	45.7	99.6
Internal Link Dist (m)		213.0	229.7		416.6		349.3
Turn Bay Length (m)	25.0			25.0		35.0	
Base Capacity (vph)	544	923	859	842	1763	780	2067
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	0.05	0.02	0.20	0.09	0.31	0.19	0.56

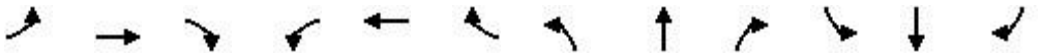
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	3	12	14	1	143	71	487	28	140	993	92
Future Volume (vph)	27	3	12	14	1	143	71	487	28	140	993	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.88			0.88		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1822	1687			1496		1825	3373		1690	3476	
Flt Permitted	0.52	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1002	1687			1452		1825	3373		1690	3476	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	29	3	13	15	1	154	76	524	30	151	1068	99
RTOR Reduction (vph)	0	12	0	0	139	0	0	2	0	0	2	0
Lane Group Flow (vph)	29	4	0	0	31	0	76	552	0	151	1165	0
Confl. Peds. (#/hr)	4					4			2	2		
Heavy Vehicles (%)	0%	0%	0%	50%	0%	7%	0%	6%	28%	8%	4%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)	9.1	9.1			9.1		7.9	48.7		13.4	54.2	
Effective Green, g (s)	9.1	9.1			9.1		7.9	48.7		13.4	54.2	
Actuated g/C Ratio	0.10	0.10			0.10		0.09	0.53		0.15	0.59	
Clearance Time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	98	166			143		156	1781		245	2043	
v/s Ratio Prot		0.00					0.04	0.16		c0.09	c0.33	
v/s Ratio Perm	c0.03				0.02							
v/c Ratio	0.30	0.03			0.22		0.49	0.31		0.62	0.57	
Uniform Delay, d1	38.6	37.5			38.3		40.2	12.3		37.0	11.8	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.7	0.1			0.8		2.4	0.5		4.6	1.2	
Delay (s)	40.3	37.6			39.0		42.6	12.7		41.5	12.9	
Level of Service	D	D			D		D	B		D	B	
Approach Delay (s)		39.3			39.0			16.3			16.2	
Approach LOS		D			D			B			B	

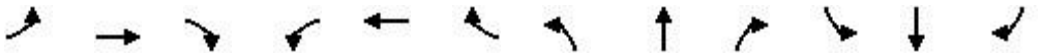
Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	92.2	Sum of lost time (s)	21.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	2	102	10	6	23	237	137	3	63	1
Future Volume (vph)	0	0	2	102	10	6	23	237	137	3	63	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	15.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	0		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		0.865			0.942			0.945			0.998	
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	1662	0	1772	1810	0	1825	3437	0	1825	3643	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	1662	0	1772	1810	0	1825	3437	0	1825	3643	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		62.9			318.7			222.4			283.4	
Travel Time (s)		4.5			22.9			16.0			20.4	
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
Heavy Vehicles (%)	0%	0%	0%	3%	0%	0%	0%	0%	1%	0%	0%	0%
Adj. Flow (vph)	0	0	2	111	11	7	25	258	149	3	68	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	0	111	18	0	25	407	0	3	69	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

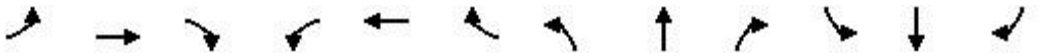
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	2	102	10	6	23	237	137	3	63	1
Future Volume (Veh/h)	0	0	2	102	10	6	23	237	137	3	63	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	2	111	11	7	25	258	149	3	68	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								223				
pX, platoon unblocked												
vC, conflicting volume	266	532	34	424	458	204	69			407		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	266	532	34	424	458	204	69			407		
tC, single (s)	7.5	6.5	6.9	7.6	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	78	98	99	98			100		
cM capacity (veh/h)	644	448	1037	503	493	810	1545			1163		

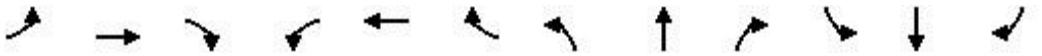
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	2	111	18	25	172	235	3	45	24
Volume Left	0	111	0	25	0	0	3	0	0
Volume Right	2	0	7	0	0	149	0	0	1
cSH	1037	503	582	1545	1700	1700	1163	1700	1700
Volume to Capacity	0.00	0.22	0.03	0.02	0.10	0.14	0.00	0.03	0.01
Queue Length 95th (m)	0.0	6.3	0.7	0.4	0.0	0.0	0.1	0.0	0.0
Control Delay (s)	8.5	14.2	11.4	7.4	0.0	0.0	8.1	0.0	0.0
Lane LOS	A	B	B	A			A		
Approach Delay (s)	8.5	13.8		0.4			0.3		
Approach LOS	A	B							

Intersection Summary				
Average Delay	3.2			
Intersection Capacity Utilization	29.9%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	14	27	15	42	5	97	12	63	2	3	0
Future Volume (vph)	0	14	27	15	42	5	97	12	63	2	3	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.901			0.985			0.951				
Flt Protected				0.950				0.973			0.980	
Satd. Flow (prot)	0	3224	0	1789	1855	0	0	1743	0	0	1846	0
Flt Permitted				0.950				0.973			0.980	
Satd. Flow (perm)	0	3224	0	1789	1855	0	0	1743	0	0	1846	0
Link Speed (k/h)		50			48			48			50	
Link Distance (m)		152.4			237.0			95.7			60.6	
Travel Time (s)		11.0			17.8			7.2			4.4	
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)	0	15	29	16	46	5	105	13	68	2	3	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	0	16	51	0	0	186	0	0	5	0
Enter Blocked Intersection	No	No	No	No	No	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			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		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	14	27	15	42	5	97	12	63	2	3	0
Future Volume (Veh/h)	0	14	27	15	42	5	97	12	63	2	3	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	15	29	16	46	5	105	13	68	2	3	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)					237							
pX, platoon unblocked												
vC, conflicting volume	51			44			109	112	22	162	124	48
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	51			44			109	112	22	162	124	48
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			88	98	94	100	100	100
cM capacity (veh/h)	1553			1563			849	769	1050	721	757	1010

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	8	36	16	51	186	5
Volume Left	0	0	16	0	105	2
Volume Right	0	29	0	5	68	0
cSH	1553	1700	1563	1700	906	742
Volume to Capacity	0.00	0.02	0.01	0.03	0.21	0.01
Queue Length 95th (m)	0.0	0.0	0.2	0.0	5.8	0.2
Control Delay (s)	0.0	0.0	7.3	0.0	10.0	9.9
Lane LOS			A		A	A
Approach Delay (s)	0.0		1.7		10.0	9.9
Approach LOS					A	A

Intersection Summary				
Average Delay	6.7			
Intersection Capacity Utilization	29.0%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	3	12	171	41	5
Future Volume (vph)	2	3	12	171	41	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.919				0.985	
Flt Protected	0.980		0.950			
Satd. Flow (prot)	1696	0	1789	3579	3525	0
Flt Permitted	0.980		0.950			
Satd. Flow (perm)	1696	0	1789	3579	3525	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	66.3			283.4	152.4	
Travel Time (s)	5.0			20.4	11.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	3	13	186	45	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	0	13	186	50	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	17.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	3	12	171	41	5
Future Volume (Veh/h)	2	3	12	171	41	5
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)	2	3	13	186	45	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					390	
pX, platoon unblocked						
vC, conflicting volume	166	25	50			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	166	25	50			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	801	1045	1555			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	5	13	93	93	30	20
Volume Left	2	13	0	0	0	0
Volume Right	3	0	0	0	0	5
cSH	932	1555	1700	1700	1700	1700
Volume to Capacity	0.01	0.01	0.05	0.05	0.02	0.01
Queue Length 95th (m)	0.1	0.2	0.0	0.0	0.0	0.0
Control Delay (s)	8.9	7.3	0.0	0.0	0.0	0.0
Lane LOS	A	A				
Approach Delay (s)	8.9	0.5			0.0	
Approach LOS	A					

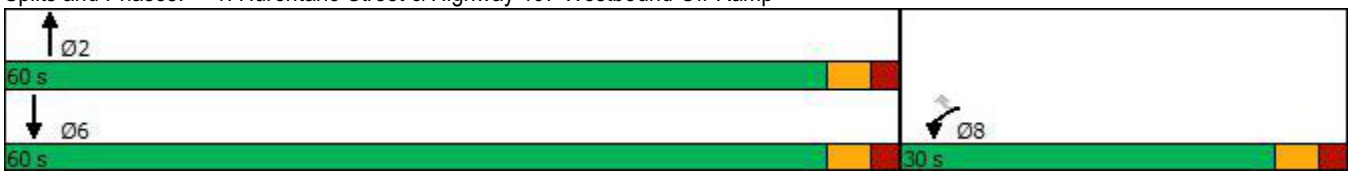
Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	17.3%	ICU Level of Service	A	
Analysis Period (min)	15			

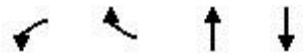
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	149	320	1265	0	0	716
Future Volume (vph)	149	320	1265	0	0	716
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	115.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Frt	0.922	0.850				
Flt Protected	0.976					
Satd. Flow (prot)	3127	1486	3579	0	0	3544
Flt Permitted	0.976					
Satd. Flow (perm)	3127	1486	3579	0	0	3544
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	63	63				
Link Speed (k/h)	60		60			60
Link Distance (m)	401.2		345.6			144.3
Travel Time (s)	24.1		20.7			8.7
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	15%	0%	2%	0%	0%	3%
Adj. Flow (vph)	154	330	1304	0	0	738
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	319	165	1304	0	0	738
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	7.4		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	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0			5.0
Minimum Split (s)	23.0	23.0	23.0			23.0
Total Split (s)	30.0	30.0	60.0			60.0
Total Split (%)	33.3%	33.3%	66.7%			66.7%
Maximum Green (s)	25.0	25.0	55.0			55.0
Yellow Time (s)	3.0	3.0	3.0			3.0
All-Red Time (s)	2.0	2.0	2.0			2.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	Max			Max
Walk Time (s)	7.0	7.0	7.0			7.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	12.0	12.0	55.1			55.1
Actuated g/C Ratio	0.16	0.16	0.71			0.71
v/c Ratio	0.59	0.58	0.51			0.29
Control Delay	28.6	27.2	6.2			4.7
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	28.6	27.2	6.2			4.7
LOS	C	C	A			A
Approach Delay	28.1		6.2			4.7
Approach LOS	C		A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 77.2			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 10.0		Intersection LOS: A	
Intersection Capacity Utilization 56.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & Highway 407 Westbound Off-Ramp





Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	319	165	1304	738
v/c Ratio	0.59	0.58	0.51	0.29
Control Delay	28.6	27.2	6.2	4.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	28.6	27.2	6.2	4.7
Queue Length 50th (m)	17.8	14.9	35.5	16.2
Queue Length 95th (m)	29.5	34.3	64.8	30.7
Internal Link Dist (m)	377.2		321.6	120.3
Turn Bay Length (m)		115.0		
Base Capacity (vph)	1057	524	2555	2530
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	0.30	0.31	0.51	0.29

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	149	320	1265	0	0	716
Future Volume (vph)	149	320	1265	0	0	716
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0			5.0
Lane Util. Factor	0.97	0.91	0.95			0.95
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3130	1486	3579			3544
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3130	1486	3579			3544
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	154	330	1304	0	0	738
RTOR Reduction (vph)	53	53	0	0	0	0
Lane Group Flow (vph)	266	112	1304	0	0	738
Heavy Vehicles (%)	15%	0%	2%	0%	0%	3%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	12.0	12.0	55.1			55.1
Effective Green, g (s)	12.0	12.0	55.1			55.1
Actuated g/C Ratio	0.16	0.16	0.71			0.71
Clearance Time (s)	5.0	5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	487	231	2557			2532
v/s Ratio Prot	c0.08		c0.36			0.21
v/s Ratio Perm		0.08				
v/c Ratio	0.55	0.48	0.51			0.29
Uniform Delay, d1	30.0	29.7	4.9			4.0
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	1.3	1.6	0.7			0.3
Delay (s)	31.3	31.3	5.7			4.3
Level of Service	C	C	A			A
Approach Delay (s)	31.3		5.7			4.3
Approach LOS	C		A			A

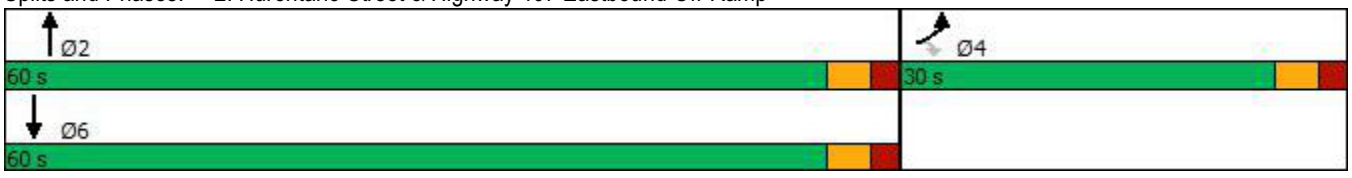
Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	77.1	Sum of lost time (s)	10.0
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

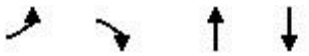
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	112	57	0	1325	637	0
Future Volume (vph)	112	57	0	1325	637	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	95.0	0.0			0.0
Storage Lanes	2	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3471	1384	0	3579	3476	0
Flt Permitted	0.950					
Satd. Flow (perm)	3471	1384	0	3579	3476	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		59				
Link Speed (k/h)	60			60	60	
Link Distance (m)	401.8			373.3	345.6	
Travel Time (s)	24.1			22.4	20.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	18%	0%	2%	5%	0%
Adj. Flow (vph)	115	59	0	1366	657	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	115	59	0	1366	657	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.4			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
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	6.1	6.1		30.5	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	6.1		1.8	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Permitted Phases		4				
Detector Phase	4	4		2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0		23.0	23.0	
Total Split (s)	30.0	30.0		60.0	60.0	
Total Split (%)	33.3%	33.3%		66.7%	66.7%	
Maximum Green (s)	25.0	25.0		55.0	55.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Recall Mode	None	None		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	7.8	7.8		61.3	61.3	
Actuated g/C Ratio	0.10	0.10		0.81	0.81	
v/c Ratio	0.32	0.30		0.47	0.23	
Control Delay	33.3	13.3		3.8	2.7	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	33.3	13.3		3.8	2.7	
LOS	C	B		A	A	
Approach Delay	26.5			3.8	2.7	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 75.9			
Natural Cycle: 55			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 5.3		Intersection LOS: A	
Intersection Capacity Utilization 56.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: Hurontario Street & Highway 407 Eastbound Off-Ramp





Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	115	59	1366	657
v/c Ratio	0.32	0.30	0.47	0.23
Control Delay	33.3	13.3	3.8	2.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	33.3	13.3	3.8	2.7
Queue Length 50th (m)	7.8	0.0	29.0	10.6
Queue Length 95th (m)	14.6	9.6	44.2	17.1
Internal Link Dist (m)	377.8		349.3	321.6
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1144	496	2889	2806
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	0.10	0.12	0.47	0.23

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	112	57	0	1325	637	0
Future Volume (vph)	112	57	0	1325	637	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	1.00		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3471	1384		3579	3476	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3471	1384		3579	3476	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	115	59	0	1366	657	0
RTOR Reduction (vph)	0	54	0	0	0	0
Lane Group Flow (vph)	115	5	0	1366	657	0
Heavy Vehicles (%)	2%	18%	0%	2%	5%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	6.6	6.6		60.3	60.3	
Effective Green, g (s)	6.6	6.6		60.3	60.3	
Actuated g/C Ratio	0.09	0.09		0.78	0.78	
Clearance Time (s)	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	297	118		2806	2725	
v/s Ratio Prot	c0.03			c0.38	0.19	
v/s Ratio Perm		0.00				
v/c Ratio	0.39	0.04		0.49	0.24	
Uniform Delay, d1	33.2	32.3		2.9	2.2	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.2		0.6	0.2	
Delay (s)	34.1	32.4		3.5	2.4	
Level of Service	C	C		A	A	
Approach Delay (s)	33.5			3.5	2.4	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	76.9	Sum of lost time (s)	10.0
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

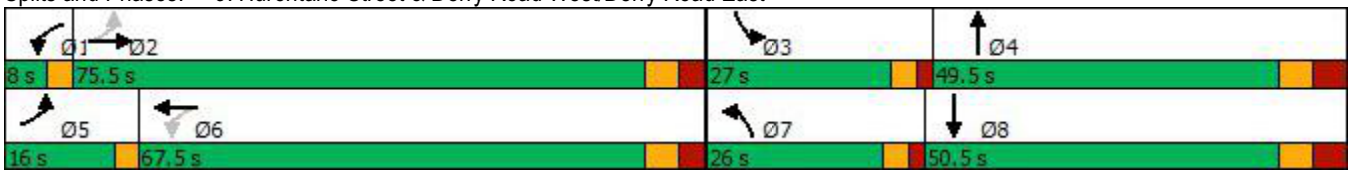
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	852	24	55	1469	241	150	525	45	198	290	95
Future Volume (vph)	141	852	24	55	1469	241	150	525	45	198	290	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		0.0	185.0		0.0	55.0		0.0	100.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00		0.99	0.99		0.96	1.00		0.99	0.98	
Frt		0.996			0.979			0.988			0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1807	4796	0	1789	4973	0	1825	3411	0	1772	3195	0
Flt Permitted	0.062			0.298			0.950			0.950		
Satd. Flow (perm)	118	4796	0	554	4973	0	1759	3411	0	1751	3195	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			22			5			27	
Link Speed (k/h)		70			70			60			60	
Link Distance (m)		331.5			999.3			126.9			189.0	
Travel Time (s)		17.0			51.4			7.6			11.3	
Confl. Peds. (#/hr)	23		42	42		23	53		22	22		53
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	1%	9%	0%	2%	3%	1%	0%	4%	22%	3%	10%	2%
Adj. Flow (vph)	142	861	24	56	1484	243	152	530	45	200	293	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	142	885	0	56	1727	0	152	575	0	200	389	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	8.0	51.4		8.0	51.4		13.0	49.4		13.0	49.4	
Total Split (s)	16.0	75.5		8.0	67.5		26.0	49.5		27.0	50.5	
Total Split (%)	10.0%	47.2%		5.0%	42.2%		16.3%	30.9%		16.9%	31.6%	
Maximum Green (s)	13.0	68.1		5.0	60.1		21.0	41.1		22.0	42.1	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	3.2		0.0	3.2		2.0	4.4		2.0	4.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		13.0			13.0			12.0			12.0	
Flash Dont Walk (s)		31.0			31.0			29.0			29.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	79.8	69.2		70.5	61.1		16.8	30.2		20.0	33.4	
Actuated g/C Ratio	0.54	0.47		0.48	0.42		0.11	0.21		0.14	0.23	
v/c Ratio	0.73	0.39		0.18	0.83		0.73	0.81		0.83	0.52	
Control Delay	52.0	27.0		19.6	43.0		84.1	64.9		89.6	48.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	52.0	27.0		19.6	43.0		84.1	64.9		89.6	48.8	
LOS	D	C		B	D		F	E		F	D	
Approach Delay		30.4			42.3			68.9			62.7	
Approach LOS		C			D			E			E	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 146.5
Natural Cycle: 125
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 46.9 Intersection LOS: D
Intersection Capacity Utilization 103.8% ICU Level of Service G
Analysis Period (min) 15

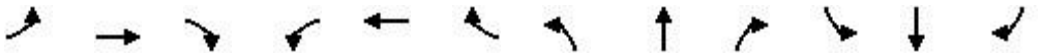
Splits and Phases: 3: Hurontario Street & Derry Road West/Derry Road East



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	142	885	56	1727	152	575	200	389
v/c Ratio	0.73	0.39	0.18	0.83	0.73	0.81	0.83	0.52
Control Delay	52.0	27.0	19.6	43.0	84.1	64.9	89.6	48.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	27.0	19.6	43.0	84.1	64.9	89.6	48.8
Queue Length 50th (m)	24.3	63.2	7.7	168.1	44.2	85.9	57.9	49.4
Queue Length 95th (m)	#57.1	83.0	16.8	208.0	71.0	107.1	#102.7	67.7
Internal Link Dist (m)		307.5		975.3		102.9		165.0
Turn Bay Length (m)	150.0		185.0		55.0		100.0	
Base Capacity (vph)	215	2266	309	2085	263	965	267	942
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	0.66	0.39	0.18	0.83	0.58	0.60	0.75	0.41

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	852	24	55	1469	241	150	525	45	198	290	95
Future Volume (vph)	141	852	24	55	1469	241	150	525	45	198	290	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		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)	1807	4796		1784	4974		1825	3413		1772	3199	
Flt Permitted	0.06	1.00		0.30	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	117	4796		559	4974		1825	3413		1772	3199	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	142	861	24	56	1484	243	152	530	45	200	293	96
RTOR Reduction (vph)	0	2	0	0	13	0	0	4	0	0	21	0
Lane Group Flow (vph)	142	883	0	56	1714	0	152	571	0	200	368	0
Confl. Peds. (#/hr)	23		42	42		23	53		22	22		53
Heavy Vehicles (%)	1%	9%	0%	2%	3%	1%	0%	4%	22%	3%	10%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Actuated Green, G (s)	76.1	69.2		65.7	61.8		16.8	30.2		20.0	33.4	
Effective Green, g (s)	76.1	69.2		65.7	61.8		16.8	30.2		20.0	33.4	
Actuated g/C Ratio	0.52	0.47		0.45	0.42		0.11	0.21		0.14	0.23	
Clearance Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	190	2256		282	2089		208	700		240	726	
v/s Ratio Prot	c0.06	0.18		0.01	c0.34		0.08	c0.17		c0.11	c0.12	
v/s Ratio Perm	0.33			0.08								
v/c Ratio	0.75	0.39		0.20	0.82		0.73	0.82		0.83	0.51	
Uniform Delay, d1	34.6	25.3		23.3	37.7		63.0	55.8		61.9	49.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	14.8	0.5		0.3	3.8		12.4	7.3		21.3	0.6	
Delay (s)	49.4	25.8		23.6	41.5		75.4	63.1		83.2	50.2	
Level of Service	D	C		C	D		E	E		F	D	
Approach Delay (s)		29.1			40.9			65.6			61.4	
Approach LOS		C			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	45.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	147.1	Sum of lost time (s)	23.8
Intersection Capacity Utilization	103.8%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

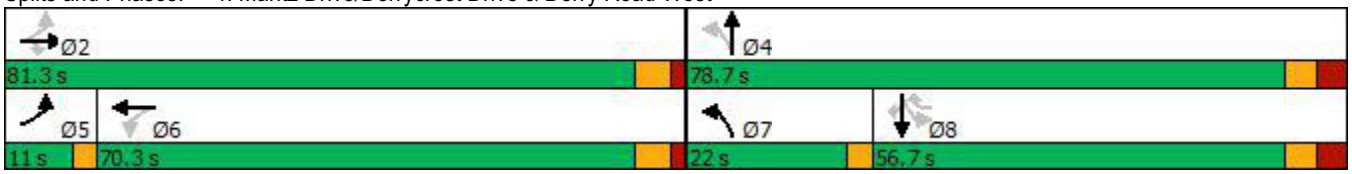
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	676	210	147	1564	49	483	141	226	67	71	338
Future Volume (vph)	108	676	210	147	1564	49	483	141	226	67	71	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	55.0		30.0	0.0		0.0	100.0		0.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97	1.00		0.98	1.00	0.99		1.00		0.99
Frt			0.850			0.850		0.908				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4902	1585	1415	5142	1471	1738	1656	0	1738	1883	1617
Flt Permitted	0.072			0.372			0.637			0.535		
Satd. Flow (perm)	138	4902	1539	552	5142	1448	1163	1656	0	978	1883	1594
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			107			63		65				134
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		443.5			331.5			130.4			222.4	
Travel Time (s)		22.8			17.0			9.4			16.0	
Confl. Peds. (#/hr)	4		4	4		4	2		2	2		2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	7%	3%	29%	2%	11%	5%	2%	6%	5%	2%	1%
Adj. Flow (vph)	113	704	219	153	1629	51	503	147	235	70	74	352
Shared Lane Traffic (%)												
Lane Group Flow (vph)	113	704	219	153	1629	51	503	382	0	70	74	352
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	Perm	NA	custom	pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2			6		7	4			8	
Permitted Phases	2		2	6		8	4			8		8
Detector Phase	5	2	2	6	6	8	7	4		8	8	8
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	10.0		10.0	10.0	10.0
Minimum Split (s)	10.0	41.2	41.2	41.2	41.2	56.7	10.0	56.7		56.7	56.7	56.7
Total Split (s)	11.0	81.3	81.3	70.3	70.3	56.7	22.0	78.7		56.7	56.7	56.7
Total Split (%)	6.9%	50.8%	50.8%	43.9%	43.9%	35.4%	13.8%	49.2%		35.4%	35.4%	35.4%
Maximum Green (s)	8.0	75.1	75.1	64.1	64.1	49.0	19.0	71.0		49.0	49.0	49.0
Yellow Time (s)	3.0	4.2	4.2	4.2	4.2	4.0	3.0	4.0		4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	3.7	0.0	3.7		3.7	3.7	3.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	None	None	None		None	None	None
Walk Time (s)		10.0	10.0	10.0	10.0	10.0		10.0		10.0	10.0	10.0
Flash Dont Walk (s)		25.0	25.0	25.0	25.0	39.0		39.0		39.0	39.0	39.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0		0	0	0
Act Effct Green (s)	78.7	75.4	75.4	64.4	64.4	26.4	53.2	48.5		26.4	26.4	26.4
Actuated g/C Ratio	0.57	0.55	0.55	0.47	0.47	0.19	0.39	0.35		0.19	0.19	0.19
v/c Ratio	0.64	0.26	0.25	0.60	0.68	0.16	0.95	0.61		0.37	0.21	0.85
Control Delay	35.8	17.9	10.0	41.7	31.6	7.5	67.7	34.2		53.1	46.7	51.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	35.8	17.9	10.0	41.7	31.6	7.5	67.7	34.2		53.1	46.7	51.9
LOS	D	B	B	D	C	A	E	C		D	D	D
Approach Delay		18.2			31.8			53.2			51.3	
Approach LOS		B			C			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 137.9
Natural Cycle: 120
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 35.2 Intersection LOS: D
Intersection Capacity Utilization 94.8% ICU Level of Service F
Analysis Period (min) 15

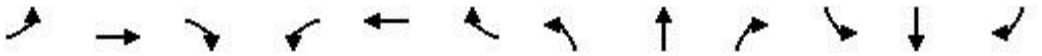
Splits and Phases: 4: Maritz Drive/Derrycrest Drive & Derry Road West



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	113	704	219	153	1629	51	503	382	70	74	352
v/c Ratio	0.64	0.26	0.25	0.60	0.68	0.16	0.95	0.61	0.37	0.21	0.85
Control Delay	35.8	17.9	10.0	41.7	31.6	7.5	67.7	34.2	53.1	46.7	51.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.8	17.9	10.0	41.7	31.6	7.5	67.7	34.2	53.1	46.7	51.9
Queue Length 50th (m)	13.5	35.6	14.3	30.0	123.6	0.0	117.1	71.1	16.7	17.1	59.8
Queue Length 95th (m)	#41.5	54.8	35.2	67.2	170.3	7.7	#167.0	102.7	31.2	30.7	96.0
Internal Link Dist (m)		419.5			307.5			106.4		198.4	
Turn Bay Length (m)	50.0		15.0	55.0		30.0			100.0		
Base Capacity (vph)	177	2682	890	257	2403	557	528	887	349	672	655
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.26	0.25	0.60	0.68	0.09	0.95	0.43	0.20	0.11	0.54

Intersection Summary

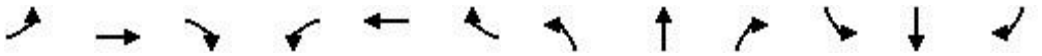
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	676	210	147	1564	49	483	141	226	67	71	338
Future Volume (vph)	108	676	210	147	1564	49	483	141	226	67	71	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1825	4902	1541	1411	5142	1449	1737	1655		1736	1883	1595
Flt Permitted	0.07	1.00	1.00	0.37	1.00	1.00	0.64	1.00		0.54	1.00	1.00
Satd. Flow (perm)	138	4902	1541	553	5142	1449	1164	1655		978	1883	1595
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	112	704	219	153	1629	51	503	147	235	70	74	352
RTOR Reduction (vph)	0	0	48	0	0	41	0	42	0	0	0	108
Lane Group Flow (vph)	113	704	171	153	1629	10	503	340	0	70	74	244
Confl. Peds. (#/hr)	4		4	4		4	2		2	2		2
Heavy Vehicles (%)	0%	7%	3%	29%	2%	11%	5%	2%	6%	5%	2%	1%
Turn Type	pm+pt	NA	Perm	Perm	NA	custom	pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2			6		7	4			8	
Permitted Phases	2		2	6		8	4			8		8
Actuated Green, G (s)	75.5	75.5	75.5	64.5	64.5	26.4	48.5	48.5		26.4	26.4	26.4
Effective Green, g (s)	75.5	75.5	75.5	64.5	64.5	26.4	48.5	48.5		26.4	26.4	26.4
Actuated g/C Ratio	0.55	0.55	0.55	0.47	0.47	0.19	0.35	0.35		0.19	0.19	0.19
Clearance Time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	173	2683	843	258	2405	277	488	582		187	360	305
v/s Ratio Prot	c0.04	0.14			c0.32		c0.14	0.21			0.04	
v/s Ratio Perm	0.32		0.11	0.28		0.01	c0.22			0.07		0.15
v/c Ratio	0.65	0.26	0.20	0.59	0.68	0.04	1.03	0.58		0.37	0.21	0.80
Uniform Delay, d1	21.9	16.5	15.9	27.0	28.6	45.4	43.0	36.5		48.6	46.9	53.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	8.5	0.2	0.5	9.7	1.6	0.1	48.9	1.5		1.3	0.3	13.6
Delay (s)	30.4	16.7	16.4	36.7	30.1	45.4	91.9	38.0		49.8	47.2	66.8
Level of Service	C	B	B	D	C	D	F	D		D	D	E
Approach Delay (s)		18.2			31.1			68.6			61.5	
Approach LOS		B			C			E			E	

Intersection Summary					
HCM 2000 Control Delay	39.3	HCM 2000 Level of Service	D		
HCM 2000 Volume to Capacity ratio	0.84				
Actuated Cycle Length (s)	137.9	Sum of lost time (s)	19.9		
Intersection Capacity Utilization	94.8%	ICU Level of Service	F		
Analysis Period (min)	15				

c Critical Lane Group

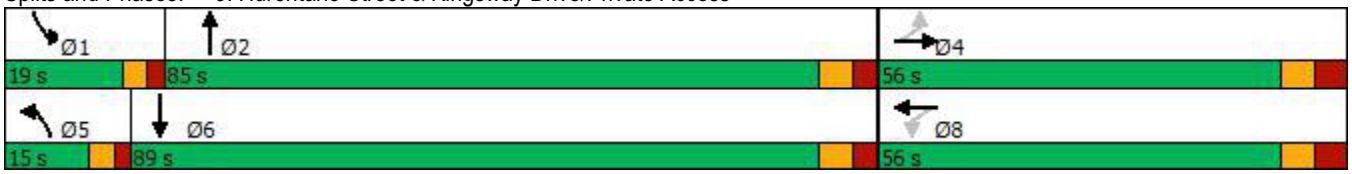


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	1	26	2	2	4	8	900	2	4	565	122
Future Volume (vph)	181	1	26	2	2	4	8	900	2	4	565	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	0.0		0.0	20.0		0.0	30.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor	1.00				0.99		1.00				1.00	
Frt		0.855			0.932						0.973	
Flt Protected	0.950				0.988		0.950			0.950		
Satd. Flow (prot)	1807	1567	0	0	1756	0	1521	3544	0	1825	3357	0
Flt Permitted	0.752				0.950		0.950			0.950		
Satd. Flow (perm)	1427	1567	0	0	1689	0	1517	3544	0	1825	3357	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27			4						23	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		318.7			138.1			189.0			440.6	
Travel Time (s)		22.9			9.9			11.3			26.4	
Confl. Peds. (#/hr)	2					2	4					4
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	0%	5%	0%	0%	0%	20%	3%	0%	0%	6%	2%
Adj. Flow (vph)	185	1	27	2	2	4	8	918	2	4	577	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	28	0	0	8	0	8	920	0	4	701	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	52.0	52.0		52.0	52.0		13.0	58.0		13.0	58.0	
Total Split (s)	56.0	56.0		56.0	56.0		15.0	85.0		19.0	89.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		9.4%	53.1%		11.9%	55.6%	
Maximum Green (s)	48.0	48.0		48.0	48.0		10.0	78.0		14.0	82.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		2.0	3.0		2.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	13.0	13.0		13.0	13.0			15.0			15.0	
Flash Dont Walk (s)	31.0	31.0		31.0	31.0			36.0			36.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	20.8	20.8			20.8		8.1	82.8		8.1	82.8	
Actuated g/C Ratio	0.17	0.17			0.17		0.07	0.68		0.07	0.68	
v/c Ratio	0.76	0.10			0.03		0.08	0.38		0.03	0.30	
Control Delay	67.4	15.9			31.9		60.0	10.0		59.0	9.0	
Queue Delay	0.0	0.0			0.0		0.0	0.3		0.0	0.0	
Total Delay	67.4	15.9			31.9		60.0	10.3		59.0	9.0	
LOS	E	B			C		E	B		E	A	
Approach Delay		60.7			31.9			10.7			9.3	
Approach LOS		E			C			B			A	

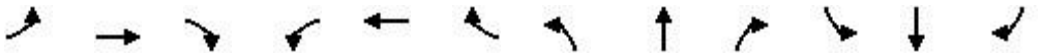
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 120.9			
Natural Cycle: 125			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 16.0		Intersection LOS: B	
Intersection Capacity Utilization 71.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: Hurontario Street & Kingsway Drive/Private Access



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	185	28	8	8	920	4	701
v/c Ratio	0.76	0.10	0.03	0.08	0.38	0.03	0.30
Control Delay	67.4	15.9	31.9	60.0	10.0	59.0	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	67.4	15.9	31.9	60.0	10.3	59.0	9.0
Queue Length 50th (m)	40.8	0.2	0.8	1.8	40.4	0.9	27.7
Queue Length 95th (m)	72.5	8.6	5.3	7.7	89.3	5.2	63.4
Internal Link Dist (m)		294.7	114.1		165.0		416.6
Turn Bay Length (m)	40.0			20.0		30.0	
Base Capacity (vph)	570	642	677	126	2426	212	2305
Starvation Cap Reductn	0	0	0	0	811	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	0.32	0.04	0.01	0.06	0.57	0.02	0.30

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	1	26	2	2	4	8	900	2	4	565	122
Future Volume (vph)	181	1	26	2	2	4	8	900	2	4	565	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86			0.93		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	1568			1757		1521	3543		1825	3360	
Flt Permitted	0.75	1.00			0.95		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1429	1568			1690		1521	3543		1825	3360	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	185	1	27	2	2	4	8	918	2	4	577	124
RTOR Reduction (vph)	0	23	0	0	3	0	0	0	0	0	8	0
Lane Group Flow (vph)	185	5	0	0	5	0	8	920	0	4	693	0
Confl. Peds. (#/hr)	2					2	4					4
Heavy Vehicles (%)	1%	0%	5%	0%	0%	0%	20%	3%	0%	0%	6%	2%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	20.8	20.8			20.8		1.4	82.8		1.4	82.8	
Effective Green, g (s)	20.8	20.8			20.8		1.4	82.8		1.4	82.8	
Actuated g/C Ratio	0.17	0.17			0.17		0.01	0.66		0.01	0.66	
Clearance Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	237	260			281		17	2346		20	2225	
v/s Ratio Prot		0.00					c0.01	c0.26		0.00	0.21	
v/s Ratio Perm	c0.13				0.00							
v/c Ratio	0.78	0.02			0.02		0.47	0.39		0.20	0.31	
Uniform Delay, d1	49.9	43.6			43.6		61.4	9.6		61.2	9.0	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.3	0.0			0.0		19.2	0.5		4.9	0.4	
Delay (s)	65.2	43.6			43.6		80.6	10.1		66.1	9.3	
Level of Service	E	D			D		F	B		E	A	
Approach Delay (s)		62.3			43.6			10.7			9.7	
Approach LOS		E			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		

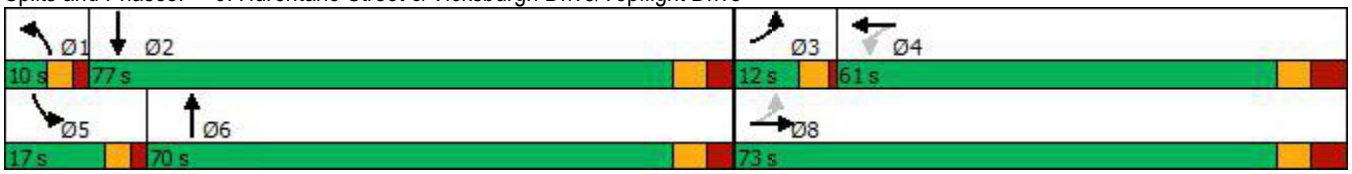
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	0	62	31	1	440	19	1058	19	69	628	42
Future Volume (vph)	124	0	62	31	1	440	19	1058	19	69	628	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	0.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor							1.00				1.00	
Frt		0.850			0.874			0.997			0.991	
Flt Protected	0.950				0.997		0.950			0.950		
Satd. Flow (prot)	1825	1633	0	0	1648	0	1825	3560	0	1547	3484	0
Flt Permitted	0.201				0.974		0.950			0.950		
Satd. Flow (perm)	386	1633	0	0	1610	0	1824	3560	0	1547	3484	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		223			149			1			5	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		237.0			253.7			440.6			373.3	
Travel Time (s)		17.1			18.3			26.4			22.4	
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	10%	0%	1%	0%	2%	15%	18%	4%	0%
Adj. Flow (vph)	127	0	63	32	1	449	19	1080	19	70	641	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	127	63	0	0	482	0	19	1099	0	70	684	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4								
Detector Phase	3	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	8.0		8.0	8.0		5.0	8.0		8.0	8.0	
Minimum Split (s)	9.5	57.5		57.5	57.5		10.0	38.5		13.0	38.5	
Total Split (s)	12.0	73.0		61.0	61.0		10.0	70.0		17.0	77.0	
Total Split (%)	7.5%	45.6%		38.1%	38.1%		6.3%	43.8%		10.6%	48.1%	
Maximum Green (s)	7.5	64.5		52.5	52.5		5.0	62.5		12.0	69.5	
Yellow Time (s)	3.5	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	4.5		4.5	4.5		2.0	3.5		2.0	3.5	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)		14.0		14.0	14.0			9.0			9.0	
Flash Dont Walk (s)		35.0		35.0	35.0			22.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	52.8	48.7			36.6		5.1	64.8		10.7	71.9	
Actuated g/C Ratio	0.37	0.34			0.26		0.04	0.46		0.08	0.50	
v/c Ratio	0.58	0.09			0.92		0.30	0.68		0.60	0.39	
Control Delay	41.5	0.3			58.9		84.5	36.1		88.8	24.7	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	41.5	0.3			58.9		84.5	36.1		88.8	24.7	
LOS	D	A			E		F	D		F	C	
Approach Delay		27.8			58.9			37.0			30.6	
Approach LOS		C			E			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 142.4			
Natural Cycle: 120			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 38.6		Intersection LOS: D	
Intersection Capacity Utilization 96.9%		ICU Level of Service F	
Analysis Period (min) 15			

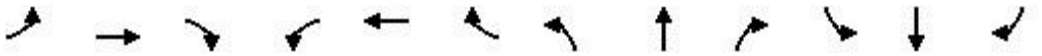
Splits and Phases: 6: Hurontario Street & Vicksburgh Drive/Topflight Drive



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	127	63	482	19	1099	70	684
v/c Ratio	0.58	0.09	0.92	0.30	0.68	0.60	0.39
Control Delay	41.5	0.3	58.9	84.5	36.1	88.8	24.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	0.3	58.9	84.5	36.1	88.8	24.7
Queue Length 50th (m)	24.7	0.0	99.2	5.5	135.7	19.7	65.6
Queue Length 95th (m)	39.2	0.0	145.3	15.5	189.1	#42.2	96.6
Internal Link Dist (m)		213.0	229.7		416.6		349.3
Turn Bay Length (m)	25.0			25.0		35.0	
Base Capacity (vph)	219	868	693	64	1621	131	1761
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	0.58	0.07	0.70	0.30	0.68	0.53	0.39

Intersection Summary

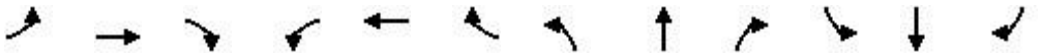
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	0	62	31	1	440	19	1058	19	69	628	42
Future Volume (vph)	124	0	62	31	1	440	19	1058	19	69	628	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.87		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	1633			1648		1825	3561		1547	3482	
Flt Permitted	0.20	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	386	1633			1610		1825	3561		1547	3482	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	127	0	63	32	1	449	19	1080	19	70	641	43
RTOR Reduction (vph)	0	42	0	0	111	0	0	1	0	0	3	0
Lane Group Flow (vph)	127	21	0	0	371	0	19	1098	0	70	681	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	10%	0%	1%	0%	2%	15%	18%	4%	0%
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)	48.8	48.8			36.7		2.8	65.9		8.8	71.9	
Effective Green, g (s)	48.8	48.8			36.7		2.8	65.9		8.8	71.9	
Actuated g/C Ratio	0.34	0.34			0.25		0.02	0.46		0.06	0.50	
Clearance Time (s)	4.5	8.5			8.5		5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	206	551			408		35	1624		94	1732	
v/s Ratio Prot	c0.03	0.01					0.01	c0.31		c0.05	0.20	
v/s Ratio Perm	0.18				c0.23							
v/c Ratio	0.62	0.04			0.91		0.54	0.68		0.74	0.39	
Uniform Delay, d1	37.6	32.1			52.3		70.2	30.9		66.7	22.7	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.4	0.0			23.5		16.1	2.3		27.0	0.7	
Delay (s)	43.0	32.1			75.8		86.3	33.2		93.7	23.4	
Level of Service	D	C			E		F	C		F	C	
Approach Delay (s)		39.4			75.8			34.1			29.9	
Approach LOS		D			E			C			C	

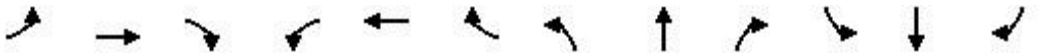
Intersection Summary			
HCM 2000 Control Delay	41.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	144.5	Sum of lost time (s)	25.5
Intersection Capacity Utilization	96.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	16	14	180	0	4	7	78	141	11	207	2
Future Volume (vph)	2	16	14	180	0	4	7	78	141	11	207	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	15.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	0		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
Ped Bike Factor												
Frt		0.940			0.850			0.904			0.999	
Flt Protected		0.997		0.950			0.950			0.950		
Satd. Flow (prot)	0	1800	0	1807	1633	0	1825	3279	0	1825	3646	0
Flt Permitted		0.997		0.950			0.950			0.950		
Satd. Flow (perm)	0	1800	0	1807	1633	0	1825	3279	0	1825	3646	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		62.9			318.7			222.4			283.4	
Travel Time (s)		4.5			22.9			16.0			20.4	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%
Adj. Flow (vph)	2	17	15	196	0	4	8	85	153	12	225	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	34	0	196	4	0	8	238	0	12	227	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	16	14	180	0	4	7	78	141	11	207	2
Future Volume (Veh/h)	2	16	14	180	0	4	7	78	141	11	207	2
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)	2	17	15	196	0	4	8	85	153	12	225	2
Pedestrians								1				
Lane Width (m)								3.7				
Walking Speed (m/s)								1.1				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								223				
pX, platoon unblocked												
vC, conflicting volume	312	504	114	338	428	119	227			238		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	312	504	114	338	428	119	227			238		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	96	98	65	100	100	99			99		
cM capacity (veh/h)	612	466	922	561	514	917	1353			1341		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	34	196	4	8	57	181	12	150	77
Volume Left	2	196	0	8	0	0	12	0	0
Volume Right	15	0	4	0	0	153	0	0	2
cSH	607	561	917	1353	1700	1700	1341	1700	1700
Volume to Capacity	0.06	0.35	0.00	0.01	0.03	0.11	0.01	0.09	0.05
Queue Length 95th (m)	1.3	11.8	0.1	0.1	0.0	0.0	0.2	0.0	0.0
Control Delay (s)	11.3	14.8	8.9	7.7	0.0	0.0	7.7	0.0	0.0
Lane LOS	B	B	A	A			A		
Approach Delay (s)	11.3	14.7		0.2			0.4		
Approach LOS	B	B							

Intersection Summary				
Average Delay	4.8			
Intersection Capacity Utilization	32.4%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	23	35	62	8	8	15	15	41	23	35	0
Future Volume (vph)	0	23	35	62	8	8	15	15	41	23	35	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.910			0.925			0.921				
Flt Protected				0.950				0.990			0.981	
Satd. Flow (prot)	0	3256	0	1789	1742	0	0	1717	0	0	1848	0
Flt Permitted				0.950				0.990			0.981	
Satd. Flow (perm)	0	3256	0	1789	1742	0	0	1717	0	0	1848	0
Link Speed (k/h)		50			48			48			50	
Link Distance (m)		152.4			237.0			95.7			60.6	
Travel Time (s)		11.0			17.8			7.2			4.4	
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)	0	25	38	67	9	9	16	16	45	25	38	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	63	0	67	18	0	0	77	0	0	63	0
Enter Blocked Intersection	No	No	No	No	No	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			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)	97		24	97		14	14		97	24		97
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.3%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	23	35	62	8	8	15	15	41	23	35	0
Future Volume (Veh/h)	0	23	35	62	8	8	15	15	41	23	35	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	25	38	67	9	9	16	16	45	25	38	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)					237							
pX, platoon unblocked												
vC, conflicting volume	18			63			206	196	32	213	210	14
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	18			63			206	196	32	213	210	14
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			96			98	98	96	96	94	100
cM capacity (veh/h)	1597			1538			678	668	1035	658	656	1063

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	12	50	67	18	77	63
Volume Left	0	0	67	0	16	25
Volume Right	0	38	0	9	45	0
cSH	1597	1700	1538	1700	846	657
Volume to Capacity	0.00	0.03	0.04	0.01	0.09	0.10
Queue Length 95th (m)	0.0	0.0	1.0	0.0	2.3	2.4
Control Delay (s)	0.0	0.0	7.4	0.0	9.7	11.1
Lane LOS			A		A	B
Approach Delay (s)	0.0		5.9		9.7	11.1
Approach LOS					A	B

Intersection Summary				
Average Delay	6.7			
Intersection Capacity Utilization	22.3%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	23	35	15	48	124	8
Future Volume (vph)	23	35	15	48	124	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.919				0.991	
Flt Protected	0.981		0.950			
Satd. Flow (prot)	1698	0	1789	3579	3546	0
Flt Permitted	0.981		0.950			
Satd. Flow (perm)	1698	0	1789	3579	3546	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	66.3			283.4	152.4	
Travel Time (s)	5.0			20.4	11.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	38	16	52	135	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	63	0	16	52	144	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 20.4%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	23	35	15	48	124	8
Future Volume (Veh/h)	23	35	15	48	124	8
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)	25	38	16	52	135	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					390	
pX, platoon unblocked						
vC, conflicting volume	198	72	144			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	198	72	144			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	96	99			
cM capacity (veh/h)	764	975	1436			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	63	16	26	26	90	54
Volume Left	25	16	0	0	0	0
Volume Right	38	0	0	0	0	9
cSH	879	1436	1700	1700	1700	1700
Volume to Capacity	0.07	0.01	0.02	0.02	0.05	0.03
Queue Length 95th (m)	1.8	0.3	0.0	0.0	0.0	0.0
Control Delay (s)	9.4	7.5	0.0	0.0	0.0	0.0
Lane LOS	A	A				
Approach Delay (s)	9.4	1.8			0.0	
Approach LOS	A					

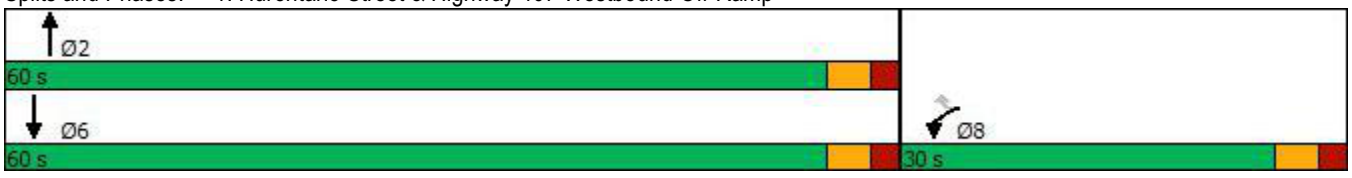
Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	20.4%	ICU Level of Service	A
Analysis Period (min)	15		

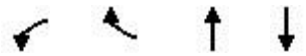
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	273	225	649	0	0	1023
Future Volume (vph)	273	225	649	0	0	1023
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	115.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Frt	0.970	0.850				
Flt Protected	0.962					
Satd. Flow (prot)	3319	1429	3476	0	0	3544
Flt Permitted	0.962					
Satd. Flow (perm)	3319	1429	3476	0	0	3544
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	36	165				
Link Speed (k/h)	60		60			60
Link Distance (m)	401.2		345.6			144.3
Travel Time (s)	24.1		20.7			8.7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	4%	5%	0%	0%	3%
Adj. Flow (vph)	290	239	690	0	0	1088
Shared Lane Traffic (%)		31%				
Lane Group Flow (vph)	364	165	690	0	0	1088
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	7.4		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	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0			5.0
Minimum Split (s)	23.0	23.0	23.0			23.0
Total Split (s)	30.0	30.0	60.0			60.0
Total Split (%)	33.3%	33.3%	66.7%			66.7%
Maximum Green (s)	25.0	25.0	55.0			55.0
Yellow Time (s)	3.0	3.0	3.0			3.0
All-Red Time (s)	2.0	2.0	2.0			2.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	Max			Max
Walk Time (s)	7.0	7.0	7.0			7.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	13.1	13.1	55.1			55.1
Actuated g/C Ratio	0.17	0.17	0.70			0.70
v/c Ratio	0.62	0.44	0.28			0.44
Control Delay	31.9	8.9	5.0			6.0
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	31.9	8.9	5.0			6.0
LOS	C	A	A			A
Approach Delay	24.7		5.0			6.0
Approach LOS	C		A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 78.2			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 10.0		Intersection LOS: A	
Intersection Capacity Utilization 49.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & Highway 407 Westbound Off-Ramp





Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	364	165	690	1088
v/c Ratio	0.62	0.44	0.28	0.44
Control Delay	31.9	8.9	5.0	6.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	31.9	8.9	5.0	6.0
Queue Length 50th (m)	23.4	0.0	16.1	29.5
Queue Length 95th (m)	36.0	16.1	28.7	50.5
Internal Link Dist (m)	377.2		321.6	120.3
Turn Bay Length (m)		115.0		
Base Capacity (vph)	1086	569	2447	2494
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.34	0.29	0.28	0.44

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	273	225	649	0	0	1023
Future Volume (vph)	273	225	649	0	0	1023
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0			5.0
Lane Util. Factor	0.97	0.91	0.95			0.95
Frt	0.97	0.85	1.00			1.00
Flt Protected	0.96	1.00	1.00			1.00
Satd. Flow (prot)	3316	1429	3476			3544
Flt Permitted	0.96	1.00	1.00			1.00
Satd. Flow (perm)	3316	1429	3476			3544
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	290	239	690	0	0	1088
RTOR Reduction (vph)	30	137	0	0	0	0
Lane Group Flow (vph)	334	28	690	0	0	1088
Heavy Vehicles (%)	5%	4%	5%	0%	0%	3%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	13.1	13.1	55.1			55.1
Effective Green, g (s)	13.1	13.1	55.1			55.1
Actuated g/C Ratio	0.17	0.17	0.70			0.70
Clearance Time (s)	5.0	5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	555	239	2449			2497
v/s Ratio Prot	c0.10		0.20			c0.31
v/s Ratio Perm		0.02				
v/c Ratio	0.60	0.12	0.28			0.44
Uniform Delay, d1	30.1	27.6	4.3			4.9
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	1.8	0.2	0.3			0.6
Delay (s)	32.0	27.8	4.5			5.5
Level of Service	C	C	A			A
Approach Delay (s)	30.7		4.5			5.5
Approach LOS	C		A			A

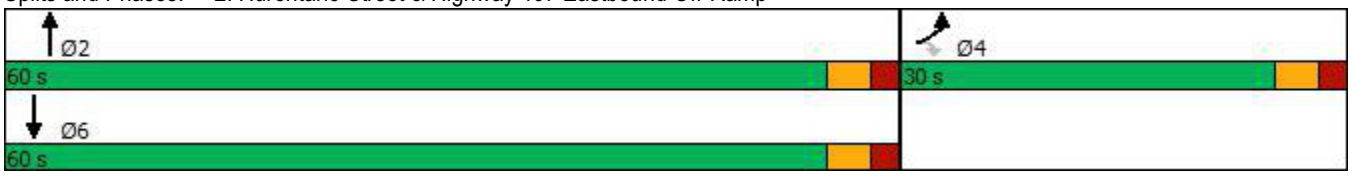
Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	78.2	Sum of lost time (s)	10.0
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

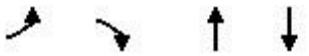
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	106	221	0	600	1007	0
Future Volume (vph)	106	221	0	600	1007	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	95.0	0.0			0.0
Storage Lanes	2	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3506	1526	0	3444	3510	0
Flt Permitted	0.950					
Satd. Flow (perm)	3506	1526	0	3444	3510	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		107				
Link Speed (k/h)	60			60	60	
Link Distance (m)	401.8			373.3	345.6	
Travel Time (s)	24.1			22.4	20.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	7%	0%	6%	4%	0%
Adj. Flow (vph)	113	235	0	638	1071	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	113	235	0	638	1071	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.4			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
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	6.1	6.1		30.5	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	6.1		1.8	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Permitted Phases		4				
Detector Phase	4	4		2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0		23.0	23.0	
Total Split (s)	30.0	30.0		60.0	60.0	
Total Split (%)	33.3%	33.3%		66.7%	66.7%	
Maximum Green (s)	25.0	25.0		55.0	55.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Recall Mode	None	None		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	12.3	12.3		56.2	56.2	
Actuated g/C Ratio	0.16	0.16		0.72	0.72	
v/c Ratio	0.21	0.71		0.26	0.43	
Control Delay	28.5	29.0		4.8	5.9	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	28.5	29.0		4.8	5.9	
LOS	C	C		A	A	
Approach Delay	28.8			4.8	5.9	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 78.6			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 9.4		Intersection LOS: A	
Intersection Capacity Utilization 49.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Hurontario Street & Highway 407 Eastbound Off-Ramp





Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	113	235	638	1071
v/c Ratio	0.21	0.71	0.26	0.43
Control Delay	28.5	29.0	4.8	5.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	28.5	29.0	4.8	5.9
Queue Length 50th (m)	7.4	17.4	14.0	27.6
Queue Length 95th (m)	13.9	39.3	28.5	53.6
Internal Link Dist (m)	377.8		349.3	321.6
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1116	559	2464	2511
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	0.10	0.42	0.26	0.43

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	106	221	0	600	1007	0
Future Volume (vph)	106	221	0	600	1007	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	1.00		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3506	1526		3444	3510	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3506	1526		3444	3510	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	113	235	0	638	1071	0
RTOR Reduction (vph)	0	90	0	0	0	0
Lane Group Flow (vph)	113	145	0	638	1071	0
Heavy Vehicles (%)	1%	7%	0%	6%	4%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	12.4	12.4		56.3	56.3	
Effective Green, g (s)	12.4	12.4		56.3	56.3	
Actuated g/C Ratio	0.16	0.16		0.72	0.72	
Clearance Time (s)	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	552	240		2463	2510	
v/s Ratio Prot	0.03			0.19	c0.31	
v/s Ratio Perm		c0.09				
v/c Ratio	0.20	0.60		0.26	0.43	
Uniform Delay, d1	28.9	30.9		3.9	4.6	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	4.2		0.3	0.5	
Delay (s)	29.0	35.1		4.2	5.1	
Level of Service	C	D		A	A	
Approach Delay (s)	33.1			4.2	5.1	
Approach LOS	C			A	A	

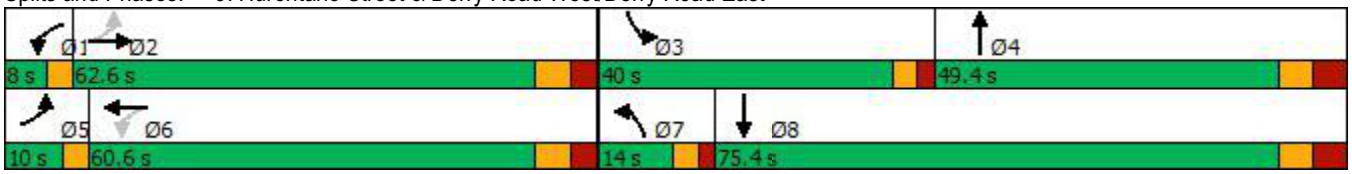
Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	78.7	Sum of lost time (s)	10.0
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	1609	9	57	1075	216	46	223	40	373	401	155
Future Volume (vph)	79	1609	9	57	1075	216	46	223	40	373	401	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		0.0	185.0		0.0	55.0		0.0	100.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00			0.99		0.96	0.99		0.98	0.97	
Frt		0.999			0.975			0.977			0.958	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1690	4986	0	1615	4541	0	1738	3030	0	1755	3160	0
Flt Permitted	0.103			0.074			0.950			0.950		
Satd. Flow (perm)	183	4986	0	126	4541	0	1667	3030	0	1728	3160	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			28			12			44	
Link Speed (k/h)		70			70			60			60	
Link Distance (m)		331.5			999.3			126.9			189.0	
Travel Time (s)		17.0			51.4			7.6			11.3	
Confl. Peds. (#/hr)	27		46	46		27	77		19	19		77
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	5%	14%	13%	13%	6%	5%	13%	40%	4%	7%	9%
Adj. Flow (vph)	81	1659	9	59	1108	223	47	230	41	385	413	160
Shared Lane Traffic (%)												
Lane Group Flow (vph)	81	1668	0	59	1331	0	47	271	0	385	573	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	8.0	51.4		8.0	51.4		13.0	49.4		13.0	49.4	
Total Split (s)	10.0	62.6		8.0	60.6		14.0	49.4		40.0	75.4	
Total Split (%)	6.3%	39.1%		5.0%	37.9%		8.8%	30.9%		25.0%	47.1%	
Maximum Green (s)	7.0	55.2		5.0	53.2		9.0	41.0		35.0	67.0	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	3.2		0.0	3.2		2.0	4.4		2.0	4.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		13.0			13.0			12.0			12.0	
Flash Dont Walk (s)		31.0			31.0			29.0			29.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	66.8	56.9		62.6	53.2		8.6	16.9		35.0	46.0	
Actuated g/C Ratio	0.49	0.42		0.46	0.39		0.06	0.12		0.26	0.34	
v/c Ratio	0.49	0.80		0.53	0.74		0.43	0.70		0.85	0.52	
Control Delay	28.7	39.0		36.3	38.1		74.7	64.6		67.0	35.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	28.7	39.0		36.3	38.1		74.7	64.6		67.0	35.8	
LOS	C	D		D	D		E	E		E	D	
Approach Delay		38.5			38.0			66.1			48.3	
Approach LOS		D			D			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 135.9			
Natural Cycle: 145			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 42.5		Intersection LOS: D	
Intersection Capacity Utilization 102.5%		ICU Level of Service G	
Analysis Period (min) 15			

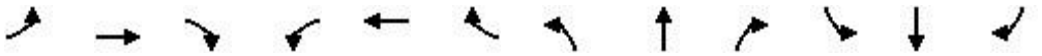
Splits and Phases: 3: Hurontario Street & Derry Road West/Derry Road East



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	81	1668	59	1331	47	271	385	573
v/c Ratio	0.49	0.80	0.53	0.74	0.43	0.70	0.85	0.52
Control Delay	28.7	39.0	36.3	38.1	74.7	64.6	67.0	35.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.7	39.0	36.3	38.1	74.7	64.6	67.0	35.8
Queue Length 50th (m)	11.2	144.7	8.1	109.1	12.3	35.6	98.8	62.1
Queue Length 95th (m)	21.7	174.5	#17.6	134.6	26.4	50.6	#159.0	80.2
Internal Link Dist (m)		307.5		975.3		102.9		165.0
Turn Bay Length (m)	150.0		185.0		55.0		100.0	
Base Capacity (vph)	167	2086	112	1795	115	922	451	1580
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	0.49	0.80	0.53	0.74	0.41	0.29	0.85	0.36

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	1609	9	57	1075	216	46	223	40	373	401	155
Future Volume (vph)	79	1609	9	57	1075	216	46	223	40	373	401	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.97		1.00	0.98		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)	1690	4987		1615	4544		1738	3033		1755	3172	
Flt Permitted	0.10	1.00		0.07	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	183	4987		126	4544		1738	3033		1755	3172	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	81	1659	9	59	1108	223	47	230	41	385	413	160
RTOR Reduction (vph)	0	1	0	0	17	0	0	10	0	0	29	0
Lane Group Flow (vph)	81	1667	0	59	1314	0	47	261	0	385	544	0
Confl. Peds. (#/hr)	27		46	46		27	77		19	19		77
Heavy Vehicles (%)	8%	5%	14%	13%	13%	6%	5%	13%	40%	4%	7%	9%
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Actuated Green, G (s)	63.9	56.9		57.9	53.9		6.9	17.9		35.0	46.0	
Effective Green, g (s)	63.9	56.9		57.9	53.9		6.9	17.9		35.0	46.0	
Actuated g/C Ratio	0.46	0.41		0.42	0.39		0.05	0.13		0.25	0.33	
Clearance Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	161	2062		96	1779		87	394		446	1060	
v/s Ratio Prot	c0.03	c0.33		c0.02	0.29		0.03	c0.09		c0.22	0.17	
v/s Ratio Perm	0.21			0.24								
v/c Ratio	0.50	0.81		0.61	0.74		0.54	0.66		0.86	0.51	
Uniform Delay, d1	24.1	35.6		28.3	35.8		63.8	57.0		49.0	36.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.5	3.5		11.1	2.8		6.7	4.1		15.7	0.4	
Delay (s)	26.6	39.1		39.5	38.6		70.5	61.1		64.8	37.2	
Level of Service	C	D		D	D		E	E		E	D	
Approach Delay (s)		38.5			38.6			62.5			48.3	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	42.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	137.6	Sum of lost time (s)	23.8
Intersection Capacity Utilization	102.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

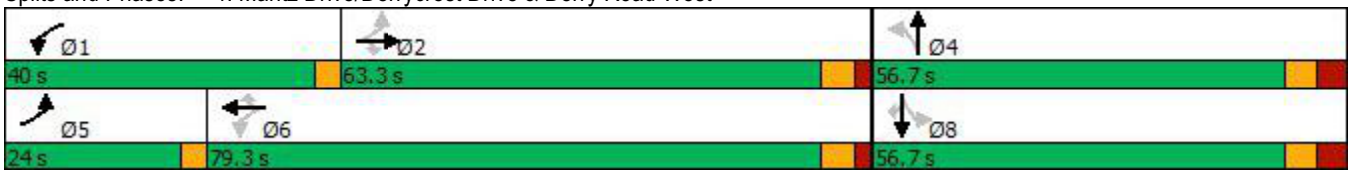
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	273	1520	614	409	786	95	94	72	96	36	52	81
Future Volume (vph)	273	1520	614	409	786	95	94	72	96	36	52	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	55.0		30.0	0.0		0.0	100.0		0.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97			0.99	1.00	0.99		1.00		0.99
Frt			0.850			0.850		0.915				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5043	1633	1484	4601	1585	1722	1522	0	1521	1883	1541
Flt Permitted	0.325			0.068			0.721			0.471		
Satd. Flow (perm)	612	5043	1586	106	4601	1564	1304	1522	0	752	1883	1519
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			115			68		43				86
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		443.5			331.5			130.4			222.4	
Travel Time (s)		22.8			17.0			9.4			16.0	
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	4%	0%	23%	14%	3%	6%	2%	24%	20%	2%	6%
Adj. Flow (vph)	290	1617	653	435	836	101	100	77	102	38	55	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	290	1617	653	435	836	101	100	179	0	38	55	86
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		8
Detector Phase	5	2	2	1	6	6	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	7.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	8.0	41.2	41.2	10.0	41.2	41.2	56.7	56.7		56.7	56.7	56.7
Total Split (s)	24.0	63.3	63.3	40.0	79.3	79.3	56.7	56.7		56.7	56.7	56.7
Total Split (%)	15.0%	39.6%	39.6%	25.0%	49.6%	49.6%	35.4%	35.4%		35.4%	35.4%	35.4%
Maximum Green (s)	21.0	57.1	57.1	37.0	73.1	73.1	49.0	49.0		49.0	49.0	49.0
Yellow Time (s)	3.0	4.2	4.2	3.0	4.2	4.2	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	3.7	3.7		3.7	3.7	3.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0	10.0	10.0	10.0		10.0	10.0	10.0
Flash Dont Walk (s)		25.0	25.0		25.0	25.0	39.0	39.0		39.0	39.0	39.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0		0	0	0
Act Effct Green (s)	71.5	57.2	57.2	100.5	83.1	83.1	17.0	17.0		17.0	17.0	17.0
Actuated g/C Ratio	0.56	0.45	0.45	0.78	0.65	0.65	0.13	0.13		0.13	0.13	0.13
v/c Ratio	0.65	0.72	0.85	0.90	0.28	0.10	0.58	0.75		0.38	0.22	0.31
Control Delay	17.8	31.8	38.4	58.7	10.8	4.5	65.5	59.6		61.4	50.9	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	17.8	31.8	38.4	58.7	10.8	4.5	65.5	59.6		61.4	50.9	12.6
LOS	B	C	D	E	B	A	E	E		E	D	B
Approach Delay		31.9			25.5			61.7			34.7	
Approach LOS		C			C			E			C	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 128.2
Natural Cycle: 150
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 31.9 Intersection LOS: C
Intersection Capacity Utilization 94.5% ICU Level of Service F
Analysis Period (min) 15

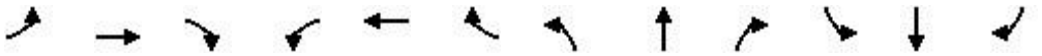
Splits and Phases: 4: Maritz Drive/Derrycrest Drive & Derry Road West



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	290	1617	653	435	836	101	100	179	38	55	86
v/c Ratio	0.65	0.72	0.85	0.90	0.28	0.10	0.58	0.75	0.38	0.22	0.31
Control Delay	17.8	31.8	38.4	58.7	10.8	4.5	65.5	59.6	61.4	50.9	12.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	31.8	38.4	58.7	10.8	4.5	65.5	59.6	61.4	50.9	12.6
Queue Length 50th (m)	17.0	119.3	122.7	90.2	30.5	2.7	24.0	33.6	8.9	12.6	0.0
Queue Length 95th (m)	31.4	152.6	#213.0	#167.6	49.0	11.5	42.5	58.3	20.1	24.9	14.4
Internal Link Dist (m)		419.5			307.5			106.4		198.4	
Turn Bay Length (m)	50.0		15.0	55.0		30.0			100.0		
Base Capacity (vph)	582	2250	771	481	2983	1038	499	609	288	720	634
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.72	0.85	0.90	0.28	0.10	0.20	0.29	0.13	0.08	0.14

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	273	1520	614	409	786	95	94	72	96	36	52	81
Future Volume (vph)	273	1520	614	409	786	95	94	72	96	36	52	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.99	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1789	5043	1589	1484	4601	1565	1719	1521		1518	1883	1520
Flt Permitted	0.33	1.00	1.00	0.07	1.00	1.00	0.72	1.00		0.47	1.00	1.00
Satd. Flow (perm)	612	5043	1589	106	4601	1565	1305	1521		752	1883	1520
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	290	1617	653	435	836	101	100	77	102	38	55	86
RTOR Reduction (vph)	0	0	64	0	0	24	0	37	0	0	0	75
Lane Group Flow (vph)	290	1617	589	435	836	77	100	142	0	38	55	11
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Heavy Vehicles (%)	2%	4%	0%	23%	14%	3%	6%	2%	24%	20%	2%	6%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		8
Actuated Green, G (s)	68.3	57.2	57.2	97.3	83.2	83.2	17.0	17.0		17.0	17.0	17.0
Effective Green, g (s)	68.3	57.2	57.2	97.3	83.2	83.2	17.0	17.0		17.0	17.0	17.0
Actuated g/C Ratio	0.53	0.45	0.45	0.76	0.65	0.65	0.13	0.13		0.13	0.13	0.13
Clearance Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	427	2250	708	479	2985	1015	173	201		99	249	201
v/s Ratio Prot	0.06	0.32		c0.26	0.18			c0.09			0.03	
v/s Ratio Perm	0.30		0.37	c0.43		0.05	0.08			0.05		0.01
v/c Ratio	0.68	0.72	0.83	0.91	0.28	0.08	0.58	0.70		0.38	0.22	0.06
Uniform Delay, d1	16.7	28.9	31.3	36.6	9.7	8.3	52.2	53.2		50.8	49.7	48.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	4.3	2.0	11.0	20.8	0.2	0.1	4.6	10.7		2.5	0.5	0.1
Delay (s)	21.0	31.0	42.3	57.4	9.9	8.5	56.9	63.9		53.3	50.1	48.7
Level of Service	C	C	D	E	A	A	E	E		D	D	D
Approach Delay (s)		32.7			24.8			61.4			50.1	
Approach LOS		C			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	32.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	128.2	Sum of lost time (s)	16.9
Intersection Capacity Utilization	94.5%	ICU Level of Service	F
Analysis Period (min)	15		

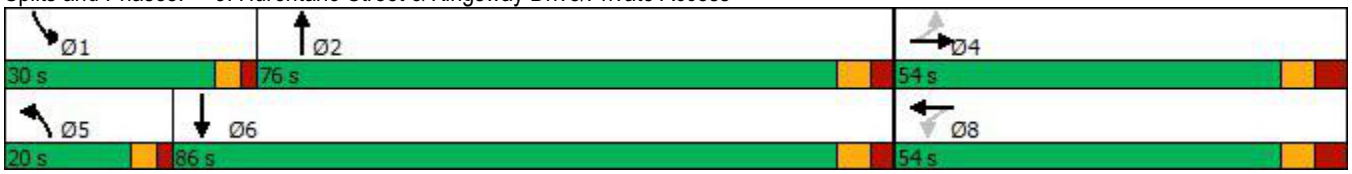
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	0	17	2	5	0	26	500	9	4	908	106
Future Volume (vph)	97	0	17	2	5	0	26	500	9	4	908	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	0.0		0.0	20.0		0.0	30.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor	1.00						1.00	1.00		1.00	1.00	
Frt		0.850						0.997			0.984	
Flt Protected	0.950				0.986		0.950			0.950		
Satd. Flow (prot)	1789	1633	0	0	1894	0	1722	3342	0	1825	3426	0
Flt Permitted	0.753				0.926		0.950			0.950		
Satd. Flow (perm)	1415	1633	0	0	1779	0	1721	3342	0	1824	3426	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		252						1			11	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		318.7			138.1			189.0			440.6	
Travel Time (s)		22.9			9.9			11.3			26.4	
Confl. Peds. (#/hr)	2					2	2		1	1		2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	6%	9%	0%	0%	5%	1%
Adj. Flow (vph)	102	0	18	2	5	0	27	526	9	4	956	112
Shared Lane Traffic (%)												
Lane Group Flow (vph)	102	18	0	0	7	0	27	535	0	4	1068	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	52.0	52.0		52.0	52.0		13.0	58.0		13.0	58.0	
Total Split (s)	54.0	54.0		54.0	54.0		20.0	76.0		30.0	86.0	
Total Split (%)	33.8%	33.8%		33.8%	33.8%		12.5%	47.5%		18.8%	53.8%	
Maximum Green (s)	46.0	46.0		46.0	46.0		15.0	69.0		25.0	79.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		2.0	3.0		2.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	13.0	13.0		13.0	13.0			15.0			15.0	
Flash Dont Walk (s)	31.0	31.0		31.0	31.0			36.0			36.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	14.0	14.0			14.0		8.4	88.5		8.0	83.0	
Actuated g/C Ratio	0.12	0.12			0.12		0.07	0.74		0.07	0.69	
v/c Ratio	0.62	0.04			0.03		0.23	0.22		0.03	0.45	
Control Delay	67.2	0.2			47.1		59.3	6.1		56.2	10.3	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	67.2	0.2			47.1		59.3	6.1		56.2	10.3	
LOS	E	A			D		E	A		E	B	
Approach Delay		57.2			47.1			8.6			10.5	
Approach LOS		E			D			A			B	

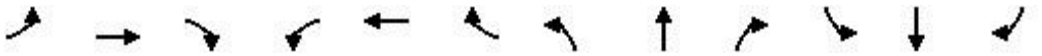
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 119.9			
Natural Cycle: 125			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 67.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: Hurontario Street & Kingsway Drive/Private Access



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	102	18	7	27	535	4	1068
v/c Ratio	0.62	0.04	0.03	0.23	0.22	0.03	0.45
Control Delay	67.2	0.2	47.1	59.3	6.1	56.2	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.2	0.2	47.1	59.3	6.1	56.2	10.3
Queue Length 50th (m)	23.5	0.0	1.5	6.2	16.3	0.9	61.3
Queue Length 95th (m)	42.2	0.0	6.0	16.2	38.5	4.7	91.1
Internal Link Dist (m)		294.7	114.1		165.0		416.6
Turn Bay Length (m)	40.0			20.0		30.0	
Base Capacity (vph)	544	783	685	216	2466	382	2374
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	0.19	0.02	0.01	0.13	0.22	0.01	0.45

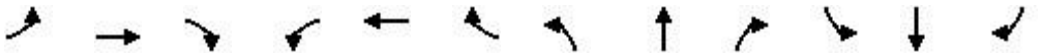
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	0	17	2	5	0	26	500	9	4	908	106
Future Volume (vph)	97	0	17	2	5	0	26	500	9	4	908	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			1.00		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1786	1633			1894		1722	3344		1825	3427	
Flt Permitted	0.75	1.00			0.93		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1416	1633			1778		1722	3344		1825	3427	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	102	0	18	2	5	0	27	526	9	4	956	112
RTOR Reduction (vph)	0	16	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	102	2	0	0	7	0	27	535	0	4	1065	0
Confl. Peds. (#/hr)	2					2	2		1	1		2
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	6%	9%	0%	0%	5%	1%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	13.9	13.9			13.9		5.0	88.5		1.5	85.0	
Effective Green, g (s)	13.9	13.9			13.9		5.0	88.5		1.5	85.0	
Actuated g/C Ratio	0.11	0.11			0.11		0.04	0.71		0.01	0.69	
Clearance Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	158	183			199		69	2388		22	2351	
v/s Ratio Prot		0.00					c0.02	c0.16		0.00	c0.31	
v/s Ratio Perm	c0.07				0.00							
v/c Ratio	0.65	0.01			0.04		0.39	0.22		0.18	0.45	
Uniform Delay, d1	52.6	48.9			49.0		58.0	6.0		60.6	8.9	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.7	0.0			0.1		3.6	0.2		4.0	0.6	
Delay (s)	61.4	48.9			49.1		61.6	6.2		64.5	9.5	
Level of Service	E	D			D		E	A		E	A	
Approach Delay (s)		59.5			49.1			8.9			9.7	
Approach LOS		E			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	123.9	Sum of lost time (s)	20.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

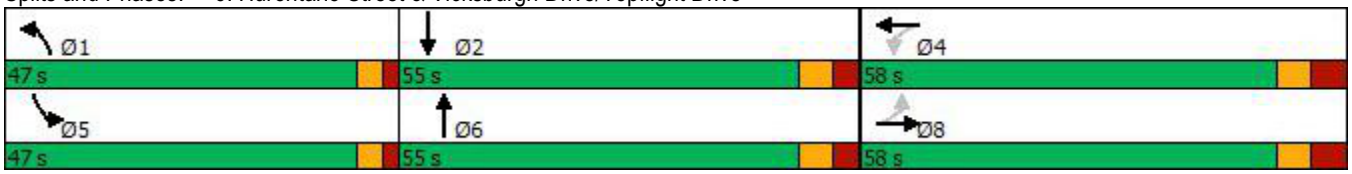


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	3	12	14	1	143	71	499	28	143	1015	92
Future Volume (vph)	27	3	12	14	1	143	71	499	28	143	1015	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	0.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor	1.00				0.99			1.00		1.00		
Frt		0.878			0.878			0.992			0.988	
Flt Protected	0.950				0.996		0.950			0.950		
Satd. Flow (prot)	1825	1687	0	0	1495	0	1825	3374	0	1690	3479	0
Flt Permitted	0.521				0.966		0.950			0.950		
Satd. Flow (perm)	998	1687	0	0	1450	0	1825	3374	0	1686	3479	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			154			4			6	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		237.0			253.7			440.6			373.3	
Travel Time (s)		17.1			18.3			26.4			22.4	
Confl. Peds. (#/hr)	4					4			2	2		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	50%	0%	7%	0%	6%	28%	8%	4%	0%
Adj. Flow (vph)	29	3	13	15	1	154	76	537	30	154	1091	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	16	0	0	170	0	76	567	0	154	1190	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		8.0	8.0	
Minimum Split (s)	58.0	58.0		58.0	58.0		47.0	55.0		47.0	55.0	
Total Split (s)	58.0	58.0		58.0	58.0		47.0	55.0		47.0	55.0	
Total Split (%)	36.3%	36.3%		36.3%	36.3%		29.4%	34.4%		29.4%	34.4%	
Maximum Green (s)	49.5	49.5		49.5	49.5		42.0	47.5		42.0	47.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.5	4.5		4.5	4.5		2.0	3.5		2.0	3.5	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	14.0	14.0		14.0	14.0			9.0			9.0	
Flash Dont Walk (s)	35.0	35.0		35.0	35.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	9.1	9.1			9.1		9.3	47.6		13.6	54.4	
Actuated g/C Ratio	0.10	0.10			0.10		0.10	0.52		0.15	0.60	
v/c Ratio	0.29	0.09			0.60		0.41	0.32		0.61	0.57	
Control Delay	47.2	22.5			18.4		46.0	13.8		47.6	13.9	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	47.2	22.5			18.4		46.0	13.8		47.6	13.9	
LOS	D	C			B		D	B		D	B	
Approach Delay		38.4			18.4			17.6			17.8	
Approach LOS		D			B			B			B	

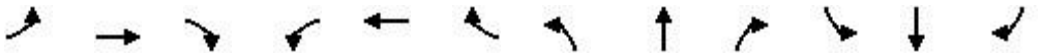
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 91.4			
Natural Cycle: 160			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 72.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Hurontario Street & Vicksburgh Drive/Topflight Drive



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	29	16	170	76	567	154	1190
v/c Ratio	0.29	0.09	0.60	0.41	0.32	0.61	0.57
Control Delay	47.2	22.5	18.4	46.0	13.8	47.6	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.2	22.5	18.4	46.0	13.8	47.6	13.9
Queue Length 50th (m)	4.8	0.5	2.6	12.5	27.3	25.2	64.3
Queue Length 95th (m)	13.7	6.5	21.9	27.3	47.3	46.3	102.2
Internal Link Dist (m)		213.0	229.7		416.6		349.3
Turn Bay Length (m)	25.0			25.0		35.0	
Base Capacity (vph)	542	922	858	841	1760	778	2072
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	0.05	0.02	0.20	0.09	0.32	0.20	0.57

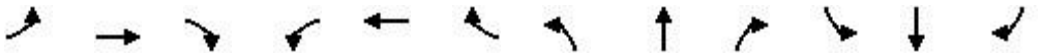
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	3	12	14	1	143	71	499	28	143	1015	92
Future Volume (vph)	27	3	12	14	1	143	71	499	28	143	1015	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.88			0.88		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1822	1687			1496		1825	3375		1690	3477	
Flt Permitted	0.52	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	999	1687			1452		1825	3375		1690	3477	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	29	3	13	15	1	154	76	537	30	154	1091	99
RTOR Reduction (vph)	0	12	0	0	139	0	0	2	0	0	2	0
Lane Group Flow (vph)	29	4	0	0	31	0	76	565	0	154	1188	0
Confl. Peds. (#/hr)	4					4			2	2		
Heavy Vehicles (%)	0%	0%	0%	50%	0%	7%	0%	6%	28%	8%	4%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)	9.1	9.1			9.1		7.9	48.7		13.6	54.4	
Effective Green, g (s)	9.1	9.1			9.1		7.9	48.7		13.6	54.4	
Actuated g/C Ratio	0.10	0.10			0.10		0.09	0.53		0.15	0.59	
Clearance Time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	98	166			143		156	1778		248	2047	
v/s Ratio Prot		0.00					0.04	0.17		c0.09	c0.34	
v/s Ratio Perm	c0.03				0.02							
v/c Ratio	0.30	0.03			0.22		0.49	0.32		0.62	0.58	
Uniform Delay, d1	38.7	37.6			38.4		40.3	12.4		37.0	11.9	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.7	0.1			0.8		2.4	0.5		4.8	1.2	
Delay (s)	40.4	37.7			39.1		42.7	12.9		41.7	13.1	
Level of Service	D	D			D		D	B		D	B	
Approach Delay (s)		39.4			39.1			16.4			16.4	
Approach LOS		D			D			B			B	

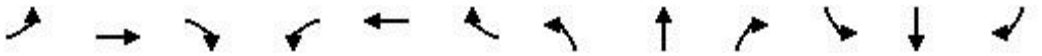
Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	92.4	Sum of lost time (s)	21.0
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	2	102	10	6	23	237	137	3	63	1
Future Volume (vph)	0	0	2	102	10	6	23	237	137	3	63	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	15.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	0		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		0.865			0.942			0.945			0.998	
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	1662	0	1772	1810	0	1825	3437	0	1825	3643	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	1662	0	1772	1810	0	1825	3437	0	1825	3643	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		62.9			318.7			222.4			283.4	
Travel Time (s)		4.5			22.9			16.0			20.4	
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
Heavy Vehicles (%)	0%	0%	0%	3%	0%	0%	0%	0%	1%	0%	0%	0%
Adj. Flow (vph)	0	0	2	111	11	7	25	258	149	3	68	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	0	111	18	0	25	407	0	3	69	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

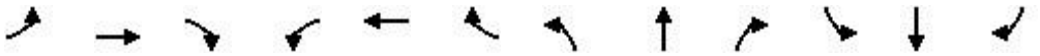
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	2	102	10	6	23	237	137	3	63	1
Future Volume (Veh/h)	0	0	2	102	10	6	23	237	137	3	63	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	2	111	11	7	25	258	149	3	68	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								223				
pX, platoon unblocked												
vC, conflicting volume	266	532	34	424	458	204	69			407		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	266	532	34	424	458	204	69			407		
tC, single (s)	7.5	6.5	6.9	7.6	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	78	98	99	98			100		
cM capacity (veh/h)	644	448	1037	503	493	810	1545			1163		

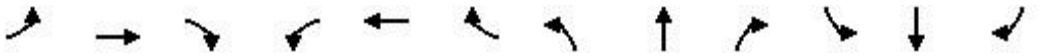
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	2	111	18	25	172	235	3	45	24
Volume Left	0	111	0	25	0	0	3	0	0
Volume Right	2	0	7	0	0	149	0	0	1
cSH	1037	503	582	1545	1700	1700	1163	1700	1700
Volume to Capacity	0.00	0.22	0.03	0.02	0.10	0.14	0.00	0.03	0.01
Queue Length 95th (m)	0.0	6.3	0.7	0.4	0.0	0.0	0.1	0.0	0.0
Control Delay (s)	8.5	14.2	11.4	7.4	0.0	0.0	8.1	0.0	0.0
Lane LOS	A	B	B	A			A		
Approach Delay (s)	8.5	13.8		0.4			0.3		
Approach LOS	A	B							

Intersection Summary				
Average Delay	3.2			
Intersection Capacity Utilization	29.9%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	14	27	15	42	5	97	12	63	2	3	0
Future Volume (vph)	0	14	27	15	42	5	97	12	63	2	3	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.901			0.985			0.951				
Flt Protected				0.950				0.973			0.980	
Satd. Flow (prot)	0	3224	0	1789	1855	0	0	1743	0	0	1846	0
Flt Permitted				0.950				0.973			0.980	
Satd. Flow (perm)	0	3224	0	1789	1855	0	0	1743	0	0	1846	0
Link Speed (k/h)		50			48			48			50	
Link Distance (m)		152.4			237.0			95.7			60.6	
Travel Time (s)		11.0			17.8			7.2			4.4	
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)	0	15	29	16	46	5	105	13	68	2	3	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	0	16	51	0	0	186	0	0	5	0
Enter Blocked Intersection	No	No	No	No	No	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			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)	97		24	97		14	14		97	24		97
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	14	27	15	42	5	97	12	63	2	3	0
Future Volume (Veh/h)	0	14	27	15	42	5	97	12	63	2	3	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	15	29	16	46	5	105	13	68	2	3	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)					237							
pX, platoon unblocked												
vC, conflicting volume	51			44			109	112	22	162	124	48
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	51			44			109	112	22	162	124	48
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			88	98	94	100	100	100
cM capacity (veh/h)	1553			1563			849	769	1050	721	757	1010

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	8	36	16	51	186	5
Volume Left	0	0	16	0	105	2
Volume Right	0	29	0	5	68	0
cSH	1553	1700	1563	1700	906	742
Volume to Capacity	0.00	0.02	0.01	0.03	0.21	0.01
Queue Length 95th (m)	0.0	0.0	0.2	0.0	5.8	0.2
Control Delay (s)	0.0	0.0	7.3	0.0	10.0	9.9
Lane LOS			A		A	A
Approach Delay (s)	0.0		1.7		10.0	9.9
Approach LOS					A	A

Intersection Summary				
Average Delay	6.7			
Intersection Capacity Utilization	29.0%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	3	12	171	41	5
Future Volume (vph)	2	3	12	171	41	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.919				0.985	
Flt Protected	0.980		0.950			
Satd. Flow (prot)	1696	0	1789	3579	3525	0
Flt Permitted	0.980		0.950			
Satd. Flow (perm)	1696	0	1789	3579	3525	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	66.3			283.4	152.4	
Travel Time (s)	5.0			20.4	11.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	3	13	186	45	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	0	13	186	50	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	17.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	3	12	171	41	5
Future Volume (Veh/h)	2	3	12	171	41	5
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)	2	3	13	186	45	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					390	
pX, platoon unblocked						
vC, conflicting volume	166	25	50			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	166	25	50			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	801	1045	1555			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	5	13	93	93	30	20
Volume Left	2	13	0	0	0	0
Volume Right	3	0	0	0	0	5
cSH	932	1555	1700	1700	1700	1700
Volume to Capacity	0.01	0.01	0.05	0.05	0.02	0.01
Queue Length 95th (m)	0.1	0.2	0.0	0.0	0.0	0.0
Control Delay (s)	8.9	7.3	0.0	0.0	0.0	0.0
Lane LOS	A	A				
Approach Delay (s)	8.9	0.5			0.0	
Approach LOS	A					

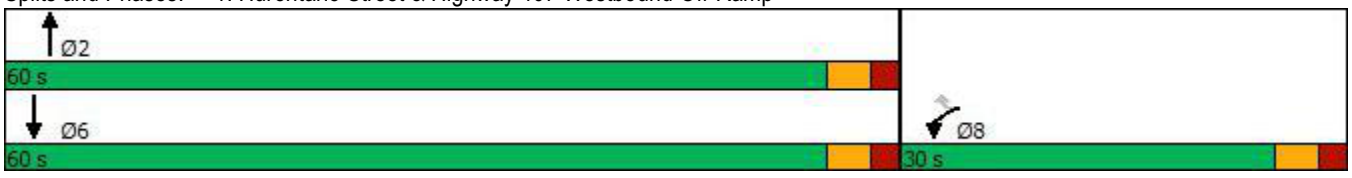
Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	17.3%	ICU Level of Service	A	
Analysis Period (min)	15			

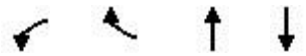
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	164	354	1294	0	0	733
Future Volume (vph)	164	354	1294	0	0	733
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	115.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Frt	0.922	0.850				
Flt Protected	0.977					
Satd. Flow (prot)	3132	1486	3579	0	0	3544
Flt Permitted	0.977					
Satd. Flow (perm)	3132	1486	3579	0	0	3544
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	59	59				
Link Speed (k/h)	60		60			60
Link Distance (m)	401.2		345.6			144.3
Travel Time (s)	24.1		20.7			8.7
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	15%	0%	2%	0%	0%	3%
Adj. Flow (vph)	169	365	1334	0	0	756
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	352	182	1334	0	0	756
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	7.4		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	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0			5.0
Minimum Split (s)	23.0	23.0	23.0			23.0
Total Split (s)	30.0	30.0	60.0			60.0
Total Split (%)	33.3%	33.3%	66.7%			66.7%
Maximum Green (s)	25.0	25.0	55.0			55.0
Yellow Time (s)	3.0	3.0	3.0			3.0
All-Red Time (s)	2.0	2.0	2.0			2.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	Max			Max
Walk Time (s)	7.0	7.0	7.0			7.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	13.1	13.1	55.1			55.1
Actuated g/C Ratio	0.17	0.17	0.70			0.70
v/c Ratio	0.61	0.61	0.53			0.30
Control Delay	29.6	29.1	6.9			5.1
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	29.6	29.1	6.9			5.1
LOS	C	C	A			A
Approach Delay	29.5		6.9			5.1
Approach LOS	C		A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 78.3			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 11.0		Intersection LOS: B	
Intersection Capacity Utilization 58.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & Highway 407 Westbound Off-Ramp





Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	352	182	1334	756
v/c Ratio	0.61	0.61	0.53	0.30
Control Delay	29.6	29.1	6.9	5.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	29.6	29.1	6.9	5.1
Queue Length 50th (m)	20.7	18.3	39.3	17.7
Queue Length 95th (m)	33.0	39.1	72.0	33.8
Internal Link Dist (m)	377.2		321.6	120.3
Turn Bay Length (m)		115.0		
Base Capacity (vph)	1043	515	2520	2496
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.34	0.35	0.53	0.30

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	164	354	1294	0	0	733
Future Volume (vph)	164	354	1294	0	0	733
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0			5.0
Lane Util. Factor	0.97	0.91	0.95			0.95
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3130	1486	3579			3544
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3130	1486	3579			3544
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	169	365	1334	0	0	756
RTOR Reduction (vph)	49	49	0	0	0	0
Lane Group Flow (vph)	303	133	1334	0	0	756
Heavy Vehicles (%)	15%	0%	2%	0%	0%	3%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	13.1	13.1	55.1			55.1
Effective Green, g (s)	13.1	13.1	55.1			55.1
Actuated g/C Ratio	0.17	0.17	0.70			0.70
Clearance Time (s)	5.0	5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	524	248	2521			2497
v/s Ratio Prot	c0.10		c0.37			0.21
v/s Ratio Perm		0.09				
v/c Ratio	0.58	0.54	0.53			0.30
Uniform Delay, d1	30.0	29.8	5.4			4.3
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	1.5	2.2	0.8			0.3
Delay (s)	31.6	32.0	6.2			4.6
Level of Service	C	C	A			A
Approach Delay (s)	31.7		6.2			4.6
Approach LOS	C		A			A

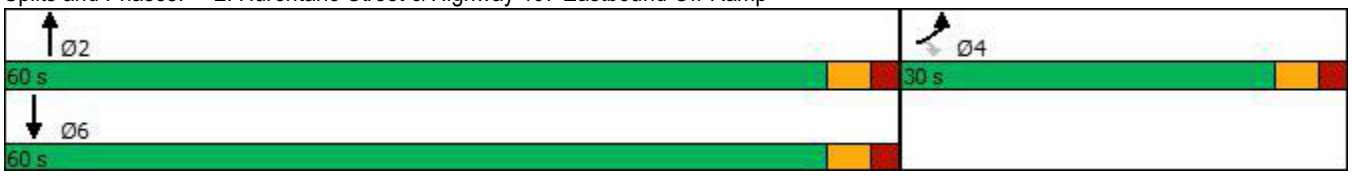
Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	78.2	Sum of lost time (s)	10.0
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

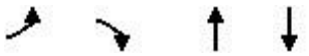
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	124	62	0	1355	651	0
Future Volume (vph)	124	62	0	1355	651	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	95.0	0.0			0.0
Storage Lanes	2	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3471	1384	0	3579	3476	0
Flt Permitted	0.950					
Satd. Flow (perm)	3471	1384	0	3579	3476	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		64				
Link Speed (k/h)	60			60	60	
Link Distance (m)	401.8			373.3	345.6	
Travel Time (s)	24.1			22.4	20.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	18%	0%	2%	5%	0%
Adj. Flow (vph)	128	64	0	1397	671	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	128	64	0	1397	671	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.4			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
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	6.1	6.1		30.5	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	6.1		1.8	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Permitted Phases		4				
Detector Phase	4	4		2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0		23.0	23.0	
Total Split (s)	30.0	30.0		60.0	60.0	
Total Split (%)	33.3%	33.3%		66.7%	66.7%	
Maximum Green (s)	25.0	25.0		55.0	55.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Recall Mode	None	None		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	8.2	8.2		59.4	59.4	
Actuated g/C Ratio	0.11	0.11		0.77	0.77	
v/c Ratio	0.35	0.32		0.51	0.25	
Control Delay	33.6	13.1		4.5	3.1	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	33.6	13.1		4.5	3.1	
LOS	C	B		A	A	
Approach Delay	26.8			4.5	3.1	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 77.6			
Natural Cycle: 55			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 5.9		Intersection LOS: A	
Intersection Capacity Utilization 58.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: Hurontario Street & Highway 407 Eastbound Off-Ramp





Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	128	64	1397	671
v/c Ratio	0.35	0.32	0.51	0.25
Control Delay	33.6	13.1	4.5	3.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	33.6	13.1	4.5	3.1
Queue Length 50th (m)	8.6	0.0	30.7	11.2
Queue Length 95th (m)	15.9	10.0	47.3	18.0
Internal Link Dist (m)	377.8		349.3	321.6
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1122	490	2738	2659
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	0.11	0.13	0.51	0.25

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	124	62	0	1355	651	0
Future Volume (vph)	124	62	0	1355	651	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	1.00		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3471	1384		3579	3476	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3471	1384		3579	3476	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	128	64	0	1397	671	0
RTOR Reduction (vph)	0	57	0	0	0	0
Lane Group Flow (vph)	128	7	0	1397	671	0
Heavy Vehicles (%)	2%	18%	0%	2%	5%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	8.2	8.2		59.4	59.4	
Effective Green, g (s)	8.2	8.2		59.4	59.4	
Actuated g/C Ratio	0.11	0.11		0.77	0.77	
Clearance Time (s)	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	366	146		2739	2660	
v/s Ratio Prot	c0.04			c0.39	0.19	
v/s Ratio Perm		0.00				
v/c Ratio	0.35	0.05		0.51	0.25	
Uniform Delay, d1	32.2	31.2		3.5	2.6	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.1		0.7	0.2	
Delay (s)	32.8	31.3		4.2	2.9	
Level of Service	C	C		A	A	
Approach Delay (s)	32.3			4.2	2.9	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	77.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

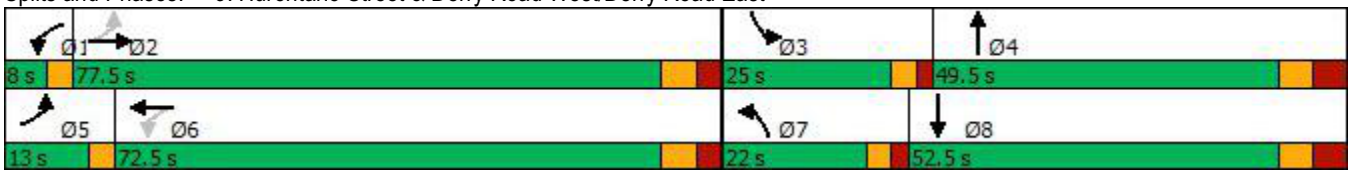
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	929	26	60	1610	265	153	538	46	203	297	97
Future Volume (vph)	151	929	26	60	1610	265	153	538	46	203	297	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		0.0	185.0		0.0	55.0		0.0	100.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00		0.99	0.99		0.96	1.00		0.99	0.98	
Frt		0.996			0.979			0.988			0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1807	4796	0	1789	4973	0	1825	3411	0	1772	3195	0
Flt Permitted	0.058			0.260			0.950			0.950		
Satd. Flow (perm)	110	4796	0	484	4973	0	1760	3411	0	1752	3195	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			24			5			27	
Link Speed (k/h)		70			70			60			60	
Link Distance (m)		331.5			999.3			126.9			189.0	
Travel Time (s)		17.0			51.4			7.6			11.3	
Confl. Peds. (#/hr)	23		42	42		23	53		22	22		53
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	1%	9%	0%	2%	3%	1%	0%	4%	22%	3%	10%	2%
Adj. Flow (vph)	153	938	26	61	1626	268	155	543	46	205	300	98
Shared Lane Traffic (%)												
Lane Group Flow (vph)	153	964	0	61	1894	0	155	589	0	205	398	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	8.0	51.4		8.0	51.4		13.0	49.4		13.0	49.4	
Total Split (s)	13.0	77.5		8.0	72.5		22.0	49.5		25.0	52.5	
Total Split (%)	8.1%	48.4%		5.0%	45.3%		13.8%	30.9%		15.6%	32.8%	
Maximum Green (s)	10.0	70.1		5.0	65.1		17.0	41.1		20.0	44.1	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	3.2		0.0	3.2		2.0	4.4		2.0	4.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		13.0			13.0			12.0			12.0	
Flash Dont Walk (s)		31.0			31.0			29.0			29.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	82.7	72.0		74.7	65.2		15.8	31.6		19.6	35.3	
Actuated g/C Ratio	0.55	0.48		0.50	0.43		0.11	0.21		0.13	0.23	
v/c Ratio	0.88	0.42		0.22	0.87		0.81	0.82		0.89	0.52	
Control Delay	76.9	27.2		19.4	44.2		95.5	66.0		100.3	48.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	76.9	27.2		19.4	44.2		95.5	66.0		100.3	48.9	
LOS	E	C		B	D		F	E		F	D	
Approach Delay		34.0			43.5			72.1			66.4	
Approach LOS		C			D			E			E	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 150.3
Natural Cycle: 145
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 49.0 Intersection LOS: D
Intersection Capacity Utilization 105.3% ICU Level of Service G
Analysis Period (min) 15

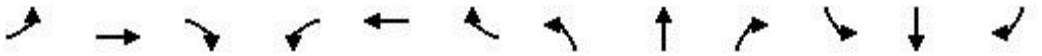
Splits and Phases: 3: Hurontario Street & Derry Road West/Derry Road East



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	153	964	61	1894	155	589	205	398
v/c Ratio	0.88	0.42	0.22	0.87	0.81	0.82	0.89	0.52
Control Delay	76.9	27.2	19.4	44.2	95.5	66.0	100.3	48.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.9	27.2	19.4	44.2	95.5	66.0	100.3	48.9
Queue Length 50th (m)	29.1	69.1	8.3	185.2	45.6	88.5	60.9	51.5
Queue Length 95th (m)	#77.9	90.3	17.6	228.0	#85.3	109.8	#114.3	68.1
Internal Link Dist (m)		307.5		975.3		102.9		165.0
Turn Bay Length (m)	150.0		185.0		55.0		100.0	
Base Capacity (vph)	173	2298	283	2172	206	938	236	958
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	0.88	0.42	0.22	0.87	0.75	0.63	0.87	0.42

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	929	26	60	1610	265	153	538	46	203	297	97
Future Volume (vph)	151	929	26	60	1610	265	153	538	46	203	297	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		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)	1807	4796		1785	4973		1825	3413		1772	3198	
Flt Permitted	0.06	1.00		0.26	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	111	4796		488	4973		1825	3413		1772	3198	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	153	938	26	61	1626	268	155	543	46	205	300	98
RTOR Reduction (vph)	0	2	0	0	14	0	0	4	0	0	21	0
Lane Group Flow (vph)	153	962	0	61	1880	0	155	585	0	205	377	0
Confl. Peds. (#/hr)	23		42	42		23	53		22	22		53
Heavy Vehicles (%)	1%	9%	0%	2%	3%	1%	0%	4%	22%	3%	10%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Actuated Green, G (s)	78.8	71.9		69.7	65.8		15.8	31.6		19.6	35.4	
Effective Green, g (s)	78.8	71.9		69.7	65.8		15.8	31.6		19.6	35.4	
Actuated g/C Ratio	0.52	0.48		0.46	0.44		0.10	0.21		0.13	0.23	
Clearance Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	170	2286		259	2169		191	715		230	750	
v/s Ratio Prot	c0.06	0.20		0.01	0.38		0.08	c0.17		c0.12	c0.12	
v/s Ratio Perm	c0.41			0.10								
v/c Ratio	0.90	0.42		0.24	0.87		0.81	0.82		0.89	0.50	
Uniform Delay, d1	41.3	25.8		22.7	38.5		66.0	56.9		64.6	50.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	41.6	0.6		0.5	5.0		22.4	7.2		32.0	0.5	
Delay (s)	82.8	26.4		23.2	43.5		88.4	64.1		96.5	50.6	
Level of Service	F	C		C	D		F	E		F	D	
Approach Delay (s)		34.1			42.9			69.2			66.2	
Approach LOS		C			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	48.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	150.8	Sum of lost time (s)	23.8
Intersection Capacity Utilization	105.3%	ICU Level of Service	G
Analysis Period (min)	15		

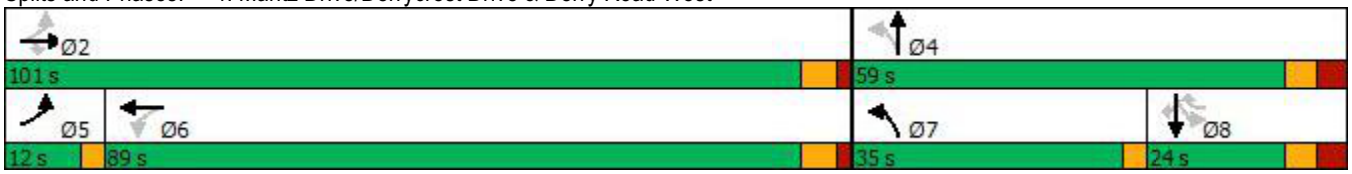
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	746	224	150	1727	50	505	148	231	67	71	338
Future Volume (vph)	117	746	224	150	1727	50	505	148	231	67	71	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	55.0		30.0	0.0		0.0	100.0		0.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97	1.00		0.98	1.00	0.99		1.00		0.99
Frt			0.850			0.850		0.908				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4902	1585	1415	5142	1471	1738	1656	0	1738	1883	1617
Flt Permitted	0.061			0.346			0.599			0.529		
Satd. Flow (perm)	117	4902	1539	514	5142	1448	1094	1656	0	967	1883	1594
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			134			63		52				112
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		443.5			331.5			130.4			222.4	
Travel Time (s)		22.8			17.0			9.4			16.0	
Confl. Peds. (#/hr)	4		4	4		4	2		2	2		2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	7%	3%	29%	2%	11%	5%	2%	6%	5%	2%	1%
Adj. Flow (vph)	122	777	233	156	1799	52	526	154	241	70	74	352
Shared Lane Traffic (%)												
Lane Group Flow (vph)	122	777	233	156	1799	52	526	395	0	70	74	352
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	Perm	NA	custom	pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2			6		7	4			8	
Permitted Phases	2		2	6		8	4			8		8
Detector Phase	5	2	2	6	6	8	7	4		8	8	8
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	10.0		10.0	10.0	10.0
Minimum Split (s)	10.0	41.2	41.2	41.2	41.2	56.7	10.0	56.7		56.7	56.7	56.7
Total Split (s)	12.0	101.0	101.0	89.0	89.0	24.0	35.0	59.0		24.0	24.0	24.0
Total Split (%)	7.5%	63.1%	63.1%	55.6%	55.6%	15.0%	21.9%	36.9%		15.0%	15.0%	15.0%
Maximum Green (s)	9.0	94.8	94.8	82.8	82.8	16.3	32.0	51.3		16.3	16.3	16.3
Yellow Time (s)	3.0	4.2	4.2	4.2	4.2	4.0	3.0	4.0		4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	3.7	0.0	3.7		3.7	3.7	3.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	None	None	None		None	None	None
Walk Time (s)		10.0	10.0	10.0	10.0	10.0		10.0		10.0	10.0	10.0
Flash Dont Walk (s)		25.0	25.0	25.0	25.0	39.0		39.0		39.0	39.0	39.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0		0	0	0
Act Effct Green (s)	98.0	94.8	94.8	83.0	83.0	16.3	56.0	51.3		16.3	16.3	16.3
Actuated g/C Ratio	0.61	0.59	0.59	0.52	0.52	0.10	0.35	0.32		0.10	0.10	0.10
v/c Ratio	0.74	0.27	0.24	0.59	0.67	0.25	1.03	0.70		0.71	0.39	1.34
Control Delay	49.4	16.1	6.9	37.8	30.1	13.1	94.9	48.6		105.5	73.6	211.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	49.4	16.1	6.9	37.8	30.1	13.1	94.9	48.6		105.5	73.6	211.9
LOS	D	B	A	D	C	B	F	D		F	E	F
Approach Delay		17.8			30.3			75.0			176.3	
Approach LOS		B			C			E			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 160			
Natural Cycle: 120			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.34			
Intersection Signal Delay: 52.1		Intersection LOS: D	
Intersection Capacity Utilization 98.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 4: Maritz Drive/Derrycrest Drive & Derry Road West

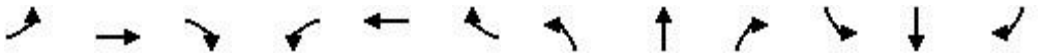


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	122	777	233	156	1799	52	526	395	70	74	352
v/c Ratio	0.74	0.27	0.24	0.59	0.67	0.25	1.03	0.70	0.71	0.39	1.34
Control Delay	49.4	16.1	6.9	37.8	30.1	13.1	94.9	48.6	105.5	73.6	211.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	16.1	6.9	37.8	30.1	13.1	94.9	48.6	105.5	73.6	211.9
Queue Length 50th (m)	16.5	42.2	13.2	33.7	152.4	0.0	~162.6	96.8	21.9	22.4	~112.1
Queue Length 95th (m)	#46.1	50.2	26.7	61.6	168.3	10.1	#249.8	136.1	#47.9	39.6	#176.1
Internal Link Dist (m)		419.5			307.5			106.4		198.4	
Turn Bay Length (m)	50.0		15.0	55.0		30.0			100.0		
Base Capacity (vph)	167	2904	966	266	2667	204	511	566	98	191	262
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.27	0.24	0.59	0.67	0.25	1.03	0.70	0.71	0.39	1.34

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	746	224	150	1727	50	505	148	231	67	71	338
Future Volume (vph)	117	746	224	150	1727	50	505	148	231	67	71	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1825	4902	1539	1410	5142	1448	1736	1657		1736	1883	1594
Flt Permitted	0.06	1.00	1.00	0.35	1.00	1.00	0.60	1.00		0.53	1.00	1.00
Satd. Flow (perm)	118	4902	1539	513	5142	1448	1094	1657		967	1883	1594
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	122	777	233	156	1799	52	526	154	241	70	74	352
RTOR Reduction (vph)	0	0	55	0	0	47	0	35	0	0	0	101
Lane Group Flow (vph)	122	777	178	156	1799	5	526	360	0	70	74	251
Confl. Peds. (#/hr)	4		4	4		4	2		2	2		2
Heavy Vehicles (%)	0%	7%	3%	29%	2%	11%	5%	2%	6%	5%	2%	1%
Turn Type	pm+pt	NA	Perm	Perm	NA	custom	pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2			6		7	4			8	
Permitted Phases	2		2	6		8	4			8		8
Actuated Green, G (s)	94.8	94.8	94.8	83.0	83.0	16.3	51.3	51.3		16.3	16.3	16.3
Effective Green, g (s)	94.8	94.8	94.8	83.0	83.0	16.3	51.3	51.3		16.3	16.3	16.3
Actuated g/C Ratio	0.59	0.59	0.59	0.52	0.52	0.10	0.32	0.32		0.10	0.10	0.10
Clearance Time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	163	2904	911	266	2667	147	479	531		98	191	162
v/s Ratio Prot	c0.04	0.16			0.35		c0.22	0.22			0.04	
v/s Ratio Perm	c0.40		0.12	0.30		0.00	0.13			0.07		c0.16
v/c Ratio	0.75	0.27	0.20	0.59	0.67	0.04	1.10	0.68		0.71	0.39	1.55
Uniform Delay, d1	27.1	15.8	15.0	26.6	28.5	64.8	52.2	47.2		69.6	67.2	71.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	17.0	0.2	0.5	9.1	1.4	0.1	70.5	3.4		21.8	1.3	276.4
Delay (s)	44.1	16.0	15.5	35.8	29.9	64.9	122.7	50.6		91.4	68.5	348.3
Level of Service	D	B	B	D	C	E	F	D		F	E	F
Approach Delay (s)		18.9			31.3			91.7			270.3	
Approach LOS		B			C			F			F	

Intersection Summary					
HCM 2000 Control Delay	66.4	HCM 2000 Level of Service		E	
HCM 2000 Volume to Capacity ratio	0.93				
Actuated Cycle Length (s)	160.0	Sum of lost time (s)		19.9	
Intersection Capacity Utilization	98.7%	ICU Level of Service		F	
Analysis Period (min)	15				

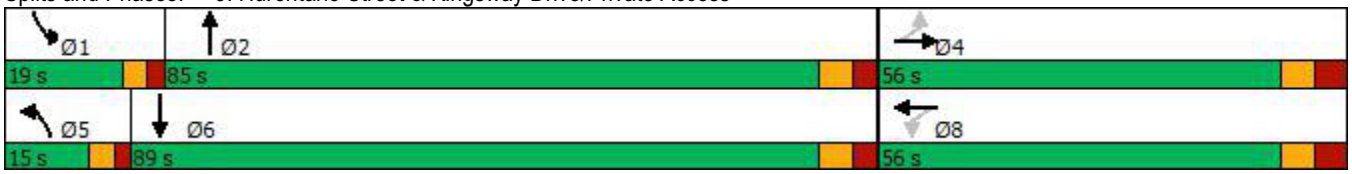
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	1	26	2	2	4	8	921	2	4	577	125
Future Volume (vph)	181	1	26	2	2	4	8	921	2	4	577	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	0.0		0.0	20.0		0.0	30.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor	1.00				0.99		1.00				1.00	
Frt		0.855			0.932						0.973	
Flt Protected	0.950				0.988		0.950			0.950		
Satd. Flow (prot)	1807	1567	0	0	1756	0	1521	3544	0	1825	3358	0
Flt Permitted	0.752				0.950		0.950			0.950		
Satd. Flow (perm)	1427	1567	0	0	1689	0	1517	3544	0	1825	3358	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27			4						24	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		318.7			138.1			189.0			440.6	
Travel Time (s)		22.9			9.9			11.3			26.4	
Confl. Peds. (#/hr)	2					2	4					4
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	0%	5%	0%	0%	0%	20%	3%	0%	0%	6%	2%
Adj. Flow (vph)	185	1	27	2	2	4	8	940	2	4	589	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	28	0	0	8	0	8	942	0	4	717	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	52.0	52.0		52.0	52.0		13.0	58.0		13.0	58.0	
Total Split (s)	56.0	56.0		56.0	56.0		15.0	85.0		19.0	89.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		9.4%	53.1%		11.9%	55.6%	
Maximum Green (s)	48.0	48.0		48.0	48.0		10.0	78.0		14.0	82.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		2.0	3.0		2.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	13.0	13.0		13.0	13.0			15.0			15.0	
Flash Dont Walk (s)	31.0	31.0		31.0	31.0			36.0			36.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	20.8	20.8			20.8		8.1	82.8		8.1	82.8	
Actuated g/C Ratio	0.17	0.17			0.17		0.07	0.68		0.07	0.68	
v/c Ratio	0.76	0.10			0.03		0.08	0.39		0.03	0.31	
Control Delay	67.4	15.9			31.9		60.0	10.1		59.0	9.0	
Queue Delay	0.0	0.0			0.0		0.0	0.3		0.0	0.0	
Total Delay	67.4	15.9			31.9		60.0	10.4		59.0	9.0	
LOS	E	B			C		E	B		E	A	
Approach Delay		60.7			31.9			10.8			9.3	
Approach LOS		E			C			B			A	

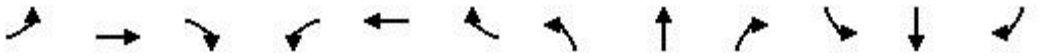
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 120.9			
Natural Cycle: 125			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 15.9		Intersection LOS: B	
Intersection Capacity Utilization 71.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: Hurontario Street & Kingsway Drive/Private Access



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	185	28	8	8	942	4	717
v/c Ratio	0.76	0.10	0.03	0.08	0.39	0.03	0.31
Control Delay	67.4	15.9	31.9	60.0	10.1	59.0	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	67.4	15.9	31.9	60.0	10.4	59.0	9.0
Queue Length 50th (m)	40.8	0.2	0.8	1.8	41.8	0.9	28.4
Queue Length 95th (m)	72.5	8.6	5.3	7.7	91.9	5.2	65.0
Internal Link Dist (m)		294.7	114.1		165.0		416.6
Turn Bay Length (m)	40.0			20.0		30.0	
Base Capacity (vph)	570	642	677	126	2426	212	2306
Starvation Cap Reductn	0	0	0	0	804	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	0.32	0.04	0.01	0.06	0.58	0.02	0.31

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	1	26	2	2	4	8	921	2	4	577	125
Future Volume (vph)	181	1	26	2	2	4	8	921	2	4	577	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86			0.93		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	1568			1757		1521	3543		1825	3359	
Flt Permitted	0.75	1.00			0.95		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1429	1568			1690		1521	3543		1825	3359	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	185	1	27	2	2	4	8	940	2	4	589	128
RTOR Reduction (vph)	0	23	0	0	3	0	0	0	0	0	8	0
Lane Group Flow (vph)	185	5	0	0	5	0	8	942	0	4	709	0
Confl. Peds. (#/hr)	2					2	4					4
Heavy Vehicles (%)	1%	0%	5%	0%	0%	0%	20%	3%	0%	0%	6%	2%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	20.8	20.8			20.8		1.4	82.8		1.4	82.8	
Effective Green, g (s)	20.8	20.8			20.8		1.4	82.8		1.4	82.8	
Actuated g/C Ratio	0.17	0.17			0.17		0.01	0.66		0.01	0.66	
Clearance Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	237	260			281		17	2346		20	2225	
v/s Ratio Prot		0.00					c0.01	c0.27		0.00	0.21	
v/s Ratio Perm	c0.13				0.00							
v/c Ratio	0.78	0.02			0.02		0.47	0.40		0.20	0.32	
Uniform Delay, d1	49.9	43.6			43.6		61.4	9.7		61.2	9.0	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.3	0.0			0.0		19.2	0.5		4.9	0.4	
Delay (s)	65.2	43.6			43.6		80.6	10.2		66.1	9.4	
Level of Service	E	D			D		F	B		E	A	
Approach Delay (s)		62.3			43.6			10.8			9.7	
Approach LOS		E			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		

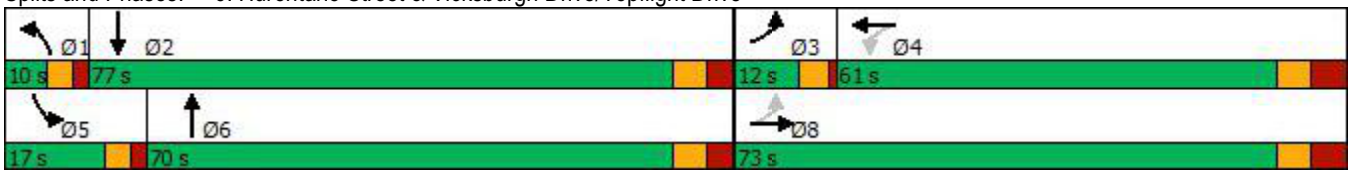
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	0	62	31	1	440	19	1083	19	71	643	42
Future Volume (vph)	124	0	62	31	1	440	19	1083	19	71	643	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	0.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor							1.00				1.00	
Frt		0.850			0.874			0.997			0.991	
Flt Protected	0.950				0.997		0.950			0.950		
Satd. Flow (prot)	1825	1633	0	0	1648	0	1825	3560	0	1547	3483	0
Flt Permitted	0.199				0.974		0.950			0.950		
Satd. Flow (perm)	382	1633	0	0	1610	0	1824	3560	0	1547	3483	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		216			147			1			5	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		237.0			253.7			440.6			373.3	
Travel Time (s)		17.1			18.3			26.4			22.4	
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	10%	0%	1%	0%	2%	15%	18%	4%	0%
Adj. Flow (vph)	127	0	63	32	1	449	19	1105	19	72	656	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	127	63	0	0	482	0	19	1124	0	72	699	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4								
Detector Phase	3	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	8.0		8.0	8.0		5.0	8.0		8.0	8.0	
Minimum Split (s)	9.5	57.5		57.5	57.5		10.0	38.5		13.0	38.5	
Total Split (s)	12.0	73.0		61.0	61.0		10.0	70.0		17.0	77.0	
Total Split (%)	7.5%	45.6%		38.1%	38.1%		6.3%	43.8%		10.6%	48.1%	
Maximum Green (s)	7.5	64.5		52.5	52.5		5.0	62.5		12.0	69.5	
Yellow Time (s)	3.5	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	4.5		4.5	4.5		2.0	3.5		2.0	3.5	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)		14.0		14.0	14.0			9.0			9.0	
Flash Dont Walk (s)		35.0		35.0	35.0			22.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	53.0	49.0			36.9		5.0	63.0		10.8	73.1	
Actuated g/C Ratio	0.37	0.34			0.26		0.03	0.44		0.08	0.51	
v/c Ratio	0.59	0.09			0.92		0.30	0.72		0.63	0.39	
Control Delay	42.3	0.3			60.2		84.8	38.3		90.6	24.8	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	42.3	0.3			60.2		84.8	38.3		90.6	24.8	
LOS	D	A			E		F	D		F	C	
Approach Delay		28.3			60.2			39.1			30.9	
Approach LOS		C			E			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 143.9			
Natural Cycle: 120			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 39.8		Intersection LOS: D	
Intersection Capacity Utilization 97.6%		ICU Level of Service F	
Analysis Period (min) 15			

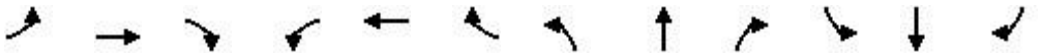
Splits and Phases: 6: Hurontario Street & Vicksburgh Drive/Topflight Drive



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	127	63	482	19	1124	72	699
v/c Ratio	0.59	0.09	0.92	0.30	0.72	0.63	0.39
Control Delay	42.3	0.3	60.2	84.8	38.3	90.6	24.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.3	0.3	60.2	84.8	38.3	90.6	24.8
Queue Length 50th (m)	24.7	0.0	99.9	5.5	140.5	20.4	67.5
Queue Length 95th (m)	39.2	0.0	146.0	15.5	195.0	#43.5	99.2
Internal Link Dist (m)		213.0	229.7		416.6		349.3
Turn Bay Length (m)	25.0			25.0		35.0	
Base Capacity (vph)	216	856	685	64	1558	130	1772
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	0.59	0.07	0.70	0.30	0.72	0.55	0.39

Intersection Summary

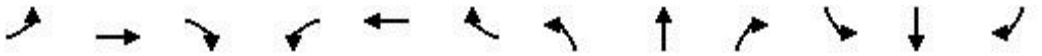
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	0	62	31	1	440	19	1083	19	71	643	42
Future Volume (vph)	124	0	62	31	1	440	19	1083	19	71	643	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.87		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	1633			1648		1825	3562		1547	3483	
Flt Permitted	0.20	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	383	1633			1610		1825	3562		1547	3483	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	127	0	63	32	1	449	19	1105	19	72	656	43
RTOR Reduction (vph)	0	42	0	0	110	0	0	1	0	0	2	0
Lane Group Flow (vph)	127	21	0	0	372	0	19	1123	0	72	697	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	10%	0%	1%	0%	2%	15%	18%	4%	0%
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)	49.0	49.0			36.9		2.8	65.2		10.7	73.1	
Effective Green, g (s)	49.0	49.0			36.9		2.8	65.2		10.7	73.1	
Actuated g/C Ratio	0.34	0.34			0.25		0.02	0.45		0.07	0.50	
Clearance Time (s)	4.5	8.5			8.5		5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	203	548			407		35	1591		113	1745	
v/s Ratio Prot	c0.03	0.01					0.01	c0.32		c0.05	0.20	
v/s Ratio Perm	0.18				c0.23							
v/c Ratio	0.63	0.04			0.91		0.54	0.71		0.64	0.40	
Uniform Delay, d1	38.2	32.6			53.0		70.9	32.6		65.7	22.7	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.9	0.0			24.7		16.1	2.7		11.2	0.7	
Delay (s)	44.1	32.6			77.6		87.0	35.3		76.9	23.4	
Level of Service	D	C			E		F	D		E	C	
Approach Delay (s)		40.3			77.6			36.1			28.4	
Approach LOS		D			E			D			C	

Intersection Summary			
HCM 2000 Control Delay	41.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	145.9	Sum of lost time (s)	25.5
Intersection Capacity Utilization	97.6%	ICU Level of Service	F
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)	2	16	14	180	0	4	7	78	141	11	207	2
Future Volume (vph)	2	16	14	180	0	4	7	78	141	11	207	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	15.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	0		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
Ped Bike Factor												
Frt		0.940			0.850			0.904			0.999	
Flt Protected		0.997		0.950			0.950			0.950		
Satd. Flow (prot)	0	1800	0	1807	1633	0	1825	3279	0	1825	3646	0
Flt Permitted		0.997		0.950			0.950			0.950		
Satd. Flow (perm)	0	1800	0	1807	1633	0	1825	3279	0	1825	3646	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		62.9			318.7			222.4			283.4	
Travel Time (s)		4.5			22.9			16.0			20.4	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%
Adj. Flow (vph)	2	17	15	196	0	4	8	85	153	12	225	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	34	0	196	4	0	8	238	0	12	227	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.4%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	16	14	180	0	4	7	78	141	11	207	2
Future Volume (Veh/h)	2	16	14	180	0	4	7	78	141	11	207	2
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)	2	17	15	196	0	4	8	85	153	12	225	2
Pedestrians								1				
Lane Width (m)								3.7				
Walking Speed (m/s)								1.1				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								223				
pX, platoon unblocked												
vC, conflicting volume	312	504	114	338	428	119	227			238		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	312	504	114	338	428	119	227			238		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	96	98	65	100	100	99			99		
cM capacity (veh/h)	612	466	922	561	514	917	1353			1341		

Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	34	196	4	8	57	181	12	150	77
Volume Left	2	196	0	8	0	0	12	0	0
Volume Right	15	0	4	0	0	153	0	0	2
cSH	607	561	917	1353	1700	1700	1341	1700	1700
Volume to Capacity	0.06	0.35	0.00	0.01	0.03	0.11	0.01	0.09	0.05
Queue Length 95th (m)	1.3	11.8	0.1	0.1	0.0	0.0	0.2	0.0	0.0
Control Delay (s)	11.3	14.8	8.9	7.7	0.0	0.0	7.7	0.0	0.0
Lane LOS	B	B	A	A			A		
Approach Delay (s)	11.3	14.7		0.2			0.4		
Approach LOS	B	B							

Intersection Summary				
Average Delay	4.8			
Intersection Capacity Utilization	32.4%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	23	35	62	8	8	15	15	41	23	35	0
Future Volume (vph)	0	23	35	62	8	8	15	15	41	23	35	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.910			0.925			0.921				
Flt Protected				0.950				0.990			0.981	
Satd. Flow (prot)	0	3256	0	1789	1742	0	0	1717	0	0	1848	0
Flt Permitted				0.950				0.990			0.981	
Satd. Flow (perm)	0	3256	0	1789	1742	0	0	1717	0	0	1848	0
Link Speed (k/h)		50			48			48			50	
Link Distance (m)		152.4			237.0			95.7			60.6	
Travel Time (s)		11.0			17.8			7.2			4.4	
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)	0	25	38	67	9	9	16	16	45	25	38	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	63	0	67	18	0	0	77	0	0	63	0
Enter Blocked Intersection	No	No	No	No	No	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			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)	97		24	97		14	14		97	24		97
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.3%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	23	35	62	8	8	15	15	41	23	35	0
Future Volume (Veh/h)	0	23	35	62	8	8	15	15	41	23	35	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	25	38	67	9	9	16	16	45	25	38	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)					237							
pX, platoon unblocked												
vC, conflicting volume	18			63			206	196	32	213	210	14
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	18			63			206	196	32	213	210	14
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			96			98	98	96	96	94	100
cM capacity (veh/h)	1597			1538			678	668	1035	658	656	1063

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	12	50	67	18	77	63
Volume Left	0	0	67	0	16	25
Volume Right	0	38	0	9	45	0
cSH	1597	1700	1538	1700	846	657
Volume to Capacity	0.00	0.03	0.04	0.01	0.09	0.10
Queue Length 95th (m)	0.0	0.0	1.0	0.0	2.3	2.4
Control Delay (s)	0.0	0.0	7.4	0.0	9.7	11.1
Lane LOS			A		A	B
Approach Delay (s)	0.0		5.9		9.7	11.1
Approach LOS					A	B

Intersection Summary				
Average Delay	6.7			
Intersection Capacity Utilization	22.3%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	23	35	15	48	124	8
Future Volume (vph)	23	35	15	48	124	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.919				0.991	
Flt Protected	0.981		0.950			
Satd. Flow (prot)	1698	0	1789	3579	3546	0
Flt Permitted	0.981		0.950			
Satd. Flow (perm)	1698	0	1789	3579	3546	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	66.3			283.4	152.4	
Travel Time (s)	5.0			20.4	11.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	38	16	52	135	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	63	0	16	52	144	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 20.4%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	23	35	15	48	124	8
Future Volume (Veh/h)	23	35	15	48	124	8
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)	25	38	16	52	135	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					390	
pX, platoon unblocked						
vC, conflicting volume	198	72	144			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	198	72	144			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	96	99			
cM capacity (veh/h)	764	975	1436			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	63	16	26	26	90	54
Volume Left	25	16	0	0	0	0
Volume Right	38	0	0	0	0	9
cSH	879	1436	1700	1700	1700	1700
Volume to Capacity	0.07	0.01	0.02	0.02	0.05	0.03
Queue Length 95th (m)	1.8	0.3	0.0	0.0	0.0	0.0
Control Delay (s)	9.4	7.5	0.0	0.0	0.0	0.0
Lane LOS	A	A				
Approach Delay (s)	9.4	1.8			0.0	
Approach LOS	A					

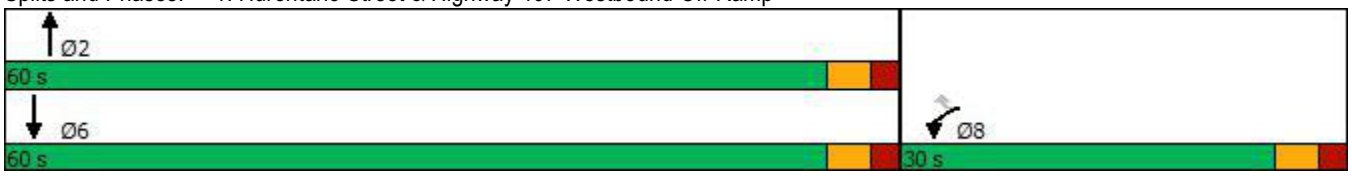
Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	20.4%	ICU Level of Service	A
Analysis Period (min)	15		

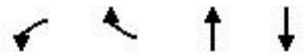
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	299	248	664	0	0	1045
Future Volume (vph)	299	248	664	0	0	1045
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	115.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Frt	0.969	0.850				
Flt Protected	0.962					
Satd. Flow (prot)	3315	1429	3476	0	0	3544
Flt Permitted	0.962					
Satd. Flow (perm)	3315	1429	3476	0	0	3544
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	37	182				
Link Speed (k/h)	60		60			60
Link Distance (m)	401.2		345.6			144.3
Travel Time (s)	24.1		20.7			8.7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	5%	4%	5%	0%	0%	3%
Adj. Flow (vph)	318	264	706	0	0	1112
Shared Lane Traffic (%)		31%				
Lane Group Flow (vph)	400	182	706	0	0	1112
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	7.4		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	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0			5.0
Minimum Split (s)	23.0	23.0	23.0			23.0
Total Split (s)	30.0	30.0	60.0			60.0
Total Split (%)	33.3%	33.3%	66.7%			66.7%
Maximum Green (s)	25.0	25.0	55.0			55.0
Yellow Time (s)	3.0	3.0	3.0			3.0
All-Red Time (s)	2.0	2.0	2.0			2.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	Max			Max
Walk Time (s)	7.0	7.0	7.0			7.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	14.1	14.1	55.1			55.1
Actuated g/C Ratio	0.18	0.18	0.70			0.70
v/c Ratio	0.65	0.45	0.29			0.45
Control Delay	32.3	8.5	5.3			6.4
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	32.3	8.5	5.3			6.4
LOS	C	A	A			A
Approach Delay	24.9		5.3			6.4
Approach LOS	C		A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 79.2			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 10.6		Intersection LOS: B	
Intersection Capacity Utilization 51.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & Highway 407 Westbound Off-Ramp





Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	400	182	706	1112
v/c Ratio	0.65	0.45	0.29	0.45
Control Delay	32.3	8.5	5.3	6.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	32.3	8.5	5.3	6.4
Queue Length 50th (m)	26.2	0.0	17.6	32.3
Queue Length 95th (m)	39.5	16.7	31.2	54.7
Internal Link Dist (m)	377.2		321.6	120.3
Turn Bay Length (m)		115.0		
Base Capacity (vph)	1073	576	2418	2465
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	0.37	0.32	0.29	0.45

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	299	248	664	0	0	1045
Future Volume (vph)	299	248	664	0	0	1045
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0			5.0
Lane Util. Factor	0.97	0.91	0.95			0.95
Frt	0.97	0.85	1.00			1.00
Flt Protected	0.96	1.00	1.00			1.00
Satd. Flow (prot)	3315	1429	3476			3544
Flt Permitted	0.96	1.00	1.00			1.00
Satd. Flow (perm)	3315	1429	3476			3544
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	318	264	706	0	0	1112
RTOR Reduction (vph)	30	150	0	0	0	0
Lane Group Flow (vph)	370	32	706	0	0	1112
Heavy Vehicles (%)	5%	4%	5%	0%	0%	3%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	14.1	14.1	55.1			55.1
Effective Green, g (s)	14.1	14.1	55.1			55.1
Actuated g/C Ratio	0.18	0.18	0.70			0.70
Clearance Time (s)	5.0	5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	590	254	2418			2465
v/s Ratio Prot	c0.11		0.20			c0.31
v/s Ratio Perm		0.02				
v/c Ratio	0.63	0.13	0.29			0.45
Uniform Delay, d1	30.1	27.4	4.6			5.3
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	2.1	0.2	0.3			0.6
Delay (s)	32.2	27.6	4.9			5.9
Level of Service	C	C	A			A
Approach Delay (s)	30.8		4.9			5.9
Approach LOS	C		A			A

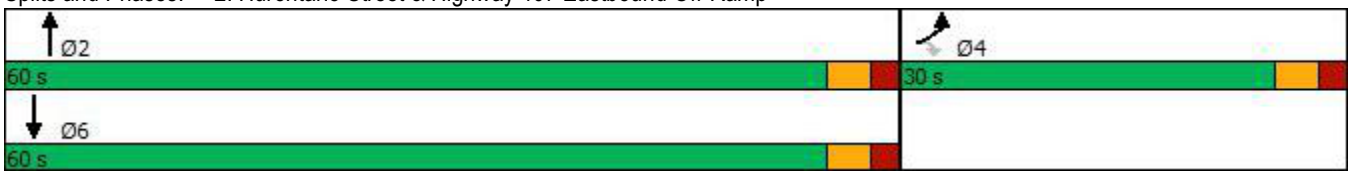
Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	79.2	Sum of lost time (s)	10.0
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

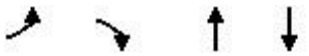
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	117	242	0	614	1028	0
Future Volume (vph)	117	242	0	614	1028	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	95.0	0.0			0.0
Storage Lanes	2	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3506	1526	0	3444	3510	0
Flt Permitted	0.950					
Satd. Flow (perm)	3506	1526	0	3444	3510	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		102				
Link Speed (k/h)	60			60	60	
Link Distance (m)	401.8			373.3	345.6	
Travel Time (s)	24.1			22.4	20.7	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	7%	0%	6%	4%	0%
Adj. Flow (vph)	124	257	0	653	1094	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	124	257	0	653	1094	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.4			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
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	6.1	6.1		30.5	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	6.1		1.8	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Permitted Phases		4				
Detector Phase	4	4		2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0		23.0	23.0	
Total Split (s)	30.0	30.0		60.0	60.0	
Total Split (%)	33.3%	33.3%		66.7%	66.7%	
Maximum Green (s)	25.0	25.0		55.0	55.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Recall Mode	None	None		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	13.8	13.8		55.8	55.8	
Actuated g/C Ratio	0.17	0.17		0.70	0.70	
v/c Ratio	0.20	0.74		0.27	0.45	
Control Delay	27.9	31.1		5.4	6.6	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	27.9	31.1		5.4	6.6	
LOS	C	C		A	A	
Approach Delay	30.1			5.4	6.6	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 79.7			
Natural Cycle: 50			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 10.5		Intersection LOS: B	
Intersection Capacity Utilization 51.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Hurontario Street & Highway 407 Eastbound Off-Ramp





Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	124	257	653	1094
v/c Ratio	0.20	0.74	0.27	0.45
Control Delay	27.9	31.1	5.4	6.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	27.9	31.1	5.4	6.6
Queue Length 50th (m)	8.2	21.7	15.8	31.3
Queue Length 95th (m)	14.9	45.0	32.0	60.2
Internal Link Dist (m)	377.8		349.3	321.6
Turn Bay Length (m)		95.0		
Base Capacity (vph)	1103	550	2412	2458
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	0.11	0.47	0.27	0.45

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	117	242	0	614	1028	0
Future Volume (vph)	117	242	0	614	1028	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	1.00		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3506	1526		3444	3510	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3506	1526		3444	3510	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	124	257	0	653	1094	0
RTOR Reduction (vph)	0	84	0	0	0	0
Lane Group Flow (vph)	124	173	0	653	1094	0
Heavy Vehicles (%)	1%	7%	0%	6%	4%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	13.8	13.8		55.8	55.8	
Effective Green, g (s)	13.8	13.8		55.8	55.8	
Actuated g/C Ratio	0.17	0.17		0.70	0.70	
Clearance Time (s)	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	607	264		2414	2460	
v/s Ratio Prot	0.04			0.19	c0.31	
v/s Ratio Perm		c0.11				
v/c Ratio	0.20	0.65		0.27	0.44	
Uniform Delay, d1	28.2	30.7		4.4	5.2	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	5.7		0.3	0.6	
Delay (s)	28.4	36.4		4.7	5.8	
Level of Service	C	D		A	A	
Approach Delay (s)	33.8			4.7	5.8	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	79.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	51.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

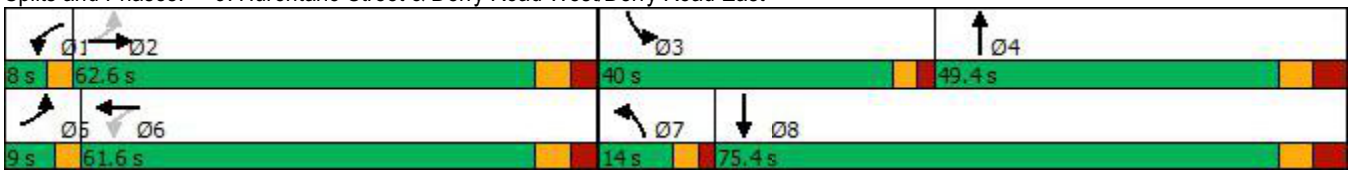
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	1770	10	63	1161	234	47	228	41	382	411	156
Future Volume (vph)	85	1770	10	63	1161	234	47	228	41	382	411	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		0.0	185.0		0.0	55.0		0.0	100.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00			0.99		0.96	0.99		0.98	0.97	
Frt		0.999			0.975			0.977			0.959	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1690	4986	0	1615	4541	0	1738	3030	0	1755	3165	0
Flt Permitted	0.086			0.074			0.950			0.950		
Satd. Flow (perm)	153	4986	0	126	4541	0	1669	3030	0	1728	3165	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			29			12			42	
Link Speed (k/h)		70			70			60			60	
Link Distance (m)		331.5			999.3			126.9			189.0	
Travel Time (s)		17.0			51.4			7.6			11.3	
Confl. Peds. (#/hr)	27		46	46		27	77		19	19		77
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	5%	14%	13%	13%	6%	5%	13%	40%	4%	7%	9%
Adj. Flow (vph)	88	1825	10	65	1197	241	48	235	42	394	424	161
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	1835	0	65	1438	0	48	277	0	394	585	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	8.0	51.4		8.0	51.4		13.0	49.4		13.0	49.4	
Total Split (s)	9.0	62.6		8.0	61.6		14.0	49.4		40.0	75.4	
Total Split (%)	5.6%	39.1%		5.0%	38.5%		8.8%	30.9%		25.0%	47.1%	
Maximum Green (s)	6.0	55.2		5.0	54.2		9.0	41.0		35.0	67.0	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	3.2		0.0	3.2		2.0	4.4		2.0	4.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		13.0			13.0			12.0			12.0	
Flash Dont Walk (s)		31.0			31.0			29.0			29.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	65.6	55.2		63.6	54.2		8.6	17.1		35.0	46.3	
Actuated g/C Ratio	0.48	0.41		0.47	0.40		0.06	0.13		0.26	0.34	
v/c Ratio	0.62	0.91		0.58	0.79		0.44	0.71		0.87	0.53	
Control Delay	39.8	46.0		40.2	39.4		75.5	64.9		69.6	36.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	39.8	46.0		40.2	39.4		75.5	64.9		69.6	36.1	
LOS	D	D		D	D		E	E		E	D	
Approach Delay		45.7			39.4			66.4			49.6	
Approach LOS		D			D			E			D	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 136.2
Natural Cycle: 145
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 45.9 Intersection LOS: D
Intersection Capacity Utilization 103.4% ICU Level of Service G
Analysis Period (min) 15

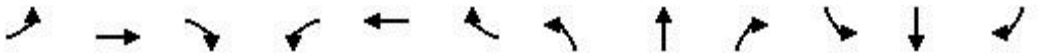
Splits and Phases: 3: Hurontario Street & Derry Road West/Derry Road East



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	88	1835	65	1438	48	277	394	585
v/c Ratio	0.62	0.91	0.58	0.79	0.44	0.71	0.87	0.53
Control Delay	39.8	46.0	40.2	39.4	75.5	64.9	69.6	36.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.8	46.0	40.2	39.4	75.5	64.9	69.6	36.1
Queue Length 50th (m)	12.3	168.1	9.0	120.8	12.6	36.5	102.0	64.0
Queue Length 95th (m)	#27.5	#205.8	#21.6	148.4	26.8	51.7	#165.5	82.4
Internal Link Dist (m)		307.5		975.3		102.9		165.0
Turn Bay Length (m)	150.0		185.0		55.0		100.0	
Base Capacity (vph)	141	2022	113	1825	114	921	451	1579
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	0.62	0.91	0.58	0.79	0.42	0.30	0.87	0.37

Intersection Summary

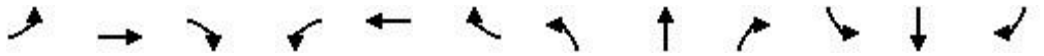
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	1770	10	63	1161	234	47	228	41	382	411	156
Future Volume (vph)	85	1770	10	63	1161	234	47	228	41	382	411	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.97		1.00	0.98		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)	1690	4987		1615	4544		1738	3032		1755	3175	
Flt Permitted	0.09	1.00		0.07	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	152	4987		125	4544		1738	3032		1755	3175	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	88	1825	10	65	1197	241	48	235	42	394	424	161
RTOR Reduction (vph)	0	1	0	0	18	0	0	10	0	0	28	0
Lane Group Flow (vph)	88	1834	0	65	1420	0	48	267	0	394	557	0
Confl. Peds. (#/hr)	27		46	46		27	77		19	19		77
Heavy Vehicles (%)	8%	5%	14%	13%	13%	6%	5%	13%	40%	4%	7%	9%
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Actuated Green, G (s)	61.2	55.2		59.2	54.2		6.9	18.2		35.0	46.3	
Effective Green, g (s)	61.2	55.2		59.2	54.2		6.9	18.2		35.0	46.3	
Actuated g/C Ratio	0.45	0.40		0.43	0.40		0.05	0.13		0.26	0.34	
Clearance Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	135	2006		108	1795		87	402		447	1071	
v/s Ratio Prot	c0.03	c0.37		0.02	0.31		0.03	c0.09		c0.22	0.18	
v/s Ratio Perm	0.26			0.24								
v/c Ratio	0.65	0.91		0.60	0.79		0.55	0.66		0.88	0.52	
Uniform Delay, d1	26.2	38.8		30.0	36.5		63.6	56.6		49.1	36.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.7	8.0		9.1	3.7		7.4	4.1		18.1	0.5	
Delay (s)	36.9	46.7		39.1	40.2		71.0	60.7		67.2	37.0	
Level of Service	D	D		D	D		E	E		E	D	
Approach Delay (s)		46.3			40.1			62.2			49.1	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	46.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	137.2	Sum of lost time (s)	23.8
Intersection Capacity Utilization	103.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

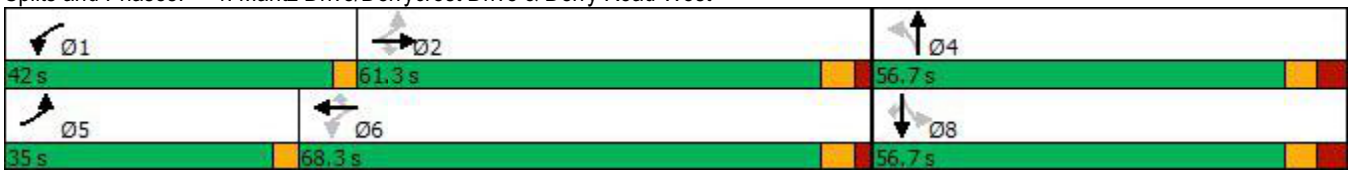


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	288	1678	657	418	868	99	97	75	98	36	52	81
Future Volume (vph)	288	1678	657	418	868	99	97	75	98	36	52	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	55.0		30.0	0.0		0.0	100.0		0.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97			0.99	1.00	0.99		1.00		0.99
Frt			0.850			0.850		0.915				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1789	5043	1633	1484	4601	1585	1722	1523	0	1521	1883	1541
Flt Permitted	0.297			0.069			0.721			0.460		
Satd. Flow (perm)	559	5043	1586	108	4601	1564	1304	1523	0	735	1883	1519
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			57		42				86
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		443.5			331.5			130.4			222.4	
Travel Time (s)		22.8			17.0			9.4			16.0	
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	2%	4%	0%	23%	14%	3%	6%	2%	24%	20%	2%	6%
Adj. Flow (vph)	306	1785	699	445	923	105	103	80	104	38	55	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	306	1785	699	445	923	105	103	184	0	38	55	86
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		8
Detector Phase	5	2	2	1	6	6	4	4		8	8	8
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	7.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	8.0	41.2	41.2	10.0	41.2	41.2	56.7	56.7		56.7	56.7	56.7
Total Split (s)	35.0	61.3	61.3	42.0	68.3	68.3	56.7	56.7		56.7	56.7	56.7
Total Split (%)	21.9%	38.3%	38.3%	26.3%	42.7%	42.7%	35.4%	35.4%		35.4%	35.4%	35.4%
Maximum Green (s)	32.0	55.1	55.1	39.0	62.1	62.1	49.0	49.0		49.0	49.0	49.0
Yellow Time (s)	3.0	4.2	4.2	3.0	4.2	4.2	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	0.0	2.0	2.0	3.7	3.7		3.7	3.7	3.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	None		None	None	None
Walk Time (s)		10.0	10.0		10.0	10.0	10.0	10.0		10.0	10.0	10.0
Flash Dont Walk (s)		25.0	25.0		25.0	25.0	39.0	39.0		39.0	39.0	39.0
Pedestrian Calls (#/hr)		0	0		0	0	0	0		0	0	0
Act Effct Green (s)	71.0	55.2	55.2	100.5	81.7	81.7	17.5	17.5		17.5	17.5	17.5
Actuated g/C Ratio	0.55	0.43	0.43	0.78	0.63	0.63	0.14	0.14		0.14	0.14	0.14
v/c Ratio	0.71	0.83	0.94	0.89	0.32	0.10	0.58	0.76		0.38	0.21	0.31
Control Delay	21.9	37.2	52.4	55.3	12.3	6.3	65.2	60.4		61.2	50.5	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	21.9	37.2	52.4	55.3	12.3	6.3	65.2	60.4		61.2	50.5	12.4
LOS	C	D	D	E	B	A	E	E		E	D	B
Approach Delay		39.3			24.8			62.1			34.5	
Approach LOS		D			C			E			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 128.7			
Natural Cycle: 150			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 36.0		Intersection LOS: D	
Intersection Capacity Utilization 98.3%		ICU Level of Service F	
Analysis Period (min) 15			

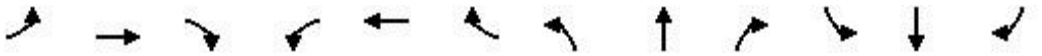
Splits and Phases: 4: Maritz Drive/Derrycrest Drive & Derry Road West



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	306	1785	699	445	923	105	103	184	38	55	86
v/c Ratio	0.71	0.83	0.94	0.89	0.32	0.10	0.58	0.76	0.38	0.21	0.31
Control Delay	21.9	37.2	52.4	55.3	12.3	6.3	65.2	60.4	61.2	50.5	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.9	37.2	52.4	55.3	12.3	6.3	65.2	60.4	61.2	50.5	12.4
Queue Length 50th (m)	19.3	144.0	147.7	92.0	35.4	4.2	24.8	35.2	8.9	12.6	0.0
Queue Length 95th (m)	34.6	182.5	#250.1	#169.0	60.3	15.0	43.3	60.4	20.2	24.9	14.4
Internal Link Dist (m)		419.5			307.5			106.4		198.4	
Turn Bay Length (m)	50.0		15.0	55.0		30.0			100.0		
Base Capacity (vph)	699	2162	742	501	2919	1013	497	606	280	718	632
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.83	0.94	0.89	0.32	0.10	0.21	0.30	0.14	0.08	0.14

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	288	1678	657	418	868	99	97	75	98	36	52	81
Future Volume (vph)	288	1678	657	418	868	99	97	75	98	36	52	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.99	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1789	5043	1589	1484	4601	1565	1719	1524		1518	1883	1520
Flt Permitted	0.30	1.00	1.00	0.07	1.00	1.00	0.72	1.00		0.46	1.00	1.00
Satd. Flow (perm)	560	5043	1589	107	4601	1565	1305	1524		735	1883	1520
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	306	1785	699	445	923	105	103	80	104	38	55	86
RTOR Reduction (vph)	0	0	62	0	0	21	0	36	0	0	0	74
Lane Group Flow (vph)	306	1785	637	445	923	84	103	148	0	38	55	12
Confl. Peds. (#/hr)	1		4	4		1	2		3	3		2
Heavy Vehicles (%)	2%	4%	0%	23%	14%	3%	6%	2%	24%	20%	2%	6%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			4			8	
Permitted Phases	2		2	6		6	4			8		8
Actuated Green, G (s)	67.8	55.2	55.2	97.3	81.7	81.7	17.5	17.5		17.5	17.5	17.5
Effective Green, g (s)	67.8	55.2	55.2	97.3	81.7	81.7	17.5	17.5		17.5	17.5	17.5
Actuated g/C Ratio	0.53	0.43	0.43	0.76	0.63	0.63	0.14	0.14		0.14	0.14	0.14
Clearance Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	7.7	7.7		7.7	7.7	7.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	415	2162	681	499	2920	993	177	207		99	256	206
v/s Ratio Prot	0.07	0.35		c0.27	0.20			c0.10			0.03	
v/s Ratio Perm	0.32		c0.40	0.40		0.05	0.08			0.05		0.01
v/c Ratio	0.74	0.83	0.94	0.89	0.32	0.08	0.58	0.71		0.38	0.21	0.06
Uniform Delay, d1	17.4	32.5	35.0	36.2	10.7	9.1	52.2	53.2		50.7	49.5	48.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.7	3.8	21.8	17.9	0.3	0.2	4.8	11.1		2.5	0.4	0.1
Delay (s)	24.1	36.3	56.8	54.1	11.0	9.2	57.0	64.3		53.2	49.9	48.5
Level of Service	C	D	E	D	B	A	E	E		D	D	D
Approach Delay (s)		40.1			23.9			61.6			49.9	
Approach LOS		D			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	36.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	128.7	Sum of lost time (s)	16.9
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		

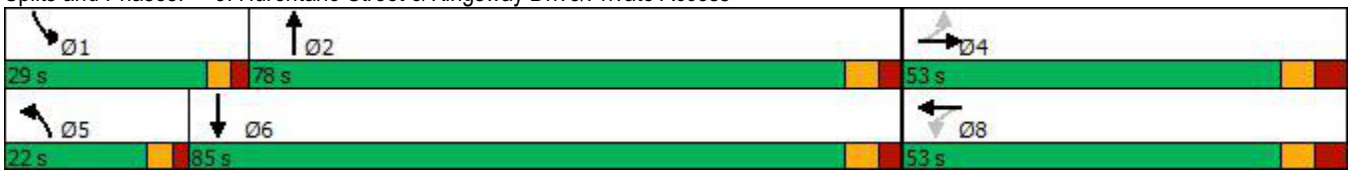
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	0	17	2	5	0	27	510	9	4	927	109
Future Volume (vph)	97	0	17	2	5	0	27	510	9	4	927	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	0.0		0.0	20.0		0.0	30.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor	1.00						1.00	1.00		1.00	1.00	
Frt		0.850						0.998			0.984	
Flt Protected	0.950				0.986		0.950			0.950		
Satd. Flow (prot)	1789	1633	0	0	1894	0	1722	3345	0	1825	3426	0
Flt Permitted	0.753				0.925		0.950			0.950		
Satd. Flow (perm)	1415	1633	0	0	1777	0	1721	3345	0	1824	3426	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		267						1			11	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		318.7			138.1			189.0			440.6	
Travel Time (s)		22.9			9.9			11.3			26.4	
Confl. Peds. (#/hr)	2					2	2		1	1		2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	6%	9%	0%	0%	5%	1%
Adj. Flow (vph)	102	0	18	2	5	0	28	537	9	4	976	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	102	18	0	0	7	0	28	546	0	4	1091	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	52.0	52.0		52.0	52.0		13.0	58.0		13.0	58.0	
Total Split (s)	53.0	53.0		53.0	53.0		22.0	78.0		29.0	85.0	
Total Split (%)	33.1%	33.1%		33.1%	33.1%		13.8%	48.8%		18.1%	53.1%	
Maximum Green (s)	45.0	45.0		45.0	45.0		17.0	71.0		24.0	78.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		2.0	3.0		2.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	13.0	13.0		13.0	13.0			15.0			15.0	
Flash Dont Walk (s)	31.0	31.0		31.0	31.0			36.0			36.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	13.8	13.8			13.8		8.4	87.4		8.0	81.9	
Actuated g/C Ratio	0.12	0.12			0.12		0.07	0.74		0.07	0.69	
v/c Ratio	0.62	0.04			0.03		0.23	0.22		0.03	0.46	
Control Delay	66.5	0.2			46.7		58.8	6.1		55.8	10.5	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	66.5	0.2			46.7		58.8	6.1		55.8	10.5	
LOS	E	A			D		E	A		E	B	
Approach Delay		56.6			46.7			8.7			10.6	
Approach LOS		E			D			A			B	

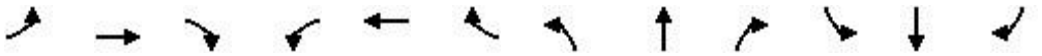
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 118.7			
Natural Cycle: 125			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 67.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: Hurontario Street & Kingsway Drive/Private Access



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	102	18	7	28	546	4	1091
v/c Ratio	0.62	0.04	0.03	0.23	0.22	0.03	0.46
Control Delay	66.5	0.2	46.7	58.8	6.1	55.8	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.5	0.2	46.7	58.8	6.1	55.8	10.5
Queue Length 50th (m)	23.2	0.0	1.5	6.4	16.6	0.9	63.0
Queue Length 95th (m)	41.8	0.0	5.9	16.5	39.3	4.6	93.5
Internal Link Dist (m)		294.7	114.1		165.0		416.6
Turn Bay Length (m)	40.0			20.0		30.0	
Base Capacity (vph)	538	786	675	247	2463	370	2367
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	0.19	0.02	0.01	0.11	0.22	0.01	0.46

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	0	17	2	5	0	27	510	9	4	927	109
Future Volume (vph)	97	0	17	2	5	0	27	510	9	4	927	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			1.00		1.00	1.00		1.00	0.98	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1786	1633			1894		1722	3344		1825	3427	
Flt Permitted	0.75	1.00			0.93		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1416	1633			1777		1722	3344		1825	3427	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	102	0	18	2	5	0	28	537	9	4	976	115
RTOR Reduction (vph)	0	16	0	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	102	2	0	0	7	0	28	546	0	4	1088	0
Confl. Peds. (#/hr)	2					2	2		1	1		2
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%	6%	9%	0%	0%	5%	1%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	13.8	13.8			13.8		5.0	87.4		1.5	83.9	
Effective Green, g (s)	13.8	13.8			13.8		5.0	87.4		1.5	83.9	
Actuated g/C Ratio	0.11	0.11			0.11		0.04	0.71		0.01	0.68	
Clearance Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	159	183			199		70	2381		22	2343	
v/s Ratio Prot		0.00					c0.02	c0.16		0.00	c0.32	
v/s Ratio Perm	c0.07				0.00							
v/c Ratio	0.64	0.01			0.04		0.40	0.23		0.18	0.46	
Uniform Delay, d1	52.1	48.4			48.5		57.4	6.1		60.0	9.0	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.5	0.0			0.1		3.7	0.2		4.0	0.7	
Delay (s)	60.6	48.4			48.6		61.1	6.3		63.9	9.7	
Level of Service	E	D			D		E	A		E	A	
Approach Delay (s)		58.8			48.6			9.0			9.8	
Approach LOS		E			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	122.7	Sum of lost time (s)	20.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		

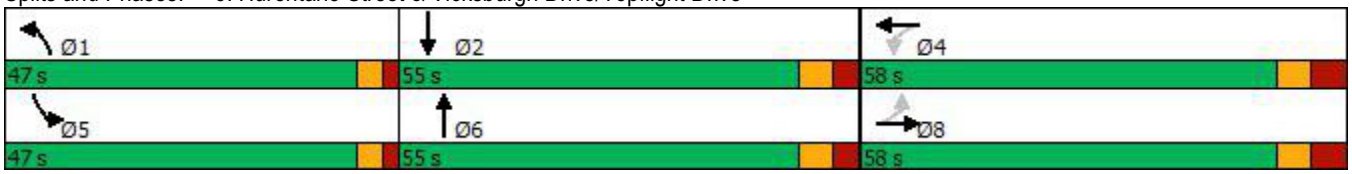
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	3	12	14	1	143	71	511	29	147	1037	92
Future Volume (vph)	27	3	12	14	1	143	71	511	29	147	1037	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	0.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor	1.00				0.99			1.00		1.00		
Frt		0.878			0.878			0.992			0.988	
Flt Protected	0.950				0.996		0.950			0.950		
Satd. Flow (prot)	1825	1687	0	0	1495	0	1825	3374	0	1690	3479	0
Flt Permitted	0.519				0.966		0.950			0.950		
Satd. Flow (perm)	994	1687	0	0	1450	0	1825	3374	0	1686	3479	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			154			4			6	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		237.0			253.7			440.6			373.3	
Travel Time (s)		17.1			18.3			26.4			22.4	
Confl. Peds. (#/hr)	4					4			2	2		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	50%	0%	7%	0%	6%	28%	8%	4%	0%
Adj. Flow (vph)	29	3	13	15	1	154	76	549	31	158	1115	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	16	0	0	170	0	76	580	0	158	1214	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Detector Phase	8	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	8.0		8.0	8.0	
Minimum Split (s)	58.0	58.0		58.0	58.0		47.0	55.0		47.0	55.0	
Total Split (s)	58.0	58.0		58.0	58.0		47.0	55.0		47.0	55.0	
Total Split (%)	36.3%	36.3%		36.3%	36.3%		29.4%	34.4%		29.4%	34.4%	
Maximum Green (s)	49.5	49.5		49.5	49.5		42.0	47.5		42.0	47.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.5	4.5		4.5	4.5		2.0	3.5		2.0	3.5	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	14.0	14.0		14.0	14.0			9.0			9.0	
Flash Dont Walk (s)	35.0	35.0		35.0	35.0			22.0			22.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	9.1	9.1			9.1		9.3	47.6		13.8	54.6	
Actuated g/C Ratio	0.10	0.10			0.10		0.10	0.52		0.15	0.60	
v/c Ratio	0.30	0.09			0.60		0.41	0.33		0.62	0.58	
Control Delay	47.4	22.6			18.5		46.1	14.0		47.7	14.1	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	47.4	22.6			18.5		46.1	14.0		47.7	14.1	
LOS	D	C			B		D	B		D	B	
Approach Delay		38.6			18.5			17.7			18.0	
Approach LOS		D			B			B			B	

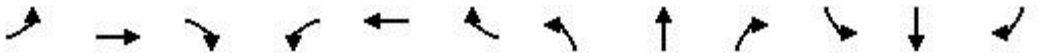
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 91.6			
Natural Cycle: 160			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 18.3		Intersection LOS: B	
Intersection Capacity Utilization 73.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 6: Hurontario Street & Vicksburgh Drive/Topflight Drive



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	29	16	170	76	580	158	1214
v/c Ratio	0.30	0.09	0.60	0.41	0.33	0.62	0.58
Control Delay	47.4	22.6	18.5	46.1	14.0	47.7	14.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.4	22.6	18.5	46.1	14.0	47.7	14.1
Queue Length 50th (m)	4.8	0.5	2.6	12.5	28.2	25.9	66.3
Queue Length 95th (m)	13.8	6.5	21.8	27.4	48.8	47.6	105.3
Internal Link Dist (m)		213.0	229.7		416.6		349.3
Turn Bay Length (m)	25.0			25.0		35.0	
Base Capacity (vph)	538	920	856	839	1756	776	2076
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	0.05	0.02	0.20	0.09	0.33	0.20	0.58

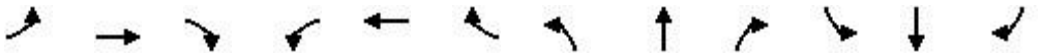
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	3	12	14	1	143	71	511	29	147	1037	92
Future Volume (vph)	27	3	12	14	1	143	71	511	29	147	1037	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.88			0.88		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1822	1687			1496		1825	3374		1690	3478	
Flt Permitted	0.52	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	995	1687			1452		1825	3374		1690	3478	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	29	3	13	15	1	154	76	549	31	158	1115	99
RTOR Reduction (vph)	0	12	0	0	139	0	0	2	0	0	2	0
Lane Group Flow (vph)	29	4	0	0	31	0	76	578	0	158	1212	0
Confl. Peds. (#/hr)	4					4			2	2		
Heavy Vehicles (%)	0%	0%	0%	50%	0%	7%	0%	6%	28%	8%	4%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)	9.1	9.1			9.1		7.9	48.7		13.8	54.6	
Effective Green, g (s)	9.1	9.1			9.1		7.9	48.7		13.8	54.6	
Actuated g/C Ratio	0.10	0.10			0.10		0.09	0.53		0.15	0.59	
Clearance Time (s)	8.5	8.5			8.5		5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	97	165			142		155	1774		251	2050	
v/s Ratio Prot		0.00					0.04	0.17		c0.09	c0.35	
v/s Ratio Perm	c0.03				0.02							
v/c Ratio	0.30	0.03			0.22		0.49	0.33		0.63	0.59	
Uniform Delay, d1	38.8	37.7			38.5		40.4	12.6		37.0	12.0	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.7	0.1			0.8		2.4	0.5		4.9	1.3	
Delay (s)	40.5	37.8			39.3		42.9	13.0		41.9	13.2	
Level of Service	D	D			D		D	B		D	B	
Approach Delay (s)		39.6			39.3			16.5			16.5	
Approach LOS		D			D			B			B	

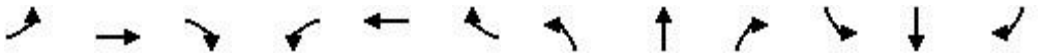
Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	92.6	Sum of lost time (s)	21.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	2	102	10	6	23	237	137	3	63	1
Future Volume (vph)	0	0	2	102	10	6	23	237	137	3	63	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	15.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	0		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		0.865			0.942			0.945			0.998	
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	1662	0	1772	1810	0	1825	3437	0	1825	3643	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	1662	0	1772	1810	0	1825	3437	0	1825	3643	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		62.9			318.7			222.4			283.4	
Travel Time (s)		4.5			22.9			16.0			20.4	
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
Heavy Vehicles (%)	0%	0%	0%	3%	0%	0%	0%	0%	1%	0%	0%	0%
Adj. Flow (vph)	0	0	2	111	11	7	25	258	149	3	68	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	2	0	111	18	0	25	407	0	3	69	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

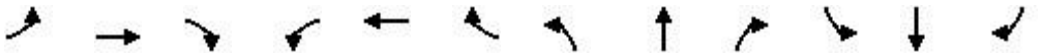
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	2	102	10	6	23	237	137	3	63	1
Future Volume (Veh/h)	0	0	2	102	10	6	23	237	137	3	63	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	2	111	11	7	25	258	149	3	68	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								223				
pX, platoon unblocked												
vC, conflicting volume	266	532	34	424	458	204	69			407		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	266	532	34	424	458	204	69			407		
tC, single (s)	7.5	6.5	6.9	7.6	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	78	98	99	98			100		
cM capacity (veh/h)	644	448	1037	503	493	810	1545			1163		

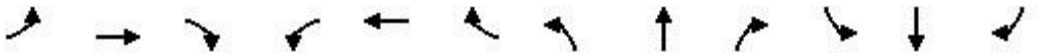
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	2	111	18	25	172	235	3	45	24
Volume Left	0	111	0	25	0	0	3	0	0
Volume Right	2	0	7	0	0	149	0	0	1
cSH	1037	503	582	1545	1700	1700	1163	1700	1700
Volume to Capacity	0.00	0.22	0.03	0.02	0.10	0.14	0.00	0.03	0.01
Queue Length 95th (m)	0.0	6.3	0.7	0.4	0.0	0.0	0.1	0.0	0.0
Control Delay (s)	8.5	14.2	11.4	7.4	0.0	0.0	8.1	0.0	0.0
Lane LOS	A	B	B	A			A		
Approach Delay (s)	8.5	13.8		0.4			0.3		
Approach LOS	A	B							

Intersection Summary				
Average Delay	3.2			
Intersection Capacity Utilization	29.9%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	14	27	15	42	5	97	12	63	2	3	0
Future Volume (vph)	0	14	27	15	42	5	97	12	63	2	3	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.901			0.985			0.951				
Flt Protected				0.950				0.973			0.980	
Satd. Flow (prot)	0	3224	0	1789	1855	0	0	1743	0	0	1846	0
Flt Permitted				0.950				0.973			0.980	
Satd. Flow (perm)	0	3224	0	1789	1855	0	0	1743	0	0	1846	0
Link Speed (k/h)		50			48			48			50	
Link Distance (m)		152.4			237.0			95.7			60.6	
Travel Time (s)		11.0			17.8			7.2			4.4	
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)	0	15	29	16	46	5	105	13	68	2	3	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	0	16	51	0	0	186	0	0	5	0
Enter Blocked Intersection	No	No	No	No	No	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			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)	97		24	97		14	14		97	24		97
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	14	27	15	42	5	97	12	63	2	3	0
Future Volume (Veh/h)	0	14	27	15	42	5	97	12	63	2	3	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	15	29	16	46	5	105	13	68	2	3	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)					237							
pX, platoon unblocked												
vC, conflicting volume	51			44			109	112	22	162	124	48
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	51			44			109	112	22	162	124	48
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			88	98	94	100	100	100
cM capacity (veh/h)	1553			1563			849	769	1050	721	757	1010

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	8	36	16	51	186	5
Volume Left	0	0	16	0	105	2
Volume Right	0	29	0	5	68	0
cSH	1553	1700	1563	1700	906	742
Volume to Capacity	0.00	0.02	0.01	0.03	0.21	0.01
Queue Length 95th (m)	0.0	0.0	0.2	0.0	5.8	0.2
Control Delay (s)	0.0	0.0	7.3	0.0	10.0	9.9
Lane LOS			A		A	A
Approach Delay (s)	0.0		1.7		10.0	9.9
Approach LOS					A	A

Intersection Summary				
Average Delay	6.7			
Intersection Capacity Utilization	29.0%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	3	12	171	41	5
Future Volume (vph)	2	3	12	171	41	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.919				0.985	
Flt Protected	0.980		0.950			
Satd. Flow (prot)	1696	0	1789	3579	3525	0
Flt Permitted	0.980		0.950			
Satd. Flow (perm)	1696	0	1789	3579	3525	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	66.3			283.4	152.4	
Travel Time (s)	5.0			20.4	11.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	3	13	186	45	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	0	13	186	50	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	17.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	3	12	171	41	5
Future Volume (Veh/h)	2	3	12	171	41	5
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)	2	3	13	186	45	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					390	
pX, platoon unblocked						
vC, conflicting volume	166	25	50			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	166	25	50			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	801	1045	1555			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	5	13	93	93	30	20
Volume Left	2	13	0	0	0	0
Volume Right	3	0	0	0	0	5
cSH	932	1555	1700	1700	1700	1700
Volume to Capacity	0.01	0.01	0.05	0.05	0.02	0.01
Queue Length 95th (m)	0.1	0.2	0.0	0.0	0.0	0.0
Control Delay (s)	8.9	7.3	0.0	0.0	0.0	0.0
Lane LOS	A	A				
Approach Delay (s)	8.9	0.5			0.0	
Approach LOS	A					

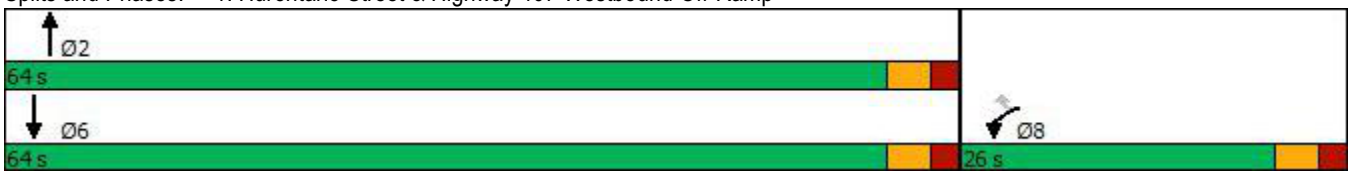
Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	17.3%	ICU Level of Service	A	
Analysis Period (min)	15			

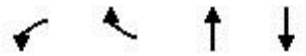
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	180	391	1323	0	0	750
Future Volume (vph)	180	391	1323	0	0	750
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	115.0		0.0	0.0	
Storage Lanes	2	1		0	0	
Taper Length (m)	2.5				2.5	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Frt	0.922	0.850				
Flt Protected	0.977					
Satd. Flow (prot)	3132	1486	3579	0	0	3544
Flt Permitted	0.977					
Satd. Flow (perm)	3132	1486	3579	0	0	3544
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	68	68				
Link Speed (k/h)	60		60			60
Link Distance (m)	401.2		345.6			144.3
Travel Time (s)	24.1		20.7			8.7
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	15%	0%	2%	0%	0%	3%
Adj. Flow (vph)	186	403	1364	0	0	773
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	388	201	1364	0	0	773
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	7.4		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	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Permitted Phases		8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0			5.0
Minimum Split (s)	23.0	23.0	23.0			23.0
Total Split (s)	26.0	26.0	64.0			64.0
Total Split (%)	28.9%	28.9%	71.1%			71.1%
Maximum Green (s)	21.0	21.0	59.0			59.0
Yellow Time (s)	3.0	3.0	3.0			3.0
All-Red Time (s)	2.0	2.0	2.0			2.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	Max			Max
Walk Time (s)	7.0	7.0	7.0			7.0
Flash Dont Walk (s)	11.0	11.0	11.0			11.0
Pedestrian Calls (#/hr)	0	0	0			0
Act Effct Green (s)	14.2	14.2	59.1			59.1
Actuated g/C Ratio	0.17	0.17	0.71			0.71
v/c Ratio	0.66	0.65	0.54			0.31
Control Delay	31.9	31.1	7.2			5.3
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	31.9	31.1	7.2			5.3
LOS	C	C	A			A
Approach Delay	31.6		7.2			5.3
Approach LOS	C		A			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 83.4			
Natural Cycle: 55			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 11.9		Intersection LOS: B	
Intersection Capacity Utilization 61.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Hurontario Street & Highway 407 Westbound Off-Ramp





Lane Group	WBL	WBR	NBT	SBT
Lane Group Flow (vph)	388	201	1364	773
v/c Ratio	0.66	0.65	0.54	0.31
Control Delay	31.9	31.1	7.2	5.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	31.9	31.1	7.2	5.3
Queue Length 50th (m)	24.5	21.4	43.7	19.6
Queue Length 95th (m)	37.9	44.3	78.2	36.3
Internal Link Dist (m)	377.2		321.6	120.3
Turn Bay Length (m)		115.0		
Base Capacity (vph)	841	425	2538	2513
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	0.46	0.47	0.54	0.31

Intersection Summary

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	180	391	1323	0	0	750
Future Volume (vph)	180	391	1323	0	0	750
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0			5.0
Lane Util. Factor	0.97	0.91	0.95			0.95
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	3130	1486	3579			3544
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	3130	1486	3579			3544
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	186	403	1364	0	0	773
RTOR Reduction (vph)	56	56	0	0	0	0
Lane Group Flow (vph)	332	145	1364	0	0	773
Heavy Vehicles (%)	15%	0%	2%	0%	0%	3%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	14.2	14.2	59.1			59.1
Effective Green, g (s)	14.2	14.2	59.1			59.1
Actuated g/C Ratio	0.17	0.17	0.71			0.71
Clearance Time (s)	5.0	5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	533	253	2539			2514
v/s Ratio Prot	c0.11		c0.38			0.22
v/s Ratio Perm		0.10				
v/c Ratio	0.62	0.57	0.54			0.31
Uniform Delay, d1	32.1	31.8	5.7			4.5
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	2.3	3.1	0.8			0.3
Delay (s)	34.3	34.9	6.5			4.8
Level of Service	C	C	A			A
Approach Delay (s)	34.5		6.5			4.8
Approach LOS	C		A			A

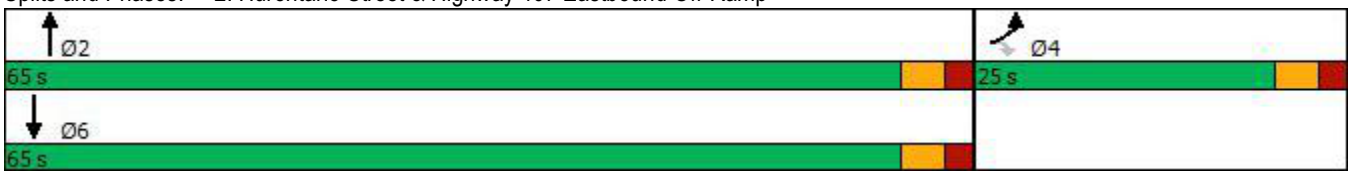
Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	83.3	Sum of lost time (s)	10.0
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

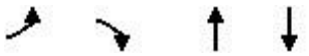
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	137	68	0	1385	665	0
Future Volume (vph)	137	68	0	1385	665	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	95.0	0.0			0.0
Storage Lanes	2	1	0			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3471	1384	0	3579	3476	0
Flt Permitted	0.950					
Satd. Flow (perm)	3471	1384	0	3579	3476	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		70				
Link Speed (k/h)	60			60	60	
Link Distance (m)	401.8			373.3	345.6	
Travel Time (s)	24.1			22.4	20.7	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	2%	18%	0%	2%	5%	0%
Adj. Flow (vph)	141	70	0	1428	686	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	141	70	0	1428	686	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	7.4			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
Number of Detectors	1	1		2	2	
Detector Template	Left	Right		Thru	Thru	
Leading Detector (m)	6.1	6.1		30.5	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	6.1		1.8	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	
Detector 2 Position(m)				28.7	28.7	
Detector 2 Size(m)				1.8	1.8	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Permitted Phases		4				
Detector Phase	4	4		2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0		5.0	5.0	
Minimum Split (s)	23.0	23.0		23.0	23.0	
Total Split (s)	25.0	25.0		65.0	65.0	
Total Split (%)	27.8%	27.8%		72.2%	72.2%	
Maximum Green (s)	20.0	20.0		60.0	60.0	
Yellow Time (s)	3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Recall Mode	None	None		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	
Act Effct Green (s)	8.7	8.7		63.9	63.9	
Actuated g/C Ratio	0.11	0.11		0.77	0.77	
v/c Ratio	0.39	0.34		0.52	0.26	
Control Delay	36.4	13.5		4.5	3.1	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	36.4	13.5		4.5	3.1	
LOS	D	B		A	A	
Approach Delay	28.8			4.5	3.1	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 82.6			
Natural Cycle: 55			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 6.3		Intersection LOS: A	
Intersection Capacity Utilization 61.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 2: Hurontario Street & Highway 407 Eastbound Off-Ramp



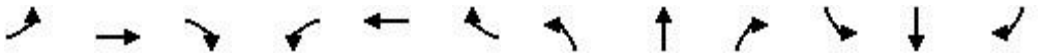


Lane Group	EBL	EBR	NBT	SBT
Lane Group Flow (vph)	141	70	1428	686
v/c Ratio	0.39	0.34	0.52	0.26
Control Delay	36.4	13.5	4.5	3.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	36.4	13.5	4.5	3.1
Queue Length 50th (m)	10.2	0.0	32.9	11.9
Queue Length 95th (m)	18.2	10.9	50.9	19.3
Internal Link Dist (m)	377.8		349.3	321.6
Turn Bay Length (m)		95.0		
Base Capacity (vph)	843	389	2767	2687
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	0.17	0.18	0.52	0.26

Intersection Summary

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	137	68	0	1385	665	0
Future Volume (vph)	137	68	0	1385	665	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	
Lane Util. Factor	0.97	1.00		0.95	0.95	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3471	1384		3579	3476	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3471	1384		3579	3476	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	141	70	0	1428	686	0
RTOR Reduction (vph)	0	63	0	0	0	0
Lane Group Flow (vph)	141	7	0	1428	686	0
Heavy Vehicles (%)	2%	18%	0%	2%	5%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	8.7	8.7		63.8	63.8	
Effective Green, g (s)	8.7	8.7		63.8	63.8	
Actuated g/C Ratio	0.11	0.11		0.77	0.77	
Clearance Time (s)	5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	366	145		2767	2688	
v/s Ratio Prot	c0.04			c0.40	0.20	
v/s Ratio Perm		0.01				
v/c Ratio	0.39	0.05		0.52	0.26	
Uniform Delay, d1	34.4	33.2		3.5	2.6	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.1		0.7	0.2	
Delay (s)	35.1	33.3		4.2	2.9	
Level of Service	D	C		A	A	
Approach Delay (s)	34.5			4.2	2.9	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	82.5	Sum of lost time (s)	10.0
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
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)	162	1014	28	66	1766	291	157	551	47	207	304	98
Future Volume (vph)	162	1014	28	66	1766	291	157	551	47	207	304	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		0.0	185.0		0.0	55.0		0.0	100.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	0.91	1.00	0.91	0.91	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00		0.99	0.99		0.96	1.00		0.99	0.98	
Frt		0.996			0.979			0.988			0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1807	4796	0	1789	4973	0	1825	3412	0	1772	3195	0
Flt Permitted	0.060			0.230			0.950			0.950		
Satd. Flow (perm)	114	4796	0	429	4973	0	1761	3412	0	1752	3195	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			23			5			27	
Link Speed (k/h)		70			70			60			60	
Link Distance (m)		331.5			999.3			126.9			189.0	
Travel Time (s)		17.0			51.4			7.6			11.3	
Confl. Peds. (#/hr)	23		42	42		23	53		22	22		53
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles (%)	1%	9%	0%	2%	3%	1%	0%	4%	22%	3%	10%	2%
Adj. Flow (vph)	164	1024	28	67	1784	294	159	557	47	209	307	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	164	1052	0	67	2078	0	159	604	0	209	406	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Detector Phase	5	2		1	6		7	4		3	8	
Switch Phase												
Minimum Initial (s)	5.0	12.0		5.0	12.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	8.0	51.4		8.0	51.4		13.0	49.4		13.0	49.4	
Total Split (s)	14.0	76.5		8.0	70.5		22.0	49.5		26.0	53.5	
Total Split (%)	8.8%	47.8%		5.0%	44.1%		13.8%	30.9%		16.3%	33.4%	
Maximum Green (s)	11.0	69.1		5.0	63.1		17.0	41.1		21.0	45.1	
Yellow Time (s)	3.0	4.2		3.0	4.2		3.0	4.0		3.0	4.0	
All-Red Time (s)	0.0	3.2		0.0	3.2		2.0	4.4		2.0	4.4	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		13.0			13.0			12.0			12.0	
Flash Dont Walk (s)		31.0			31.0			29.0			29.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	81.7	71.0		72.7	63.3		16.1	32.1		20.2	36.3	
Actuated g/C Ratio	0.54	0.47		0.48	0.42		0.11	0.21		0.13	0.24	
v/c Ratio	0.89	0.46		0.27	0.99		0.82	0.83		0.88	0.51	
Control Delay	76.5	28.8		21.2	59.7		96.4	66.2		98.1	48.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	76.5	28.8		21.2	59.7		96.4	66.2		98.1	48.3	
LOS	E	C		C	E		F	E		F	D	
Approach Delay		35.3			58.5			72.5			65.2	
Approach LOS		D			E			E			E	

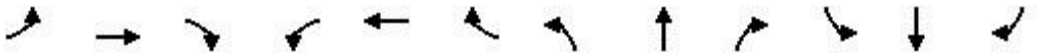
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 150.5			
Natural Cycle: 145			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 55.7		Intersection LOS: E	
Intersection Capacity Utilization 109.7%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 3: Hurontario Street & Derry Road West/Derry Road East

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	164	1052	67	2078	159	604	209	406
v/c Ratio	0.89	0.46	0.27	0.99	0.82	0.83	0.88	0.51
Control Delay	76.5	28.8	21.2	59.7	96.4	66.2	98.1	48.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.5	28.8	21.2	59.7	96.4	66.2	98.1	48.3
Queue Length 50th (m)	32.5	79.0	9.4	223.9	47.1	91.2	62.1	52.3
Queue Length 95th (m)	#82.9	101.9	19.4	#289.3	#88.3	112.8	#114.5	68.8
Internal Link Dist (m)		307.5		975.3		102.9		165.0
Turn Bay Length (m)	150.0		185.0		55.0		100.0	
Base Capacity (vph)	185	2264	252	2103	206	937	247	978
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	0.89	0.46	0.27	0.99	0.77	0.64	0.85	0.42

Intersection Summary

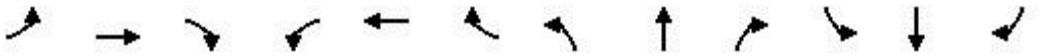
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	1014	28	66	1766	291	157	551	47	207	304	98
Future Volume (vph)	162	1014	28	66	1766	291	157	551	47	207	304	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		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)	1807	4796		1786	4973		1825	3413		1772	3200	
Flt Permitted	0.06	1.00		0.23	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	114	4796		433	4973		1825	3413		1772	3200	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	164	1024	28	67	1784	294	159	557	47	209	307	99
RTOR Reduction (vph)	0	2	0	0	13	0	0	4	0	0	21	0
Lane Group Flow (vph)	164	1050	0	67	2065	0	159	600	0	209	385	0
Confl. Peds. (#/hr)	23		42	42		23	53		22	22		53
Heavy Vehicles (%)	1%	9%	0%	2%	3%	1%	0%	4%	22%	3%	10%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2			6								
Actuated Green, G (s)	77.9	71.0		67.8	63.9		16.1	32.2		20.2	36.3	
Effective Green, g (s)	77.9	71.0		67.8	63.9		16.1	32.2		20.2	36.3	
Actuated g/C Ratio	0.52	0.47		0.45	0.42		0.11	0.21		0.13	0.24	
Clearance Time (s)	3.0	7.4		3.0	7.4		5.0	8.4		5.0	8.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	182	2253		229	2103		194	727		236	768	
v/s Ratio Prot	c0.07	0.22		0.01	c0.42		0.09	c0.18		c0.12	c0.12	
v/s Ratio Perm	0.40			0.12								
v/c Ratio	0.90	0.47		0.29	0.98		0.82	0.83		0.89	0.50	
Uniform Delay, d1	44.2	27.2		24.1	43.0		66.1	56.8		64.3	49.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	39.9	0.7		0.7	15.8		22.9	7.6		30.1	0.5	
Delay (s)	84.1	27.9		24.8	58.8		89.0	64.4		94.4	50.1	
Level of Service	F	C		C	E		F	E		F	D	
Approach Delay (s)		35.5			57.7			69.5			65.2	
Approach LOS		D			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	54.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	151.1	Sum of lost time (s)	23.8
Intersection Capacity Utilization	109.7%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



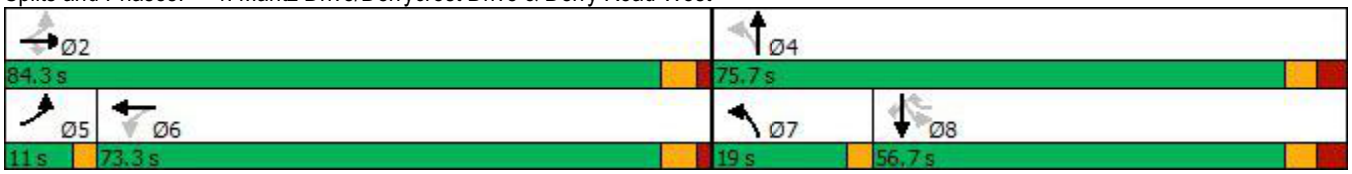
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	824	239	153	1907	51	527	155	237	67	71	338
Future Volume (vph)	126	824	239	153	1907	51	527	155	237	67	71	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		15.0	55.0		30.0	0.0		0.0	100.0		0.0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			0.97	1.00		0.98	1.00	0.99		1.00		0.99
Frt			0.850			0.850		0.909				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1825	4902	1585	1415	5142	1471	1738	1658	0	1738	1883	1617
Flt Permitted	0.057			0.318			0.640			0.517		
Satd. Flow (perm)	110	4902	1539	472	5142	1448	1169	1658	0	945	1883	1594
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			104			63		60				119
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		443.5			331.5			130.4			222.4	
Travel Time (s)		22.8			17.0			9.4			16.0	
Confl. Peds. (#/hr)	4		4	4		4	2		2	2		2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	7%	3%	29%	2%	11%	5%	2%	6%	5%	2%	1%
Adj. Flow (vph)	131	858	249	159	1986	53	549	161	247	70	74	352
Shared Lane Traffic (%)												
Lane Group Flow (vph)	131	858	249	159	1986	53	549	408	0	70	74	352
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA	Perm	Perm	NA	custom	pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2			6		7	4			8	
Permitted Phases	2		2	6		8	4			8		8
Detector Phase	5	2	2	6	6	8	7	4		8	8	8
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	10.0		10.0	10.0	10.0
Minimum Split (s)	10.0	41.2	41.2	41.2	41.2	56.7	10.0	56.7		56.7	56.7	56.7
Total Split (s)	11.0	84.3	84.3	73.3	73.3	56.7	19.0	75.7		56.7	56.7	56.7
Total Split (%)	6.9%	52.7%	52.7%	45.8%	45.8%	35.4%	11.9%	47.3%		35.4%	35.4%	35.4%
Maximum Green (s)	8.0	78.1	78.1	67.1	67.1	49.0	16.0	68.0		49.0	49.0	49.0
Yellow Time (s)	3.0	4.2	4.2	4.2	4.2	4.0	3.0	4.0		4.0	4.0	4.0
All-Red Time (s)	0.0	2.0	2.0	2.0	2.0	3.7	0.0	3.7		3.7	3.7	3.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Lead/Lag	Lead			Lag	Lag	Lag	Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max	None	None	None		None	None	None
Walk Time (s)		10.0	10.0	10.0	10.0	10.0		10.0		10.0	10.0	10.0
Flash Dont Walk (s)		25.0	25.0	25.0	25.0	39.0		39.0		39.0	39.0	39.0
Pedestrian Calls (#/hr)		0	0	0	0	0		0		0	0	0
Act Effct Green (s)	81.7	78.5	78.5	67.4	67.4	27.8	51.6	46.9		27.8	27.8	27.8
Actuated g/C Ratio	0.59	0.56	0.56	0.48	0.48	0.20	0.37	0.34		0.20	0.20	0.20
v/c Ratio	0.80	0.31	0.27	0.70	0.80	0.16	1.10	0.68		0.37	0.20	0.85
Control Delay	60.2	17.5	10.9	49.3	34.6	8.0	110.0	39.4		52.7	46.2	54.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	60.2	17.5	10.9	49.3	34.6	8.0	110.0	39.4		52.7	46.2	54.2
LOS	E	B	B	D	C	A	F	D		D	D	D
Approach Delay		20.7			35.0			79.9			52.8	
Approach LOS		C			D			E			D	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 139.3
Natural Cycle: 130
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.10
Intersection Signal Delay: 42.0 Intersection LOS: D
Intersection Capacity Utilization 103.4% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 4: Maritz Drive/Derrycrest Drive & Derry Road West

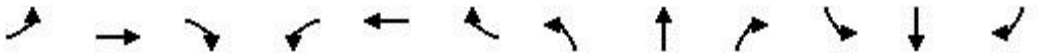


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	131	858	249	159	1986	53	549	408	70	74	352
v/c Ratio	0.80	0.31	0.27	0.70	0.80	0.16	1.10	0.68	0.37	0.20	0.85
Control Delay	60.2	17.5	10.9	49.3	34.6	8.0	110.0	39.4	52.7	46.2	54.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.2	17.5	10.9	49.3	34.6	8.0	110.0	39.4	52.7	46.2	54.2
Queue Length 50th (m)	18.8	43.8	18.5	33.2	163.9	0.0	~158.1	82.9	16.8	17.1	64.4
Queue Length 95th (m)	#63.7	66.5	42.5	#82.7	223.8	8.4	#230.8	117.7	31.4	30.4	100.5
Internal Link Dist (m)		419.5			307.5			106.4		198.4	
Turn Bay Length (m)	50.0		15.0	55.0		30.0			100.0		
Base Capacity (vph)	163	2761	912	228	2488	552	498	843	333	665	640
Starvation Cap Reductn	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
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.31	0.27	0.70	0.80	0.10	1.10	0.48	0.21	0.11	0.55

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.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	824	239	153	1907	51	527	155	237	67	71	338
Future Volume (vph)	126	824	239	153	1907	51	527	155	237	67	71	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1825	4902	1541	1411	5142	1449	1737	1659		1736	1883	1595
Flt Permitted	0.06	1.00	1.00	0.32	1.00	1.00	0.64	1.00		0.52	1.00	1.00
Satd. Flow (perm)	109	4902	1541	472	5142	1449	1170	1659		946	1883	1595
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	131	858	249	159	1986	53	549	161	247	70	74	352
RTOR Reduction (vph)	0	0	45	0	0	42	0	40	0	0	0	95
Lane Group Flow (vph)	131	858	204	159	1986	11	549	368	0	70	74	257
Confl. Peds. (#/hr)	4		4	4		4	2		2	2		2
Heavy Vehicles (%)	0%	7%	3%	29%	2%	11%	5%	2%	6%	5%	2%	1%
Turn Type	pm+pt	NA	Perm	Perm	NA	custom	pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2			6		7	4			8	
Permitted Phases	2		2	6		8	4			8		8
Actuated Green, G (s)	78.5	78.5	78.5	67.5	67.5	27.8	46.9	46.9		27.8	27.8	27.8
Effective Green, g (s)	78.5	78.5	78.5	67.5	67.5	27.8	46.9	46.9		27.8	27.8	27.8
Actuated g/C Ratio	0.56	0.56	0.56	0.48	0.48	0.20	0.34	0.34		0.20	0.20	0.20
Clearance Time (s)	3.0	6.2	6.2	6.2	6.2	7.7	3.0	7.7		7.7	7.7	7.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	159	2762	868	228	2491	289	459	558		188	375	318
v/s Ratio Prot	c0.05	0.18			0.39		c0.14	0.22			0.04	
v/s Ratio Perm	c0.41		0.13	0.34		0.01	c0.26			0.07		0.16
v/c Ratio	0.82	0.31	0.23	0.70	0.80	0.04	1.20	0.66		0.37	0.20	0.81
Uniform Delay, d1	32.5	16.1	15.3	27.9	30.2	45.0	44.8	39.4		48.2	46.5	53.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	27.9	0.3	0.6	16.3	2.8	0.1	107.8	2.8		1.2	0.3	13.9
Delay (s)	60.4	16.4	15.9	44.2	32.9	45.0	152.6	42.2		49.5	46.7	67.1
Level of Service	E	B	B	D	C	D	F	D		D	D	E
Approach Delay (s)		20.9			34.0			105.6			61.6	
Approach LOS		C			C			F			E	

Intersection Summary			
HCM 2000 Control Delay	47.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	139.3	Sum of lost time (s)	19.9
Intersection Capacity Utilization	103.4%	ICU Level of Service	G
Analysis Period (min)	15		

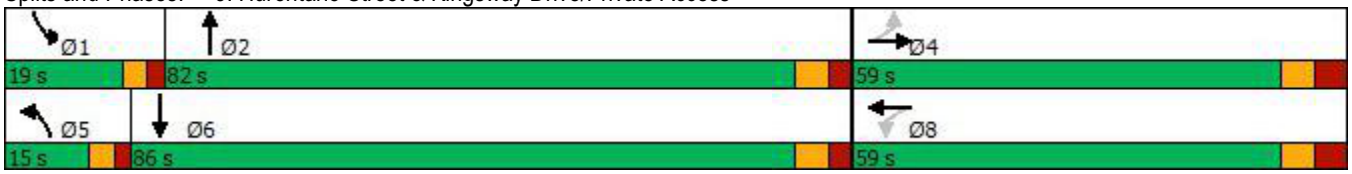
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	1	26	2	2	4	8	943	2	4	589	128
Future Volume (vph)	181	1	26	2	2	4	8	943	2	4	589	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	40.0		0.0	0.0		0.0	20.0		0.0	30.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor	1.00				0.99		1.00				1.00	
Frt		0.855			0.932						0.973	
Flt Protected	0.950				0.988		0.950			0.950		
Satd. Flow (prot)	1807	1567	0	0	1756	0	1521	3544	0	1825	3358	0
Flt Permitted	0.752				0.949		0.950			0.950		
Satd. Flow (perm)	1427	1567	0	0	1687	0	1517	3544	0	1825	3358	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27			4						23	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		318.7			138.1			189.0			440.6	
Travel Time (s)		22.9			9.9			11.3			26.4	
Confl. Peds. (#/hr)	2					2	4					4
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	0%	5%	0%	0%	0%	20%	3%	0%	0%	6%	2%
Adj. Flow (vph)	185	1	27	2	2	4	8	962	2	4	601	131
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	28	0	0	8	0	8	964	0	4	732	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	52.0	52.0		52.0	52.0		13.0	58.0		13.0	58.0	
Total Split (s)	59.0	59.0		59.0	59.0		15.0	82.0		19.0	86.0	
Total Split (%)	36.9%	36.9%		36.9%	36.9%		9.4%	51.3%		11.9%	53.8%	
Maximum Green (s)	51.0	51.0		51.0	51.0		10.0	75.0		14.0	79.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	4.0	4.0		4.0	4.0		2.0	3.0		2.0	3.0	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)	13.0	13.0		13.0	13.0			15.0			15.0	
Flash Dont Walk (s)	31.0	31.0		31.0	31.0			36.0			36.0	
Pedestrian Calls (#/hr)	0	0		0	0			0			0	
Act Effct Green (s)	20.3	20.3			20.3		8.1	79.8		8.1	79.8	
Actuated g/C Ratio	0.17	0.17			0.17		0.07	0.68		0.07	0.68	
v/c Ratio	0.75	0.10			0.03		0.08	0.40		0.03	0.32	
Control Delay	65.5	15.6			31.1		58.2	10.2		57.0	9.2	
Queue Delay	0.0	0.0			0.0		0.0	0.3		0.0	0.0	
Total Delay	65.5	15.6			31.1		58.2	10.6		57.0	9.2	
LOS	E	B			C		E	B		E	A	
Approach Delay		58.9			31.1			10.9			9.4	
Approach LOS		E			C			B			A	

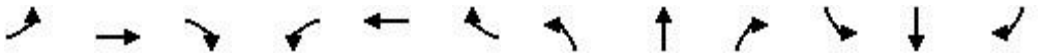
Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 117.4			
Natural Cycle: 125			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 15.7		Intersection LOS: B	
Intersection Capacity Utilization 71.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: Hurontario Street & Kingsway Drive/Private Access



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	185	28	8	8	964	4	732
v/c Ratio	0.75	0.10	0.03	0.08	0.40	0.03	0.32
Control Delay	65.5	15.6	31.1	58.2	10.2	57.0	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	65.5	15.6	31.1	58.2	10.6	57.0	9.2
Queue Length 50th (m)	39.5	0.2	0.8	1.7	42.4	0.9	28.8
Queue Length 95th (m)	70.7	8.3	5.4	7.7	93.9	5.0	66.1
Internal Link Dist (m)		294.7	114.1		165.0		416.6
Turn Bay Length (m)	40.0			20.0		30.0	
Base Capacity (vph)	624	700	740	130	2407	219	2288
Starvation Cap Reductn	0	0	0	0	757	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	0.30	0.04	0.01	0.06	0.58	0.02	0.32

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	1	26	2	2	4	8	943	2	4	589	128
Future Volume (vph)	181	1	26	2	2	4	8	943	2	4	589	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.86			0.93		1.00	1.00		1.00	0.97	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	1568			1757		1521	3543		1825	3359	
Flt Permitted	0.75	1.00			0.95		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1429	1568			1689		1521	3543		1825	3359	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	185	1	27	2	2	4	8	962	2	4	601	131
RTOR Reduction (vph)	0	22	0	0	3	0	0	0	0	0	8	0
Lane Group Flow (vph)	185	6	0	0	5	0	8	964	0	4	724	0
Confl. Peds. (#/hr)	2					2	4					4
Heavy Vehicles (%)	1%	0%	5%	0%	0%	0%	20%	3%	0%	0%	6%	2%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	20.3	20.3			20.3		1.4	79.8		1.4	79.8	
Effective Green, g (s)	20.3	20.3			20.3		1.4	79.8		1.4	79.8	
Actuated g/C Ratio	0.17	0.17			0.17		0.01	0.66		0.01	0.66	
Clearance Time (s)	8.0	8.0			8.0		5.0	7.0		5.0	7.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	238	261			282		17	2327		21	2206	
v/s Ratio Prot		0.00					c0.01	c0.27		0.00	0.22	
v/s Ratio Perm	c0.13				0.00							
v/c Ratio	0.78	0.02			0.02		0.47	0.41		0.19	0.33	
Uniform Delay, d1	48.4	42.3			42.3		59.7	9.8		59.5	9.1	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	14.7	0.0			0.0		19.2	0.5		4.4	0.4	
Delay (s)	63.1	42.3			42.3		78.8	10.4		63.9	9.5	
Level of Service	E	D			D		E	B		E	A	
Approach Delay (s)		60.4			42.3			10.9			9.8	
Approach LOS		E			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	16.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	121.5	Sum of lost time (s)	20.0
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		

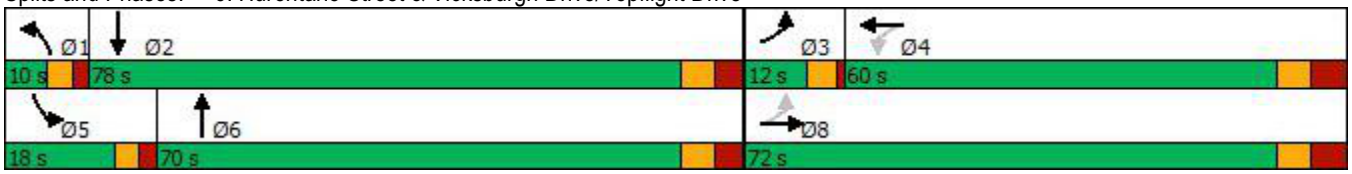
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	0	62	31	1	440	19	1109	19	73	658	42
Future Volume (vph)	124	0	62	31	1	440	19	1109	19	73	658	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	25.0		0.0	0.0		0.0	25.0		0.0	35.0		0.0
Storage Lanes	1		0	0		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
Ped Bike Factor							1.00				1.00	
Frt		0.850			0.874			0.998			0.991	
Flt Protected	0.950				0.997		0.950			0.950		
Satd. Flow (prot)	1825	1633	0	0	1648	0	1825	3564	0	1547	3483	0
Flt Permitted	0.191				0.974		0.950			0.950		
Satd. Flow (perm)	367	1633	0	0	1610	0	1824	3564	0	1547	3483	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		213			156			1			5	
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		237.0			253.7			440.6			373.3	
Travel Time (s)		17.1			18.3			26.4			22.4	
Confl. Peds. (#/hr)							1					1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	0%	0%	0%	10%	0%	1%	0%	2%	15%	18%	4%	0%
Adj. Flow (vph)	127	0	63	32	1	449	19	1132	19	74	671	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	127	63	0	0	482	0	19	1151	0	74	714	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4								
Detector Phase	3	8		4	4		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	8.0		8.0	8.0		5.0	8.0		8.0	8.0	
Minimum Split (s)	9.5	57.5		57.5	57.5		10.0	38.5		13.0	38.5	
Total Split (s)	12.0	72.0		60.0	60.0		10.0	70.0		18.0	78.0	
Total Split (%)	7.5%	45.0%		37.5%	37.5%		6.3%	43.8%		11.3%	48.8%	
Maximum Green (s)	7.5	63.5		51.5	51.5		5.0	62.5		13.0	70.5	
Yellow Time (s)	3.5	4.0		4.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	4.5		4.5	4.5		2.0	3.5		2.0	3.5	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Max		None	Max	
Walk Time (s)		14.0		14.0	14.0			9.0			9.0	
Flash Dont Walk (s)		35.0		35.0	35.0			22.0			22.0	
Pedestrian Calls (#/hr)		0		0	0			0			0	
Act Effct Green (s)	52.2	48.2			36.1		5.0	63.2		11.2	73.7	
Actuated g/C Ratio	0.36	0.34			0.25		0.03	0.44		0.08	0.51	
v/c Ratio	0.60	0.09			0.93		0.30	0.73		0.62	0.40	
Control Delay	44.1	0.3			59.8		84.9	38.7		89.1	24.4	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	44.1	0.3			59.8		84.9	38.7		89.1	24.4	
LOS	D	A			E		F	D		F	C	
Approach Delay		29.6			59.8			39.5			30.5	
Approach LOS		C			E			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 160			
Actuated Cycle Length: 143.7			
Natural Cycle: 130			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 39.8		Intersection LOS: D	
Intersection Capacity Utilization 98.4%		ICU Level of Service F	
Analysis Period (min) 15			

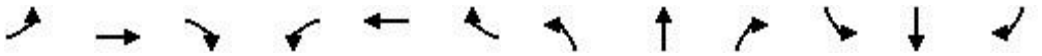
Splits and Phases: 6: Hurontario Street & Vicksburgh Drive/Topflight Drive



Lane Group	EBL	EBT	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	127	63	482	19	1151	74	714
v/c Ratio	0.60	0.09	0.93	0.30	0.73	0.62	0.40
Control Delay	44.1	0.3	59.8	84.9	38.7	89.1	24.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.1	0.3	59.8	84.9	38.7	89.1	24.4
Queue Length 50th (m)	25.0	0.0	97.9	5.5	145.0	21.0	68.8
Queue Length 95th (m)	39.7	0.0	144.2	15.5	201.4	#41.7	100.6
Internal Link Dist (m)		213.0	229.7		416.6		349.3
Turn Bay Length (m)	25.0			25.0		35.0	
Base Capacity (vph)	210	845	681	64	1566	141	1789
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	0.60	0.07	0.71	0.30	0.73	0.52	0.40

Intersection Summary

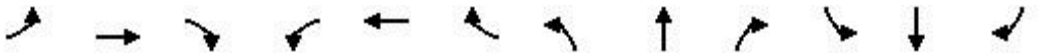
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	0	62	31	1	440	19	1109	19	73	658	42
Future Volume (vph)	124	0	62	31	1	440	19	1109	19	73	658	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	8.5			8.5		5.0	7.5		5.0	7.5	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.85			0.87		1.00	1.00		1.00	0.99	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1825	1633			1648		1825	3562		1547	3483	
Flt Permitted	0.19	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	367	1633			1609		1825	3562		1547	3483	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	127	0	63	32	1	449	19	1132	19	74	671	43
RTOR Reduction (vph)	0	42	0	0	117	0	0	1	0	0	2	0
Lane Group Flow (vph)	127	21	0	0	365	0	19	1150	0	74	712	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	0%	0%	0%	10%	0%	1%	0%	2%	15%	18%	4%	0%
Turn Type	pm+pt	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases	3	8			4		1	6		5	2	
Permitted Phases	8			4								
Actuated Green, G (s)	48.2	48.2			36.1		2.8	65.3		11.2	73.7	
Effective Green, g (s)	48.2	48.2			36.1		2.8	65.3		11.2	73.7	
Actuated g/C Ratio	0.33	0.33			0.25		0.02	0.45		0.08	0.51	
Clearance Time (s)	4.5	8.5			8.5		5.0	7.5		5.0	7.5	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	197	540			398		35	1596		118	1761	
v/s Ratio Prot	c0.03	0.01					0.01	c0.32		c0.05	0.20	
v/s Ratio Perm	0.18				c0.23							
v/c Ratio	0.64	0.04			0.92		0.54	0.72		0.63	0.40	
Uniform Delay, d1	38.7	33.0			53.3		70.8	32.8		65.2	22.4	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.0	0.0			25.3		16.1	2.8		10.0	0.7	
Delay (s)	45.7	33.1			78.7		86.9	35.6		75.2	23.1	
Level of Service	D	C			E		F	D		E	C	
Approach Delay (s)		41.5			78.7			36.5			27.9	
Approach LOS		D			E			D			C	

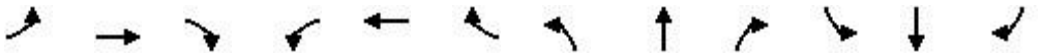
Intersection Summary			
HCM 2000 Control Delay	42.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	145.7	Sum of lost time (s)	25.5
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	16	14	180	0	4	7	78	141	11	207	2
Future Volume (vph)	2	16	14	180	0	4	7	78	141	11	207	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	15.0		0.0	20.0		0.0	20.0		0.0
Storage Lanes	0		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
Ped Bike Factor												
Frt		0.940			0.850			0.904			0.999	
Flt Protected		0.997		0.950			0.950			0.950		
Satd. Flow (prot)	0	1800	0	1807	1633	0	1825	3279	0	1825	3646	0
Flt Permitted		0.997		0.950			0.950			0.950		
Satd. Flow (perm)	0	1800	0	1807	1633	0	1825	3279	0	1825	3646	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		62.9			318.7			222.4			283.4	
Travel Time (s)		4.5			22.9			16.0			20.4	
Confl. Peds. (#/hr)			1	1								
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%
Adj. Flow (vph)	2	17	15	196	0	4	8	85	153	12	225	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	34	0	196	4	0	8	238	0	12	227	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		1.6			1.6			1.6			1.6	
Two way Left Turn Lane												
Headway Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Stop			Stop			Free			Free	

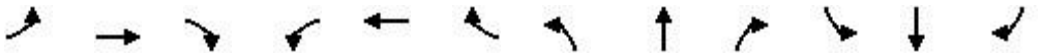
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	16	14	180	0	4	7	78	141	11	207	2
Future Volume (Veh/h)	2	16	14	180	0	4	7	78	141	11	207	2
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)	2	17	15	196	0	4	8	85	153	12	225	2
Pedestrians								1				
Lane Width (m)								3.7				
Walking Speed (m/s)								1.1				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								223				
pX, platoon unblocked												
vC, conflicting volume	312	504	114	338	428	119	227			238		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	312	504	114	338	428	119	227			238		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	96	98	65	100	100	99			99		
cM capacity (veh/h)	612	466	922	561	514	917	1353			1341		

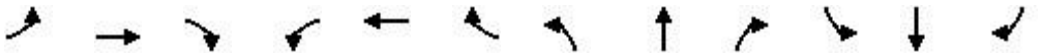
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	34	196	4	8	57	181	12	150	77
Volume Left	2	196	0	8	0	0	12	0	0
Volume Right	15	0	4	0	0	153	0	0	2
cSH	607	561	917	1353	1700	1700	1341	1700	1700
Volume to Capacity	0.06	0.35	0.00	0.01	0.03	0.11	0.01	0.09	0.05
Queue Length 95th (m)	1.3	11.8	0.1	0.1	0.0	0.0	0.2	0.0	0.0
Control Delay (s)	11.3	14.8	8.9	7.7	0.0	0.0	7.7	0.0	0.0
Lane LOS	B	B	A	A			A		
Approach Delay (s)	11.3	14.7		0.2			0.4		
Approach LOS	B	B							

Intersection Summary				
Average Delay	4.8			
Intersection Capacity Utilization	32.4%	ICU Level of Service		A
Analysis Period (min)	15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	23	35	62	8	8	15	15	41	23	35	0
Future Volume (vph)	0	23	35	62	8	8	15	15	41	23	35	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.910			0.925			0.921				
Flt Protected				0.950				0.990			0.981	
Satd. Flow (prot)	0	3256	0	1789	1742	0	0	1717	0	0	1848	0
Flt Permitted				0.950				0.990			0.981	
Satd. Flow (perm)	0	3256	0	1789	1742	0	0	1717	0	0	1848	0
Link Speed (k/h)		50			48			48			50	
Link Distance (m)		152.4			237.0			95.7			60.6	
Travel Time (s)		11.0			17.8			7.2			4.4	
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)	0	25	38	67	9	9	16	16	45	25	38	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	63	0	67	18	0	0	77	0	0	63	0
Enter Blocked Intersection	No	No	No	No	No	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			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)	97		24	97		14	14		97	24		97
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	23	35	62	8	8	15	15	41	23	35	0
Future Volume (Veh/h)	0	23	35	62	8	8	15	15	41	23	35	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	25	38	67	9	9	16	16	45	25	38	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)					237							
pX, platoon unblocked												
vC, conflicting volume	18			63			206	196	32	213	210	14
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	18			63			206	196	32	213	210	14
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			96			98	98	96	96	94	100
cM capacity (veh/h)	1597			1538			678	668	1035	658	656	1063

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	12	50	67	18	77	63
Volume Left	0	0	67	0	16	25
Volume Right	0	38	0	9	45	0
cSH	1597	1700	1538	1700	846	657
Volume to Capacity	0.00	0.03	0.04	0.01	0.09	0.10
Queue Length 95th (m)	0.0	0.0	1.0	0.0	2.3	2.4
Control Delay (s)	0.0	0.0	7.4	0.0	9.7	11.1
Lane LOS			A		A	B
Approach Delay (s)	0.0		5.9		9.7	11.1
Approach LOS					A	B

Intersection Summary				
Average Delay	6.7			
Intersection Capacity Utilization	22.3%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	23	35	15	48	124	8
Future Volume (vph)	23	35	15	48	124	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	25.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	2.5		2.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt	0.919				0.991	
Flt Protected	0.981		0.950			
Satd. Flow (prot)	1698	0	1789	3579	3546	0
Flt Permitted	0.981		0.950			
Satd. Flow (perm)	1698	0	1789	3579	3546	0
Link Speed (k/h)	48			50	50	
Link Distance (m)	66.3			283.4	152.4	
Travel Time (s)	5.0			20.4	11.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	38	16	52	135	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	63	0	16	52	144	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 20.4%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	23	35	15	48	124	8
Future Volume (Veh/h)	23	35	15	48	124	8
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)	25	38	16	52	135	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					390	
pX, platoon unblocked						
vC, conflicting volume	198	72	144			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	198	72	144			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	96	99			
cM capacity (veh/h)	764	975	1436			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	63	16	26	26	90	54
Volume Left	25	16	0	0	0	0
Volume Right	38	0	0	0	0	9
cSH	879	1436	1700	1700	1700	1700
Volume to Capacity	0.07	0.01	0.02	0.02	0.05	0.03
Queue Length 95th (m)	1.8	0.3	0.0	0.0	0.0	0.0
Control Delay (s)	9.4	7.5	0.0	0.0	0.0	0.0
Lane LOS	A	A				
Approach Delay (s)	9.4	1.8			0.0	
Approach LOS	A					

Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	20.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Appendix F

Swept Path Analysis

GHD

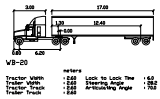
www.ghd.com

GHD Ltd
111 Brunel Road, Suite 200
Mississauga, Ontario L4Z 1X3 Canada
T 1 905 712 5810 F 1 905 712 5615

Conditions of Use

This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

LICENSED PROFESSIONAL ENGINEER
March 20, 2025
W.C. MARA
PROVINCE OF ONTARIO



No.	Issue	Checked	Approved	Date
1	First Submission	W.M	W.M	20/03/2025

Author	V.C	Designer	V.C
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
DESIGN PLAN SERVICES INC.

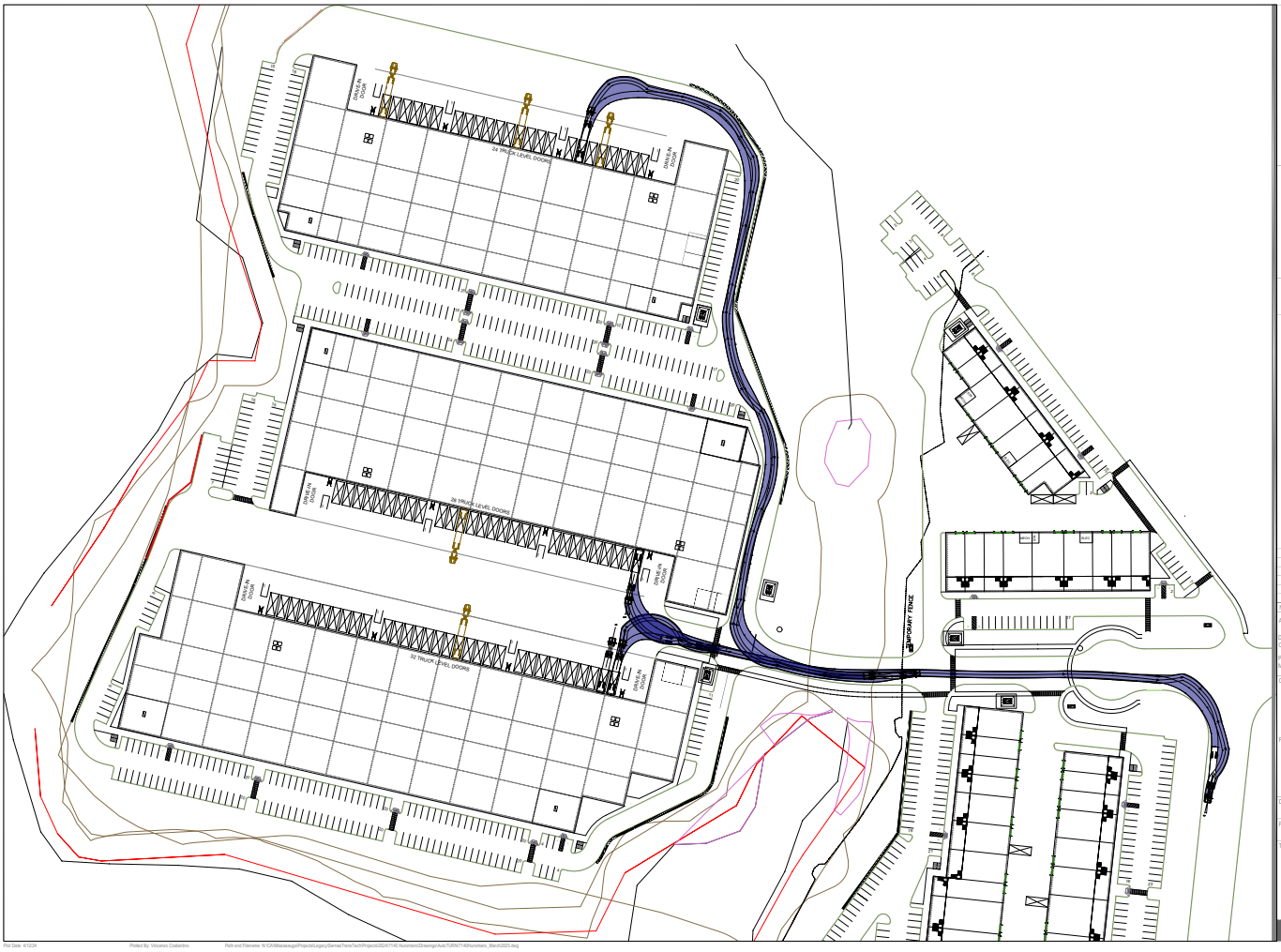
Project
7140 HURONTARIO STREET
INDUSTRIAL DEVELOPMENT

Date	March 20, 2025
Scale	NTS
Project No.	-

Title
VEHICLE MANEUVERING DIAGRAM - WB-20 (INBOUND)

Figure No.
AT-101

Plot Date: 4/1/24 Plotted By: Vincenzo Costantino Path and Filename: N:\CA\Mississauga\Projects\Legacy\Sarnia\Tech\Projects\32\24\7140 Hurontario\Drawings\Auto\TURN\7140Hurontario_March2025.dwg



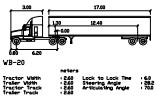
GHD

www.ghd.com

GHD Ltd.
111 Brunel Road, Suite 200
Mississauga, Ontario L4Z 1X3 Canada
T 1 905 712 0515 F 1 905 712 0515

Conditions of Use
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

LICENSED PROFESSIONAL ENGINEER
March 20, 2025
W.C. MARIA
PROVINCE OF ONTARIO



No.	Issue	Checked	Approved	Date
1	First Submission	W.M	W.M	20/03/2025

Author	V.C	Designer	V.C
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
DESIGN PLAN SERVICES INC.

Project
7140 HURONTARIO STREET
INDUSTRIAL DEVELOPMENT

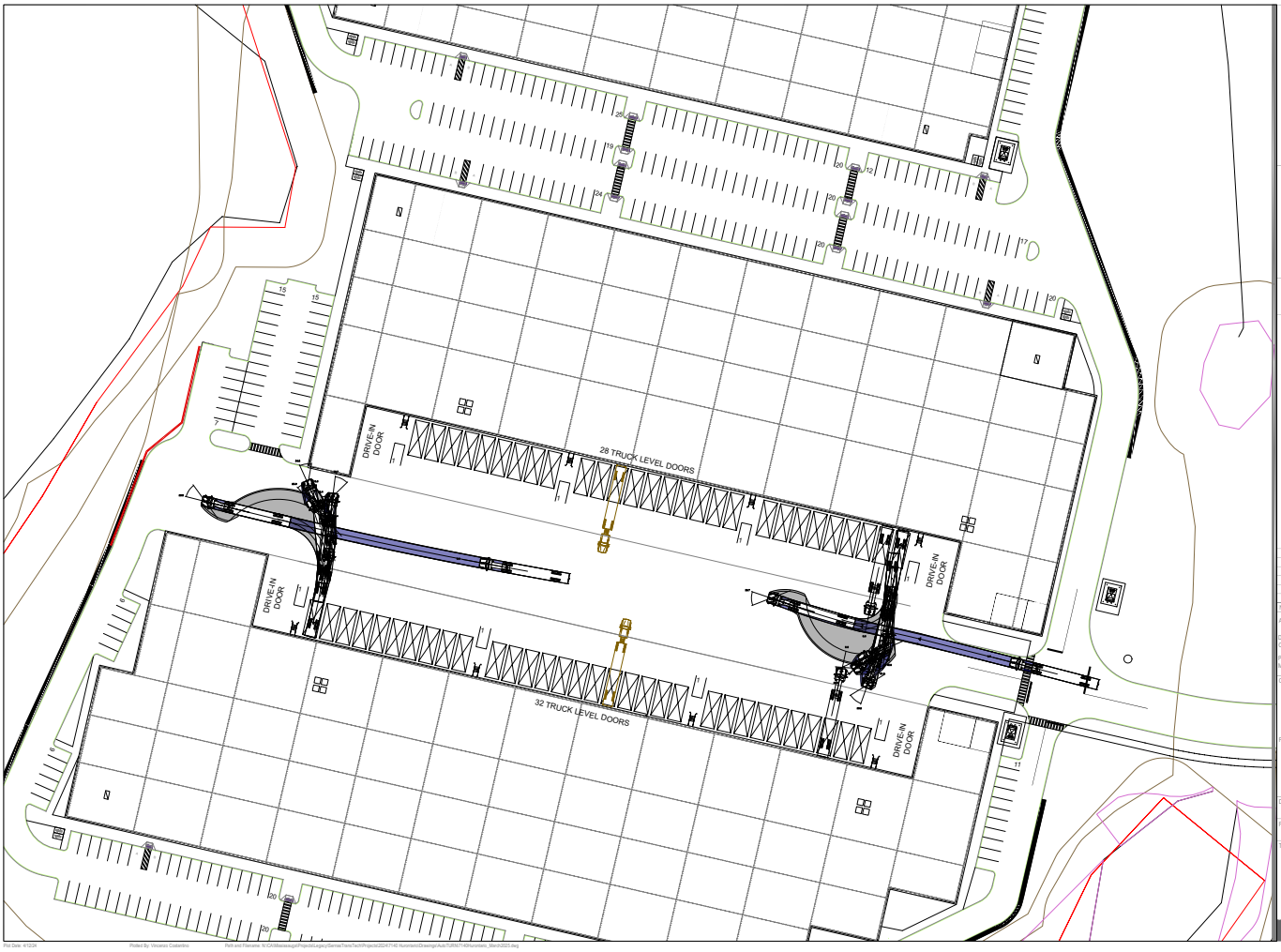
Date	Scale
March 20, 2025	NTS

Project No.
-

Title
VEHICLE MANEUVERING DIAGRAM - WB-20 (OUTBOUND)

Figure No.
AT-102

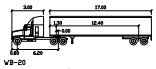
Plot Date: 4/1/24 Plotted By: Vincenzo Costantino Path and Filename: N:\CA\Mississauga\Projects\Legacy\SannaTiani\Tech\Projects\3024\7140 Hurontario\Drawings\Auto Turn\7140Hurontario_March2025.dwg



GHD
www.ghd.com
GHD Ltd.
111 Brunel Road, Suite 200
Mississauga, Ontario L4Z 1X3 Canada
T 1 905 712 0515 F 1 905 712 0515

Conditions of Use
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

LICENSED PROFESSIONAL ENGINEER
March 20, 2025
W.C. MARA
PROVINCE OF ONTARIO



Tractor Width	: 2.60	Lock to Lock Time	: 6.0
Trailer Width	: 2.60	Steering Angle	: 56.2
Tractor Track	: 2.60	Articulating Angle	: 76.0
Trailer Track	: 2.60		

No.	Issue	Checked	Approved	Date
1	First Submission	W.M	W.M	20/03/2025

Author	V.C	Designer	V.C
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
DESIGN PLAN SERVICES INC.

Project
7140 HURONTARIO STREET
INDUSTRIAL DEVELOPMENT

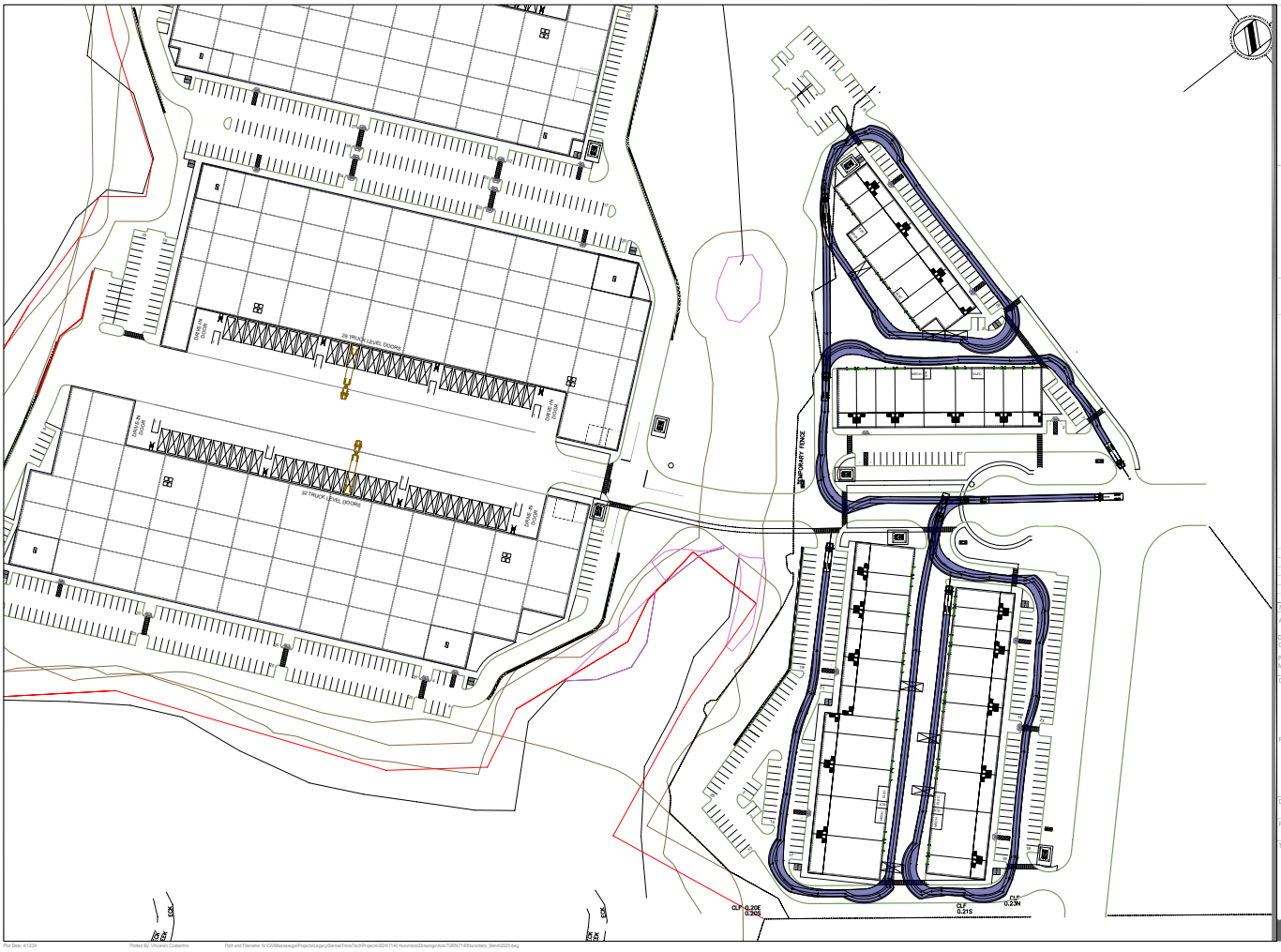
Date	Scale
March 20, 2025	NTS

Project No.
-

Title
VEHICLE MANEUVERING DIAGRAM - WB-20 (PARKING)

Figure No.
AT-103

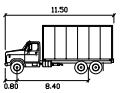
Plot Date: 4/12/24 Plotted By: Vincenzo Costantino Path and Filename: N:\CAN\Mississauga\Projects\Legacy\Sense\Tech\Projects\32247\7140 Hurontario\Drawings\Auto\TURN\7140Hurontario_March2025.dwg



GHD
www.ghd.com
GHD Ltd.
111 Brunel Road, Suite 200
Mississauga, Ontario L4Z 1X3 Canada
T 1 905 712 0515 F 1 905 712 0515

Conditions of Use
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

LICENSED PROFESSIONAL ENGINEER
March 20, 2025
W.C. MARIA
PROVINCE OF ONTARIO



HSU

meters	
Width	: 2.60
Track	: 2.60
Lock to Lock Time	6.0
Steering Angle	: 40.0

No.	Issue	Checked	Approved	Date
1	First Submission	W.M	W.M	20/03/2025

Author	V.C	Designer	V.C
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
DESIGN PLAN SERVICES INC.

Project
7140 HURONTARIO STREET
INDUSTRIAL DEVELOPMENT

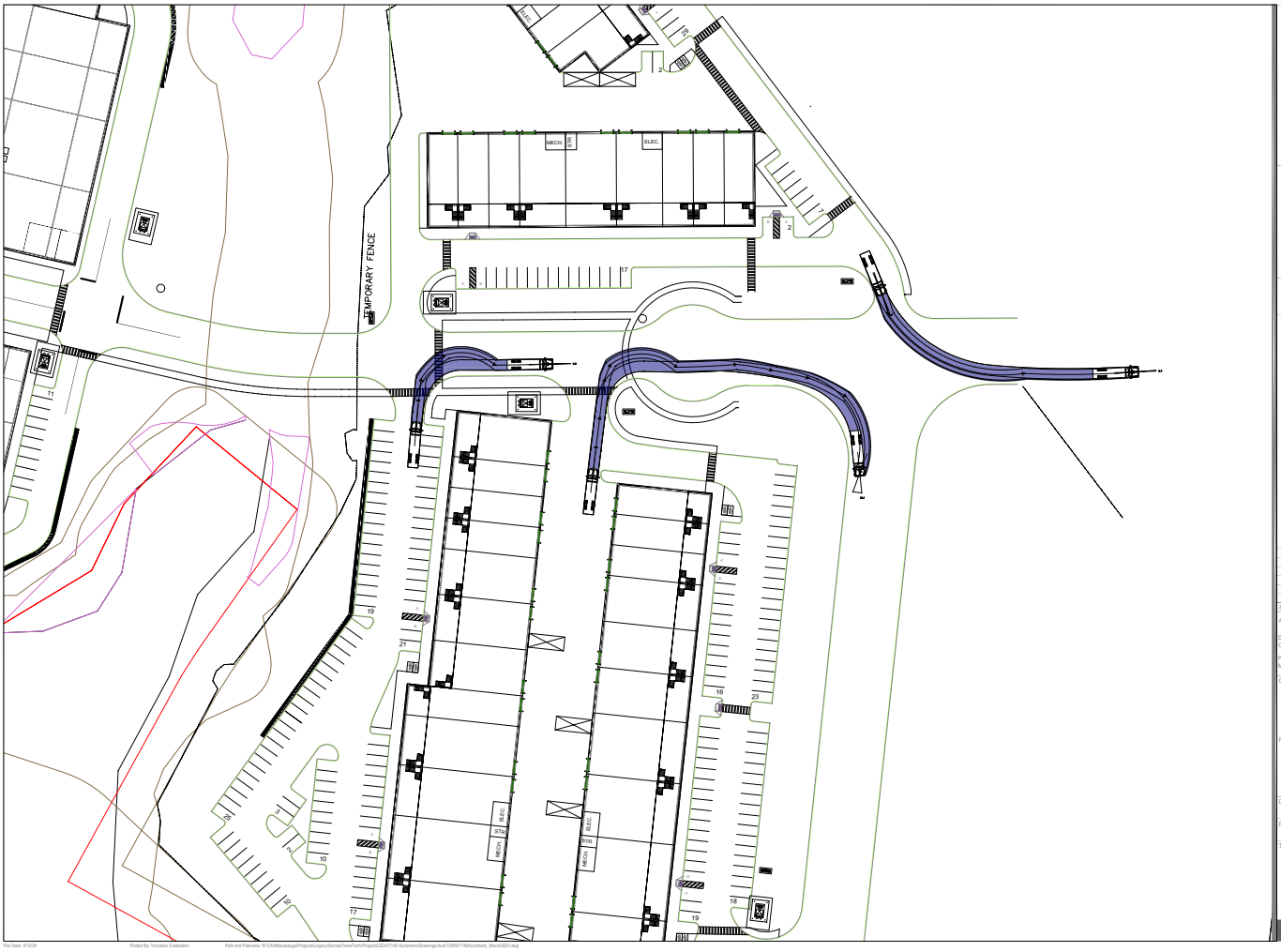
Date	March 20, 2025
Scale	NTS

Project No.
-

Title
VEHICLE MANEUVERING DIAGRAM - HSU (INBOUND)

Drawing No.
AT-104

Plot Date: 4/1/24 Plotted By: Vincenzo Costantino Path and Filename: N:\CA\Mississauga\Projects\Legacy\Sarnia\Tech\Projects\32\24174\7140 Hurontario\Drawings\Auto Turn\7140Hurontario_March2025.dwg



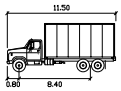
GHD

www.ghd.com

GHD Ltd
111 Brunel Road, Suite 200
Mississauga, Ontario L4Z 1X3 Canada
T 1 905 712 0515 F 1 905 712 0515

Conditions of Use
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

LICENSED PROFESSIONAL ENGINEER
March 20, 2025
W.C. MARIA
PROVINCE OF ONTARIO



HSU

	meters
Width	: 2.60
Track	: 2.60
Lock to Lock Time	6.0
Steering Angle	: 40.0

No.	Issue	Checked	Approved	Date
1	First Submission	W.M	W.M	20/03/2025

Author	V.C	Designer	V.C
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
DESIGN PLAN SERVICES INC.

Project
7140 HURONTARIO STREET
INDUSTRIAL DEVELOPMENT

Date	Scale
March 20, 2025	NTS

Project No.
-

Title
VEHICLE MANEUVERING DIAGRAM - HSU (OUTBOUND)

Figure No.
AT-105

Plot Date: 4/1/24 Plotted By: Vincenzo Costantino Path and Filename: N:\CAN\Mississauga\Projects\Legacy\Samia\Tech\Projects\32\40\7140 Hurontario\Drawings\Auto\TURN\7140Hurontario_March\2025.dwg

GHD
www.ghd.com
GHD Ltd.
111 Brunel Road, Suite 200
Mississauga, Ontario L4Z 1X3 Canada
T 1 905 712 0515 F 1 905 712 0515

Conditions of Use
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

LICENSED PROFESSIONAL ENGINEER
March 20, 2025
W.C. MARIA
PROVINCE OF ONTARIO

Peel Waste Collection

	meters
Width	: 2.77
Track	: 2.77
Lock to Lock Time	: 6.0
Steering Angle	: 28.0

No.	Issue	Checked	Approved	Date
1	First Submission	W.M	W.M	20/03/2025

Author	V.C	Designer	V.C
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
DESIGN PLAN SERVICES INC.

Project
7140 HURONTARIO STREET INDUSTRIAL DEVELOPMENT

Date	Scale
March 20, 2025	NTS

Project No.
-

Title
VEHICLE MANEUVERING DIAGRAM - WASTE (INBOUND)

Sheet No.
AT-106

Plot Date: 4/1/24 Plotted By: Vincenzo Costantino Path and Filename: N:\CA\Mississauga\Projects\Legacy\Sames\TransTech\Projects\32\24171\40 Hurontario\Drawings\Auto\TURN\7140Hurontario_March2025.dwg

GHD
www.ghd.com
GHD Ltd.
111 Brunel Road, Suite 200
Mississauga, Ontario L4Z 1X3 Canada
T 1 905 712 0515 F 1 905 712 0515

Conditions of Use
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

LICENSED PROFESSIONAL ENGINEER
March 20, 2025
W.C. MARIA
PROVINCE OF ONTARIO

Peel Waste Collection

	meters
Width	: 2.77
Track	: 2.77
Lock to Lock Time	: 6.0
Steering Angle	: 28.0

No.	Issue	Checked	Approved	Date
1	First Submission	W.M	W.M	20/03/2025

Author	V.C	Designer	V.C
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
DESIGN PLAN SERVICES INC.

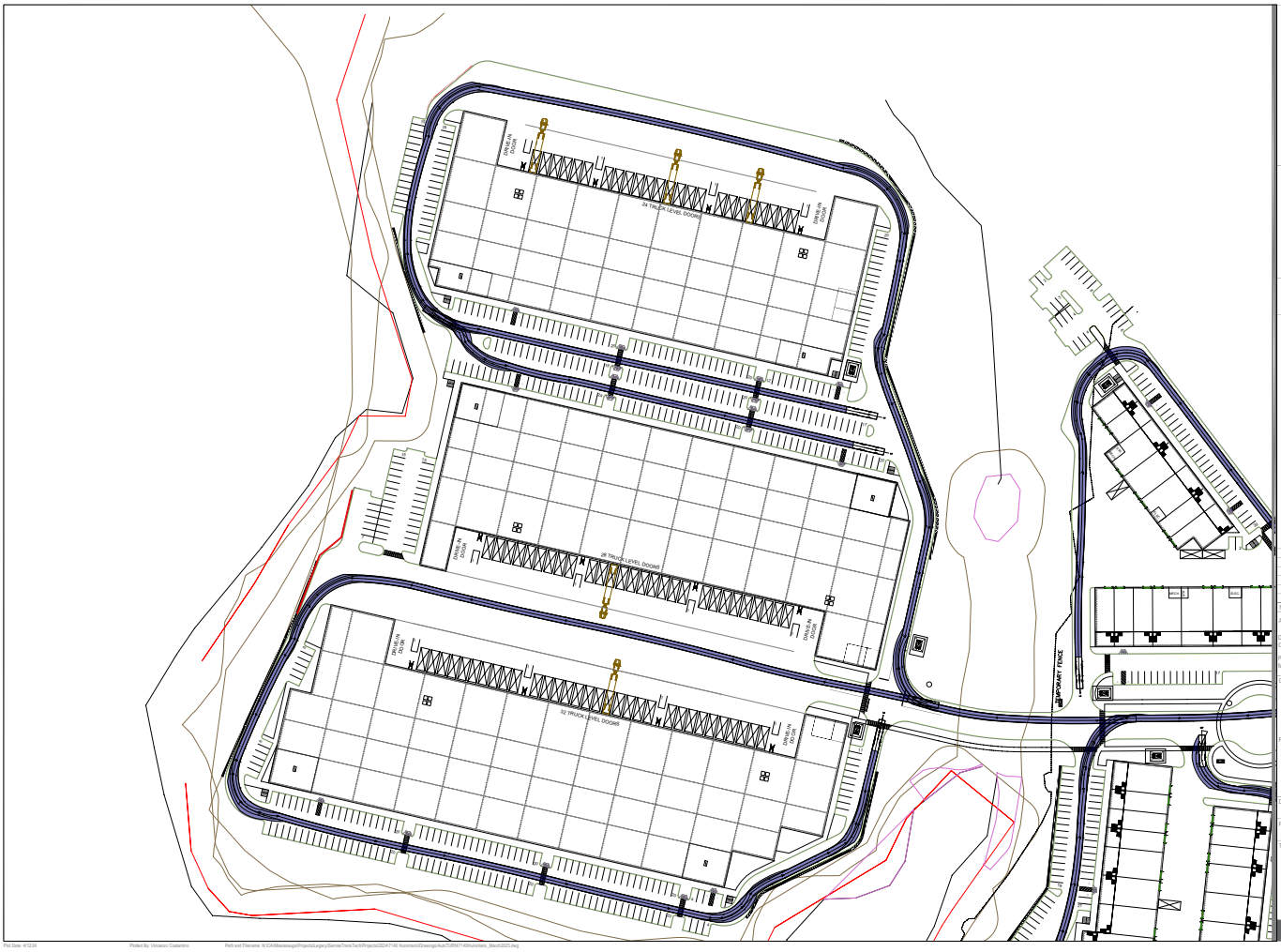
Project
7140 HURONTARIO STREET
INDUSTRIAL DEVELOPMENT

Date	March 20, 2025
Scale	NTS
Project No.	-

Title
VEHICLE MANEUVERING DIAGRAM - WASTE (OUTBOUND)

Figure No.
AT-107

Plot Date: 4/1/24 Plotted By: Vincenzo Costantino Path and Filename: N:\CA\Mississauga\Projects\Legacy\Sarnia\Tech\Projects\32\47140 Hurontario\Drawings\Auto\TURN\7140Hurontario_March2025.dwg



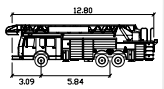
GHD

www.ghd.com

GHD Ltd.
111 Brunel Road, Suite 200
Mississauga, Ontario L4Z 1X3 Canada
T 1 905 712 0515 F 1 905 712 0515

Conditions of Use
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

LICENSED PROFESSIONAL ENGINEER
March 20, 2025
W.C. MARIA
PROVINCE OF ONTARIO



Aerial Fire

	meters
Width	: 2.54
Track	: 2.54
Lock to Lock Time	: 6.0
Steering Angle	: 37.0

No.	Issue	Checked	Approved	Date
1	First Submission	W.M	W.M	20/03/2025

Author	V.C	Designer	V.C
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
DESIGN PLAN SERVICES INC.

Project
7140 HURONTARIO STREET INDUSTRIAL DEVELOPMENT

Date	March 20, 2025
Scale	NTS
Project No.	-

Title
VEHICLE MANEUVERING DIAGRAM - FIRE VEHICLE (INBOUND) SHEET 1 OF 2

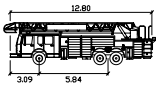
Figure No.
AT-108

Plot Date: 4/1/24 Plotted By: Vincenzo Costantino Path and Filename: N:\CA\Mississauga\Projects\Legacy\Sense\Tech\Projects\32\24171\40 Hurontario\Drawings\Auto\7\DRN\7140Hurontario_March2025.dwg

GHD
www.ghd.com
GHD Ltd.
111 Brunel Road, Suite 200
Mississauga, Ontario L4Z 1X3 Canada
T 1 905 712 0515 F 1 905 712 0515

Conditions of Use
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

LICENSED PROFESSIONAL ENGINEER
March 20, 2025
W.C. MARA
PROVINCE OF ONTARIO



Aerial Fire

	meters
Width	2.54
Track	2.54
Lock to Lock Time	6.0
Steering Angle	37.0

No.	Issue	Checked	Approved	Date
1	First Submission	W.M	W.M	20/03/2025

Author	V.C	Designer	V.C
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
DESIGN PLAN SERVICES INC.

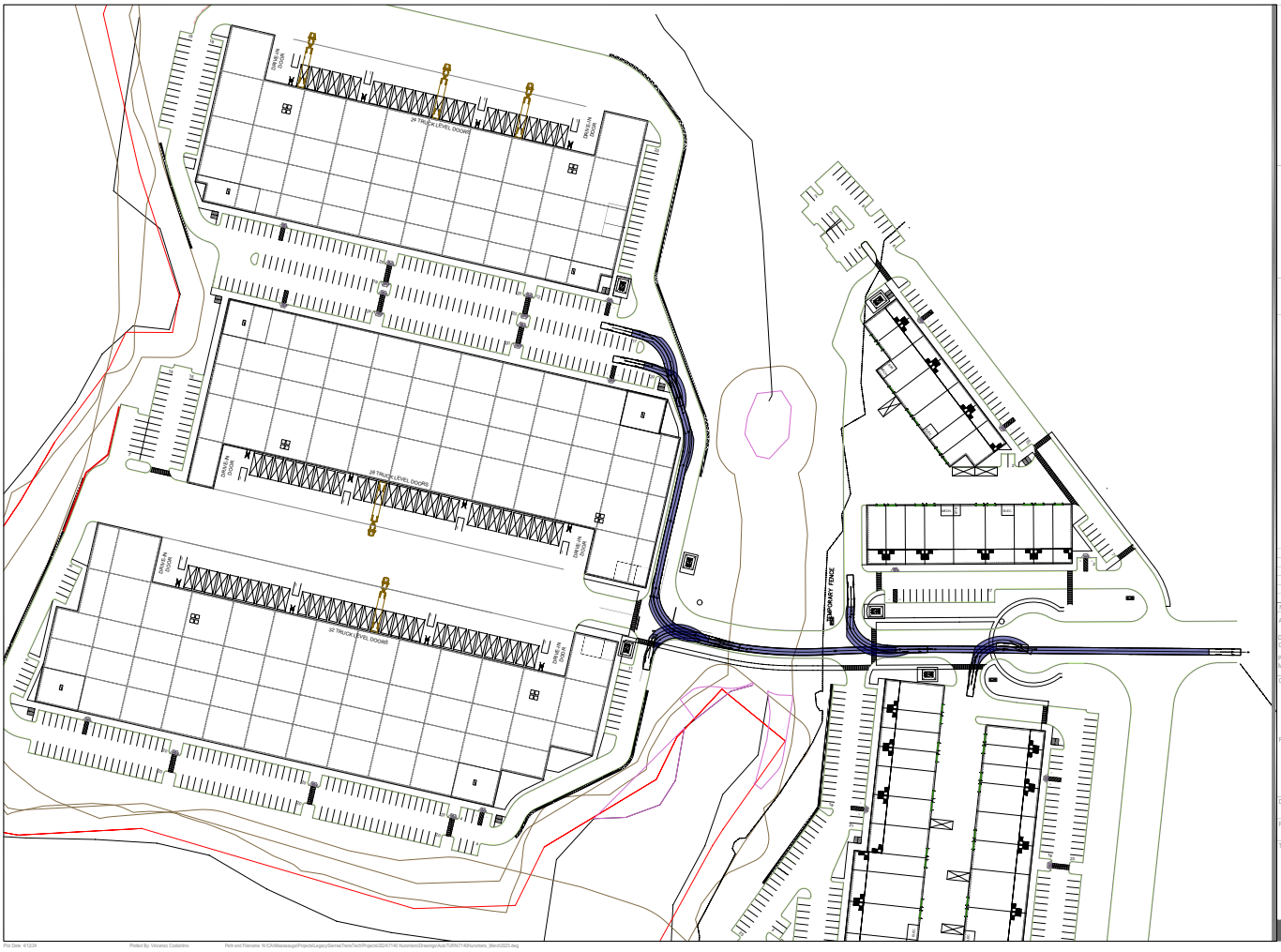
Project
7140 HURONTARIO STREET
INDUSTRIAL DEVELOPMENT

Date	March 20, 2025
Scale	NTS
Project No.	-

Title
VEHICLE MANEUVERING DIAGRAM - FIRE VEHICLE (INBOUND) SHEET 2 OF 2

Figure No.
AT-109

Plot Date: 4/1/24 Plotted By: Vincenzo Castellino Path and Filename: N:\CA\Mississauga\Projects\Legacy\SannaTiani\Tech\Projects\32\47140 Hurontario\Drawings\Auto\TURN\7140Hurontario_March2025.dwg



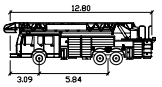
GHD

www.ghd.com

GHD Ltd.
111 Brunel Road, Suite 200
Mississauga, Ontario L4Z 1X3 Canada
T 1 905 712 0515 F 1 905 712 0515

Conditions of Use
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

LICENSED PROFESSIONAL ENGINEER
March 20, 2025
W.C. MARIA
PROVINCE OF ONTARIO



Aerial Fire

	meters
Width	2.54
Track	2.54
Lock to Lock Time	6.0
Steering Angle	37.0

No.	Issue	Checked	Approved	Date
1	First Submission	W.M	W.M	20/03/2025

Author	V.C	Designer	V.C
Drafting Check	W.M	Design Check	W.M
Project Manager	W.M	Project Director	W.M

Client
DESIGN PLAN SERVICES INC.

Project
7140 HURONTARIO STREET INDUSTRIAL DEVELOPMENT

Date	March 20, 2025
Scale	NTS

Project No.
-

Title
VEHICLE MANEUVERING DIAGRAM - FIRE VEHICLE (OUTBOUND)

Drawing No.
AT-110

Plot Date: 4/1/24 Plotted By: Vincenzo Costantino Path and Filename: N:\CA\Mississauga\Projects\Legacy\Sense\Tech\Projects\23247140 Hurontario\Drawings\Auto\TURN\7140Hurontario_March2025.dwg

GHD