12879 The Gore Road (Healey Gore) Proposed Residential Subdivision

Transportation Impact Study

Paradigm Transportation Solutions Limited

2026-02
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Project Summary

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Client:

Alcan Holdings Inc.
122 Romina Drive,
Concord, Ontario
L4K 4Z7

Client Contact:

Nimrit Chahal

Consultant Project Team

Tom Willis
Creighton Chartier
Adrian Soo, P.Eng

Paradigm Transportation Solutions Limited

5A-150 Pinebush Road
Cambridge ON N1R 8J8
p: 519.896.3163
905.381.2229
416.479.9684
www.ptsl.com

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Adrian Soo, P.Eng.

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Executive Summary

Introduction

Solmar Development, on behalf of Alcan Holdings Inc., retained Paradigm Transportation Solutions Limited (Paradigm) to complete this Transportation Impact Study (TIS) for a proposed residential subdivision.

This study determines the impacts of the development traffic on the surrounding road network and identifies any necessary mitigation to accommodate the site generated traffic.

This study includes an assessment of the existing transportation network, and analyses of existing and future traffic conditions (with and without the proposed development). This study also includes a review of the site layout and design, proposed active transportation facilities, interface with future transit services, potential traffic calming facilities, and on-site circulation.

Development Concept

The subject site is located at 12879 The Gore Road in the Town of Caledon. The site is situated in the southeast quadrant of Healey Road and The Gore Road intersection and the lands are currently undeveloped.

The property owner is proposing to construct a residential subdivision providing a total of 835 residential dwelling units. The dwelling types will encompass a mix of single-family detached homes, semi-detached homes, and street townhouses.

Vehicle access is proposed via new access roads on The Gore Road (Street A), Healey Road (Street B), and via a planned north-south collector road (Street A, Street C).

Conclusions

- **Existing Operations:** All study area intersections operate at acceptable levels of service and all movements within capacity during the AM and PM peak hours. The exceptions include critical movements identified at the following intersections during the PM peak hour:
  - At the signalized Healey Road/The Gore Road intersection, the westbound shared left/through/right movement reports a LOS F with a v/c ratio of 1.41.

- At the unsignalized Healey Road/Humber Station Road intersection, the westbound shared left/through/right movement reports a LOS E; however, this movement is noted to be approaching capacity with a v/c ratio of 0.95.

- **2032 Background Traffic Operations:** All study area intersections are forecast to operate at acceptable levels of service and within capacity during the AM and PM peak hour analysis time periods. The exception noted is:

  - At the signalized Healey Road/Coleraine Drive intersection, where the forecast queues for both the eastbound and westbound left-turn movements slightly exceed the available storage provisions under both the AM and PM peak hours.

    These minor queue exceedances are not considered a critical issue as the reported 50th percentile average queues would be accommodated within the available storage provisions.

- **2051 Background Traffic Operations:** Congestion issues associated with high traffic volumes were observed at the following intersections under both Option 1 and Option 2:

  - The Gore Road and Healey Road
  - Humber Station Road and Healey Road
  - Coleraine Drive and Healey Road
  - The Gore Road and George Bolton Parkway
  - Humber Station Road and George Bolton Parkway
  - Humber Station Road and North-South Collector Road

  Otherwise, all study area intersections operate at acceptable levels of service and within capacity during the AM, and PM peak hour analysis time periods.

- **Development proposal:** The proposed development is a residential subdivision with 835 units, comprising 128 detached houses, 430 semi-detached units, and 277 townhouse units. The proposed site plan includes connections to The Gore Road, Healey Road, and the future north-south collector road.

  - **Intersection spacing and sight distances** under the proposed site design fulfil the relevant recommendations. The exception is one internal intersection (on Street C, just west of the North-South Collector Road), where further analysis will be needed during the detailed design stage.



- **Transit implementation** is consistent with the directions of the *Multi-Modal Transportation Plan*, and enables good access to transit for all residents in the subject site.
- **Multi-use/cycling facility provision** within the subject site is consistent with the directions of the *Active Transportation Plan*, and allows for connections to planned facilities at the boundaries of the site.
- **Sidewalk provision** within the subject site is consistent with the directions of the *Active Transportation Plan*, and allows for connections with sidewalks on adjacent roads
- **Traffic calming**: There are a variety of suitable traffic calming measures that could be applied within the subject site. Further engagement with Town staff is needed to determine the specific measures and locations. These measures will then be included in the detailed design stage.

- **Site Generated Traffic:** The subject site is estimated to generate approximately 439 new AM peak hour trips and approximately 498 new PM peak hour trips.
- **2032 Total Traffic Operations:** The following critical movements were not present under the 2032 background operations:
  - Healey Road and Centreville Creek Road: Under the PM peak hour, the westbound shared movement is forecast to operate at LOS F with a v/c ratio of 0.98
- **2051 Total Traffic Operations:** No new critical movements were compared with 2051 background operations (option 1 and option 2).
- The following **mitigation measures** were considered where site driveways intersect arterial roads (that is, at Healey Road and Street B, and at Street A and The Gore Road):
  - **Signal warrants**: signalization of these intersections was not warranted under 2032 or 2051 total traffic conditions.
  - **Auxiliary left-turn turn lanes***:* A southbound left-turn lane at Street A and The Gore Road is warranted under both 2032 and 2052 conditions. An eastbound left-turn lane at Healey Road and Street B is not warranted under 2032 conditions, but is warranted under 2051 conditions.
  - **Auxiliary right-turn turn lanes**: No operational issues for right-turn movements were observed at site driveways under 2032 or 2051 total traffic conditions. However, a right-turn

lane for traffic entering the subject site may be appropriate for other reasons at these intersections.

Recommendations

The following mitigation measures are recommended:

- A southbound left-turn lane at Street A and The Gore Road
- An eastbound left-turn lane at Healey Road and Street B as a long-term improvement.

Based on the findings and conclusions of this study, it is recommended from a transportation perspective, the required planning applications to allow the proposed development should be approved.

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1 Introduction

Solmar Development, on behalf of Alcan Holdings Inc., retained Paradigm Transportation Solutions Limited (Paradigm) to complete this Transportation Impact Study (TIS) for a proposed residential subdivision.

The subject site is located at 12879 The Gore Road in the Town of Caledon. The site is situated in the southwest corner quadrant of Healey Road and The Gore Road intersection and the lands are currently undeveloped.

The property owner is proposing to construct a residential subdivision providing a total of 835 residential dwelling units. The dwelling types will encompass a mix of single-family detached homes, semi-detached homes, and street townhouses. Vehicle access is proposed via new access roads on The Gore Road (Street A), Healey Road (Street B), and a planned north-south collector road (Street A, Street C).

This study determines the impacts of the development site traffic on the surrounding road network and identifies any necessary mitigation to accommodate the site generated traffic.

The study scope includes:

- Analysis of current traffic conditions in the study area;
- Estimates of future background traffic growth;
- Analysis of future background traffic conditions;
- Estimates of additional traffic generated by the subject site;
- Impact assessment of future traffic conditions on the surrounding road network;
- Identification of applicable improvements to mitigate the impacts of future traffic in a satisfactory manner;
- Review of internal intersection to the site examining the proposed intersection spacings and available sight distance provisions;
- Preparation of a transit implementation plan;
- Preparation of a pedestrian and cycling plan; and
- Identification of applicable traffic calming measures for consideration within the proposed subdivision.

The study area for assessment includes the following intersections:

- Healey Road and Centreville Creek Road (unsignalized);

- Healey Road and The Gore Road (signalized);
- Healey Road and Street B (future);
- Healey Road and future North-South Collector (future);
- Healey Road and Humber Station Road (unsignalized);
- Healey Road and Coleraine Drive (signalized);
- Street A and The Gore Road (future);
- Street A and Street B (future);
- Street A and future North-South Collector (future);
- Street C / future East-West Collector and future North-South Collector (future);
- Future East-West Collector and Humber Station Road (future);
- George Bolton Parkway Extension and The Gore Rd (future);
- Two options for the southernmost intersection of the future North-South Collector (intersection with either the George Bolton Parkway Extension or Humber Station Road); and
- George Bolton Parkway Extension and Humber Station Road (future).

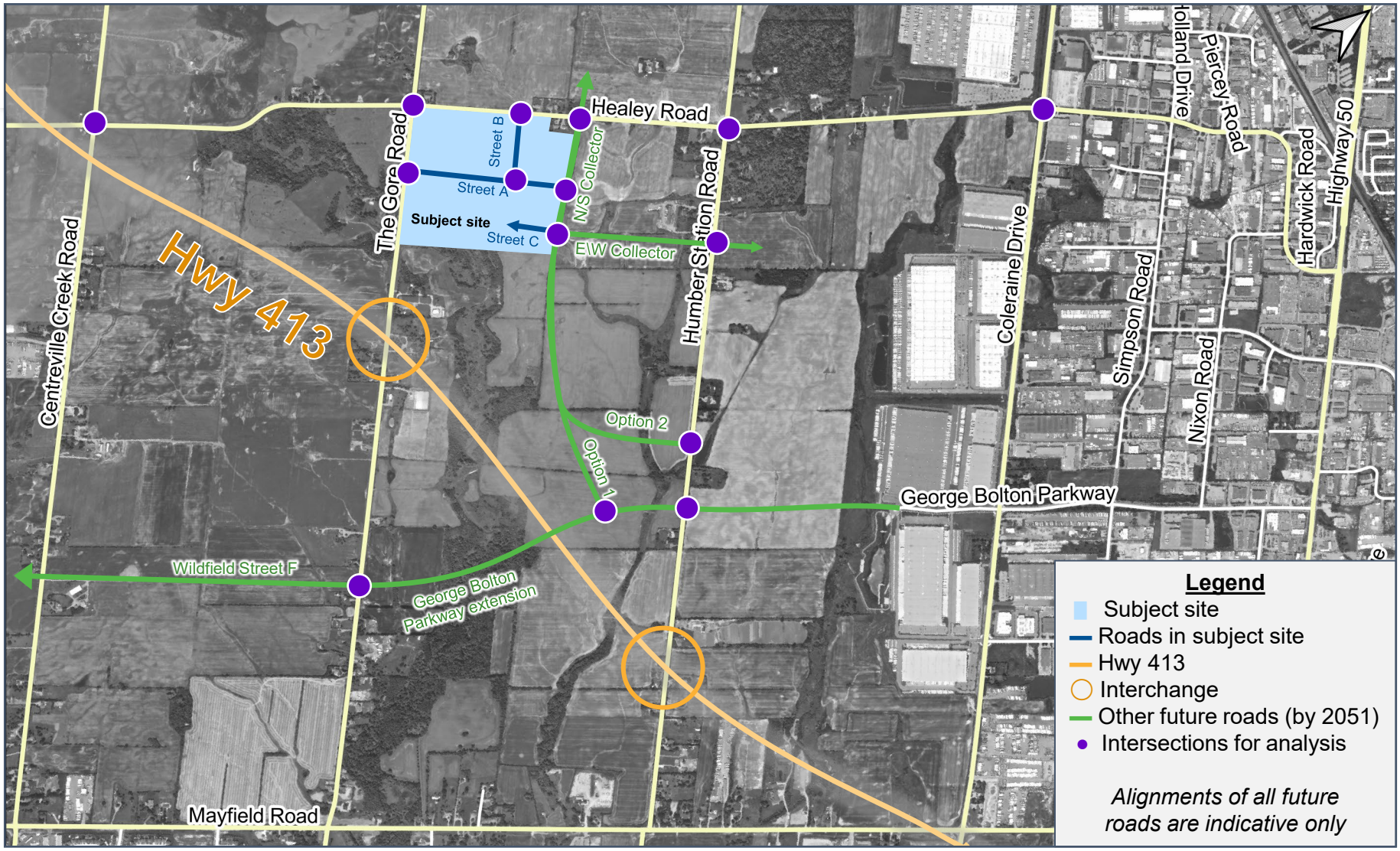
Figure 1.1 illustrates the subject site location and study area intersections.

This study has been completed in general accordance with the Town of Caledon *Transportation Impact Studies Terms of Reference and Guidelines* [1] and direction provided by Town staff during pre-study consultation.

Terms of Reference were populated and issued to both the Town of Caledon and to the Ministry of Transportation Ontario (MTO) following initial discussions with Town staff. At the time of writing, no feedback has been received from MTO.

Appendix A contains the Terms of Reference provided to the Town of Caledon and to MTO, and subsequent correspondence exchanged with the Town.

[1] Town of Caledon, *Transportation Impact Studies Terms of Reference and Guidelines*, March 2017.



Site Location and Intersections for Analysis

12879 The Gore Road, Caledon
250381

Figure 1.1

2 Existing Transportation Network

2.1 Road Network

The characteristics of the roads and intersections in the vicinity of the subject site are described below. Reference was made to the Town of Caledon *Official Plan*, *Schedule J – Long Range Road Network*.[2]

- **Healey Road:** An east-west rural arterial roadway with two lanes (one lane per direction). The roadway has a posted speed limit of 70 kph west of The Gore Road, which then transitions to a posted maximum limit of 60 kph between The Gore Road and Coleraine Drive, and further transitions to a posted maximum limit of 50 kph east of Coleraine Drive.

  Within the study area heavy trucks are not permitted along Healey Road, with weight restrictions in place between March 1 and April 30.

  No sidewalks are provided along the roadway within the study area. No dedicated cycling facilities are provided, requiring all cyclists to share the travelled roadway with vehicles.

- **Centreville Creek Road:** A north-south rural arterial roadway with two lanes (one lane per direction). The roadway has a posted speed limit of 80 kph within the study area.

  Within the study area heavy trucks are not permitted along Centreville Creek Road, with weight restrictions in place between March 1 and April 30.

  No sidewalks are provided along the roadway within the study area. No dedicated cycling facilities are provided, requiring all cyclists to share the travelled roadway with vehicles.

  An unsignalized, all-way stop-controlled (AWSC) intersection is formed with Healey Road.

- **The Gore Road (Peel Regional Road 8):** A north-south rural arterial roadway with two lanes (one lane per direction). The roadway has a posted speed limit of 80 kph in the study area.

  No sidewalks are provided within the study area. No dedicated cycling facilities are provided, requiring all cyclists to share the travelled roadway with vehicles.

  A signalized intersection is formed with Healey Road. Delineated cross-walks are provided across all intersection approaches.

[2] Town of Caledon, *Official Plan, Schedule J – Long Range Road Network*, April 2018.

Humber Station Road: A north-south rural arterial roadway with two lanes (one lane per direction). The roadway has a posted speed limit of 80 km/h within the study area.

Within the study area heavy trucks are not permitted along Humber Station Road, with weight restrictions in place between March 1 and April 30.

No sidewalks are provided within the study area. No dedicated cycling facilities are provided, requiring all cyclists to share the travelled roadway with vehicles.

An unsignalized, AWSC intersection is formed with Healey Road.

- **Coleraine Drive (Peel Regional Road 150):** A north-south urban arterial roadway with four lanes (two lanes per direction). The roadway has a posted speed limit of 70 kph in the study area.

  No sidewalks are provided within the study area. No dedicated cycling facilities are provided, requiring all cyclists to share the travelled roadway with vehicles.

  A signalized intersection is formed with Healey Road. Auxiliary left-turn lanes are provided on all intersection approaches.

Future planned transportation network improvements are discussed in **Section 4.1**.

2.2 Transit

There is currently one fixed-route transit service serving the study area:

- **Brampton Transit Route 41 BOLTON** provides service along Coleraine Drive. The route operates with approximately one-hour headways on weekdays during the AM and PM peak periods only. The nearest transit stops to the subject site are located on Coleraine Drive at the intersection with Healey Road, approximately 2.5 km from the subject site.

There are also two on-demand specialized transit services currently serving the study area:

- **TransHelp** is a specialized transit service that provides specific trips, flexible trips, subscription trips, return trips and cross-boundary trips to people with disabilities across Peel Region;[3] and
- **Caledon Community Services (CCS)** is a door-to-door transportation service available for seniors and people with disabilities, that is, those unable to drive on their own.[4]

Future planned transit network improvements are discussed in **Section 4.2**.

[3] Region of Peel, *My Trips*, Accessed 7 December 2022. https://www.peelregion.ca/transhelp/my-trips#fares

[4] Caledon Community Services, *Specialized Transportation Application*, Accessed 7 December 2022. https://ccs4u.org/specialized-transportation-application

2.3 Active Transportation

Currently, no dedicated pedestrian infrastructure or facilities are provided along the roads in the study area.

There are currently no destinations within walking distance for the prospective residents of the proposed residential subdivision development.

12879 The Gore Road currently has a Walk Score of 0 out of 100. This location is described as “Car-Dependent: Almost all errands require a car”.[5]

12879 The Gore Road currently has a Bike Score of 12, which is described as “Somewhat Bikeable: minimal bike infrastructure”.[5] All roads in the study area lack dedicated cycling facilities, requiring cyclists to share the travelled roadway with motor vehicles.

Future planned active transportation network improvements are discussed in **Section 4.3.**

[5] WalkScore.com, *12879 The Gore Road: A location in Caledon,* https://www.walkscore.com/score/12879-the-gore-rd-bolton-on-canada Accessed 2026-02-20

3 Existing Traffic Operations

3.1 Traffic Volumes

To assess intersection operations, turning movement counts (TMCs) are used to quantify the movement of vehicles, pedestrians, trucks, buses, and cyclists through an intersection. Existing traffic data at an intersection or on a road section forms the foundation for operational analysis. The counts are usually collected during peak periods to complete level of service (LOS) analysis under its worst-case operating conditions.

Paradigm collected turning movement counts at the following intersections:

- Healey Road and Centreville Creek Road (Thursday 2nd October 2025); and
- Healey Road and Coleraine Drive (Tuesday 2nd December 2025).

In addition, TMCs were provided/obtained at the following intersections:

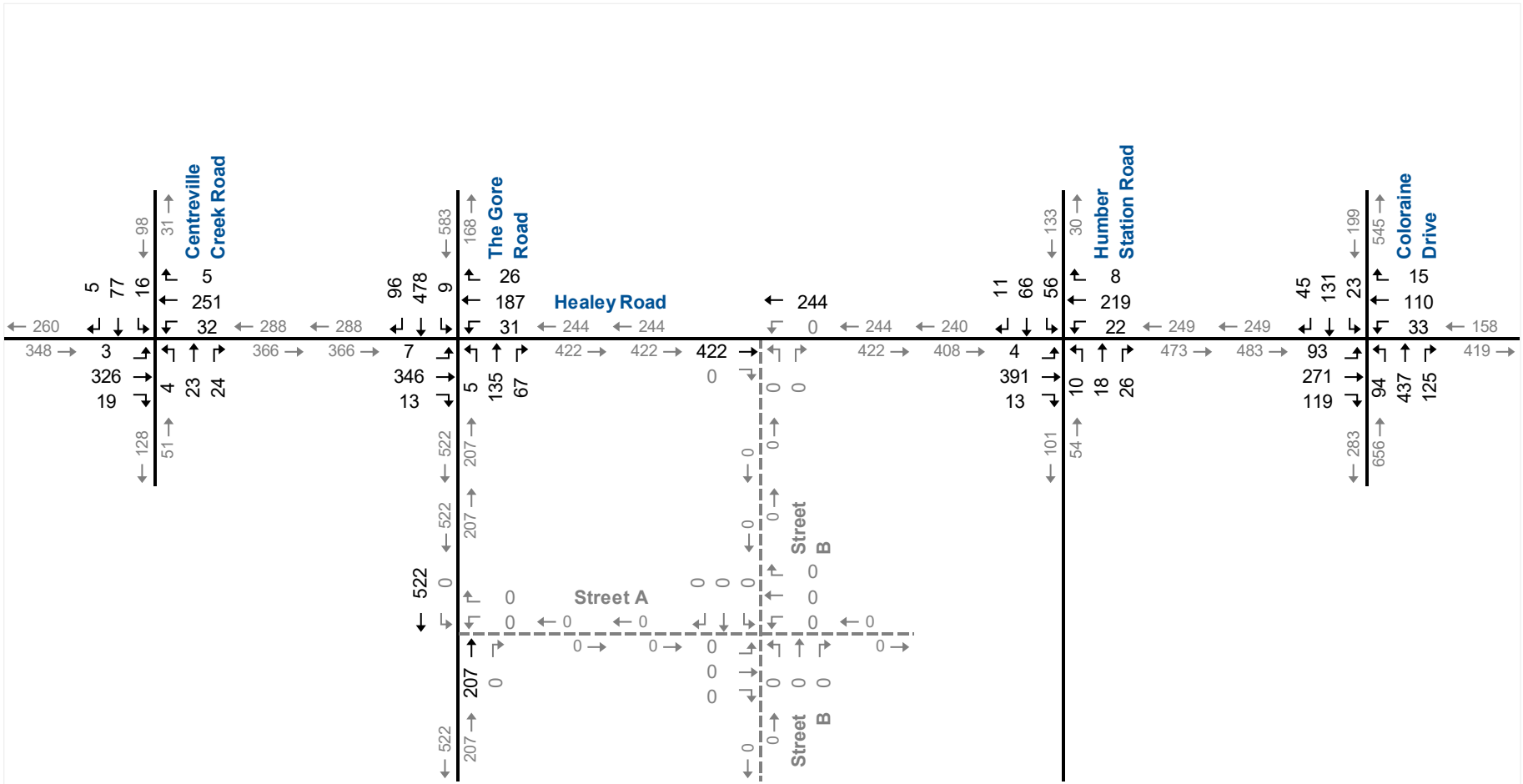
- Healey Road and The Gore Road (Tuesday 17th June 2025), obtained from Peel Region; and
- Humber Station Road and Healey Road (Thursday 5th August 2021), obtained from BA Group.

The counts all captured the weekday AM and PM peak periods. The data was counted in 15-minute intervals and vehicles were classified by type.

Appendix B contains the raw turning movement count data for reference.

TMC data was grown to a common 2026 base year. Specifically, a 2% per annum compounded growth rate was applied to the available 2021, 2024, and 2025 TMC data. The volumes were then balanced, by factoring up volumes based upon adjacent upstream and downstream intersections.

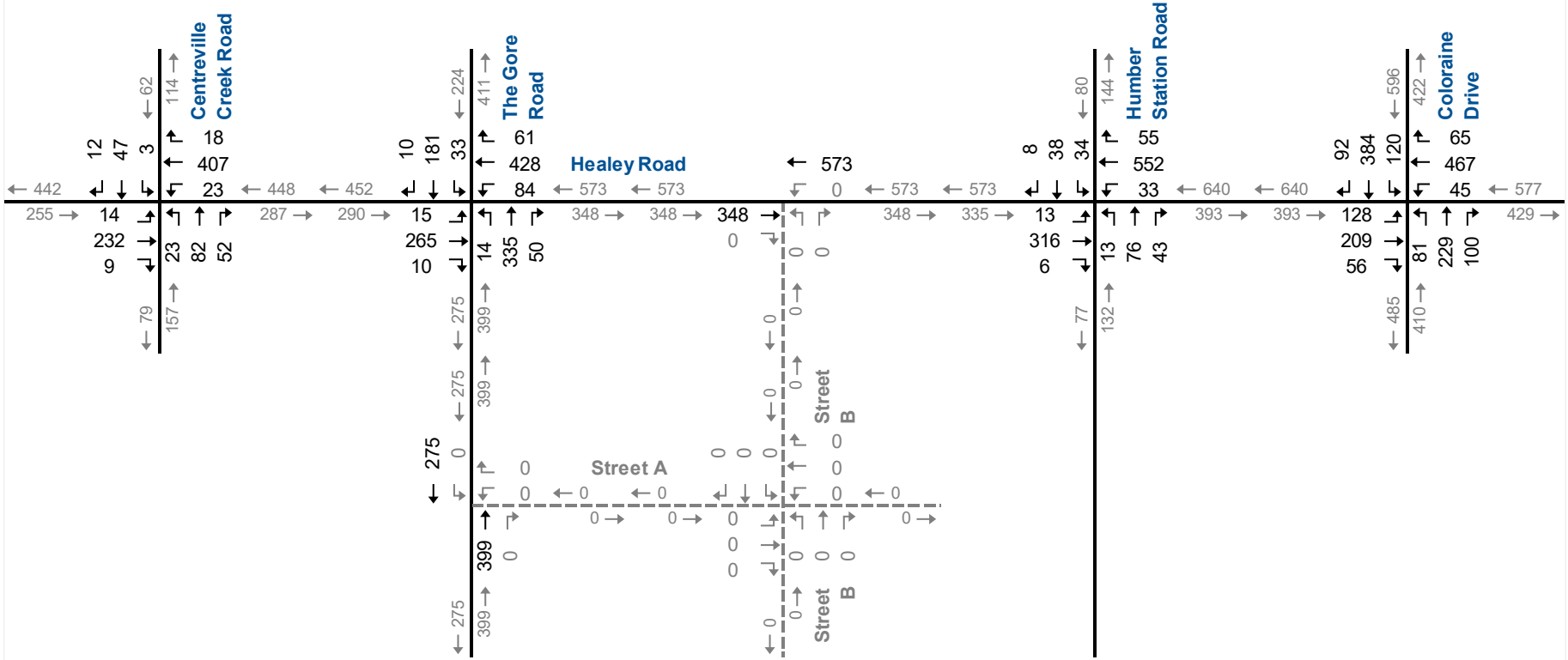
Figure 3.1 and **Figure 3.2** illustrate the base year (2026) weekday AM and PM peak hour traffic volumes, respectively.



Base Year Traffic Volumes
AM Peak Hour

12879 The Gore Road, Caledon
250381

Figure 3.1



Base Year Traffic Volumes
PM Peak Hour

12879 The Gore Road, Caledon
250381

Figure 3.2

3.2 Traffic Operations

Intersection level of service (LOS) is a recognized method of quantifying the delay experienced by drivers at intersections. The term "level of service" denotes how well (or poorly) a traffic movement operates under given traffic demands, lane arrangements, and controls.

Each level is determined by the average amount of control delay per vehicle. This is the total delay associated with stopping for a signal or stop sign and includes four components; deceleration delay, stopped delay, queue move-up time and final acceleration delay.

The average vehicle delay is related to the number of vehicles desiring to make a movement, compared to the estimated capacity for that movement. The capacity is based on several criteria related to the opposing traffic flows and intersection geometry.

Table 3.1 summarizes the level of service criteria for signalized and stop-controlled intersections. LOS A indicates small, average control delays (less than 10 seconds per vehicle). In contrast, LOS F indicates intersection failure, which results in extensive vehicular queues and long delays (over 50 seconds per vehicle at an unsignalized intersection and over 80 seconds per vehicle at a signalized intersection). LOS D is typically considered acceptable peak hour performance in an urban setting, and lower LOS values are tolerable for short-term periods during peak hours when heavier traffic volumes are expected.

TABLE 3.1: VEHICLE LEVEL OF SERVICE DEFINITIONS

Level of Service	Signalized Intersections Average Total Delay (seconds per vehicle)	Unsignalized Intersections Average Total Delay (seconds per vehicle)
A	<= 10	<= 10
B	10-20	10-15
C	20-35	15-25
D	35-55	25-35
E	55-88	35-50
F	> 80	> 50

The Town of Caledon *Transportation Impact Studies Terms of Reference and Guidelines* [6] identifies critical movements as follows:

- Signalized intersections:
  - Volume to capacity (v/c) ratio for overall intersections, through movements or shared through/turning movements increased to 0.90 or above;
  - v/c ratios for individual through or turning movements increase to 1.00 or higher; *or*
  - 95th percentile queue lengths for an individual movement exceeds the available lane storage.
- Unsignalized intersections:
  - LOS, based on average delay per vehicle, on individual movements, exceed LOS E; *or*
  - The estimated maximum queue length for an individual movement exceeds the available lane storage.

To assess peak hour traffic conditions, an operational analysis was conducted for the weekday AM and PM peak hour traffic volumes at the study area intersections using Synchro 12 software, which implements the methods of the Highway Capacity Manual (HCM) 2000. The key parameters used in the analysis include:

- Existing lane configurations;
- Heavy vehicle percentages, calculated intersection peak hour factors (PHF), and conflicting pedestrian volumes from the collected/obtained TMC data;
- Signal timing plan data as received; and
- Synchro default values for all other inputs.

Table 3.2 summarizes the operational results for the base year conditions, indicating existing LOS, average vehicular delay, v/c ratio, and 95th percentile queues for the weekday AM and PM peak hours, respectively. Critical movements are highlighted in orange. Detailed Synchro reports are provided in **Appendix C**.

The analysis of base year conditions indicates all intersections and vehicle movements are currently operating at acceptable levels of service and within capacity.

[6] Town of Caledon, *Transportation Impact Studies Terms of Reference and Guidelines*, March 2017.

The only exceptions occur at the following intersections during the PM peak hour:

- At the signalized Healey Road/The Gore Road intersection, the westbound shared left/through/right movement reports a LOS F with a v/c ratio of 1.41.
- At the unsignalized Healey Road/Humber Station Road intersection, the westbound shared left/through/right movement reports a LOS E; however, this movement is noted to be approaching capacity with a v/c ratio of 0.95.

TABLE 3.2: BASE YEAR TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Centreville Creek Road & Healey Road	AWSC	LOS	<	B	>	B	<	B	>	B	<	A	>	A	<	B	>	B	B
			Delay	<	13	>	13	<	12	>	12	<	9	>	9	<	10	>	10	12
			V/C	<	0.53	>		<	0.45	>		<	0.09	>		<	0.18	>		
			Q	<		>		<		>		<		>		<		>		
	The Gore Road & Healey Road	TCS	LOS	<	D	>	D	<	D	>	D	<	B	>	B	<	B	>	B	C
			Delay	<	39.8	>	40	<	35.2	>	35	<	10.9	>	11	<	16.5	>	16	25
			V/C	<	0.72	>		<	0.58	>		<	0.22	>		<	0.60	>		0.75
			Q	<	104	>		<	69.3	>		<	27.1	>		<	108	>		
	Humber Station Road & Healey Road	AWSC	LOS	<	C	>	C	<	B	>	B	<	A	>	A	<	B	>	B	B
			Delay	<	17	>	17	<	12	>	12	<	10	>	10	<	11	>	11	14
			V/C	<	0.64	>		<	0.42	>		<	0.10	>		<	0.25	>		
			Q	<		>		<		>		<		>		<		>		
	Coleraine Drive & Healey Road	TCS	LOS	D	D	>	D	D	D	>	D	B	B	>	B	B	B	>	B	C
			Delay	35.2	50.7	>	48	49.5	47.5	>	48	15.6	18.3	>	18	11.0	11.1	>	11	30
			V/C	0.29	0.79	>		0.40	0.41	>		0.17	0.41	>		0.07	0.09	>		0.75
			Q	28	119	>		16	46.5	>		30.6	70.2	>		6.9	17.4	>		
			Stor.	30.0	-	>		20.0	-	>		60.0	-	>		55.0	-	>		
			Avail.	-	-	>		-	-	>		-	-	>		-	-	>		
PM Peak Hour	Centreville Creek Road & Healey Road	AWSC	LOS	<	B	>	B	<	C	>	C	<	B	>	B	<	A	>	A	B
			Delay	<	12	>	12	<	18	>	18	<	11	>	11	<	10	>	10	14
			V/C	<	0.40	>		<	0.67	>		<	0.27	>		<	0.11	>		
			Q	<		>		<		>		<		>		<		>		
	The Gore Road & Healey Road	TCS	LOS	<	D	>	D	<	F	>	F	<	B	>	B	<	B	>	B	F
			Delay	<	35.3	>	35	<	232.9	>	233	<	13.4	>	13	<	11.5	>	12	102
			V/C	<	0.60	>		<	1.41	>		<	0.42	>		<	0.27	>		0.88
			Q	<	82.1	>		<	235	>		<	64.6	>		<	35.2	>		
	Humber Station Road & Healey Road	AWSC	LOS	<	C	>	C	<	E	>	E	<	B	>	B	<	B	>	B	D
			Delay	<	15	>	15	<	46	>	46	<	12	>	12	<	11	>	11	31
			V/C	<	0.54	>		<	0.95	>		<	0.25	>		<	0.16	>		
			Q	<		>		<		>		<		>		<		>		
	Coleraine Drive & Healey Road	TCS	LOS	C	C	>	C	C	D	>	D	D	D	>	D	C	C	>	C	C
			Delay	26.4	21.1	>	23	27.1	47.6	>	46	37.9	35.9	>	36	25.0	28.5	>	28	34
			V/C	0.53	0.32	>		0.14	0.85	>		0.33	0.34	>		0.33	0.44	>		0.80
			Q	25.6	53	>		14.2	163	>		38.4	50.8	>		37.8	64.5	>		
			Stor.	30.0	-	>		20.0	-	>		60.0	-	>		55.0	-	>		
			Avail.	-	-	>		-	-	>		-	-	>		-	-	>		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
AWSC - All-Way Stop Control
< / > - Shared with through movement

4 Planned Transportation Network

The surrounding area, and immediate area adjacent the subject site is expected to undergo significant growth between now and 2051, transforming from a rural area to a largely urbanized area. This will include a mix of residential lands and employment lands.

The area to the north, south and east of the proposed development is the subject of the ongoing Bolton West Secondary Plan. Although the land use plan has yet to be finalized, all options under consideration show residential areas in the lands around the subject site, with an identified “mixed use high-density area” and/or “medium density residential area” along Healey Road. Further east, the lands east of Humber Station Road are designated for employment uses, based on the existing land use plans or options currently under consideration by the Town.

A portion of the future Highway 413 is planned immediately southwest of the site. Beyond that, the recently-approved Wildfield Secondary Plan area has designated the lands for residential and mixed-use development.

The anticipated future growth resulting from the eventual development of surrounding lands will be accompanied by extensive changes to the transportation network, as discussed in the following subsequent sections.

4.1 Future Road Network

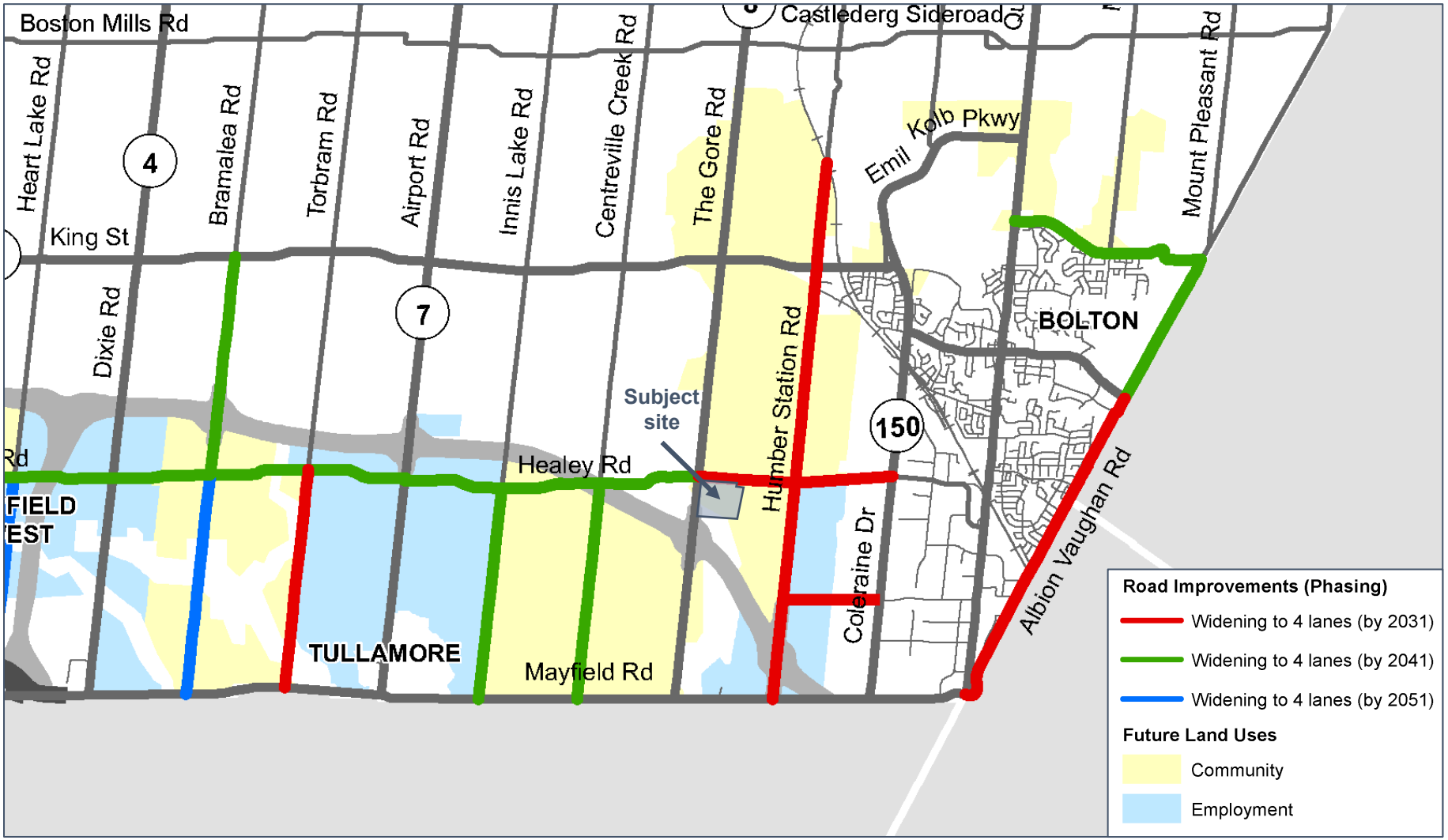
The planned future road network is based on a review of the following documents:

- Peel Region’s *Long-Range Transportation Plan*[7]*,* Appendix D;
- Town of Caledon’s *Multi-Modal Transportation Master Plan*[8] (**Figure 4.1**);
- Town of Caledon’s *Multimodal Transportation Master Plan Addendum*[9] (**Figure 4.3**);
- Bolton West Secondary Plan, land use and road network options as of February 2026[10] (**Figure 4.3**); and

[7] Peel Region, *Let’s Move Peel: Long Range Transportation Plan 2019,* Appendix D “Recommended Road Improvement Schedule”
[8] Town of Caledon, *Multi-Modal Transportation Master Plan*. Accessed 2026-02-19 from https://ccs4u.org/specialized-transportation-application
[9] Town of Caledon, *Multi-Modal Transportation Master Plan Addendum.* 2026-01-28
[10] Town of Caledon, *Bolton West SP Presentation Slides Oct 29*. Accessed 2026-02-21 from https://haveyoursaycaledon.ca/bolton-west-secondary-plan

- Wildfield Secondary Plan Transportation Study[11].

[11] BA Group, *Wildfield Village Transportation Study Update.* May 2025

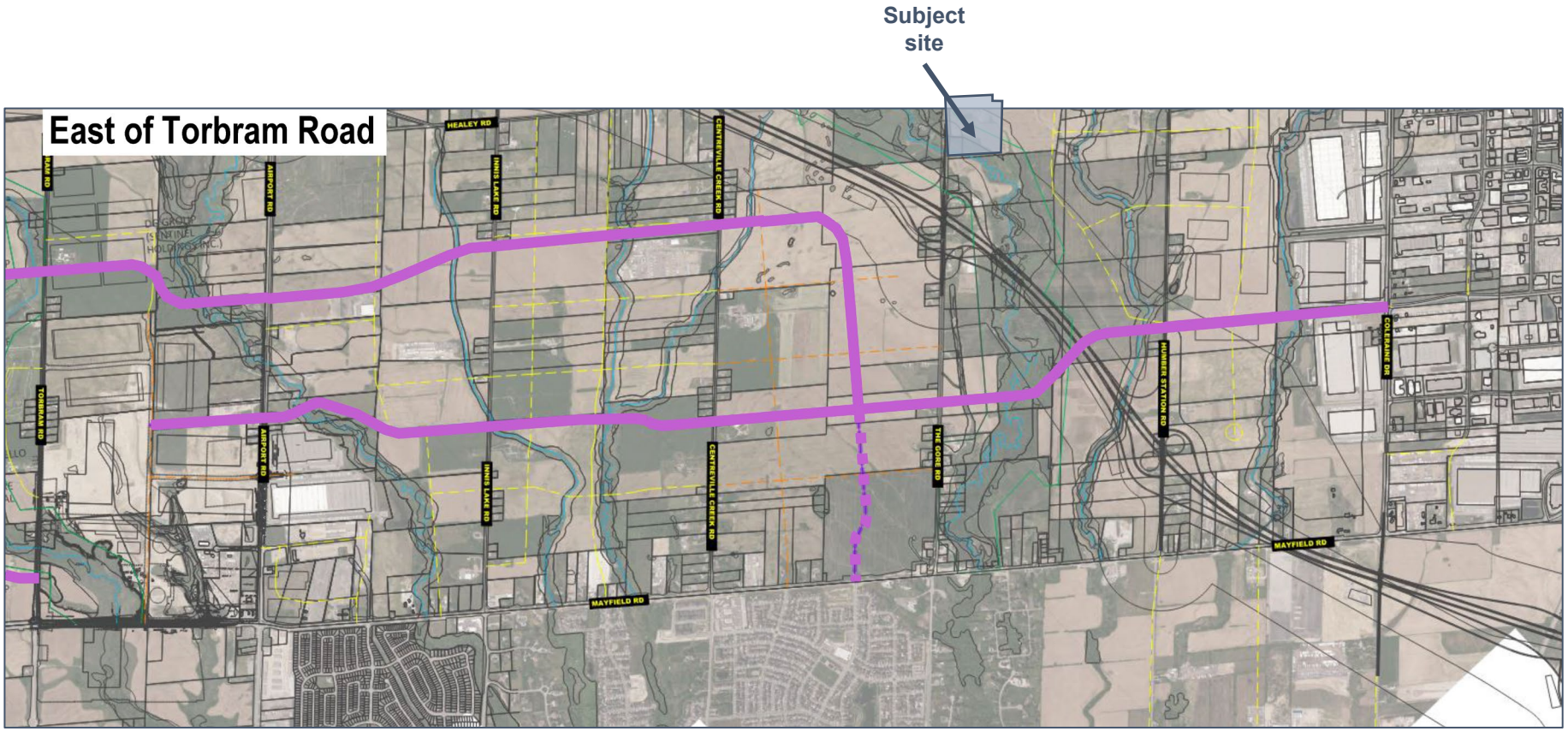


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Multi-Modal Transportation Plan
Future Road Network

12879 The Gore Road, Caledon
250381

Figure 4.1

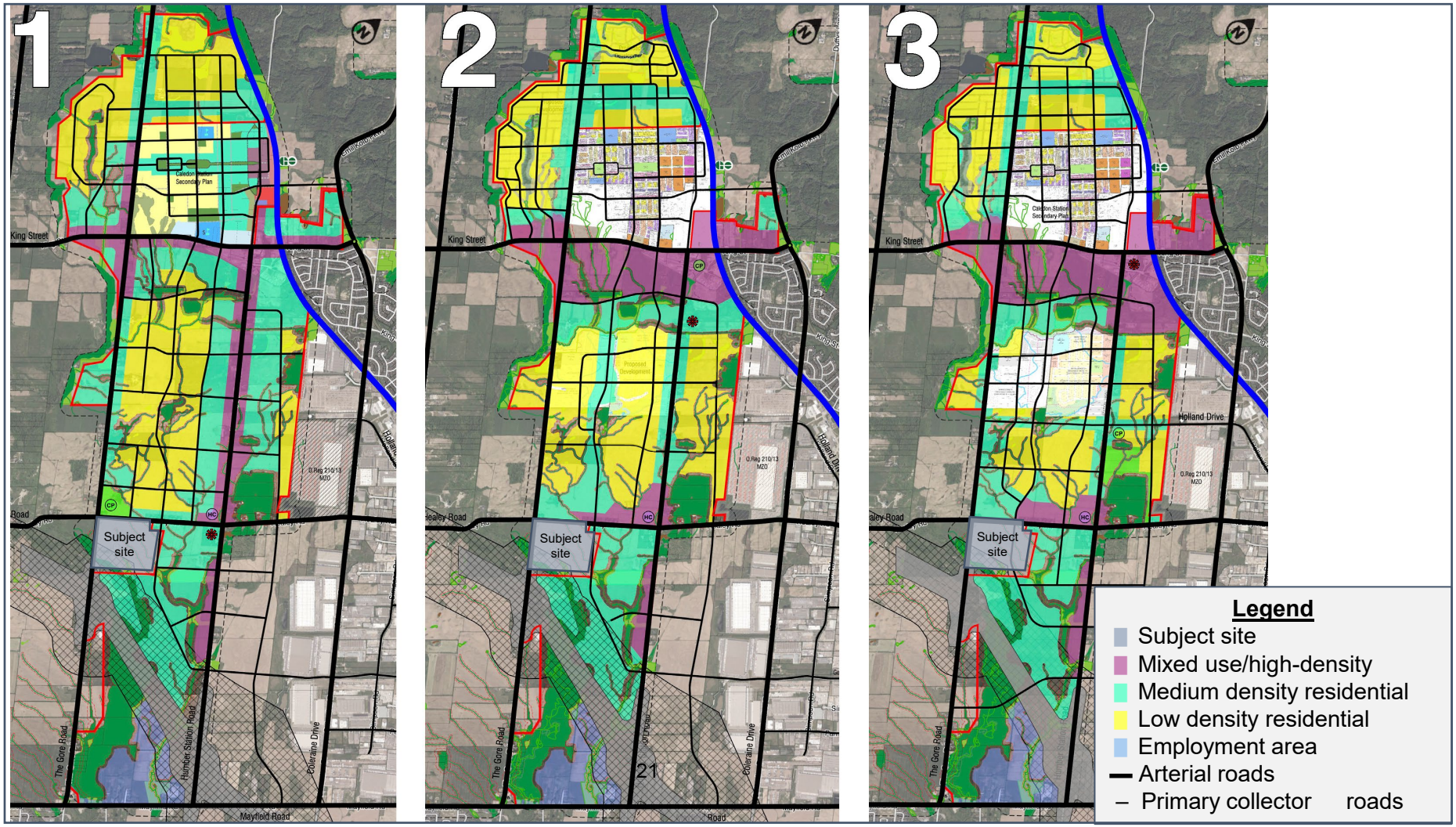


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Multi-Modal Transportation Plan Addendum
New Collector Road Preferred Alignment

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Figure 4.2



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Bolton West Secondary Plan Land Use Concepts

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250381

Figure 4.3

4.1.1 Horizon Year 2032

Based on the source documents listed above, the following changes to the road network are expected by 2032:

- Healey Road:
  - Widening from two to four lanes, east of The Gore Road.
- Humber Station Road:
  - Widening from two to four lanes throughout the study area.

4.1.2 Horizon Year 2051

Based on the source documents listed above, the following additional changes to the road network are expected by 2051:

- Highway 413:
  - New freeway running east-west through southern Caledon, with interchanges at The Gore Road, and at Humber Station Road.
- Healey Road:
  - Widening from two to four lanes, west of The Gore Road.
- Centreville Creek Road:
  - Widening from two to four lanes throughout the study area.
- The Gore Road:
  - Widening from two to four lanes, south of Healey Road.
- George Bolton Parkway:
  - Extended west to The Gore Road, connecting to Centreville Creek Road (via the road labelled “Street F” in the Mayfield West Secondary Plan transportation study). This would be a two-lane roadway east and west of The Gore Road.
- New North-South Collector Road:
  - The new road would be provided approximately midblock between The Gore Road and Humber Station Road. The road is planned to continue northward beyond Healey Road. The southern connection end has two potential routes:
    - *Option 1*: Connect to George Bolton Parkway Extension.
    - *Option 2*: Connect to Humber Station Road at an intersection north of George Bolton Parkway.

    The new north-south collector is assumed to be a two-lane roadway.

- New East-West Collector Road:
  - Extending east from the future intersection of Street C and the North-South Collector road to Humber Station Road and beyond. It is assumed to be a two-lane roadway.

4.1.3 Future Traffic Control Devices

Table 4.1 summarizes the expected future traffic control devices, based on the expected cross-sections and typical practice in the Town of Caledon.

TABLE 4.1: FUTURE TRAFFIC CONTROL DEVICES

Intersection	2032	2051
Healey Road and Centreville Creek Road	AWS	Signal
Healey Road and The Gore Road	Signal	Signal
Healey Road and Street B	TWS NS	TWS NS
Healey Road and NS Collector	N/A	Signal
Healey Road and Humber Station Road	Signal	Signal
Healey Road and Coleraine Drive	Signal	Signal
Street A and The Gore Road	TWS EW	TWS EW
Street A and Street B	AWS	AWS
Street A and NS Collector	N/A	TWS NS
Street C / EW Collector and NS Collector	N/A	TWS NS
EW Collector and Humber Station Road	N/A	Signal
George Bolton Parkway and The Gore Road	N/A	Signal
NS Collector Option 1 and Humber Station Road	N/A	Signal
George Bolton Pkwy and NS Collector Option 2	N/A	Signal
George Bolton Pkwy and Humber Station Road	N/A	Signal

Signal = Traffic Signal Control
AWS = All-Way Stop Control
TWS EW = Two-Way Stop Control. Stop control on the eastbound and westbound approaches
TWS NS = Two-Way Stop Control. Stop control on the northbound and southbound approaches

Where a road transitions between different number of lanes at an intersection, typical practice is that the transition occurs on the side with fewer lanes 'before' the intersection. This has been applied in this study.

For example, The Gore Road under the 2051 horizon is expected to have two lanes north of Healey Road and four lanes south of Healey Road; the intersection has been modelled with two through lanes in both the northbound and southbound directions.

4.2 Future Transit Network

Plans for the future transit transportation network are found in Town of Caledon's *Multi-Modal Transportation Plan*[12]. **Figure 4.4** shows the proposed transit services in the study area.

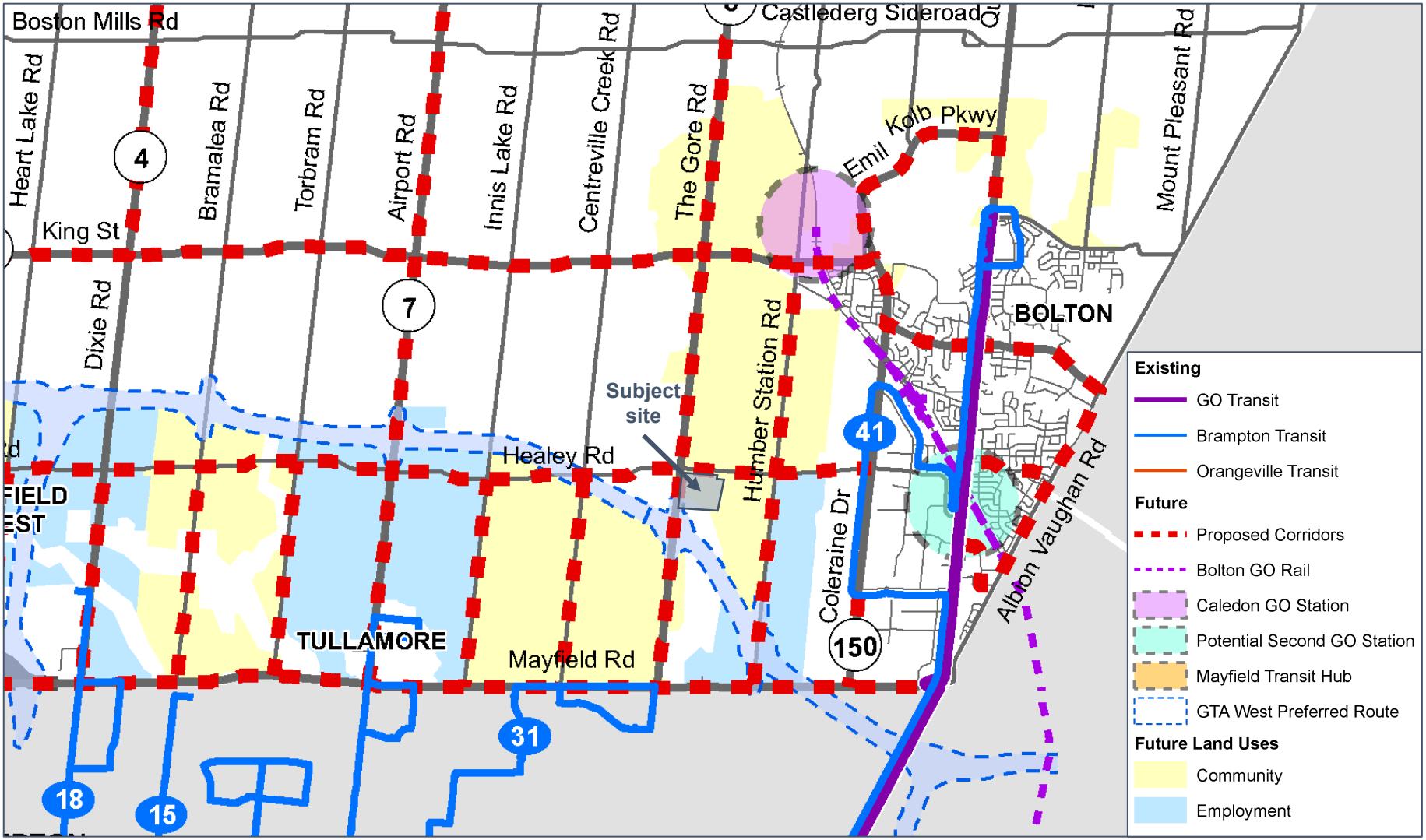
The following roads in the study area are designated as "proposed corridors" (dashed red line):

- Healey Road;
- Centreville Creek Road (south of Healey Road);
- The Gore Road;
- Humber Station Road; and
- Coleraine Drive.

The plans also illustrate potential GO Train stations located in the northwest and southeast areas of Bolton. The subject site would be within the future service area for both of these stations.

As we understand, along the Highway 413 corridor there is a planned transitway. This will be "a separate corridor running alongside the highway, dedicated for public transit".[13] No further details are currently available.

[12] Peel Region, *Sustainable Transportation Strategy*. February 2018.
[13] *Highway 413*. https://highway413.ca/en/ Retrieved 2026-02-20.



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Multi-Modal Transportation Plan
Future Transit Network

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Figure 4.4

4.3 Future Active Transportation Network

Plans for the future active transportation network are found in Town of Caledon's *Multi-Modal Transportation Plan*[14].

4.3.1 Multi-Use and Cycling Facilities

Figure 4.5 shows the proposed active transportation facility types in the study area. The plans include a multi-use trail (shown in purple) passing through the southwest corner of the site, running broadly parallel to the nearby creek.

The plans also includes physically-separated facilities (shown in orange) on Healey Road, Centreville Creek Road, Humber Station Road, and George Bolton Parkway. The plans pre-date the planned extension of George Bolton Parkway over Highway 413; however, it is reasonable to assume the extension would also provide for a physically-separated facility.

Within the context of the Town's *Active Transportation Plan*[15], "physically-separate facilities" could mean physically-separated bike lanes, cycle tracks, or multi-use paths.

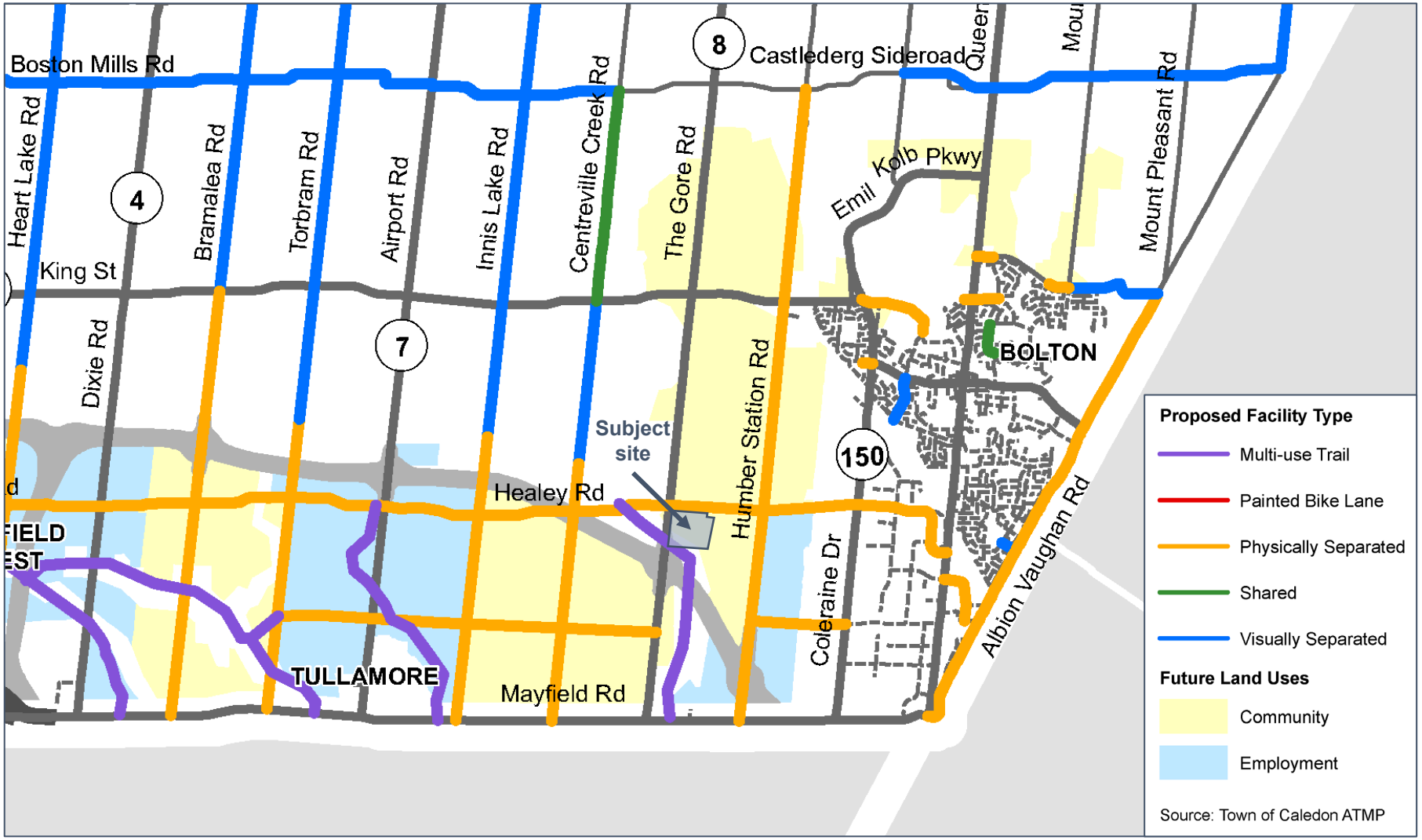
The Gore Road and Coleraine Drive are under the jurisdiction of Peel Region. Peel Region's *Sustainable Transportation Strategy*[16] document does not contain specific recommendations for these roads. As we understand, these roads are currently planned to be transferred to the Town's jurisdiction in July 2026. Given the planned facilities for similar roads in Caledon, it is reasonable to assume that these roads would also have physically-separated facilities.

4.3.2 Sidewalk Infrastructure

The Town of Caledon's *Active Transportation Plan*[15] sets out the policy for implementing pedestrian facilities. It states that sidewalks shall be provided on both sides of urban arterial roads, urban collector roads, and urban local roads that either serve a transit route, are within intensification area, are within 800m of a school, are within 400m or a community facility, or are within 500m of a park/trail.

Healey Road, Centreville Creek Road, Humber Station Road, George Bolton Parkway, the north-south collector, and the east-west collector are all (future) urban arterial roads or urban collector roads. As a result, they will have sidewalk provisions on both sides.

[14] Peel Region, *Sustainable Transportation Strategy*. February 2018.
[15] Town of Caledon, *Active Transportation Master Plan*. June 2024.
[16] Town of Caledon, *Multi-Modal Transportation Master Plan*. June 2024.



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Multi-Modal Transportation Plan
Future Cycling Network

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Figure 4.5

5 Future Background Conditions

5.1 Background Traffic Volumes

The area around the proposed development has been subject to extensive macro-scale modelling to examine the long-term effects of anticipated planned development in the area.

Given that the surrounding area is expected to transform from generally rural to generally urban by 2051, it is appropriate to draw upon these developed models as opposed to application of a simple growth rate to 2051 and assumptions for changes in travel patterns due to new roads and increased roadway capacity. This approach was agreed upon with Town staff, as documented within the Terms of Reference provided in Appendix A.

The 2051 background traffic volumes are extracted from the following sources:

- Town of Caledon's *Multimodal Transportation Master Plan Addendum*, Appendix A[17] ("MMTMP Addendum");
- The George Bolton Parkway Extension and Local Road environmental assessment ("George Bolton Pkwy EA"); and
- The Wildfield Secondary Plan Transportation Study[18] ("Wildfield SP").

For our study area intersections not included within these sources, the 2051 background traffic volumes were developed for these intersections by balancing the volumes with adjacent known intersections, in line with the likely travel patterns used by drivers. Given there are two options under consideration for the North-South Collector Road's southern end, this resulted in two scenarios for 2051 background traffic (and hence 2051 total traffic).

The 2032 background volumes were developed by first deriving an annualized growth rate for each intersection from the existing volumes to the forecast 2051 background volumes. These rates were then applied to existing volumes to represent six years of background growth (from 2026 to 2032). Where volumes are forecast to decline (because of new routes being available for traffic), a growth rate of 0% was applied to be conservative (i.e., no reductions).

[17] Town of Caledon, *Multi-Modal Transportation Master Plan Addendum.* January 28, 2026.
[18] BA Group, *Wildfield Village Transportation Study Update.* May 2025

Within the study area, only the intersections along Healey Road will be present under the 2032 horizon year. **Table 5.1** contains the annualized growth rates used for each intersection.

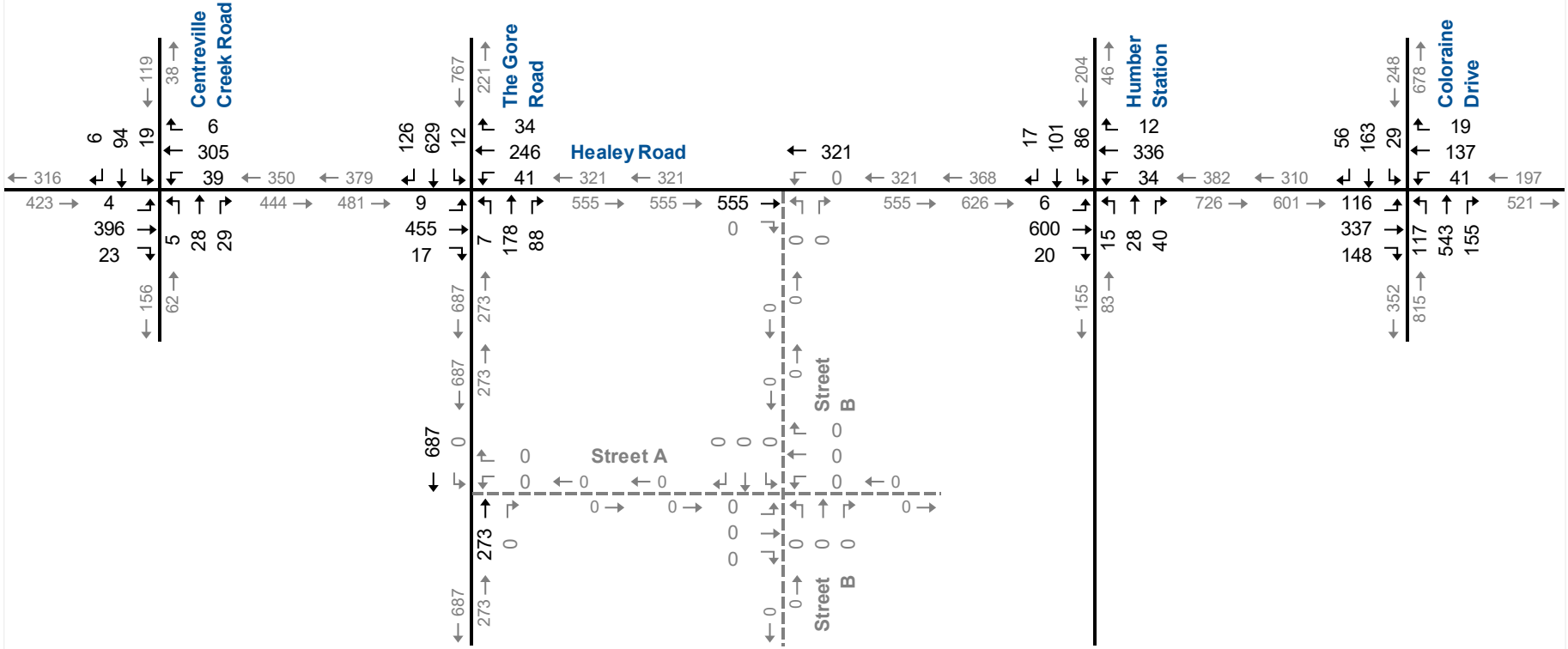
TABLE 5.1: ANNUALIZED GROWTH RATES

Intersection	AM Peak Hour	PM Peak Hour
Healey Road and Centreville Creek Road	3.3%	3.1%
Healey Road and The Gore Road	4.7%	5.0%
Healey Road and Humber Station Road	7.4%	6.4%
Healey Road and Coleraine Drive	3.7%	3.0%

Figure 5.1 and **Figure 5.2**: illustrate the 2032 background weekday AM and PM peak hour traffic volumes, respectively.

Figure 5.3 and **Figure 5.4** illustrate the 2051 background Option 1 weekday AM and PM peak hour traffic volumes, respectively.

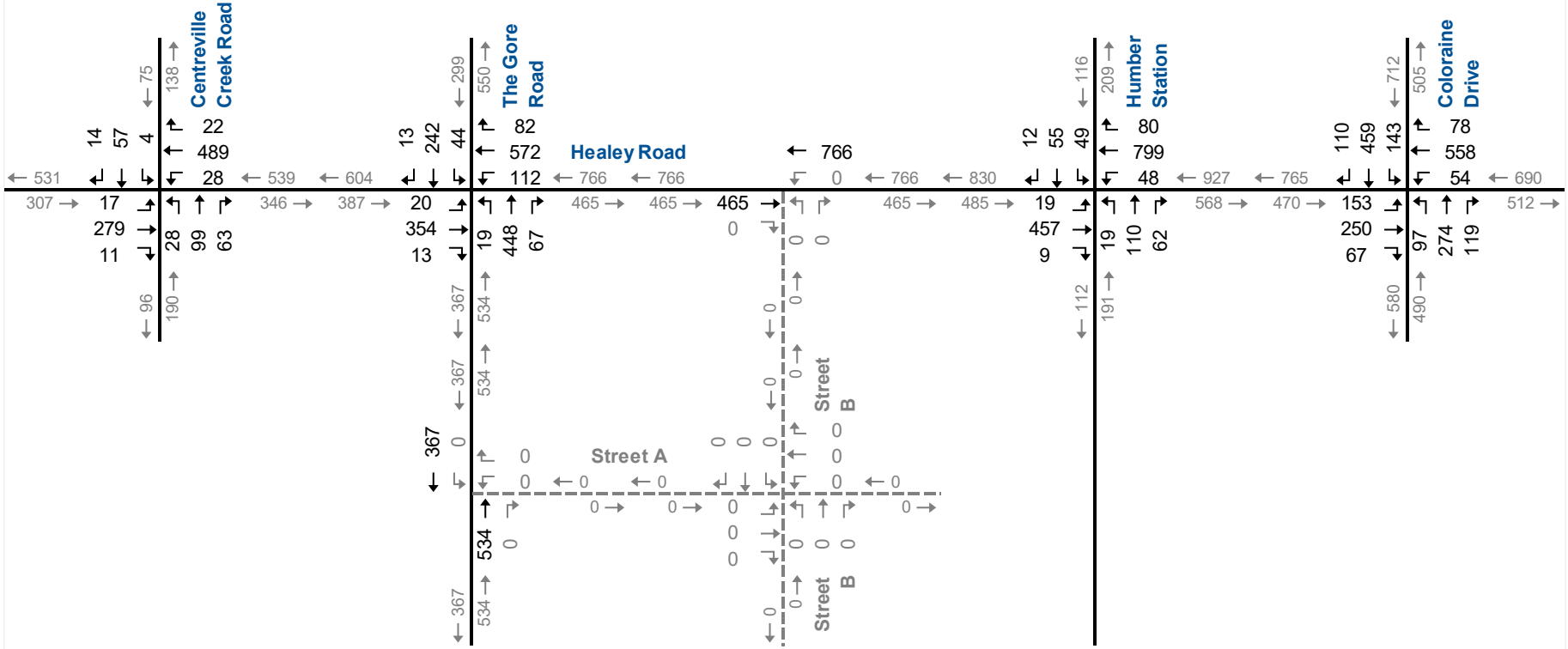
Figure 5.5 and **Figure 5.6** illustrate the 2051 background Option 2 weekday AM and PM peak hour traffic volumes, respectively.



2032 Background Traffic Volumes
AM Peak Hour

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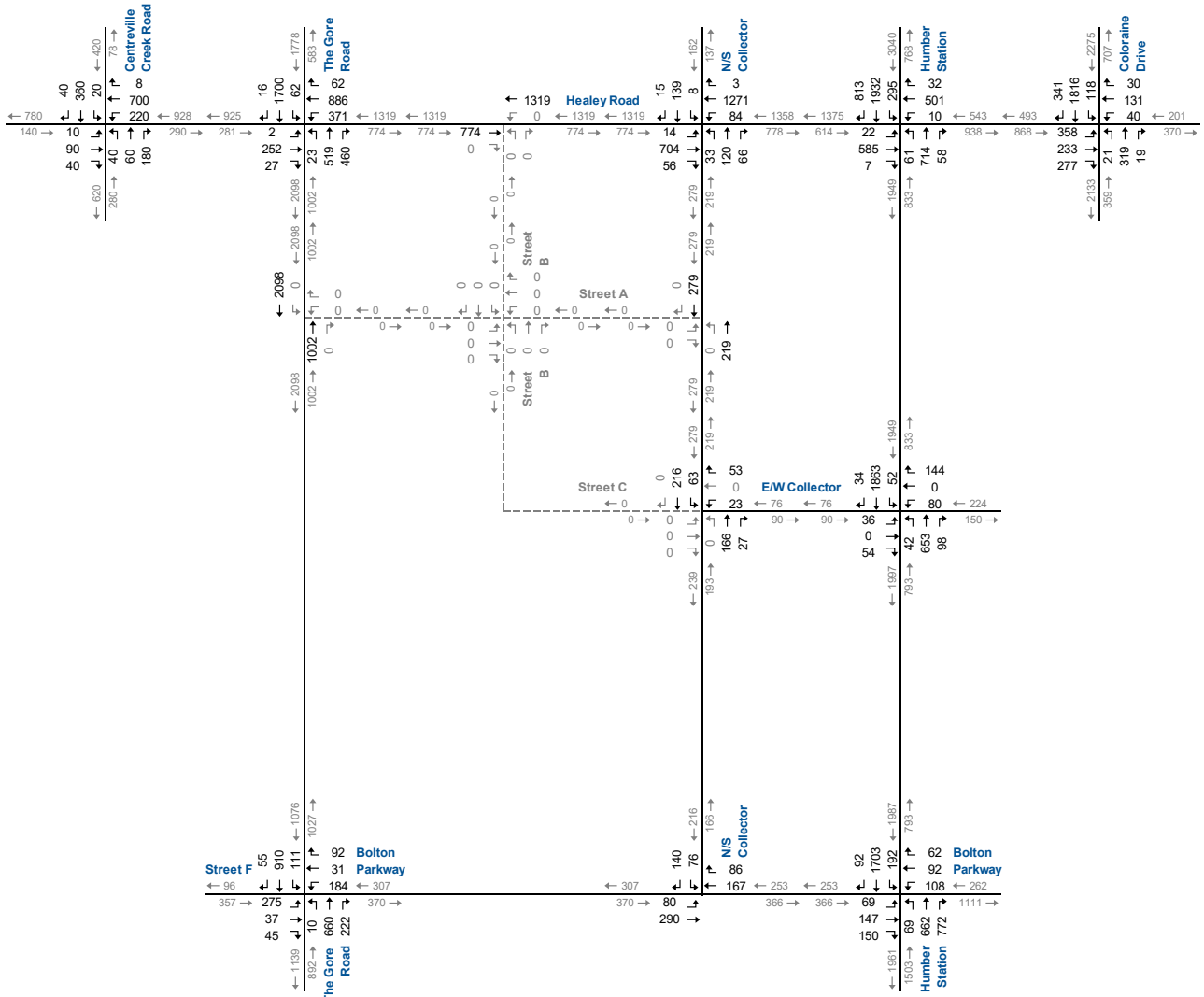
Figure 5.1



2032 Background Traffic Volumes
PM Peak Hour

12879 The Gore Road, Caledon
250381

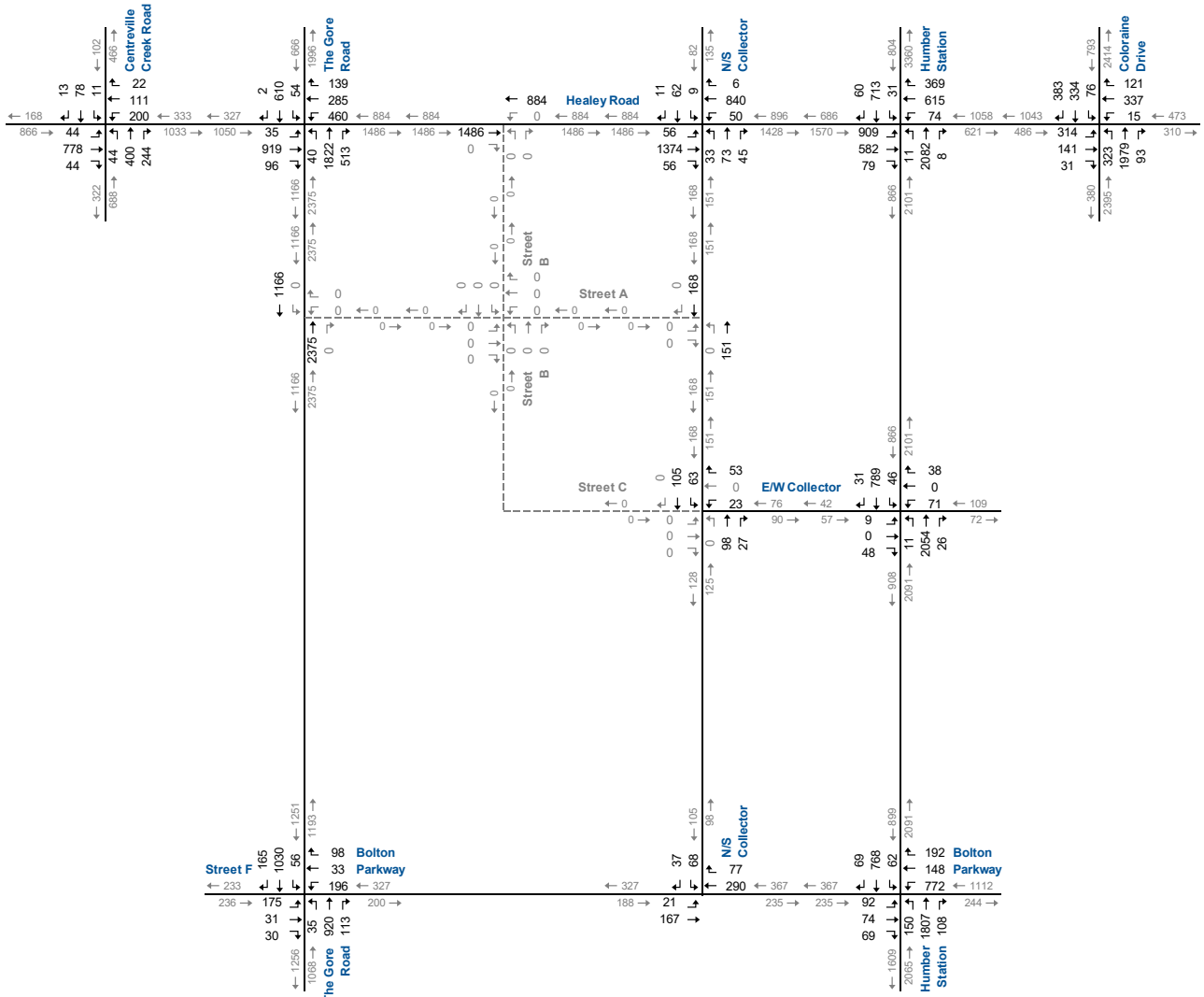
Figure 5.2



2051 Background Traffic Volumes – Option 1
AM Peak Hour

12879 The Gore Road, Caledon
250381

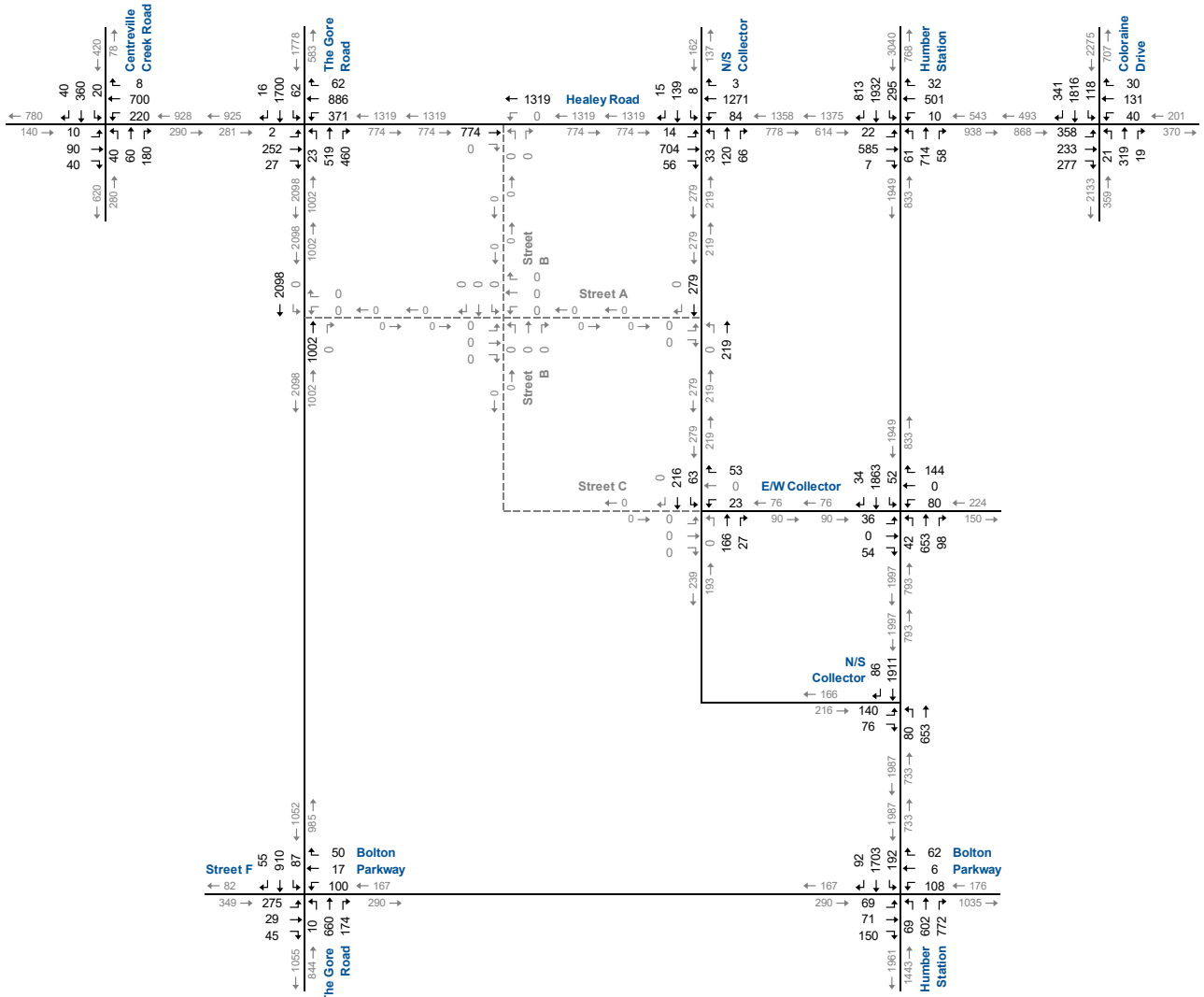
Figure 5.3



2051 Background Traffic Volumes – Option 1
PM Peak Hour

12879 The Gore Road, Caledon
250381

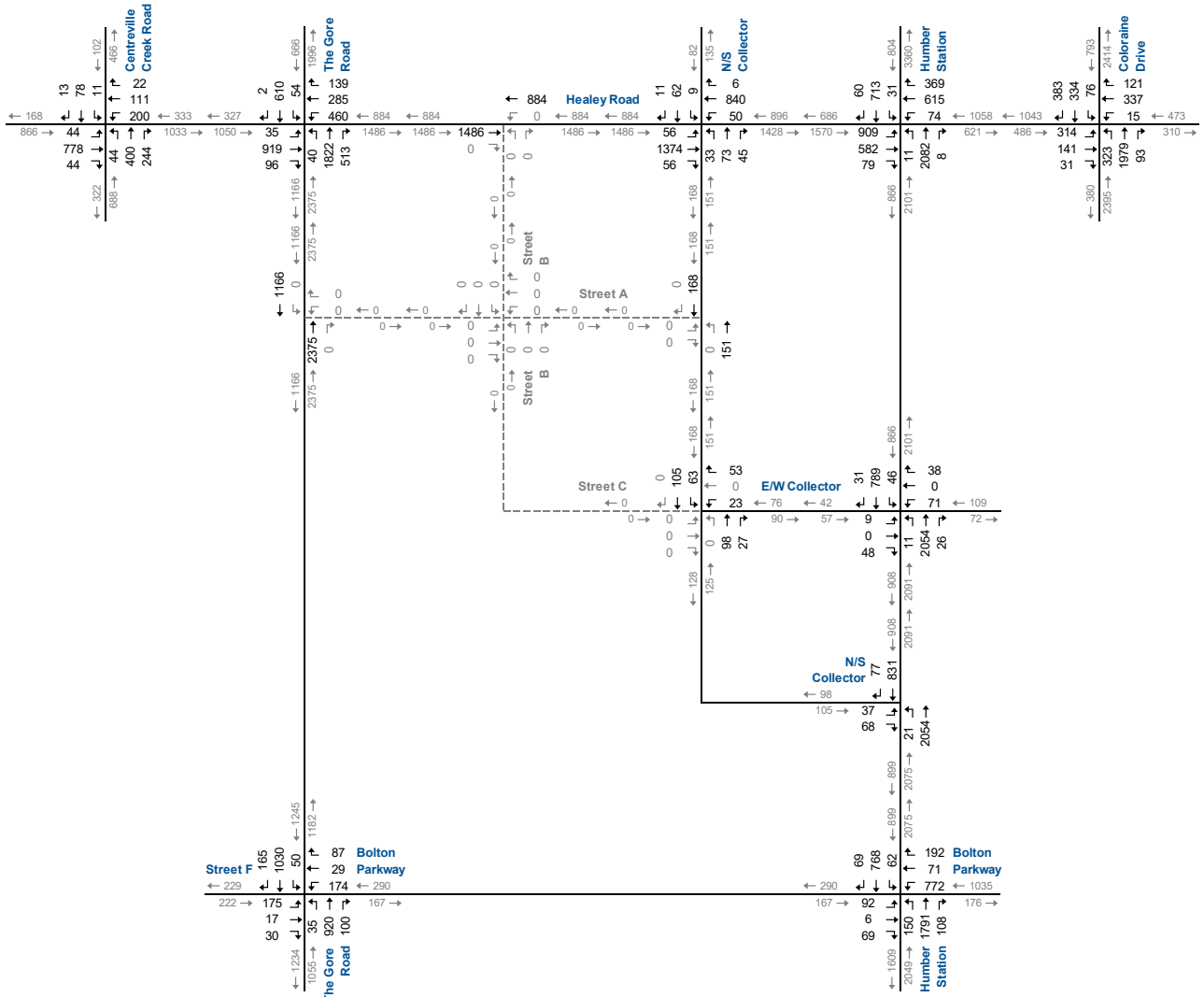
Figure 5.4



2051 Background Traffic Volumes – Option 2
AM Peak Hour

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Figure 5.5



2051 Background Traffic Volumes – Option 2
PM Peak Hour

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Figure 5.6

5.2 Background Traffic Operations

5.2.1 2032 Background Traffic Operations

The Year 2032 background operational analyses follow the same methodology, and parameters set out under existing traffic conditions. Future lane arrangements and traffic control devices as described under **Section 4.1** were implemented.

Optimized signal timings were used at all signalized intersections within the study area.

Table 5.2 summarizes the results of the operational analysis for Year 2032 background traffic conditions during the AM and PM peak hours respectively. Any movements identified as critical are highlighted within the results tables. Detailed Synchro reports are provided in **Appendix C**.

Under 2032 background traffic conditions (i.e., without the subject site), all study area intersections are reported to operate at acceptable levels of service, and with movements within capacity. The exception includes the following critical movements:

- Healey Road and Coleraine Drive
  - The reported 95th percentile queues for the eastbound and westbound left-turn movements exceed the available storage provisions under both the AM and PM peak hours.

    The queue exceedances are not considered critical issues as the reported queues are estimates of the longest queue that could occur during the peak hour; however, this level of queuing only has a five percent probability of occurring during the analysis period. It is not typical of what a motorist would experience on average.

    The reported 50th percentile average queues for these two movements under both the AM and PM peak hours are forecast to be accommodated by the existing storage lane provisions.

TABLE 5.2: 2032 BACKGROUND TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Centreville Creek Road & Healey Road	AWSC	LOS	<	C	>	C	<	C	>	C	<	B	>	B	<	B	>	B	C
			Delay	<	19	>	19	<	16	>	16	<	10	>	10	<	11	>	11	16
			V/C	<	0.68	>		<	0.59	>		<	0.12	>		<	0.24	>		
			Q	<		>		<		>		<		>		<		>		
	The Gore Road & Healey Road	TCS	LOS	C	C	>	C	C	C	>	C	A	A	>	A	A	B	>	B	B
			Delay	25.3	30.5	>	30	28.7	27.9	>	28	9.3	10.0	>	10	9.3	12.5	>	12	20
			V/C	0.04	0.49	>		0.21	0.30	>		0.02	0.14	>		0.02	0.40	>		0.60
			Q	5.1	59	>		16.2	34.3	>		2.6	13.7	>		3.7	54.8	>		
	Humber Station Road & Healey Road	TCS	LOS	A	A	>	A	A	A	>	A	A	A	>	A	A	A	>	A	A
			Delay	5.0	6.4	>	6	5.5	5.7	>	6	8.0	7.9	>	8	8.9	8.2	>	8	7
			V/C	0.02	0.47	>		0.14	0.27	>		0.05	0.05	>		0.27	0.13	>		0.44
			Q	1.4	22.2	>		4.4	12.1	>		3.5	3.5	>		12.2	6.6	>		
	Coleraine Drive & Healey Road	TCS	LOS	D	D	>	D	E	D	>	D	B	B	>	B	A	A	>	A	C
			Delay	40.8	43.7	>	43	62.3	52.9	>	55	13.3	16.2	>	16	9.0	8.9	>	9	28
			V/C	0.41	0.56	>		0.56	0.39	>		0.21	0.47	>		0.10	0.11	>		0.69
			Q	38.7	66.6	>		20.5	30.2	>		33.1	80.7	>		7	18.4	>		
			Stor.	30	-	>		20	-	>		60	-	>		55	-	>		
			Avail.	-9	-	>		-1	-	>		27	-	>		48	-	>		
PM Peak Hour	Centreville Creek Road & Healey Road	AWSC	LOS	<	C	>	C	<	D	>	D	<	B	>	B	<	B	>	B	C
			Delay	<	15	>	15	<	34	>	34	<	13	>	13	<	11	>	11	24
			V/C	<	0.53	>		<	0.87	>		<	0.36	>		<	0.16	>		
			Q	<		>		<		>		<		>		<		>		
	The Gore Road & Healey Road	TCS	LOS	C	C	>	C	C	C	>	C	A	B	>	B	B	B	>	B	C
			Delay	28.5	28.8	>	29	34.6	34.2	>	34	9.4	11.2	>	11	10.3	10.1	>	10	23
			V/C	0.16	0.37	>		0.46	0.67	>		0.03	0.28	>		0.12	0.14	>		0.68
			Q	9.7	46	>		37.3	83.7	>		4.9	35.2	>		9.2	17.7	>		
	Humber Station Road & Healey Road	TCS	LOS	A	A	>	A	A	A	>	A	A	A	>	A	B	A	>	A	A
			Delay	4.5	4.9	>	5	4.5	5.8	>	6	9.7	9.9	>	10	10.2	9.6	>	10	6
			V/C	0.08	0.27	>		0.11	0.52	>		0.07	0.17	>		0.19	0.08	>		0.53
			Q	2.6	13.5	>		4.7	27.1	>		4.9	9	>		9.3	5.1	>		
	Coleraine Drive & Healey Road	TCS	LOS	D	C	>	C	D	D	>	D	C	C	>	C	B	B	>	B	C
			Delay	37.5	28.6	>	32	38.5	47.8	>	47	28.9	26.9	>	27	17.0	19.8	>	19	32
			V/C	0.67	0.25	>		0.26	0.76	>		0.32	0.32	>		0.33	0.42	>		0.74
			Q	40.6	36.7	>		21.2	100	>		41.4	55.2	>		34.9	63.2	>		
			Stor.	30	-	>		20	-	>		60	-	>		55	-	>		
			Avail.	-11	-	>		-1	-	>		19	-	>		20	-	>		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
AWSC - All-Way Stop Control
< / > - Shared with through movement

5.2.2 2051 Background Traffic Operations (Option 1)

The Year 2051 background operational analyses follow the same methodology, and parameters set out under the existing traffic conditions. Future lane arrangements and traffic control devices as described under **Section 4.1** were implemented.

Optimized signal timings and splits were used at all signalized intersections within the study area.

Table 5.3 and **Table 5.4** summarize the results of the operational analysis for Year 2051 background traffic conditions (Option 1) during the AM and PM peak hours respectively. Any movements identified as critical are highlighted within the results tables. Detailed Synchro reports are provided in **Appendix D**.

The following critical movements are noted without the addition of site traffic:

- Centreville Creek Road and Healey Road
  - PM Peak Hour
    - Westbound left-turn movement reports a v/c ratio of 0.98.
- The Gore Road and Healey Road
  - AM Peak Hour
    - Overall intersection reports a v/c ratio of 1.01;
    - Westbound left-turn movement reports a v/c ratio of 1.03; and
    - Southbound through movement reports a v/c ratio of 1.04.
  - PM Peak Hour
    - Overall intersection reports a v/c ratio of 1.37;
    - Westbound left-turn movement reports a v/c ratio of 3.02;
    - Northbound shared through/right movement reports a v/c ratio of 1.90; and
    - Southbound left-turn movement reports a v/c ratio of 1.33.
- Humber Station Road and Healey Road
  - AM Peak Hour
    - Overall intersection reports a v/c ratio of 1.13;
    - Eastbound shared through/right movement reports a v/c ratio of 1.15;

- Westbound shared through/right movement reports a v/c ratio of 1.06;
- Northbound left-turn movement reports a v/c ratio of 1.19; and
- Southbound shared through/right movement reports a v/c ratio of 1.21.

- PM Peak Hour
  - Overall intersection reports a v/c ratio of 1.48;
  - Eastbound left-turn movement reports a v/c ratio of 4.42;
  - Northbound shared through/right movement reports a v/c ratio of 1.71.

- Coleraine Drive and Healey Road
  - AM Peak Hour
    - Overall intersection reports a v/c ratio of 1.22;
    - Eastbound left-turn movement reports a v/c ratio of 1.49, and a 95th percentile queue which exceeds the available storage provision;
    - Westbound through movement reports a 95th percentile queue which exceeds the available storage provision; and
    - Southbound shared through/right movement reports a v/c ratio of 1.06.
  - PM Peak Hour
    - Overall intersection reports a v/c ratio of 1.11;
    - Eastbound left-turn movement reports a v/c ratio of 1.40, and a 95th percentile queue which exceeds the available storage provision;
    - Northbound left-turn movement reports a v/c ratio of 0.93, and a 95th percentile queue which exceeds the available storage provision; and
    - Northbound shared through/right movement reports a v/c ratio of 1.28.

- Humber Station Road and George Bolton Parkway
  - AM Peak Hour
    - Westbound left-turn movement reports a v/c ratio of 1.01; and
    - Southbound left-turn movement reports a v/c ratio of 1.14.

- PM Peak Hour
  - Overall intersection reports a v/c ratio of 1.20;
  - Westbound left-turn movement reports a v/c ratio of 1.39;
  - Northbound left-turn movement reports a v/c ratio of 1.03;
  - Northbound shared through/right movement reports a v/c ratio of 1.34; and
  - Southbound left-turn movement reports a v/c ratio of 1.37.

TABLE 5.3: 2051 OPTION 1 BACKGROUND TRAFFIC OPERATIONS – AM PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Centreville Creek Road & Healey Road	TCS	LOS	B	B	>	B	B	B	>	B	A	A	>	A	A	A	>	A	B
			Delay	13.0	12.2	>	12	16.3	16.1	>	16	9.2	8.9	>	9	8.6	9.9	>	10	13
			V/C	0.13	0.10	>		0.56	0.62	>		0.10	0.11	>		0.04	0.27	>		0.54
			Q	1.8	6.7	>		31.9	41.1	>		9.6	8.9	>		5.5	28.2	>		
	The Gore Road & Healey Road	TCS	LOS	C	C	>	C	F	C	>	D	C	B	>	B	C	E	>	E	D
			Delay	20.6	22.2	>	22	86.9	33.5	>	48	25.2	18.7	>	19	21.0	59.1	>	58	44
			V/C	0.03	0.23	>		1.03	0.82	>		0.32	0.57	>		0.37	1.04	>		1.01
			Q	1.8	31.1	>		144	121	>		11.1	67.6	>		19.8	255	>		
	Humber Station Road & Healey Road	TCS	LOS	D	F	>	F	D	F	>	F	F	A	>	B	B	F	>	F	F
			Delay	53.8	140.7	>	138	48.8	107.4	>	106	193.7	4.9	>	19	17.1	111.7	>	102	93
			V/C	0.43	1.15	>		0.21	1.06	>		1.19	0.34	>		0.77	1.21	>		1.13
			Q	17.3	146	>		8.6	126	>		37.6	39.2	>		101	548	>		
	Coleraine Drive & Healey Road	TCS	LOS	F	E	>	F	F	E	>	E	D	B	>	B	A	E	>	E	E
			Delay	296.3	61.4	>	158	82.6	62.6	>	67	50.4	13.5	>	16	8.1	62.0	>	59	79
			V/C	1.49	0.87	>		0.65	0.44	>		0.50	0.22	>		0.23	1.06	>		1.22
			Q	205	99.9	>		22.8	35.4	>		21.6	34.5	>		20.4	475	>		
			Stor.	30.0	-	>		20.0	-	>		60.0	-	>		55.0	-	>		
			Avail.	-175	-	>		-3	-	>		38	-	>		35	-	>		
	N/S Collector & Healey Road	TCS	LOS	A	A	>	A	A	B	>	B	B	B	>	B	B	B	>	B	B
			Delay	7.7	9.3	>	9	9.2	13.9	>	14	12.8	14.5	>	14	12.2	14.1	>	14	12
			V/C	0.11	0.47	>		0.34	0.79	>		0.09	0.28	>		0.02	0.26	>		0.69
			Q	3.5	37.7	>		14.2	79.2	>		8.6	28.1	>		3.4	27	>		
	N/S Collector & Street C/E/W Collector	AWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	A	>	A	A
			Delay	<	8	>	0	<	8	>	8	<	9	>	9	<	10	>	10	9
			V/C	<	0.00	>		<	0.11	>		<	0.25	>		<	0.37	>		
			Q	<		>		<		>		<		>		<		>		
	Humber Station Road & E/W Collector	TCS	LOS	C		C	C					A	A		A		A	>	A	A
			Delay	28.4		29.1	29					4.8	2.2		2		5.4	>	5	5
			V/C	0.24		0.32						0.40	0.26				0.76	>		0.64
			Q	12.5		15.2						17.4	19.1				107	>		
	The Gore Road & George Bolton Parkway	TCS	LOS	B	B	>	B	B	B	B	B	A	A	>	A	B	A	>	B	B
			Delay	16.3	10.5	>	15	12.7	10.3	10.3	12	6.8	9.1	>	9	14.0	9.9	>	10	11
			V/C	0.66	0.10	>		0.46	0.05	0.06		0.07	0.57	>		0.61	0.63	>		0.65
			Q	50.8	10.9	>		33.3	7.4	8		3	47.8	>		32.1	59.2	>		
	Humber Station Road & George Bolton Parkway	TCS	LOS	D	D	>	D	F	D	>	F	D	A	>	A	F	A	>	B	C
			Delay	46.4	47.3	>	47	136.1	43.7	>	82	37.4	6.6	>	8	124.2	8.6	>	20	22
			V/C	0.40	0.54	>		1.01	0.21	>		0.77	0.60	>		1.14	0.73	>		0.84
			Q	32.6	49.6	>		68.8	21.8	>		20.9	74.4	>		63.9	138	>		
	George Bolton Parkway & N/S Collector	TCS	LOS	A	A		A		A	>	A					A		A	A	A
			Delay	7.3	7.2		7		6.9	>	7					5.1		5.0	5	7
			V/C	0.27	0.35				0.24	>						0.13		0.10		0.27
			Q	6.1	8				5.6	>						6.4		4.9		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
AWSC - All-Way Stop Control
< / > - Shared with through movement

TABLE 5.4: 2051 OPTION 1 BACKGROUND TRAFFIC OPERATIONS – PM PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
PM Peak Hour	Centreville Creek Road & Healey Road	TCS	LOS	A	B	>	B	E	A	>	D	B	B	>	B	B	B	>	B	B
			Delay	9.0	11.9	>	12	69.6	9.0	>	46	12.1	15.0	>	15	12.0	11.7	>	12	18
			V/C	0.08	0.54	>		0.98	0.08	>		0.10	0.47	>		0.05	0.07	>		0.64
			Q	6.4	40.6	>		57.7	6.4	>		10.4	42.3	>		4.3	7.8	>		
	The Gore Road & Healey Road	TCS	LOS	B	C	>	C	F	C	>	F	C	F	>	F	F	D	>	E	F
			Delay	18.7	26.8	>	27	961.0	20.7	>	510	31.9	452.0	>	445	292.7	35.5	>	56	316
			V/C	0.08	0.60	>		3.02	0.26	>		0.20	1.90	>		1.33	0.50	>		1.37
			Q	12.5	142	>		284	52.1	>		18.7	645	>		50.9	95.4	>		
	Humber Station Road & Healey Road	TCS	LOS	F	B	>	F	B	B	>	B	C	F	>	F	E	D	>	D	F
			Delay	1581	16.7	>	923	15.5	19.4	>	19	31.6	370.4	>	369	69.9	40.4	>	42	412
			V/C	4.42	0.33	>		0.20	0.52	>		0.08	1.71	>		0.67	0.63	>		1.48
			Q	543	68.1	>		21	116	>		7.5	552	>		29.2	129	>		
	Coleraine Drive & Healey Road	TCS	LOS	F	D	>	F	D	E	>	E	E	F	>	F	D	B	>	B	F
			Delay	252.1	39.9	>	177	52.0	68.5	>	68	62.9	164.8	>	151	53.8	14.8	>	19	119
			V/C	1.40	0.17	>		0.09	0.82	>		0.93	1.28	>		0.70	0.37	>		1.11
			Q	168	30.2	>		10.4	93	>		171	482	>		41	41.7	>		
			Stor.	30.0	-	>		20.0	-	>		60.0	-	>		55.0	-	>		
			Avail.	-138	-	>		10	-	>		-111	-	>		14	-	>		
	N/S Collector & Healey Road	TCS	LOS	A	B	>	B	B	A	>	A	B	B	>	B	B	B	>	B	B
			Delay	8.7	17.3	>	17	11.2	9.8	>	10	13.5	14.3	>	14	13.0	13.7	>	14	14
			V/C	0.26	0.87	>		0.42	0.51	>		0.08	0.19	>		0.02	0.12	>		0.62
			Q	10.5	101	>		14	45.8	>		8.3	19.4	>		3.6	13.4	>		
	N/S Collector & Street C/E/W Collector	AWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	A	>	A	A
			Delay	<	8	>	0	<	8	>	8	<	8	>	8	<	9	>	9	8
			V/C	<	0.00	>		<	0.10	>		<	0.16	>		<	0.22	>		
			Q	<		>		<		>		<		>		<		>		
	Humber Station Road & E/W Collector	TCS	LOS	C		C	C					A	A		A		A	>	A	A
			Delay	32.3		31.8	32					1.2	4.3		4		1.6	>	2	4
			V/C	0.11		0.03						0.02	0.77				0.31	>		0.68
			Q	5.8		9.8						1.3	112				21.2	>		
	The Gore Road & George Bolton Parkway	TCS	LOS	B	B	>	B	B	B	B	B	A	A	>	A	A	B	>	A	B
			Delay	13.9	11.5	>	13	15.0	11.4	11.7	14	6.8	8.6	>	9	7.8	10.1	>	10	10
			V/C	0.48	0.09	>		0.55	0.07	0.11		0.23	0.63	>		0.35	0.73	>		0.67
			Q	32	9.6	>		36.3	7.9	11		8	61.5	>		13	76.7	>		
	Humber Station Road & George Bolton Parkway	TCS	LOS	C	B	>	C	F	C	>	F	F	F	>	F	F	C	>	D	F
			Delay	21.5	19.7	>	20	222.9	21.5	>	161	121.9	197.6	>	192	296.0	31.9	>	50	145
			V/C	0.22	0.07	>		1.39	0.23	>		1.03	1.34	>		1.37	0.58	>		1.20
			Q	30.3	13.1	>		426	44.4	>		103	485	>		46.4	132	>		
	George Bolton Parkway & N/S Collector	TCS	LOS	A	A		A		A	>	A					A		A	A	A
			Delay	5.4	5.6		6		6.0	>	6					6.3		6.0	6	6
			V/C	0.07	0.16				0.31	>						0.15		0.03		0.29
			Q	2.3	4.9				8.5	>						5.7		2.4		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
AWSC - All-Way Stop Control
< / > - Shared with through movement

5.2.3 2051 Background Traffic Operations (Option 2)

The Year 2051 background operational analyses follow the same methodology, and parameters set out under the existing traffic conditions. Future lane arrangements and traffic control devices as described under **Section 4.1**were implemented.

Optimized signal timings and splits were used at all signalized intersections within the study area.

Table 5.5 and **Table 5.6** summarize the results of the operational analysis for Year 2051 background traffic conditions (Option 2) during the AM and PM peak hours respectively. Any movements identified as critical are highlighted within the results tables. Detailed Synchro reports are provided in **Appendix D**.

The following critical movements are noted without the addition of site traffic:

- Centreville Creek Road and Healey Road
  - PM Peak Hour
    - Westbound left-turn movement reports a v/c ratio of 0.91.
- The Gore Road and Healey Road
  - AM Peak Hour
    - Overall intersection reports a v/c ratio of 1.01;
    - Westbound left-turn movement reports a v/c ratio of 1.01; and
    - Southbound through movement reports a v/c ratio of 1.02.
  - PM Peak Hour
    - Overall intersection reports a v/c ratio of 1.37;
    - Westbound left-turn movement reports a v/c ratio of 3.02;
    - Northbound shared through/right movement reports a v/c ratio of 1.90; and
    - Southbound left-turn movement reports a v/c ratio of 1.33.
- Humber Station Road and Healey Road
  - AM Peak Hour
    - Overall intersection reports a v/c ratio of 1.13;
    - Eastbound shared through/right movement reports a v/c ratio of 1.15;

- Westbound shared through/right movement reports a v/c ratio of 1.06;
- Northbound left-turn movement reports a v/c ratio of 1.19; and
- Southbound shared through/right movement reports a v/c ratio of 1.21.

- PM Peak Hour
  - Overall intersection reports a v/c ratio of 1.48;
  - Eastbound left-turn movement reports a v/c ratio of 4.42;
  - Northbound shared through/right movement reports a v/c ratio of 1.71.

- Coleraine Drive and Healey Road
  - AM Peak Hour
    - Overall intersection reports a v/c ratio of 1.22;
    - Eastbound left-turn movement reports a v/c ratio of 1.53, and a 95th percentile queue which exceeds the available storage provision; and
    - Southbound shared through/right movement reports a v/c ratio of 1.09.
  - PM Peak Hour
    - Overall intersection reports a v/c ratio of 1.11;
    - Eastbound left-turn movement reports a v/c ratio of 1.56, and a 95th percentile queue which exceeds the available storage provision;
    - Northbound left-turn movement reports a v/c ratio of 0.91, and a 95th percentile queue which exceeds the available storage provision; and
    - Northbound shared through/right movement reports a v/c ratio of 1.25.
- Humber Station Road and George Bolton Parkway
  - AM Peak Hour
    - Westbound left-turn movement reports a v/c ratio of 0.93; and
    - Southbound left-turn movement reports a v/c ratio of 0.98.
  - PM Peak Hour
    - Overall intersection reports a v/c ratio of 1.19;
    - Westbound left-turn movement reports a v/c ratio of 1.36;

- Northbound left-turn movement reports a v/c ratio of 0.94;
- Northbound shared through/right movement reports a v/c ratio of 1.27; and
- Southbound left-turn movement reports a v/c ratio of 1.37.

- Humber Station Road and North-South Collector Road
  - AM Peak Hour
    - The northbound left-turn movement reports a v/c ratio of 1.04.

TABLE 5.5: 2051 OPTION 2 BACKGROUND TRAFFIC OPERATIONS – AM PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Centreville Creek Road & Healey Road	TCS	LOS	C	C	>	C	B	B	>	B	B	B	>	B	B	B	>	B	B
			Delay	34.4	31.1	>	31	11	11	>	11	10.7	10.7	>	11	10.2	11.6	>	12	13
			V/C	0.22	0.11	>		0.65	0.72	>		0.08	0.10	>		0.03	0.21	>		0.54
			Q	4.2	15.4	>		6	10	>		12.8	11.1	>		7.2	42.5	>		
	The Gore Road & Healey Road	TCS	LOS	C	C	>	C	E	C	>	D	D	C	>	C	C	E	>	E	D
			Delay	25.5	25.1	>	25	70.2	26.5	>	39	38	29.0	>	29	24.2	56.4	>	55	42
			V/C	0.03	0.22	>		1.01	0.79	>		0.41	0.57	>		0.36	1.02	>		1.01
			Q	2	35.8	>		177	132	>		11	104	>		23.2	313	>		
	Humber Station Road & Healey Road	TCS	LOS	D	F	>	F	D	F	>	F	F	A	>	C	C	F	>	F	F
			Delay	49.5	136.0	>	133	44	97	>	96	200.1	6.3	>	20	21.4	111.7	>	103	92
			V/C	0.43	1.15	>		0.21	1.06	>		1.19	0.34	>		0.77	1.21	>		1.13
			Q	13.7	139	>		4	96	>		52.4	56.4	>		101	548	>		
	Coleraine Drive & Healey Road	TCS	LOS	F	C	>	F	E	D	>	D	D	B	>	B	A	E	>	E	E
			Delay	268	26	>	126	64.0	51.7	>	54	37.2	11.7	>	13	7.0	71.1	>	68	75
			V/C	1.53	0.86	>		0.59	0.37	>		0.43	0.22	>		0.22	1.09	>		1.22
			Q	129	29.8	>		20.5	30.2	>		18.7	29.8	>		18.6	425	>		
			Stor.	30	-	>		20.0	-	>		60.0	-	>		55.0	-	>		
			Avail.	-99	-	>		-	-	>		-	-	>		-	-	>		
	N/S Collector & Healey Road	TCS	LOS	B	B	>	B	B	C	>	C	C	C	>	C	C	C	>	C	C
			Delay	12	11.1	>	11	18	25	>	25	24.7	27.4	>	27	23.9	26.6	>	26	21
			V/C	0.17	0.44	>		0.34	0.73	>		0.08	0.27	>		0.02	0.23	>		0.69
			Q	3	53.2	>		6	63	>		15.9	60.5	>		6.2	53.4	>		
	N/S Collector & Street C/E/W Collector	AWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	A	>	A	A
			Delay	<	8	>	0	<	8	>	8	<	9	>	9	<	10	>	10	9
			V/C	<	0.00	>		<	0.11	>		<	0.25	>		<	0.37	>		
			Q	<		>		<		>		<		>		<		>		
	Humber Station Road & E/W Collector	TCS	LOS	E		E	E					A	A		A		A	>	A	A
			Delay	61.8		60.9	61					8	1.3		2		3	>	3	5
			V/C	0.39		0.31						0.35	0.23				0.67	>		0.64
			Q	21.8		20.5						4	12.5				10	>		
	The Gore Road & George Bolton Parkway	TCS	LOS	B	B	>	B	B	B	C	B	C	D	>	D	C	C	>	C	C
			Delay	18.0	13.5	>	17	18	16	23	19	28.0	35.5	>	35	33	23	>	24	26
			V/C	0.39	0.06	>		0.15	0.02	0.03		0.16	0.68	>		0.87	0.79	>		0.64
			Q	79	13.8	>		31	5	6		6.3	108	>		24	124	>		
	Humber Station Road & George Bolton Parkway	TCS	LOS	D	C	>	C	F	D	>	F	C	A	>	A	D	A	>	A	B
			Delay	36	32.4	>	33	117.9	48.2	>	91	22.3	5.3	>	6	50	1.4	>	6	12
			V/C	0.40	0.44	>		0.93	0.04	>		0.68	0.54	>		0.98	0.70	>		0.82
			Q	32	37.5	>		68.9	8.2	>		44.6	49	>		92	9.8	>		
	Humber Station Road	TCS	LOS	E		D	E					F	A		B		A		A	B
			Delay	67.8		53.3	63					114.3	2.6		15		3.5		4	11
			V/C	0.73		0.29						1.04	0.25				0.76			0.79
			Q	62.7		28.9						60.7	22.4				23.3			

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
AWSC - All-Way Stop Control
< / > - Shared with through movement

TABLE 5.6: 2051 OPTION 2 BACKGROUND TRAFFIC OPERATIONS – PM PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
PM Peak Hour	Centreville Creek Road & Healey Road	TCS	LOS	B	C	>	C	E	B	>	D	C	C	>	C	C	C	>	C	C
			Delay	18.3	23.8	>	24	64.7	10.7	>	43	26.1	31.8	>	31	25.8	25.6	>	26	30
			V/C	0.07	0.49	>		0.91	0.07	>		0.09	0.45	>		0.05	0.06	>		0.64
			Q	9.8	71.5	>		94	1.3	>		22.1	112	>		8.8	17.4	>		
	The Gore Road & Healey Road	TCS	LOS	B	B	>	B	F	B	>	F	C	F	>	F	F	D	>	E	F
			Delay	14.3	16.9	>	17	958.5	14.6	>	506	27	442.0	>	435	292.7	35.5	>	56	309
			V/C	0.08	0.60	>		3.02	0.26	>		0.20	1.90	>		1.33	0.50	>		1.37
			Q	10	110	>		332	58.7	>		14	640	>		50.9	95.4	>		
	Humber Station Road & Healey Road	TCS	LOS	F	A	>	F	B	B	>	B	B	F	>	F	F	D	>	D	F
			Delay	1563	5.9	>	908	15	19	>	18	19	353.0	>	351	95.0	41.8	>	44	401
			V/C	4.42	0.33	>		0.20	0.52	>		0.08	1.71	>		0.67	0.63	>		1.48
			Q	577	36.9	>		18	120	>		2	553	>		29.2	129	>		
	Coleraine Drive & Healey Road	TCS	LOS	F	C	>	F	D	E	>	E	E	F	>	F	D	B	>	B	F
			Delay	298	23	>	201	52.0	68.5	>	68	57.0	150.5	>	138	54.9	13.8	>	18	114
			V/C	1.56	0.18	>		0.09	0.82	>		0.91	1.25	>		0.70	0.36	>		1.11
			Q	173	26	>		10.4	93	>		168	475	>		41.1	39	>		
			Stor.	30	-	>		20.0	-	>		60.0	-	>		55.0	-	>		
			Avail.	-143	-	>		-	-	>		-	-	>		-	-	>		
	N/S Collector & Healey Road	TCS	LOS	A	A	>	A	A	A	>	A	D	D	>	D	D	D	>	D	B
			Delay	4	8	>	8	8	9.3	>	9	46.0	48.7	>	48	44.6	46.7	>	46	12
			V/C	0.17	0.63	>		0.36	0.37	>		0.12	0.28	>		0.04	0.18	>		0.62
			Q	3	41	>		10	39.4	>		20.6	51.1	>		8.4	36	>		
	N/S Collector & Street C/E/W Collector	AWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	A	>	A	A
			Delay	<	8	>	0	<	8	>	8	<	8	>	8	<	9	>	9	8
			V/C	<	0.00	>		<	0.10	>		<	0.16	>		<	0.22	>		
			Q	<		>		<		>		<		>		<		>		
	Humber Station Road & E/W Collector	TCS	LOS	E		E	E					A	A		A		A	>	A	A
			Delay	70.7		69.6	70					0	1.5		2		1.3	>	1	3
			V/C	0.15		0.03						0.02	0.70				0.28	>		0.68
			Q	9.6		14.3						0	21.7				35.4	>		
	The Gore Road & George Bolton Parkway	TCS	LOS	C	C	>	C	C	C	D	D	C	C	>	C	B	C	>	C	C
			Delay	27.1	22.8	>	26	32	29	47	36	30.5	30.0	>	30	17	21	>	21	26
			V/C	0.30	0.04	>		0.31	0.04	0.06		0.48	0.65	>		0.43	0.77	>		0.65
			Q	65.5	13.1	>		42	8	6		20	130	>		10	80	>		
	Humber Station Road & George Bolton Parkway	TCS	LOS	A	A	>	A	F	C	>	F	F	F	>	F	F	C	>	D	F
			Delay	7.6	4.1	>	6	206.7	22.9	>	160	87.8	166.1	>	160	295.2	23.0	>	42	128
			V/C	0.20	0.03	>		1.35	0.19	>		0.94	1.27	>		1.37	0.56	>		1.19
			Q	8.3	0.2	>		421	36	>		97.8	467	>		59.7	97.1	>		
	Humber Station Road & N/S Collector	TCS	LOS	E		E	E					A	A		A		A	>	A	A
			Delay	70.4		66.9	68					0	6		6		0.5	>	0	6
			V/C	0.39		0.05						0.05	0.72				0.32	>		0.68
			Q	25		16.6						0	6				4.4	>		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
AWSC - All-Way Stop Control
< / > - Shared with through movement

6 Development Proposal

6.1 Site Plan

The subject site is located in the southeast quadrant of The Gore Road and Healey Road intersection in the Town of Caledon. The land is currently undeveloped.

The property owner is proposing to construct a residential subdivision providing a total of 835 residential units, comprising 128 single-family detached houses, 430 semi-detached units, and 277 townhouse units.

Vehicle access will be provided from the wider external road network under the short-term, proposed via connections to The Gore Road (Street A, on the west wide of the site) and on Healey Road (Street B, on the north side of the site).

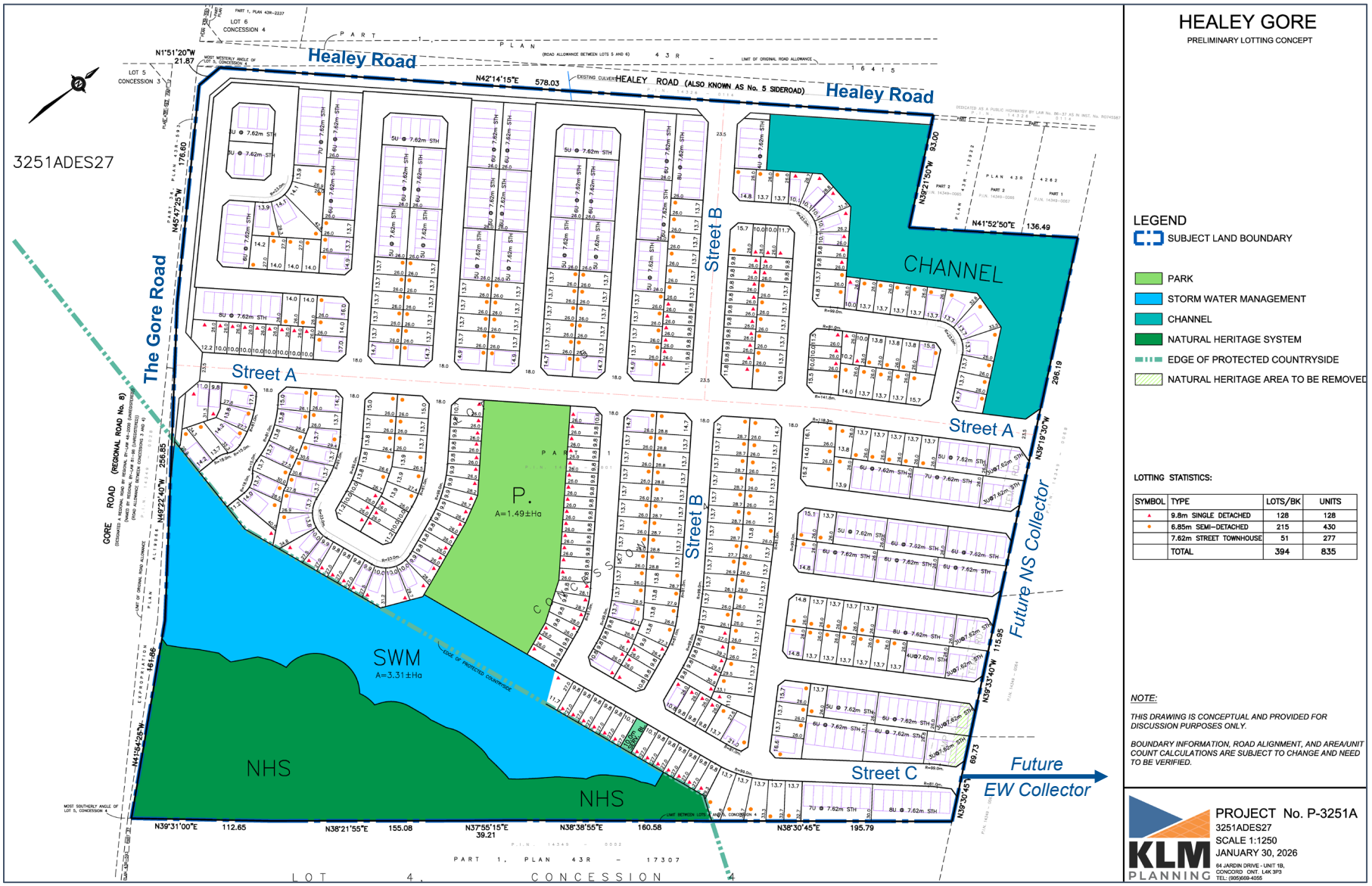
The right-of-way width will be 23.5m for all of Street A, and for Street B north of Street A. All over roadways will have a right-of-way width of 18m.

Under long-term future conditions, a planned north-south collector road will run along the east side of the subject site, just outside its boundaries. This road will provide additional access points for Street A, various local roads, and Street C. The latter will be opposite he planned east-west collector road.

The intersection of Street A and Street B is proposed to operate under All-Way Stop-Control (AWSC). The remaining internal intersections within the subdivision and external roads along the boundary are all proposed to operate as unsignalized intersection under Two-Way Stop-Control (TWSC), with the external boundary roads being the major roads.

The proposed road network within the subject site generally follows a grid pattern with little to no horizontal deflections along the roads. This generally provides drivers with a clear unobstructed view of upstream and downstream adjacent intersections.

Figure 6.1 illustrates the site concept plan.



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Site Plan

12879 The Gore Road, Caledon
250381

Figure 6.1

6.2 Conflict Analysis and Intersection Design

6.2.1 Intersection Spacing

The Transportation Association of Canada's (TAC) *Geometric Design Guide for Canadian Roads*[19] offers recommendations for access management applications including corner clearance requirements between intersections. Section 8.8 ("Corner Clearances at Major Intersection") states:

> *"Corner clearance is the distance from an intersection to the nearest access upstream or downstream of it. Corner clearance is measured from the near curb of the cross roadway to the near edge of the access throat. It consists of three components: the curb return radius at the intersection, a length of tangent, and the curb return radius or flare dimension at the driveway. Inadequate corner clearance between accesses and intersections along a major road, such as a major arterial, can create operational issues."*

The recommended corner clearances (curb radii to curb radii) are:

- 70m upstream of a signalized intersection on an arterial road (The Gore Road, Healey Road).
- 35m upstream of an unsignalized intersection on an arterial road (The Gore Road, Healey Road).
- 25m upstream of an unsignalized intersection on a collector road (NS Collector Road, EW Collector Road).

Given the TAC guidance/methodology is measured from the foot of the curb radii, the required block length therefore is the distance listed above *plus* the curb radii at the two intersections. The Town of Caledon's *Development Standards Manual*[20] sets out the required curb radii for various intersection types.

- Arterial to residential collector: 12.0m
- Residential collector to local residential: 10.0m
- Local residential to local residential: 10.0m

Based on the standards listed, a conservative requirement of 15.0m has been assumed for arterial-to-arterial intersections.

[19] Transportation Association of Canada, *Geometric Design Guide for Canadian Roads* (2017)

[20] Town of Caledon. *Development Standards Manual*, Table 1.2 "Geometric Design Standards", §13 "Minimum Intersection Curve Radii". 2019.

Table 6.1 (next page) summarizes the resulting required and proposed block lengths between intersections with external roads on the boundary of the subject site. It is determined that all block lengths exceed the required distance.

The preliminary design for the Highway 413 interchange at The Gore Road places the nearest ramp intersection over 500m away from the intersection with Street A. This is significantly higher than any of the minimum spacing requirements.

Within the subject site, the minimum block length is at least 50m. Allowing for curb radii of 10m at each end of the block, this implies a minimum corner clearance of 30m, greater than the 25m recommended by the TAC *Geometric Design Guide for Canadian Roads*.

Overall, the proposed site design fulfils the relevant recommendations for intersection spacing.

TABLE 6.1: INTERSECTION SPACING ASSESSMENT

Road	Type	Intersection 1	Intersection 2	Required Block Length	Proposed Block Length	Pass?
The Gore Road	Arterial	Healey Road (signalized) 15m radius	Street A (unsignalized) 12m radius	70+15+12 =97m	>200m	Yes
Healey Road	Arterial	The Gore Road (signalized) 15m radius	Street B (unsignalized) 12m radius	70+15+12 =97m	>200m	Yes
Healey Road	Arterial	Street B (unsignalized) 12m radius	NS Collector (signalized) 12m radius	70+12+12 =94m	>200m	Yes
NS Collector	Collector	Healey Road (signalized) 12m radius	local road (unsignalized) 10m radius	25+12+10 =47m	>200m	Yes
NS Collector	Collector	local road (unsignalized) 10m radius	local road (unsignalized) 10m radius	25+10+10 =45m	>50m	Yes
NS Collector	Collector	local road (unsignalized) 10m radius	EW Collector (unsignalized) 12m radius	25+10+12 =47m	>50m	Yes

6.2.2 Sight Distance Review

The Town of Caledon's *Development Standards Manual*[21] states that intersection angles should be between 85 and 95 degrees. The information provided indicates that all proposed intersections within the subject site and on its boundaries satisfy this requirement.

The Transportation Association of Canada's (TAC) *Geometric Design Guide for Canadian Roads*[22] offers recommendations for sight distances.

External Intersections on The Gore Road and on Healey Road

For the external intersections on The Gore Road and on Healey Road, for an existing speed limit of up to 80 kph, a design speed of 90 kph (that is, 10 kph over the post) is considered. This speed limit may be reduced as the surrounding area urbanizes, so the use of the existing posted speed limit results in a conservative assessment.

The minimum recommended sight distances for a design speed of 90 kph are noted as follows:

- Departure sight distance:
  - Left turn – looking right: 190m
  - Left turn – looking left: 190m
  - Right turn – looking right: 165m
  - Right turn – looking left: 165m
- Approach sight distance: 160m

A desktop review indicates sight distance provision in all directions of at least 200m, satisfying these the minimum sight distance requirements.

External intersections on NS Collector Road

For the external intersections on the NS Collector Road, a speed limit of 50 kph is assumed, resulting in a design speed of 60 km/h. The

[21] Town of Caledon. *Development Standards Manual*, Table 1.2 "Geometric Design Standards". 2019.

[22] Transportation Association of Canada, *Geometric Design Guide for Canadian Roads,* §9.9.2.3 "Intersection Control"; Table 2.5.2 "Stopping Sight Distance on Level Roadways for Automobiles" (2017)

recommended sight distances for a design speed of 60 kph are noted as follows:

- Departure sight distance:
  - Left turn – looking right: 130m
  - Left turn – looking left: 130m
  - Right turn – looking right: 110m
  - Right turn – looking left: 110m
- Approach sight distance: 85m

A desktop review indicates that these recommendations are satisfied.

Internal intersections

For internal intersections, a speed limit of 40 kph is assumed, resulting in a design speed of 50 km/h. The recommended sight distances for a design speed of 50 kph are noted as follows:

- Departure sight distance:
  - Left turn – looking right: 105m
  - Left turn – looking left: 105m
  - Right turn – looking right: 95m
  - Right turn – looking left: 95m
- Approach sight distance: 65m

A desktop review indicates that all internal intersections either satisfy these minimum requirements, or provide clear unobstructed sight lines to the adjacent upstream or downstream intersection.

The only potential exception is noted on Street A, where the distance between the NS Collector Road and the nearby local road may be slightly under the recommended 65m for vehicles approaching westbound. However, this risk is mitigated by the fact these vehicles will have just turned onto Street A, and thus will be travelling at less than the design speed. Further analysis will be needed during the detailed design stage, when the exact placement of roadways and stop lines are known.

6.3 Access and Circulation Review

The external and internal intersections, elbows and cul-de-sacs in the proposed design all follow the relevant Town standards. During the detailed design stage, swept path analyses will be conducted with the following test vehicles:

- Regional of Peel Garbage Truck;
- City of Brampton Transit Bus;
- Pumper Fire Truck;
- Snowplow; and
- Passenger Car.

6.4 Transit Implementation

Figure 6.2 illustrates the transit implementation plan. The proposed plan was designed to align with the Town of Caledon's *Multi-Modal Transportation Plan*[23], as discussed in **Section 4.2** and shown in **Figure 4.4.**

There are three key components to consider for transit implementation:

- **Transit Corridors** (solid purple lines) along Healey Road and The Gore Road
- **Potential Interim Routing for Transit Services** (dashed purple lines) within the subject site. This will allow service to be provided to the subject site without needing to extend routes beyond it. Transit routes on Healey Road and/or The Gore Road would be able loop around within the subject site; it is anticipated the circulation will occur in clockwise direction to minimise left-turn movements.
- **Transit Stops** (orange circles) at the following intersections:
  - Street A and The Gore Road;
  - Healey Road and The Gore Road;
  - Healey Road and Street B; and
  - Healey Road and north-south collector road.

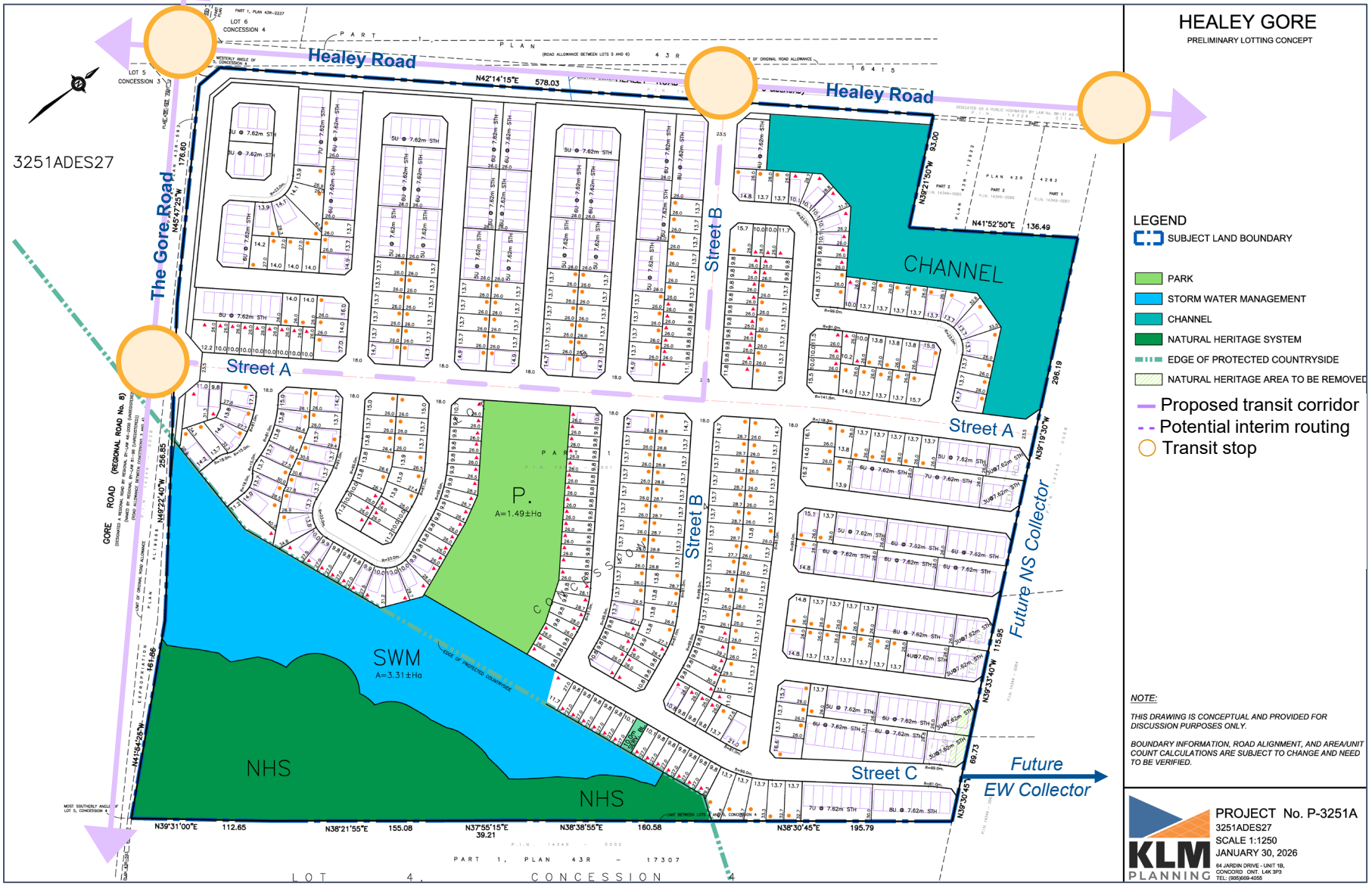
  No transit stops are proposed at internal intersections within the subject site, as they would be on the interim routing only.

The transit stop locations follow industry norms for spacing located every 200-400m, taking into consideration the expected road network and intersection locations. The entire subject site would be within 550m of a transit stop; most of the site would be within 400m (equal to about 5 minutes of walking time).

Given the routing of services (both interim and long-term), it will not be necessary to place any transit stops on roads within the subject site.

Overall, the proposed transit implementation plan is consistent with the directions of the *Multi-Modal Transportation Plan*, and enables good access to transit for all residents in the subject site.

[23] Peel Region, *Sustainable Transportation Strategy*. February 2018.



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Transit Implementation

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Figure 6.2

6.5 Pedestrian and Cycling Circulation Plan

Figure 6.3 illustrates the proposed pedestrian and cycling. The facilities were design to align with the Town of Caledon's *Active Transportation Plan*[24]*,* as discussed in **Section 4.3** and shown in **Figure 4.5**

6.5.1 Multi-Use and Cycling Facilities

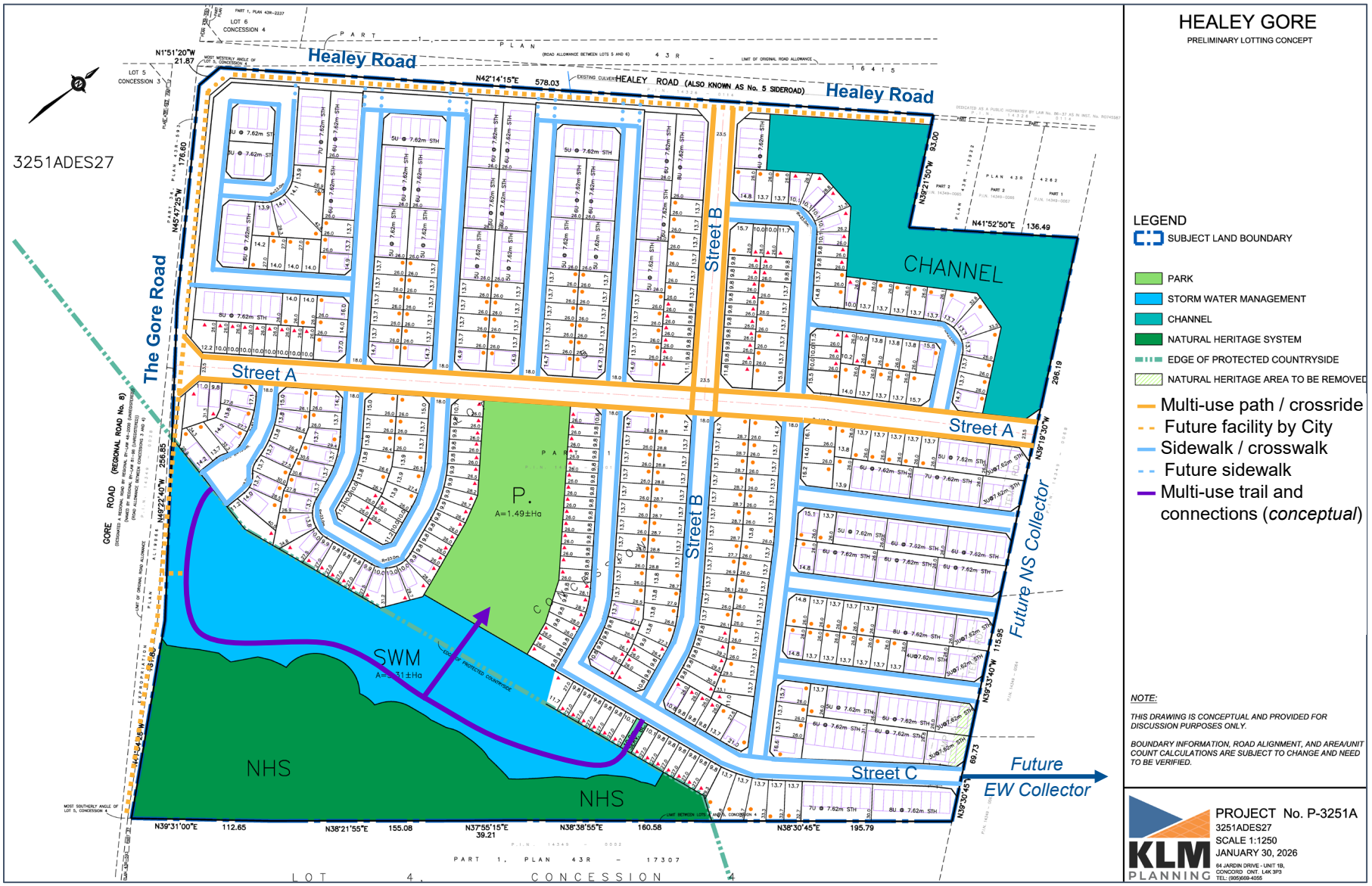
The site plan includes a multi-use trail (shown in purple) passing through the south-west corner of the site. This implements the planned multi-use trail shown in the *Active Transportation Plan*. The routing shown in the site plan is conceptual, with the alignment to be determined during the detailed design phase in consultation with the Town.

The multi-use trail would have connections to an adjacent cul-de-sac, the park, and through the servicing block to Street C. These access points will facilitate easy access to the trail for all residents within the proposed development. The trail design allows for potential extensions to the west and east as needed.

The site plan shows multi-use paths along The Gore Road and Healey Road, consistent with the expected future active transportation network. Multi-use paths are also proposed along Street A and Street B, consistent with similar roads on recent development proposals in the Town of Caledon. At intersections, these multi-use paths would employ mixed cross-rides treatments across any stop-controlled legs.

Overall, multi-use/cycling facility provisions within the subject site is consistent with the directions of the *Active Transportation Plan*, and allows for connections to planned municipal infrastructure/facilities at the boundaries of the site.

[24] Town of Caledon, *Active Transportation Master Plan*. June 2024.



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Pedestrian and Cycling Circulation Plan

12879 The Gore Road, Caledon
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Figure 6.3

6.5.2 Sidewalks

The Town's *Active Transportation Plan* states that sidewalks shall be provided on both sides of urban arterial roads and urban collector roads. This would include The Gore Road, Healey Road, and the north-south collector (unless a multi-use path is provided instead).

The *Active Transportation Plan* also states that sidewalks shall be provided on both sides of urban local roads that either are within 500m of a park or trail. All roads within the subject site are within 500m of both the proposed park and the proposed multi-use trail. Consequently, sidewalks are proposed on both sides of all roads in the subject site, except where multi-use paths are proposed. The proposed sidewalks are 1.5m wide.

Sidewalks on streets within the subject site will connect to pedestrian facilities on adjacent roads. In general, delineated crosswalks are proposed only across stop-controlled legs of intersections.

Overall, sidewalk provision within the subject site is consistent with the directions of the *Active Transportation Plan*, and allows for connections with sidewalks on adjacent roads.

6.6 Traffic Calming Measures

Traffic calming aims to improve road safety and enhance community livability by reducing the negative effects of motor vehicle use, altering driver behaviour, and improving conditions for pedestrians and cyclists. Calming traffic also aligns with broader municipal objectives to foster accessibility, support active travel (walking and cycling), promote public health, and enrich "quality of life" – to name a few – demonstrating the interdependence between street design and strong, vibrant neighbourhoods.

When properly used, traffic calming can help reduce motor vehicle speeds, and pedestrian crossing distances and times at intersections. They can also result in fewer conflicts between roadway users. These factors all reduce both the likelihood and severity of motor vehicle collisions.

While offering potential benefits, inappropriate use of traffic calming measures can increase emergency vehicle response times, transit travel times, and costs associated with winter maintenance.

Traffic calming measures can be grouped as follows:

- **Education and Enforcement** techniques and strategies raise awareness and influence motorist behaviour (education) or use the force of law to deter unsafe driving practices and ensure compliance with traffic regulations (enforcement);
- **Vertical Deflection** measures raise the height of the road surface, forcing motorists to slow their vehicles to comfortably navigate the change in profile;
- **Horizontal Deflection** measures shift the driving path, forcing motorists to slow their vehicles to comfortably navigate the change in direction;
- **Roadway Narrowing** measures reduce the road width, forcing motorists to slow their vehicles by constricting the available driving space; and
- **Surface Treatments and Pavement Markings** draw attention, or create optical effects, forcing motorists to slow their vehicles.

Potential measures within each group that could be applied within the subject site include are listed below.

Education and Enforcement

- **Radar Speed Feedback Sign:** an interactive sign that displays vehicle speeds as oncoming motorists approach. Vehicle speed is captured using radar and can trigger the display board to show when vehicles approach at predetermined undesirable speeds. They have been shown to reduce 85th percentile speed by between 3 and 14 kph.

Vertical Deflection

- **Speed Hump:** A raised area of a roadway, which causes the vertical upward movement of a traversing vehicle. The purpose of a speed hump is to cause discomfort for drivers travelling at higher speeds and to reduce vehicle speeds. A series of humps is generally more effective than a single hump.

  Speed humps have been shown to reduce 85th percentile speed by between 6 and 13 kph. However, they have negatively effects on emergency vehicle response times, transit travel times, and ease of winter maintenance.

- **Speed Cushion:** A raised area on a road like a speed hump but does not cover the entire width of the road. The width is designed to allow a large vehicle, such as a fire truck or bus, to "straddle" the cushion, while light vehicles will have at least one side of the vehicle deflected upward. The design is intended to produce sufficient discomfort to limit passenger vehicle travel speeds yet allow the driver to maintain vehicle control, while allowing larger vehicles to pass without difficulty.

  Speed cushions have been shown to reduce 85th percentile speed by to 8 kph. However, they have negativel effects on ease of winter maintenance.

- **Raised Crosswalk:** A marked pedestrian crosswalk at an intersection or midblock location constructed at a higher elevation than the adjacent roadway. The purpose of a raised crosswalk is to reduce vehicle speeds (like a speed hump), improve pedestrian visibility, and reduce pedestrian–vehicle conflicts.

  Raised crosswalks have been shown to reduce 85th percentile speed by between 5 and 13 kph. However, they have negatively effects on emergency vehicle response times, transit travel times, and ease of winter maintenance. They may also create obstacles for on-road cyclists.

Horizontal Deflection

- **Curb Radii Reduction:** Is the modification of intersection design standards to provide corner with a smaller radius to 3-

5m, compared with the 10m used in Caledon for residential collector and local roads. The purpose is to slow down right-turning vehicles, reduce crossing distances for pedestrians, and to improve visibility of pedestrians.

Emergency services are not be impacted if sufficient road width for turning radius is provided. The implications for winter maintenance and transit vehicles need to be confirmed on a site-specific basis.

- **Chicane:** A series of curb extensions on alternating sides of a roadway, which narrow the roadway and require drivers to steer from one side of the roadway to the other to travel through the chicane. Multiple series of curb extensions can be used. This reduces overall speeds by forcing the lateral shifting of vehicles travelling through the chicane.

  Chicanes typically reduce average vehicle speeds on two-lane roads by between 6 and 11 kph. However, they may negative effect emergency vehicle response times and transit vehicle travel times, depending on design and placement.

Roadway Narrowing

- **Curb Extension / Bump Out:** A horizontal intrusion of the curb into the roadway resulting in a narrow section of roadway. The curb is extended on one or both sides of the roadway to reduce its width to as a little as 6.0 m for two-lane, two-way traffic. The purpose is to reduce vehicle speeds, reduce crossing distance for pedestrians, increase visibility of pedestrians, and prevent parking close to an intersection.

  Curb extensions typically reduce average vehicle speeds on two-lane roads by between 2 and 8 kph. However, the reduced effective roadway width make complicate snow clearence activities, resulting in more snow on the (larger) area above the curb.

- **Raised Median Island:** An elevated median constructed on the centerline of a two-way roadway to reduce the overall width of the adjacent travel lanes. The purpose is to reduce vehicle speeds and to reduce pedestrian–vehicle conflicts. They are more effective if combined with curb extensions before and/or afterwards. Any median landscaping should not negatively impact pedestrian visibility.

  Median islands typically reduce average vehicle speeds on two-lane roads by between 3 and 8kph. The roadways either side generally do not have on-street parking

- **Gateways:** A combination of traffic calming devices that help to provide an entry or “gateway” which identifies transitional zones

such as between commercial/rural areas and urban/rural residential zones, villages, or hamlets. An example in Caledon can be found in the community of Alton, as vehicles from the south approach on Main Street, of from the east on Queen Street. The effects (positive and negative) depend on the traffic calming measures chosen.

- **Centreline Signage:** The use of vertical treatments such as flexible post-mounted delineators or raised pavement markers to create a centre median. This could be used to give drivers a perception of lane narrowing and create a sense of constriction.

  They typically reduce average vehicle speeds on two-lane roads by up to 5kph. However, they require regular maintenance if they tend to get struck by vehicles, and may negatively effect the ease of winter maintenance.

Surface Treatments and Pavement Markings

- **Textured Crosswalk:** A crosswalk (raised or non-raised) with textured/patterned elements that contrast the roadway can be incorporated into the sidewalk extension. This typically matches the appearance of the adjacent sidewalks. The purpose is to visually enhance a pedestrian crossing location so drivers become more aware of its presence.

  With a sidewalk extension/textured crosswalk the continuation of the surface and enhanced visual/tactile identification of the crosswalk area emphasizes pedestrian priority.

- **Lane Narrowing:** Reducing lane widths using pavement markings (rather than actually narrowing the paved area). Drivers will then perceive the roadway to be less comfortable at higher speeds due to the narrowing of the lanes and ultimately reduce their operating speed.

  Lane narrowing has been shown to reduce 85th percentile speed by up to 10kph. Like any pavement marking, they require regular maintenance.

- **On-Road 'Sign' Pavement Markings:** Provide information that would typically be shown to drivers through signage but are painted on the roadway to provide a larger image, and one that is directly in the driver's line of sight. Some examples could be "SLOW", "STOP AHEAD", or the speed limit.

  The markings have been shown to reduce 85th percentile speed by up to 10kph. Like any pavement marking, they require regular maintenance.

Any of these measures are potentially applicable within the context of the subject site. Further engagement with Town staff is needed to

determine the specific measures and locations. These measures will then be included in the detailed design stage.

7 Future Total Conditions

7.1 Site Trip Generation

The Institute of Transportation Engineers (ITE) publication, *Trip Generation Manual*[25] provides rates and equations to estimate the peak hour traffic generated by a specific land use. The following land use codes were utilized:

- 210: Single-Family Detached Housing (for detached homes);
- 215: Single-Family Attached Housing (for semi-detached units); and
- 220: Multifamily Housing (Low-Rise) - Not Close to Rail Transit (for street townhouse units).

Table 7.1 summarizes the forecast number of net new trips generated by the proposed residential subdivision development. The full ITE Trip Generation Manual report is shown in **Appendix E**.

TABLE 7.1: TRIP GENERATION

Land Use Code	Units	AM Peak Hour			PM Peak Hour		
		In	*Out*	Total	*In*	*Out*	Total
210: Single-Family Detached Housing	128	*25*	*66*	91	*75*	*46*	121
215: Single-Family Attached Housing	430	*59*	*179*	238	*135*	*102*	237
220: Multifamily Housing (Low-Rise)	277	*26*	*84*	110	*87*	*53*	140
Total	**835**	***110***	***329***	**439**	***297***	***201***	**498**

LUC 210 | AM: T = 0.67(X) + 5.59 | PM: Ln(T) = 0.92 Ln(X) + 0.33
LUC 215 | AM: T = 0.59(X) - 15.25 | PM: T = 0.57(X) - 7.84
LUC 220 | AM: T = 0.35(X) + 12.93 | PM: T = 0.48(X) + 7.35

[25] Institute of Transportation Engineers Trip Generation Manual 12th Edition, 2025.

7.2 Site Trip Distribution and Assignment

It is anticipated the existing vehicular travel patterns within the study area will change with the implementation of the future road network and plan improvements. The future transportation network was previously described in **Section 4.1**.

The methodology for estimating trip distribution employed the use of Transportation Tomorrow Survey (TTS) 2022 data. The resulting preliminary distribution was then compared to the Town's *Multimodal Transportation Master Plan Addendum* and the *Wildfield Secondary Plan Transportation Study* to further refine the long-term estimated trip distributions to ensure consistency.

Data from the latest Transportation Tomorrow Survey (specifically, Traffic Analysis Zones 3442, 3443, and 3192) as referenced to determine the general travel patterns within the study area as the lands surrounding the subject site are generally rural in nature with minimal residential land-uses.

These general travel patterns were then applied to the specific routes within the study area which are summarized in **Table 7.2** and **Table 7.3**.

TABLE 7.2: HORIZON YEAR 2032 ESTIMATED TRIP DISTRIBUTION

Origin/Destination	AM Peak Hour		PM Peak Hour	
	In	Out	In	Out
East via Healey Road	10%	10%	5%	10%
West via Healey Road	5%	15%	5%	18%
North via Centreville Road	3%	3%	3%	3%
South via Centreville Road	3%	3%	3%	3%
North via Humber Station Road	3%	3%	3%	3%
South via Humber Station Road	8%	5%	5%	5%
North via Coleraine Drive	5%	5%	3%	5%
South via Coleraine Drive	10%	5%	10%	5%
North via The Gore Road	5%	5%	5%	5%
South via The Gore Road	10%	15%	15%	5%
East via Highway 413	25%	10%	10%	30%
West via Highway 413	15%	23%	35%	10%
Total	**100%**	**100%**	**100%**	**100%**

TABLE 7.3: HORIZON YEAR 2051 ESTIMATED TRIP DISTRIBUTION

Origin/Destination	AM Peak Hour		PM Peak Hour	
	In	Out	In	Out
East via Geroge Bolton Parkway	5%	10%	10%	5%
East via Healey Road	10%	10%	5%	10%
West via Healey Road	5%	15%	5%	18%
North via Centreville Road	3%	3%	3%	3%
South via Centreville Road	3%	3%	3%	3%
North via N/S Collector	3%	3%	3%	3%
North via Humber Station Road	3%	3%	3%	3%
South via Humber Station Road	8%	5%	5%	5%
North via Coleraine Drive	5%	5%	3%	5%
South via Coleraine Drive	8%	3%	8%	3%
North via The Gore Road	5%	5%	5%	5%
South via The Gore Road	10%	10%	10%	5%
East via Highway 413	20%	5%	5%	25%
West via Highway 413	15%	23%	35%	10%
Total	**100%**	**100%**	**100%**	**100%**

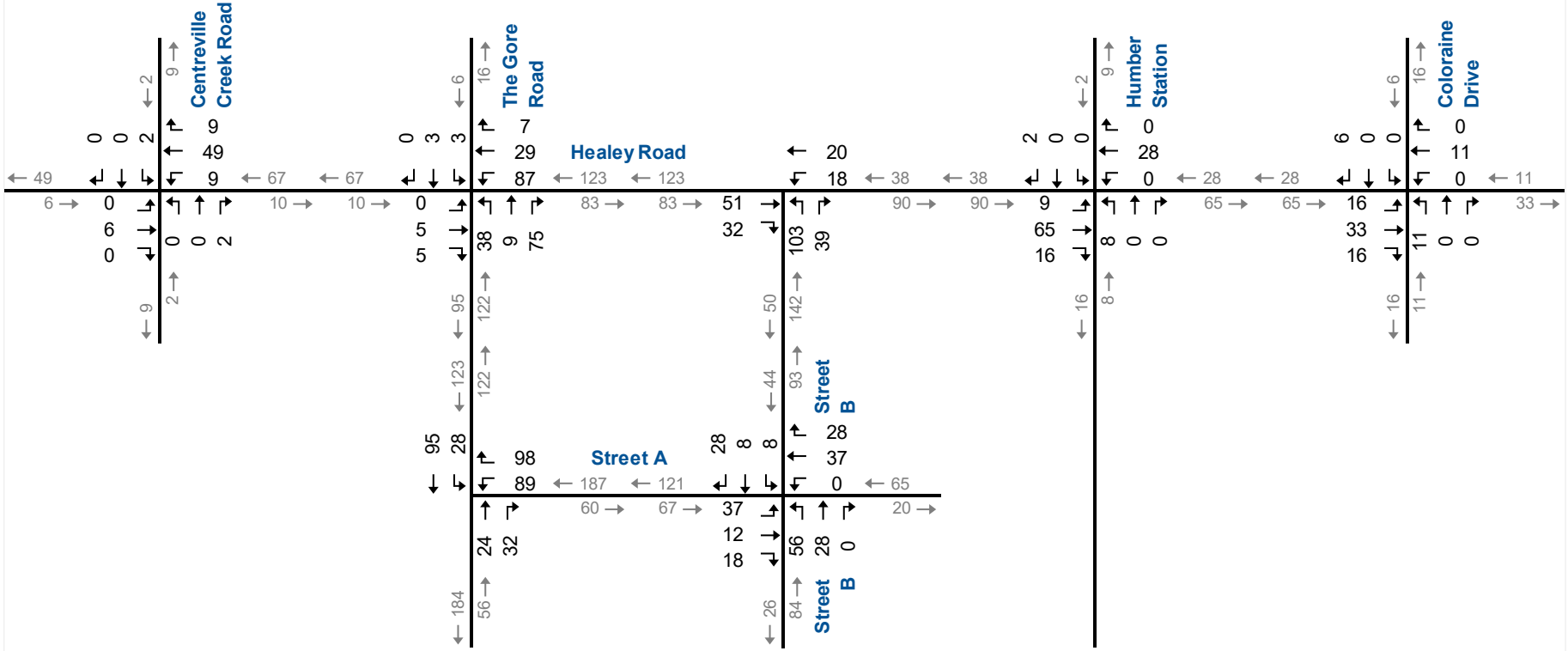
The estimated site-generated traffic was then assigned to the study area network based upon the distributions noted within the tables above.

Figure 7.1 and **Figure 7.2** illustrate the site traffic volumes for the AM and PM peak hours under the 2032 horizon.

Figure 7.3 and **Figure 7.4** illustrate the site traffic volumes for the AM and PM peak hours under the 2051 horizon (option 1)

Figure 7.5 and **Figure 7.6** illustrate the site traffic volumes for the AM and PM peak hours under the 2051 horizon (option 2).

It is noted that under the 2051 horizon year, it was assumed that a portion of the trips traveling to Highway 413 would elect to use the highway interchange proposed along Humber Station Road. Additional re-routing following the implementation of the George Bolton Parkway Extension and the implementation of the Town's collector road network was also considered. Internal site volume differentials are noted to occur as there are additional local roadway connections positioned along those segments.

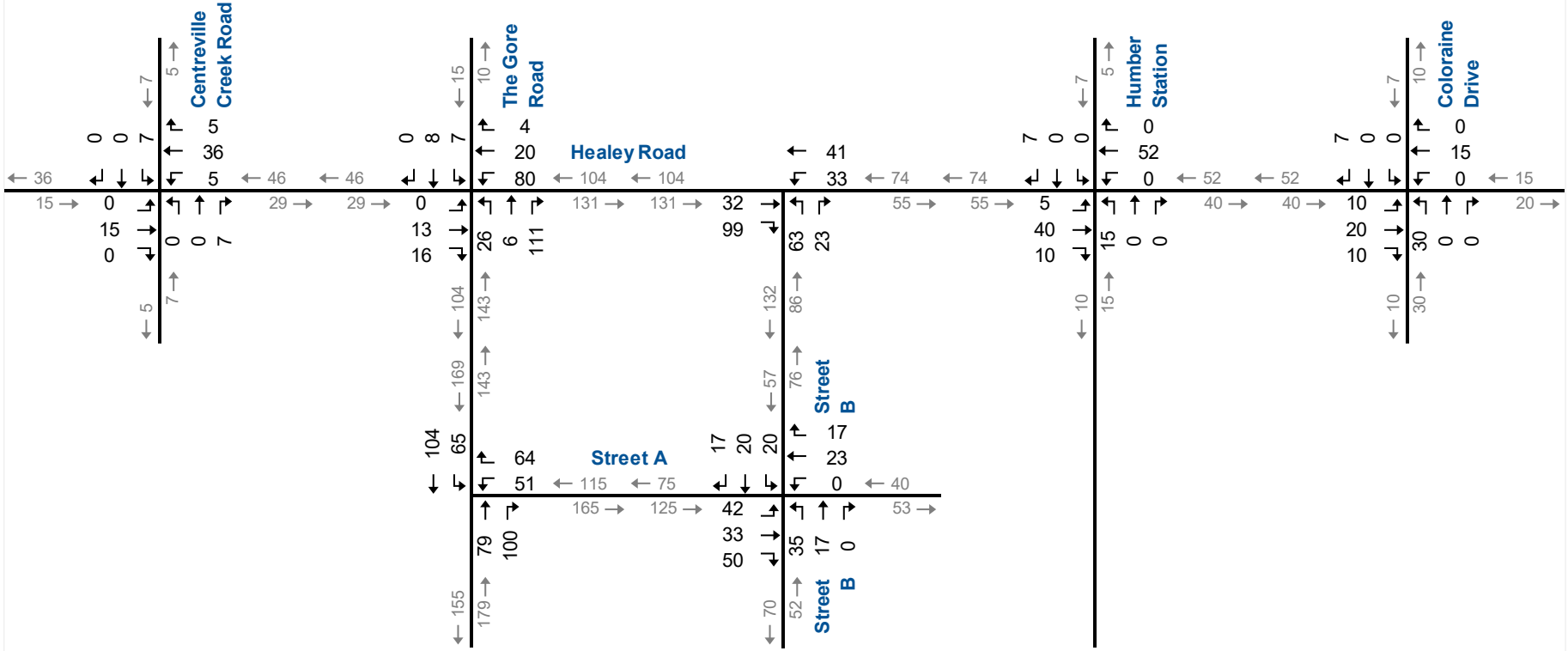


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2032 Site Traffic Volumes
AM Peak Hour

12879 The Gore Road, Caledon
250381

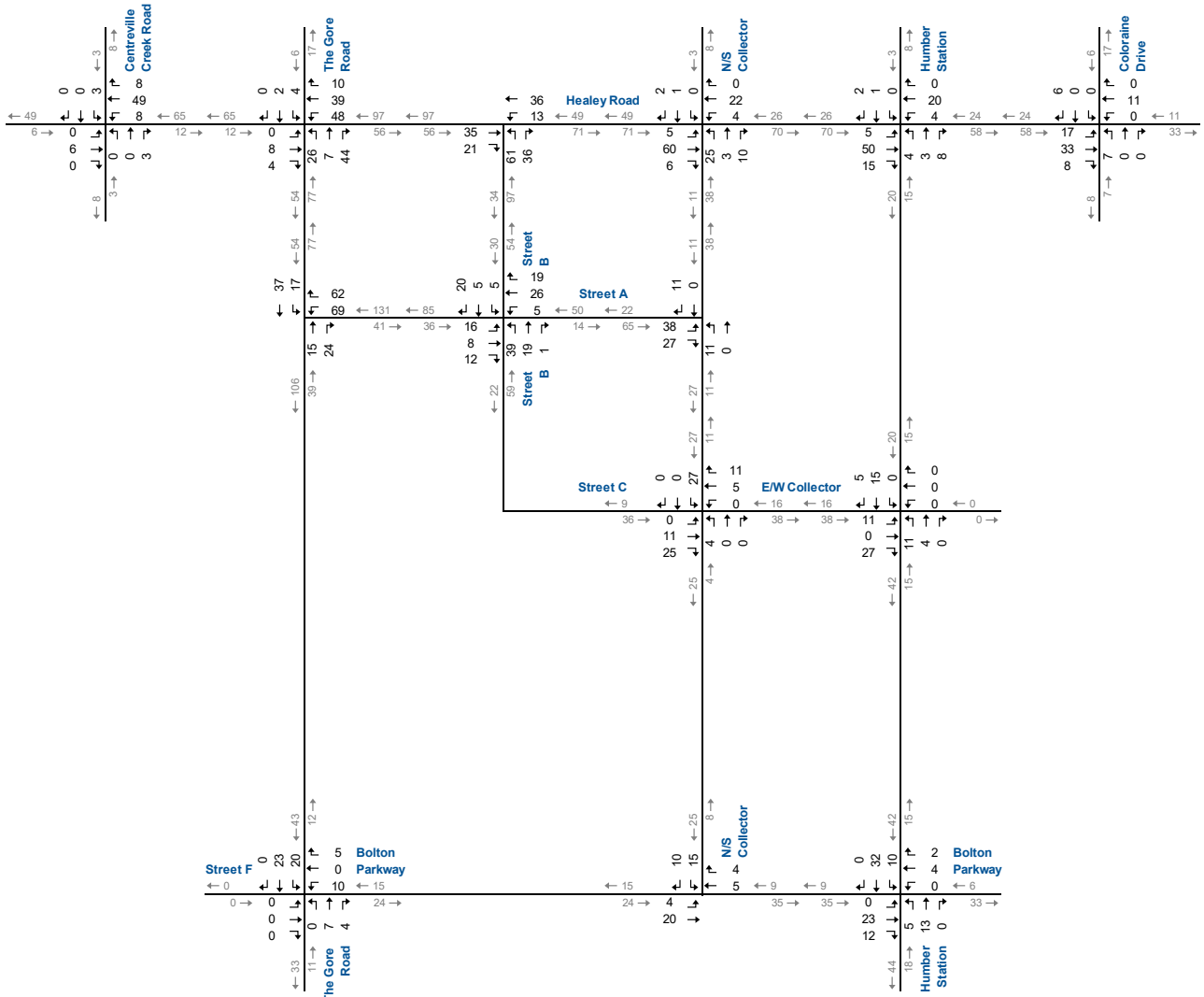
Figure 7.1



2032 Site Traffic Volumes
PM Peak Hour

12879 The Gore Road, Caledon
250381

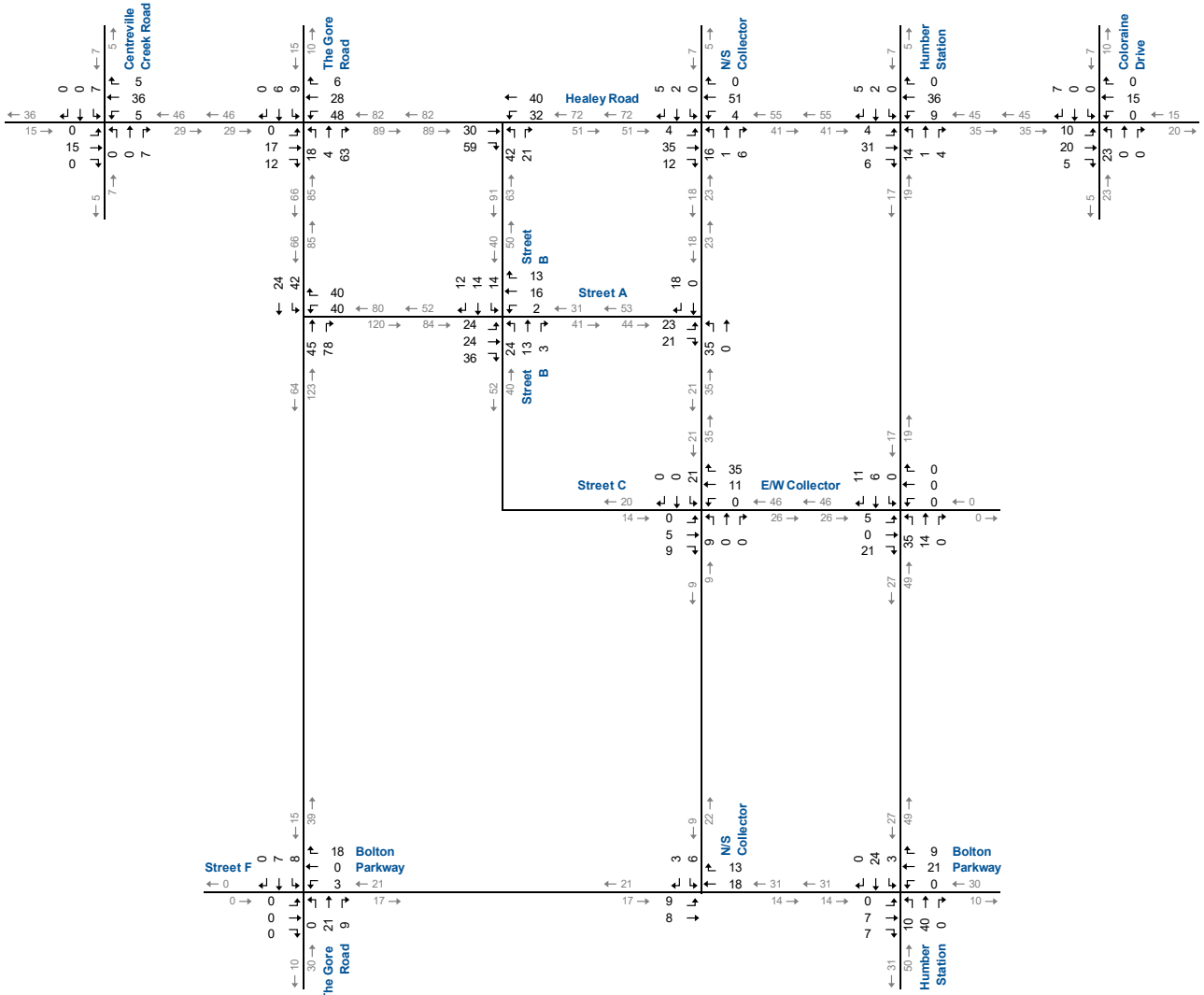
Figure 7.2



2051 Site Traffic Volumes – Option 1
AM Peak Hour

12879 The Gore Road, Caledon
250381

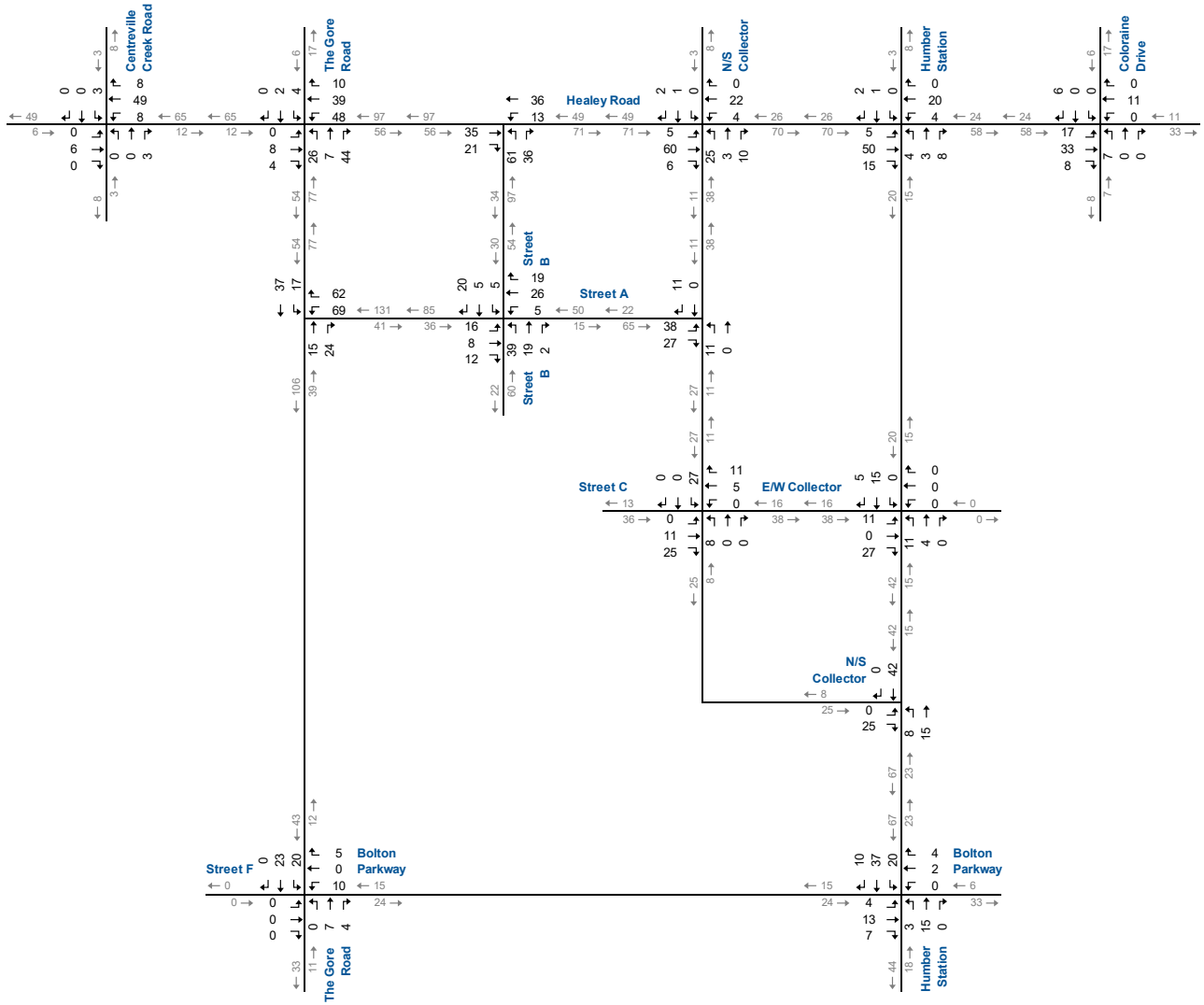
Figure 7.3



2051 Site Traffic Volumes – Option 1
PM Peak Hour

12879 The Gore Road, Caledon
250381

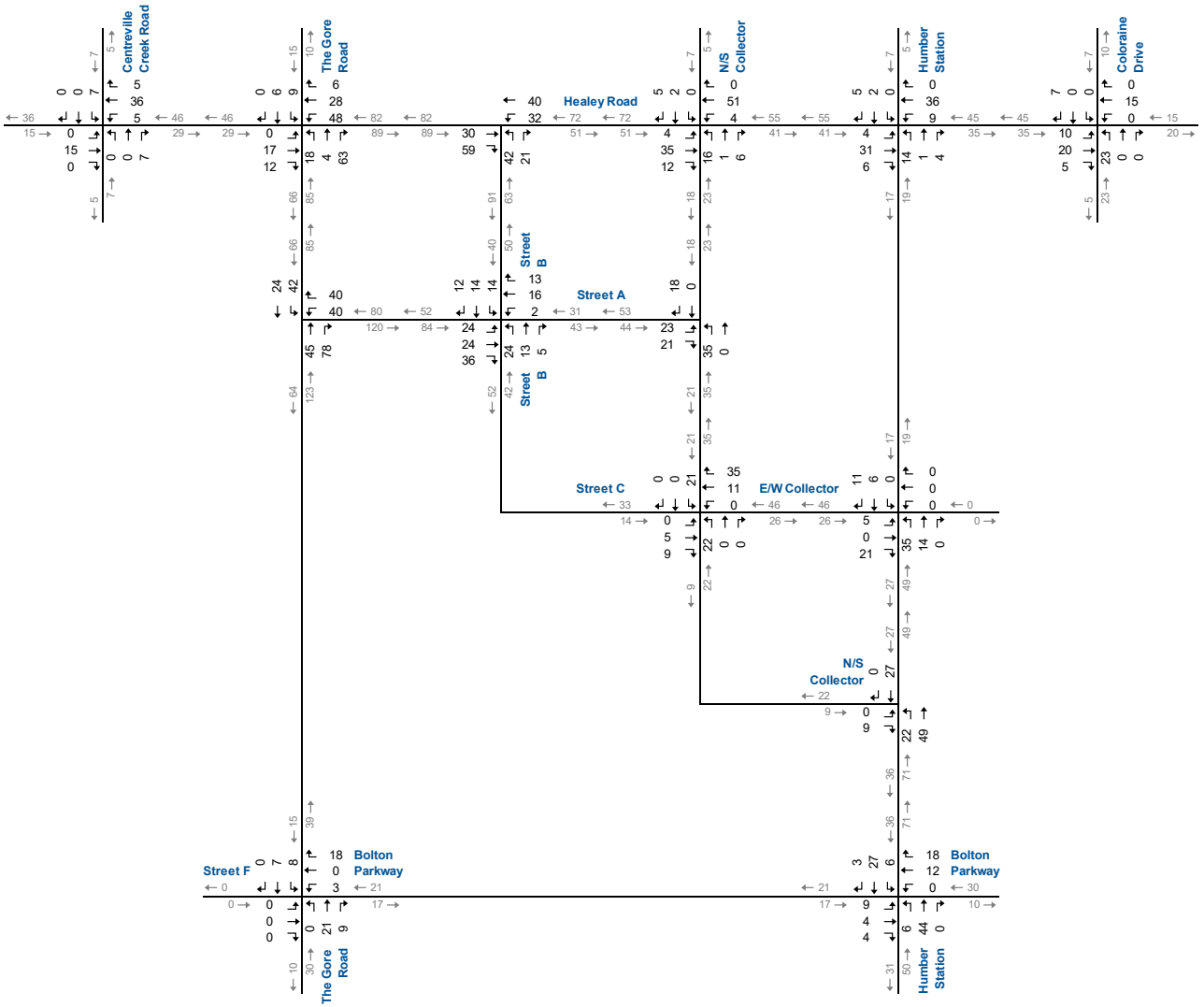
Figure 7.4



2051 Site Traffic Volumes – Option 2
AM Peak Hour

12879 The Gore Road, Caledon
250381

Figure 7.5



2051 Site Traffic Volumes – Option 2
PM Peak Hour

12879 The Gore Road, Caledon
250381

Figure 7.6

7.3 Total Traffic Volumes

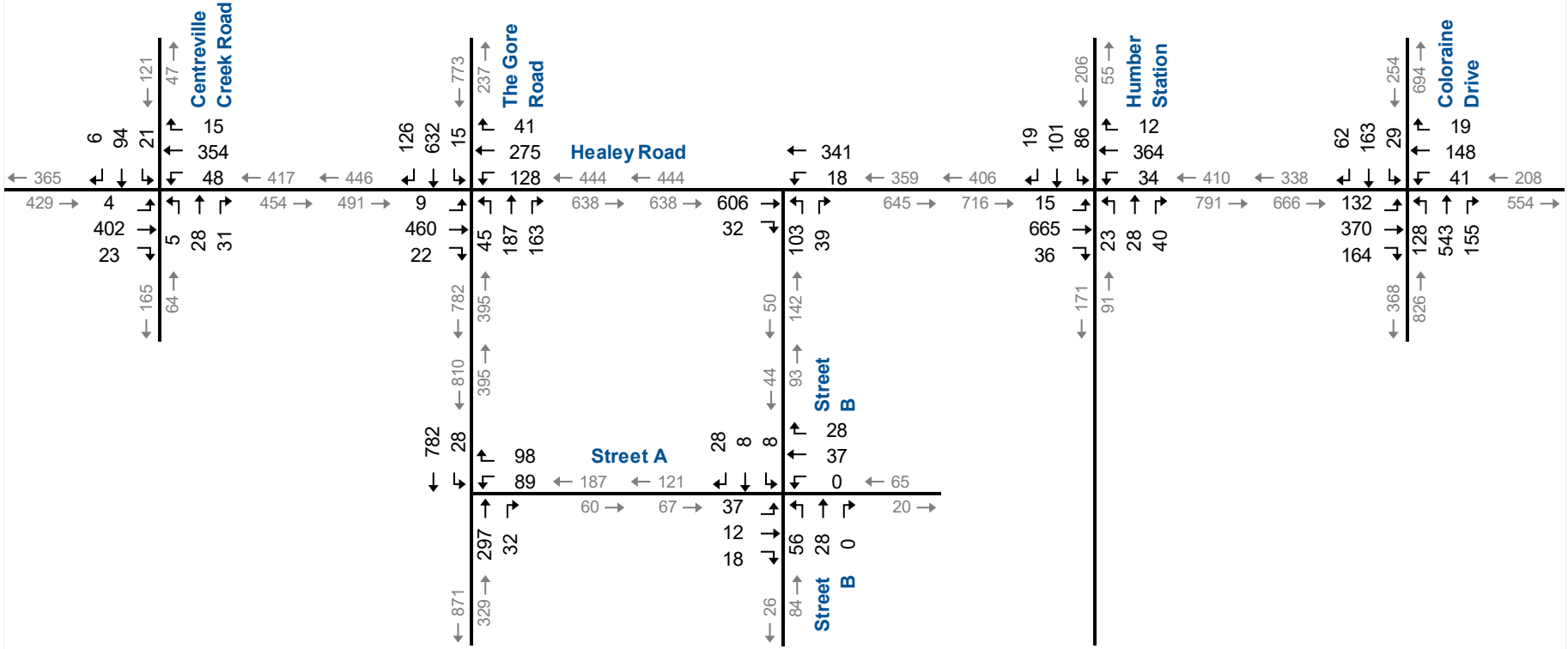
Total traffic volumes during Year 2032 consist of the background traffic volumes established in **Section 5.1** and the site traffic volumes established in **Section 7.2**.

Total traffic volumes during Year 2051 Option 1 and Option 2 traffic scenarios consist of the background traffic volumes established in **Section 5.1** and the site traffic volumes established in **Section 7.2**.

Figure 7.5 and **Figure 7.6** illustrate the 2032 total traffic volumes for the AM and PM peak hours, respectively.

Figure 7.7 and **Figure 7.8** illustrate the 2051 Option 1 total traffic volumes for the AM and PM peak hours, respectively.

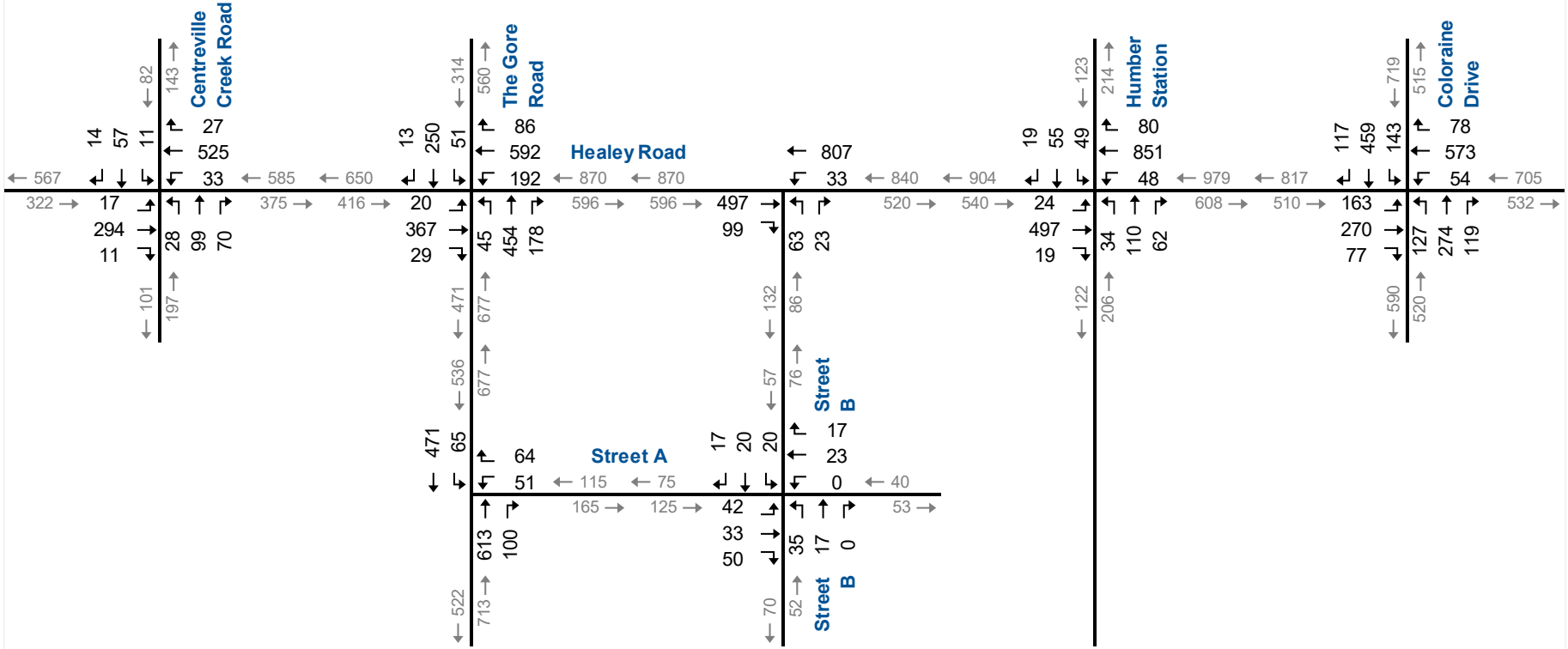
Figure 7.9 and **Figure 7.10** illustrate the 2051 Option 2 total traffic volumes for the AM and PM peak hours, respectively.



2032 Total Traffic Volumes
AM Peak Hour

12879 The Gore Road, Caledon
250381

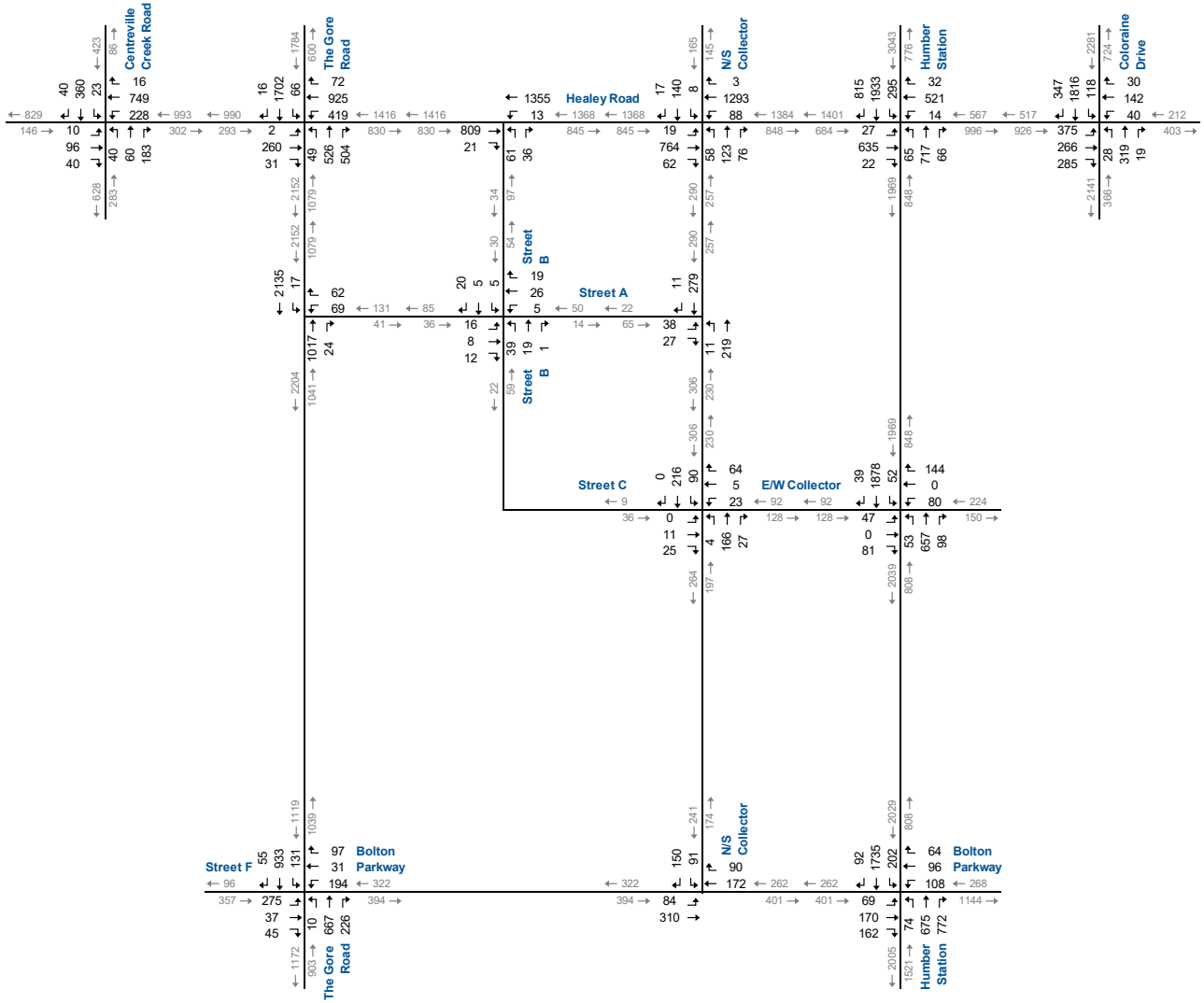
Figure 7.7



2032 Total Traffic Volumes
PM Peak Hour

12879 The Gore Road, Caledon
250381

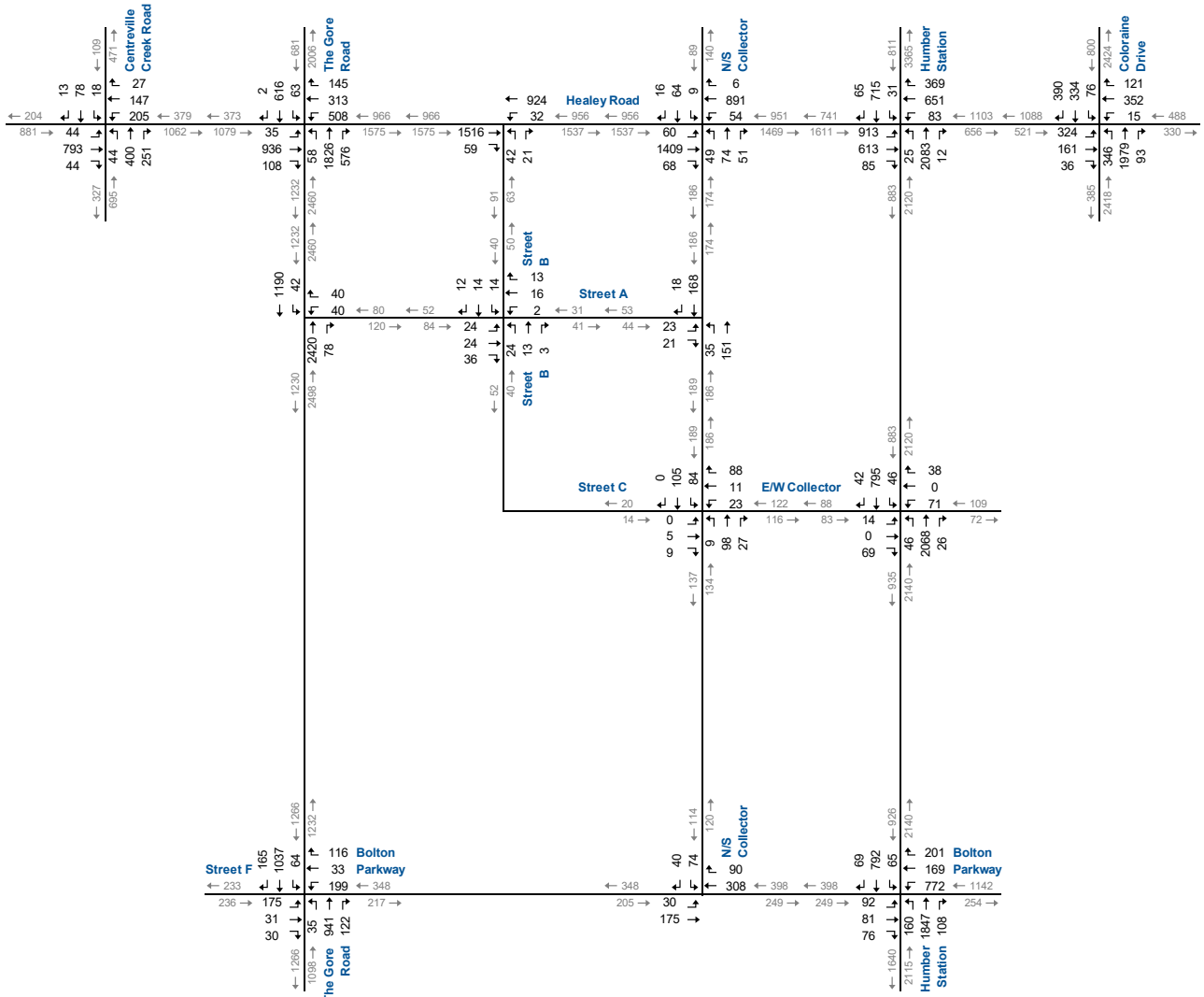
Figure 7.8



2051 Total Traffic Volumes – Option 1
AM Peak Hour

12879 The Gore Road, Caledon
250381

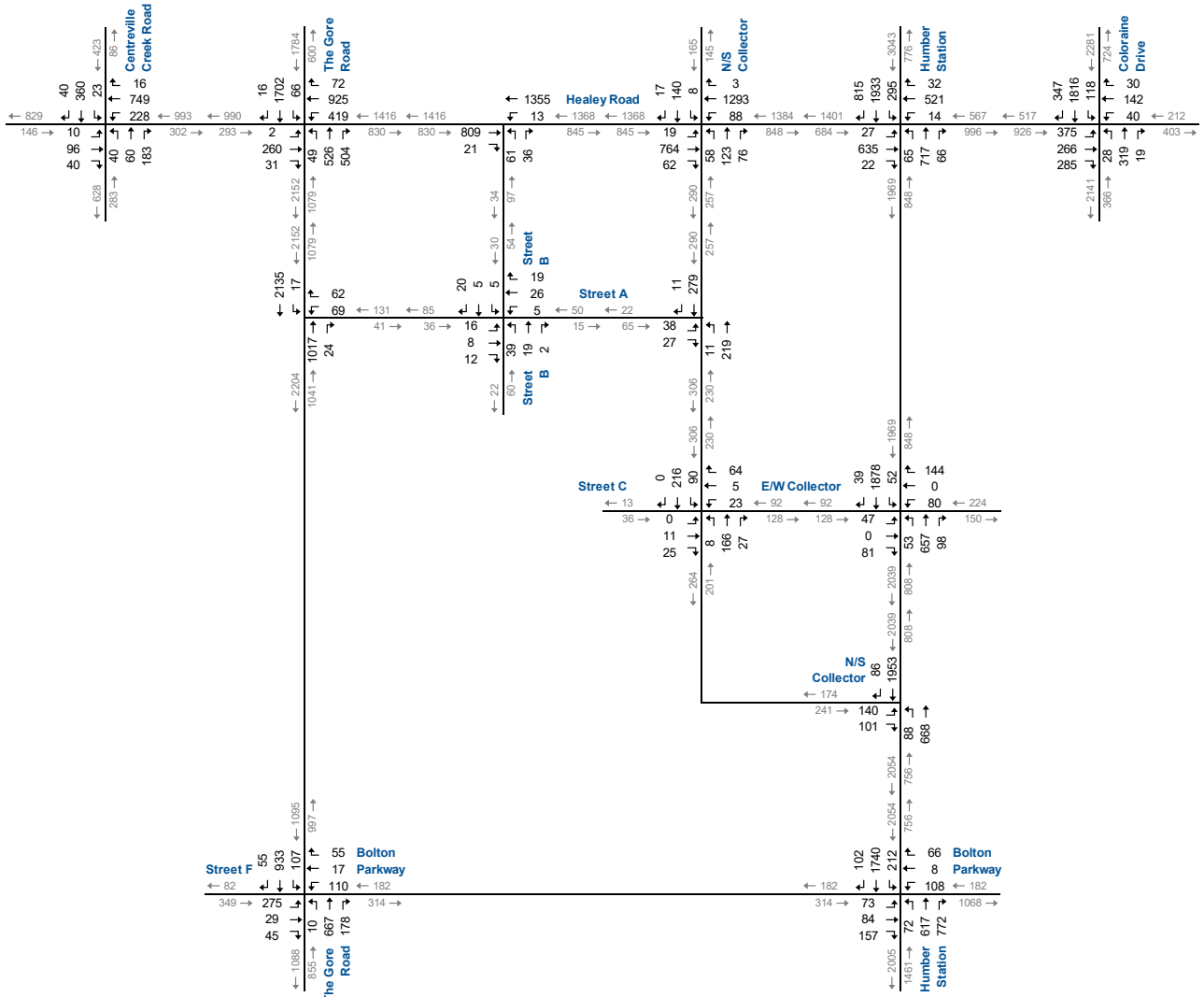
Figure 7.9



2051 Total Traffic Volumes – Option 1
PM Peak Hour

12879 The Gore Road, Caledon
250381

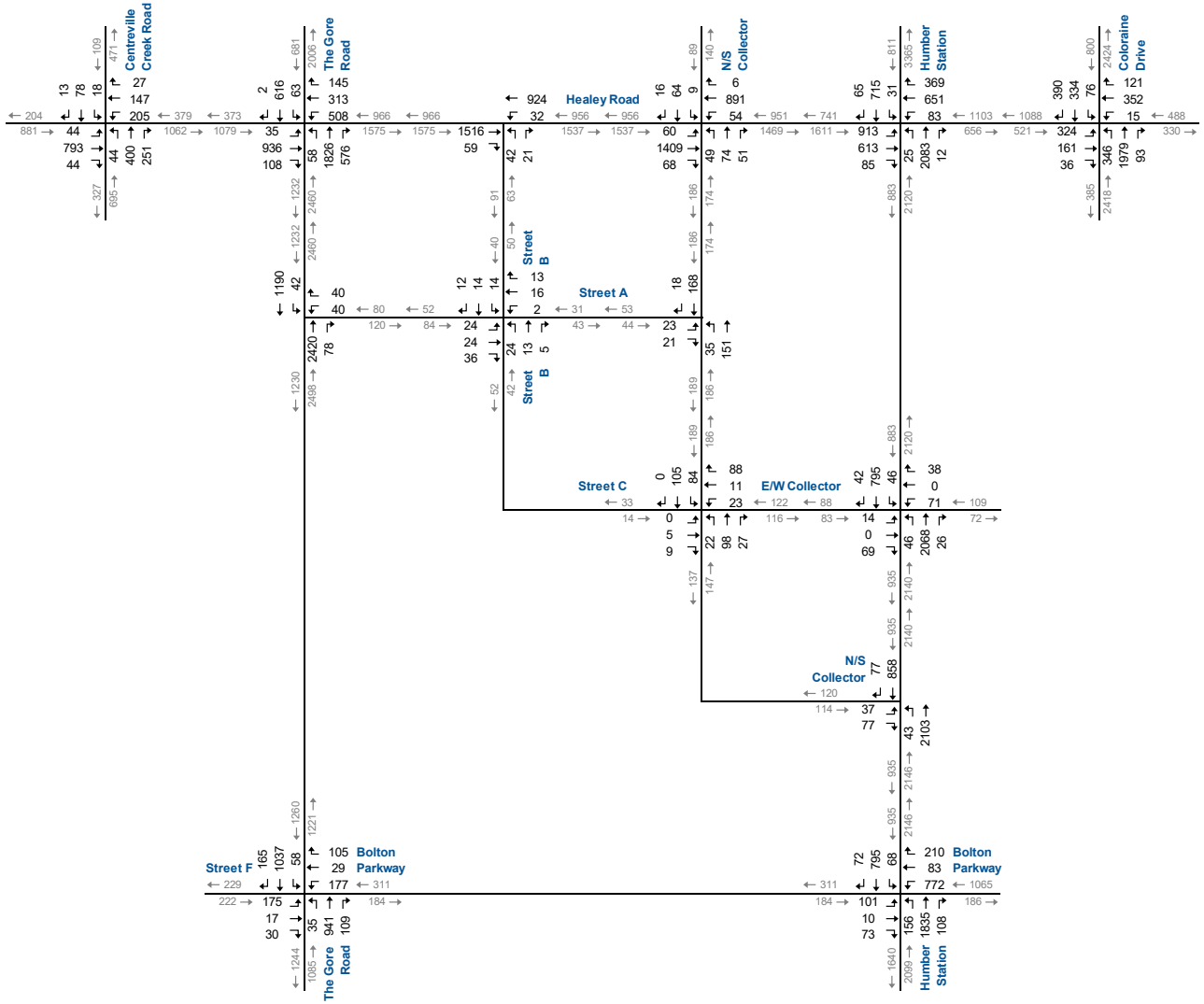
Figure 7.10



2051 Total Traffic Volumes – Option 2
AM Peak Hour

12879 The Gore Road, Caledon
250381

Figure 7.11



2051 Total Traffic Volumes – Option 2
PM Peak Hour

12879 The Gore Road, Caledon
250381

Figure 7.12

7.4 Future Traffic Operations

7.4.1 2032 Total Traffic Operations

The Year 2032 total traffic operational analyses follow the same methodology, and parameters set out under existing and background traffic conditions. Future lane arrangements and traffic control devices as described under **Section 4** were implemented.

Optimized signal timings were used at all signalized intersections within the study area.

Table 7.4 and **Table 7.5** summarizes the results of the operational analysis for Year 2032 total traffic conditions during the AM and PM peak hours, respectively. Any movements identified as critical are highlighted within the results tables. Detailed Synchro reports are provided in **Appendix F**.

Under 2032 total traffic conditions (i.e., with the addition of site traffic), all study area intersections are reported to operate similar to background traffic conditions. That is, reporting similar levels of service, and with movements forecast to continue to operate within capacity.

All site access intersections are forecast to operate at acceptable levels of service, and with all movements well within capacity.

The exception includes the following critical movements:

- Healey Road and Centreville Creek Road
  - Under the PM peak hour, the westbound shared left/through/right movement is forecast to operate at LOS F with a v/c ratio of 0.98
- Healey Road and Coleraine Drive
  - The reported 95th percentile queues for the eastbound and westbound left-turn movements exceed the available storage provisions under both the AM and PM peak hours.

    The queue exceedances are not considered critical issues as the reported queues are estimates of the longest queue that could occur during the peak hour; however, this level of queuing only has a five percent probability of occurring during the analysis period. It is not typical of what a motorist would experience on average.

    The reported 50th percentile average queues for these two movements under both the AM and PM peak hours are forecast to be accommodated by the existing storage lane provisions.

TABLE 7.4: 2032 TOTAL TRAFFIC OPERATIONS – AM PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Centreville Creek Road & Healey Road	AWSC	LOS	<	C	>	C	<	C	>	C	<	B	>	B	<	B	>	B	C
			Delay	<	21	>	21	<	21	>	21	<	10	>	10	<	12	>	12	19
			V/C	<	0.72	>		<	0.71	>		<	0.13	>		<	0.25	>		
			Q	<		>		<		>		<		>		<		>		
	The Gore Road & Healey Road	TCS	LOS	C	C	>	C	D	C	>	C	B	B	>	B	A	B	>	B	C
			Delay	25.3	30.7	>	31	47.4	28.5	>	34	10.8	10.4	>	10	9.4	12.5	>	12	21
			V/C	0.04	0.50	>		0.67	0.34	>		0.14	0.18	>		0.03	0.40	>		0.73
			Q	5.1	60.1	>		52.3	38.6	>		10.4	17.6	>		4.2	55	>		
	Humber Station Road & Healey Road	TCS	LOS	A	A	>	A	A	A	>	A	A	A	>	A	A	A	>	A	A
			Delay	4.8	6.3	>	6	5.3	5.4	>	5	8.9	8.8	>	9	9.8	9.0	>	9	7
			V/C	0.04	0.49	>		0.15	0.27	>		0.08	0.05	>		0.29	0.14	>		0.46
			Q	2.5	26	>		4.6	13.3	>		5.2	3.9	>		13.7	7.5	>		
	Coleraine Drive & Healey Road	TCS	LOS	D	D	>	D	E	D	>	D	B	B	>	B	A	A	>	A	C
			Delay	40.5	43.9	>	43	63.3	52.7	>	55	14.1	16.9	>	16	9.5	9.4	>	9	29
			V/C	0.45	0.61	>		0.58	0.41	>		0.23	0.48	>		0.10	0.11	>		0.70
			Q	42.8	74	>		20.5	32	>		37.1	82.3	>		7.1	18.8	>		
			Stor.	30.0	-	>		20.0	-	>		60.0	-	>		55.0	-	>		
			Avail.	-13	-	>		-1	-	>		23	-	>		48	-	>		
	Street B & Healey Road	TWSC	LOS		A	>	A	<	A		A	D		B	C					A
			Delay		0	>	0	<	2		0	27		11	23					3
			V/C		0.26	>		<	0.02			0.41		0.06						
			Q		0	>		<	0			15		2						
	The Gore Road & Street A	TWSC	LOS					C		A	C		A	>	A	<	A		A	A
			Delay					22		10	16		0	>	0	<	1		0	2
			V/C					0.32		0.13			0.13	>		<	0.03			
			Q					11		4			0	>		<	1			
	Street B & Street A	AWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	A	>	A	A
			Delay	<	8	>	8	<	7	>	7	<	8	>	8	<	7	>	7	8
			V/C	<	0.09	>		<	0.08	>		<	0.11	>		<	0.05	>		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
TWSC - Two-Way Stop Control
AWSC - All-Way Stop Control
< / > - Shared with through movement

TABLE 7.5: 2032 TOTAL TRAFFIC OPERATIONS – PM PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
PM Peak Hour	Centreville Creek Road & Healey Road	AWSC	LOS	<	C	>	C	<	F	>	F	<	B	>	B	<	B	>	B	D
			Delay	<	17	>	17	<	53	>	53	<	14	>	14	<	12	>	12	34
			V/C	<	0.58	>		<	0.98	>		<	0.39	>		<	0.18	>		
			Q	<		>		<		>		<		>		<		>		
	The Gore Road & Healey Road	TCS	LOS	C	C	>	C	E	C	>	D	A	B	>	B	B	B	>	B	C
			Delay	29.0	29.2	>	29	61.4	34.9	>	41	9.8	11.8	>	12	11.0	10.1	>	10	26
			V/C	0.17	0.40	>		0.84	0.69	>		0.08	0.34	>		0.16	0.15	>		0.73
			Q	9.8	49.2	>		79.2	87.4	>		9.2	40.3	>		10.6	18.2	>		
	Humber Station Road & Healey Road	TCS	LOS	A	A	>	A	A	A	>	A	A	A	>	A	A	A	>	A	A
			Delay	4.6	5.0	>	5	4.5	6.1	>	6	9.6	9.6	>	10	9.9	9.4	>	10	6
			V/C	0.11	0.31	>		0.12	0.56	>		0.11	0.17	>		0.19	0.08	>		0.54
			Q	3.1	14.6	>		4.7	28.6	>		5.8	7.5	>		7.6	4.4	>		
	Coleraine Drive & Healey Road	TCS	LOS	D	C	>	C	D	D	>	D	C	C	>	C	B	C	>	B	C
			Delay	39.7	28.4	>	32	38.3	47.7	>	47	32.5	27.4	>	29	17.3	20.3	>	20	32
			V/C	0.71	0.27	>		0.26	0.76	>		0.43	0.32	>		0.33	0.43	>		0.75
			Q	42.7	39.6	>		21.2	102	>		55.5	55.6	>		35.2	64.6	>		
			Stor.	30.0	-	>		20.0	-	>		60.0	-	>		55.0	-	>		
			Avail.	-13	-	>		-1	-	>		5	-	>		20	-	>		
	Street B & Healey Road	TWSC	LOS		A	>	A	<	A		A	D		B	D					A
			Delay		0	>	0	<	1		0	33		11	27					2
			V/C		0.21	>		<	0.04			0.34		0.04						
			Q		0	>		<	1			12		1						
	The Gore Road & Street A	TWSC	LOS					D		B	C		A	>	A	<	A		A	A
			Delay					33		12	21		0	>	0	<	4		1	2
			V/C					0.30		0.11			0.26	>		<	0.08			
			Q					10		3			0	>		<	2			
	Street B & Street A	AWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	A	>	A	A
			Delay	<	8	>	8	<	7	>	7	<	8	>	8	<	8	>	8	8
			V/C	<	0.15	>		<	0.05	>		<	0.07	>		<	0.07	>		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
TWSC - Two-Way Stop Control
AWSC - All-Way Stop Control
< / > - Shared with through movement

7.4.2 2051 Total Traffic Operations (Option 1)

The Year 2051 total traffic operational analyses follow the same methodology, and parameters set out under existing and background traffic conditions. Future lane arrangements and traffic control devices as described under **Section 4** were implemented.

Optimized signal timings were used at all signalized intersections within the study area.

Table 7.6 and **Table 7.7** summarizes the results of the operational analysis for Year 2051 total traffic conditions during the AM and PM peak hours respectively. Any movements identified as critical are highlighted within the results tables. Detailed Synchro reports are provided in **Appendix F**

Under 2051 total traffic Option 1 conditions (i.e., with the addition of site traffic), all study area intersections are reported to operate similar to background traffic conditions. That is, reporting similar levels of service, and with movements forecast to continue to operate within capacity.

All site access intersections are forecast to operate at acceptable levels of service, and with all movements well within capacity.

The exceptions would include the intersections of Street B and Healey Road, where the northbound left-turn movement reports a LOS E under the PM peak hour. It is noted the movement operates well within capacity and that this is not an unusual condition where a minor road operating under stop control intersects with a major road. Furthermore, at the intersection of The Gore Road and Street A, the westbound left-turn movement is characterized by LOS E and LOS F under the AM and PM peak hours, respectively. The movement operates within capacity under the AM peak hour; however, operates over-capacity under the PM peak hour.

The following critical movements are noted under total traffic conditions:

- <u>The Gore Road and Healey Road</u>
  - AM Peak Hour
    - Overall intersection reports a v/c ratio of 1.06;
    - Westbound left-turn movement reports a v/c ratio of 1.14; and
    - Southbound through movement reports a v/c ratio of 1.11.



- PM Peak Hour
  - Overall intersection reports a v/c ratio of 1.43;
  - Westbound left-turn movement reports a v/c ratio of 3.72;
  - Northbound shared through/right movement reports a v/c ratio of 1.99; and
  - Southbound left-turn movement reports a v/c ratio of 1.37.

- Humber Station Road and Healey Road
  - AM Peak Hour
    - Overall intersection reports a v/c ratio of 1.17;
    - Eastbound shared through/right movement reports a v/c ratio of 1.16;
    - Westbound shared through/right movement reports a v/c ratio of 0.98;
    - Northbound left-turn movement reports a v/c ratio of 1.06; and
    - Southbound shared through/right movement reports a v/c ratio of 1.10.
  - PM Peak Hour
    - Overall intersection reports a v/c ratio of 1.50;
    - Eastbound left-turn movement reports a v/c ratio of 6.41;
    - Northbound shared through/right movement reports a v/c ratio of 1.79.

- Coleraine Drive and Healey Road
  - AM Peak Hour
    - Overall intersection reports a v/c ratio of 1.23;
    - Eastbound left-turn movement reports a v/c ratio of 1.18, and a 95th percentile queue which exceeds the available storage provision; and
    - Southbound shared through/right movement reports a v/c ratio of 1.35.
  - PM Peak Hour
    - Overall intersection reports a v/c ratio of 1.12;
    - Eastbound left-turn movement reports a v/c ratio of 1.23, and a 95th percentile queue which exceeds the available storage provision;

- Northbound left-turn movement reports a v/c ratio of 1.21, and a 95th percentile queue which exceeds the available storage provision; and
- Northbound shared through/right movement reports a v/c ratio of 1.55.

- The Gore Road and George Bolton Parkway
  - AM Peak Hour
    - Southbound left-turn movement reports a v/c ratio of 0.99.
- Humber Station Road and George Bolton Parkway
  - AM Peak Hour
    - Westbound left-turn movement reports a v/c ratio of 1.06;
    - Northbound left-turn movement reports a v/c ratio of 0.91; and
    - Southbound left-turn movement reports a v/c ratio of 1.26.
  - PM Peak Hour
    - Overall intersection reports a v/c ratio of 1.21;
    - Westbound left-turn movement reports a v/c ratio of 1.45;
    - Northbound left-turn movement reports a v/c ratio of 1.09;
    - Northbound shared through/right movement reports a v/c ratio of 1.32; and
    - Southbound left-turn movement reports a v/c ratio of 1.45.

TABLE 7.6: 2051 TOTAL TRAFFIC OPERATIONS (OPTION 1) – AM PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Centreville Creek Road & Healey Road	TCS	LOS	C	C	>	C	A	A	>	A	B	A	>	A	A	B	>	B	B
			Delay	29.4	28.9	>	29	8	9	>	9	10.1	10.0	>	10	9.6	11.0	>	11	11
			V/C	0.12	0.11	>		0.61	0.72	>		0.08	0.10	>		0.04	0.21	>		0.56
			Q	6.2	14.8	>		15	28	>		11.4	10.4	>		7.3	37	>		
	The Gore Road & Healey Road	TCS	LOS	C	C	>	C	F	B	>	D	F	B	>	C	C	F	>	F	D
			Delay	30.0	30.1	>	30	103.6	17.2	>	43	106.9	18.1	>	22	32.6	87.6	>	86	54
			V/C	0.02	0.23	>		1.14	0.78	>		0.88	0.60	>		0.51	1.11	>		1.06
			Q	2.6	43.1	>		193	110	>		37.8	73.4	>		27.7	304	>		
	Humber Station Road & Healey Road	TCS	LOS	D	F	>	F	D	E	>	E	F	A	>	B	B	E	>	E	E
			Delay	42.6	125.6	>	122	39	61	>	60	150.0	3.7	>	15	14.5	65.6	>	61	61
			V/C	0.48	1.16	>		0.22	0.98	>		1.06	0.31	>		0.67	1.10	>		1.17
			Q	19.1	143	>		4	66	>		46.2	26.3	>		66.2	455	>		
	Coleraine Drive & Healey Road	TCS	LOS	F	B	>	E	D	D	>	D	D	B	>	B	A	F	>	F	F
			Delay	112	20	>	57	54.6	49.1	>	50	41.6	14.5	>	16	8.3	183.8	>	175	124
			V/C	1.18	0.70	>		0.52	0.40	>		0.48	0.21	>		0.20	1.35	>		1.23
			Q	34	26	>		20	30	>		22	34	>		20.4	396	>		
			Stor.	30	-	>		20.0	-	>		60.0	-	>		55.0	-	>		
			Avail.	-4	-	>		0	-	>		38	-	>		35	-	>		
	Street B & Healey Road	TWSC	LOS		A	>	A	A	A		A	C		B	D					A
			Delay		0	>	0	10	0		0	18.5		12	16.1					1
			V/C		0.34	>		0.02	0.02			0.2		0.07						
			Q		0	>		1	0			6		2						
	N/S Collector & Healey Road	TCS	LOS	B	B	>	B	B	C	>	C	C	C	>	C	C	C	>	C	C
			Delay	13	13.9	>	14	18	23	>	23	24.6	26.6	>	26	22.9	25.6	>	26	20
			V/C	0.24	0.47	>		0.40	0.74	>		0.14	0.30	>		0.02	0.24	>		0.70
			Q	4	58.8	>		13	120	>		23.7	60.9	>		5.7	51	>		
	The Gore Road & Street A	TWSC	LOS					E		B	F		A	>	A	B	A		A	C
			Delay					40		14	27.5		0	>	0	11	0		0	1
			V/C					0.42		0.14			0.43	>		0.03	0.68			
			Q					15		4			0	>		1	0			
	Street B & Street A	AWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	A	>	A	A
			Delay	<	7	>	7	<	7	>	7	<	8	>	8	<	7	>	7	7
			V/C	<	0.04	>		<	0.06	>		<	0.08	>		<	0.03	>		
			Q	<		>		<		>		<		>		<		>		
	N/S Collector & Street A	TWSC	LOS	B		B	B					<	A		A		A	>	A	A
			Delay	13		10	12					<	0		0		0	>	0	2
			V/C	0.09		0.04						<	0.00*				0.19	>		
			Q	2		1						<	0.2				0	>		
	N/S Collector & Street C/E/W Collector	AWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	B	>	B	A
			Delay	<	8	>	8	<	9	>	9	<	9	>	9	<	11	>	11	10
			V/C	<	0.05	>		<	0.14	>		<	0.27	>		<	0.43	>		
			Q	<		>		<		>		<		>		<		>		
	Humber Station Road & E/W Collector	TCS	LOS	D		D	D					B	A		A		A	>	A	A
			Delay	53.5		55.0	54					17	2.2		3		2	>	2	5
			V/C	0.35		0.46						0.52	0.24				0.70	>		0.66
			Q	24.1		29.9						14	28.7				4	>		
	The Gore Road & George Bolton Parkway	TCS	LOS	C	B	>	C	B	B	B	B	B	C	>	C	D	C	>	C	C
			Delay	23.0	17.0	>	22	19.5	15.2	18.8	19	19.8	26.3	>	26	52	22	>	26	24
			V/C	0.45	0.08	>		0.34	0.04	0.07		0.10	0.62	>		0.99	0.69	>		0.66
			Q	94.9	18.7	>		73.1	16.2	19.3		4.2	79	>		30	106	>		
	Humber Station Road & George Bolton Parkway	TCS	LOS	B	B	>	B	F	D	>	F	E	A	>	B	F	A	>	B	B
			Delay	20.0	16.5	>	17	153.7	43.6	>	88	77.4	7.2	>	11	158	3.3	>	19	20
			V/C	0.38	0.59	>		1.06	0.20	>		0.91	0.61	>		1.26	0.75	>		0.86
			Q	9	12.1	>		70.5	22.3	>		29.8	82.2	>		74	17.1	>		
	George Bolton Parkway & N/S Collector	TCS	LOS	E	D		D		D	>	D					A		A	A	D
			Delay	73	48.6		54		48	>	48					3.2		3.4	3	38
			V/C	0.80	0.65				0.41	>						0.07		0.10		0.29
			Q	35	52.5				32	>						11.3		5.5		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
TWSC - Two-Way Stop Control
AWSC - All-Way Stop Control
< / > - Shared with through movement

TABLE 7.7: 2051 TOTAL TRAFFIC OPERATIONS (OPTION 1) – PM PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																	
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
PM Peak Hour	Centreville Creek Road & Healey Road	TCS	LOS	B	B	>	B	D	A	>	C	C	D	>	D	D	C	>	C	C
			Delay	13.6	17.0	>	17	53.6	6.3	>	32	33.9	42.6	>	42	36.4	33.2	>	34	29
			V/C	0.14	0.45	>		0.90	0.09	>		0.11	0.59	>		0.15	0.08	>		0.65
			Q	5.7	72.2	>		92.2	1.8	>		23.5	122	>		13.1	19.4	>		
	The Gore Road & Healey Road	TCS	LOS	B	C	>	C	F	B	>	F	C	F	>	F	F	C	>	E	F
			Delay	16	20.4	>	20	1272	13.9	>	676	27	486.3	>	476	298.5	33.4	>	58	363
			V/C	0.10	0.64	>		3.72	0.33	>		0.26	1.99	>		1.37	0.46	>		1.43
			Q	9	105	>		375	52	>		20	649	>		46.6	95.1	>		
	Humber Station Road & Healey Road	TCS	LOS	F	A	>	F	B	B	>	B	C	F	>	F	F	D	>	D	F
			Delay	2465	10.0	>	1401	13	16	>	15	23	386.9	>	383	100.7	39.9	>	42	553
			V/C	6.41	0.41	>		0.35	0.63	>		0.22	1.79	>		0.71	0.65	>		1.50
			Q	673	67.6	>		17	103	>		7	593	>		31	136	>		
	Coleraine Drive & Healey Road	TCS	LOS	F	C	>	F	D	E	>	E	F	F	>	F	F	B	>	C	F
			Delay	170	20	>	113	51.1	72.2	>	72	153.4	286.6	>	268	125.6	16.3	>	27	180
			V/C	1.23	0.19	>		0.10	0.86	>		1.21	1.55	>		0.97	0.36	>		1.12
			Q	204	30	>		9.8	99.8	>		203	489	>		43.6	47.7	>		
			Stor.	30	-	>		20.0	-	>		60.0	-	>		55.0	-	>		
			Avail.	-174	-	>		10.2	-	>		-143	-	>		11	-	>		
	Street B & Healey Road	TWSC	LOS		A	>	A	C	A		A	E		C	E					A
			Delay		0	>	0	16	0		1	47		18	37					1
			V/C		0.65	>		1.41	0.3			0.35		0.08						
			Q		0	>		2.5	0			12		2						
	N/S Collector & Healey Road	TCS	LOS	A	A	>	A	B	B	>	B	D	D	>	D	D	D	>	D	B
			Delay	4	8	>	8	12	11.9	>	12	48.8	50.6	>	50	46.0	48.5	>	48	13
			V/C	0.19	0.64	>		0.41	0.38	>		0.19	0.31	>		0.04	0.20	>		0.66
			Q	3	40	>		14	75.4	>		28.2	53.8	>		8.5	38.7	>		
	The Gore Road & Street A	TWSC	LOS					F		E	F		A	>	A	E	A		A	D
			Delay					376		42	209		0	>	0	40	0		1	5
			V/C					1.18		0.31			1.03	>		0.31	0.38			
			Q					36		10			0	>		10	10			
	Street B & Street A	AWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	A	>	A	A
			Delay	<	7	>	7	<	7	>	7	<	8	>	8	<	7	>	7	7
			V/C	<	0.10	>		<	0.04	>		<	0.05	>		<	0.05	>		
			Q	<		>		<		>		<		>		<		>		
	N/S Collector & Street A	TWSC	LOS	B		A	B					<	A		A		A	>	A	A
			Delay	12		9	11					<	2		2		0	>	0	2
			V/C	0.04		0.03						<	0.03				0.12	>		
			Q	1		1						<	1				0	>		
	N/S Collector & Street C/E/W Collector	AWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	A	>	A	A
			Delay	<	8	>	8	<	8	>	8	<	8	>	8	<	9	>	9	9
			V/C	<	0.02	>		<	0.16	>		<	0.18	>		<	0.26	>		
			Q	<		>		<		>		<		>		<		>		
	Humber Station Road & E/W Collector	TCS	LOS	E		E	E					A	A		A		A	>	A	A
			Delay	69.4		68.3	68					0	6		6		3.2	>	3	7
			V/C	0.17		0.05						0.10	0.71				0.29	>		0.69
			Q	12.3		17.1						0	9				95.4	>		
	The Gore Road & George Bolton Parkway	TCS	LOS	C	C	>	C	C	C	F	D	C	C	>	C	C	C	>	C	C
			Delay	26.4	22.4	>	25	34.8	26.9	81.7	50	34.2	31.8	>	32	22	25	>	25	30
			V/C	0.30	0.06	>		0.35	0.04	0.09		0.53	0.69	>		0.64	0.78	>		0.67
			Q	64	17.4	>		95.9	23.3	47.7		22	142	>		14	79	>		
	Humber Station Road & George Bolton Parkway	TCS	LOS	B	A	>	A	F	C	>	F	F	F	>	F	F	C	>	D	F
			Delay	12.3	4.8	>	8	250.4	23.2	>	177	137.2	191.3	>	187	318.7	21.5	>	42	144
			V/C	0.23	0.08	>		1.45	0.26	>		1.09	1.32	>		1.45	0.58	>		1.21
			Q	13.8	0	>		434	49.6	>		110	491	>		62.1	104	>		
	George Bolton Parkway & N/S Collector	TCS	LOS	E	E		E		D	>	D					A		A	A	D
			Delay	66	56.4		58		44	>	44					3.8		3.7	4	41
			V/C	0.55	0.34				0.74	>						0.06		0.03		0.31
			Q	20	42.4				56	>						10.8		3.2		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
TWSC - Two-Way Stop Control
AWSC - All-Way Stop Control
</> - Shared with through movement

7.4.3 2051 Total Traffic Operations (Option 2)

The Year 2051 total traffic operational analyses follow the same methodology, and parameters set out under existing and background traffic conditions. Future lane arrangements and traffic control devices as described under **Section 4** were implemented.

Optimized signal timings were used at all signalized intersections within the study area.

Table 7.8 and **Table 7.9** summarizes the results of the operational analysis for Year 2051 total traffic conditions during the AM and PM peak hours respectively. Any movements identified as critical are highlighted within the results tables. Detailed Synchro reports are provided in **Appendix F**

Under 2051 total traffic Option 2 conditions (i.e., with the addition of site traffic), all study area intersections are reported to operate similar to background traffic conditions. That is, reporting similar levels of service, and with movements forecast to continue to operate within capacity.

All site access intersections are forecast to operate at acceptable levels of service, and with all movements well within capacity.

The exceptions would include the intersections of Street B and Healey Road, where the northbound left-turn movement reports a LOS E under the PM peak hour. It is noted the movement operates well within capacity and that this is not an unusual condition where a minor road operating under stop control intersects with a major road. Furthermore, at the intersection of The Gore Road and Street A, the westbound left-turn movement is characterized by LOS E and LOS F under the AM and PM peak hours, respectively. The movement operates within capacity under the AM peak hour; however, operates over-capacity under the PM peak hour.

The following critical movements are noted under total traffic conditions:

- Centreville Creek Road and Healey Road
  - PM Peak Hour
    - Westbound left-turn movement reports a v/c ratio of 0.91.
- The Gore Road and Healey Road
  - AM Peak Hour
    - Overall intersection reports a v/c ratio of 1.06;
    - Westbound left-turn movement reports a v/c ratio of 1.07; and



        - Southbound through movement reports a v/c ratio of 1.10.
    - PM Peak Hour
        - Overall intersection reports a v/c ratio of 1.43;
        - Westbound left-turn movement reports a v/c ratio of 3.65;
        - Northbound shared through/right movement reports a v/c ratio of 1.92; and
        - Southbound left-turn movement reports a v/c ratio of 1.56.

- Humber Station Road and Healey Road
    - AM Peak Hour
        - Overall intersection reports a v/c ratio of 1.17;
        - Eastbound shared through/right movement reports a v/c ratio of 1.19;
        - Westbound shared through/right movement reports a v/c ratio of 1.02;
        - Northbound left-turn movement reports a v/c ratio of 1.09; and
        - Southbound shared through/right movement reports a v/c ratio of 1.25.
    - PM Peak Hour
        - Overall intersection reports a v/c ratio of 1.50;
        - Eastbound left-turn movement reports a v/c ratio of 4.71;
        - Northbound shared through/right movement reports a v/c ratio of 1.71.

- Coleraine Drive and Healey Road
    - AM Peak Hour
        - Overall intersection reports a v/c ratio of 1.23;
        - Eastbound left-turn movement reports a v/c ratio of 1.55, and a 95th percentile queue which exceeds the available storage provision; and
        - Southbound shared through/right movement reports a v/c ratio of 1.17.
    - PM Peak Hour
        - Overall intersection reports a v/c ratio of 1.12;

- Eastbound left-turn movement reports a v/c ratio of 1.19, and a 95th percentile queue which exceeds the available storage provision;
- Northbound left-turn movement reports a v/c ratio of 1.03, and a 95th percentile queue which exceeds the available storage provision; and
- Northbound shared through/right movement reports a v/c ratio of 1.28.

- Humber Station Road and George Bolton Parkway
  - AM Peak Hour
    - Southbound left-turn movement reports a v/c ratio of 1.16.
  - PM Peak Hour
    - Overall intersection reports a v/c ratio of 1.20;
    - Westbound left-turn movement reports a v/c ratio of 1.44;
    - Northbound left-turn movement reports a v/c ratio of 0.92;
    - Northbound shared through/right movement reports a v/c ratio of 1.23; and
    - Southbound left-turn movement reports a v/c ratio of 1.51.
- Humber Station Road and North-South Collector Road
  - AM Peak Hour
    - The northbound left-turn movement reports a v/c ratio of 1.43.

TABLE7.8: 2051 TOTAL TRAFFIC OPERATIONS (OPTION 2) – AM PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																	
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Centreville Creek Road & Healey Road	TCS	LOS	C	C	>	C	A	B	>	B	B	B	>	B	B	B	>	B	B
			Delay	26.5	23.9	>	24	10	10	>	10	11.3	11.2	>	11	10.8	12.3	>	12	12
			V/C	0.20	0.11	>		0.62	0.71	>		0.09	0.10	>		0.04	0.23	>		0.56
			Q	3.3	13.1	>		7	12	>		12.4	11	>		7.9	40.4	>		
	The Gore Road & Healey Road	TCS	LOS	C	C	>	C	E	B	>	C	E	B	>	B	C	F	>	F	D
			Delay	22	23.5	>	24	72.1	14.4	>	32	72	15.2	>	18	31.9	84.4	>	82	48
			V/C	0.02	0.22	>		1.07	0.79	>		0.76	0.64	>		0.50	1.10	>		1.06
			Q	2	28.5	>		170	59.7	>		34	48.1	>		27.9	288	>		
	Humber Station Road & Healey Road	TCS	LOS	D	F	>	F	D	E	>	E	F	A	>	B	C	F	>	F	F
			Delay	45.6	149.8	>	146	39	77	>	76	151.4	5.0	>	16	25.5	128.9	>	119	101
			V/C	0.45	1.19	>		0.26	1.02	>		1.09	0.36	>		0.82	1.25	>		1.17
			Q	19.3	144	>		5	78	>		47.2	37.7	>		112	482	>		
	Coleraine Drive & Healey Road	TCS	LOS	F	C	>	F	D	D	>	D	D	B	>	B	A	F	>	F	F
			Delay	269	22	>	122	46.9	40.4	>	42	39.8	12.8	>	15	7.5	100.8	>	96	91
			V/C	1.55	0.76	>		0.52	0.31	>		0.49	0.24	>		0.23	1.17	>		1.23
			Q	43	26	>		17.5	26.1	>		21.2	29.6	>		18.3	386	>		
			Stor.	30	-	>		20.0	-	>		60.0	-	>		55.0	-	>		
			Avail.	-13	-	>		-	-	>		-	-	>		-	-	>		
	Street B & Healey Road	TWSC	LOS		A	>	A	A	A		A	C		B	D					A
			Delay		0	>	0	10	0		0	18.5		12	16.1					1
			V/C		0.34	>		0.02	0.02			0.2		0.07						
			Q		0	>		1	0			6		2						
	N/S Collector & Healey Road	TCS	LOS	B	B	>	B	B	B	>	B	C	C	>	C	C	C	>	C	B
			Delay	13	13.9	>	14	12	15	>	15	23.1	25.0	>	25	21.4	24.1	>	24	16
			V/C	0.23	0.47	>		0.39	0.74	>		0.15	0.30	>		0.02	0.24	>		0.70
			Q	4	57.8	>		6	60	>		22.3	56.6	>		5.5	48.3	>		
	The Gore Road & Street A	TWSC	LOS					E		B	F		A	>	A	B	A		A	C
			Delay					40		14	27.5		0	>	0	11	0		0	1
			V/C					0.42		0.14			0.43	>		0.03	0.68			
			Q					15		4			0	>		1	0			
	Street B & Street A	AWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	A	>	A	A
			Delay	<	7	>	7	<	7	>	7	<	8	>	8	<	7	>	7	7
			V/C	<	0.04	>		<	0.06	>		<	0.08	>		<	0.03	>		
			Q	<		>		<		>		<		>		<		>		
	N/S Collector & Street A	TWSC	LOS	B		B	B					<	A		A		A	>	A	A
			Delay	13		10	12					<	0		0		0	>	0	2
			V/C	0.09		0.04						<	0.00*				0.19	>		
			Q	2		1						<	0.2				0	>		
	N/S Collector & Street C/E/W Collector	AWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	B	>	B	A
			Delay	<	8	>	8	<	9	>	9	<	9	>	9	<	11	>	11	10
			V/C	<	0.05	>		<	0.14	>		<	0.28	>		<	0.43	>		
			Q	<		>		<		>		<		>		<		>		
	Humber Station Road & E/W Collector	TCS	LOS	D		D	D					B	A		A		A	>	A	A
			Delay	49.8		51.9	51					18	1.5		3		2	>	2	4
			V/C	0.37		0.51						0.52	0.24				0.70	>		0.66
			Q	22.2		28.1						30	15.1				11	>		
	The Gore Road & George Bolton Parkway	TCS	LOS	B	B	>	B	B	B	C	B	C	C	>	C	C	B	>	C	C
			Delay	18.3	13.6	>	17	17	16	20	18	21.3	27.5	>	27	30	19	>	20	22
			V/C	0.42	0.07	>		0.18	0.02	0.04		0.13	0.64	>		0.89	0.76	>		0.65
			Q	79.4	14.2	>		19	3	3		4.7	80.9	>		24	90	>		
	Humber Station Road & George Bolton Parkway	TCS	LOS	E	E	>	E	F	D	>	E	E	A	>	A	F	A	>	B	B
			Delay	64	62.9	>	63	93.6	39.9	>	72	59.3	5.5	>	8	106	2.0	>	13	18
			V/C	0.40	0.48	>		0.87	0.04	>		0.86	0.56	>		1.16	0.74	>		0.84
			Q	33	43.2	>		57.2	7.8	>		26.8	51.6	>		91	15.4	>		
	Humber Station Road & N/S Collector	TCS	LOS	D		D	D					F	A		C		A		A	B
			Delay	52.8		45.7	50					265	2.8		33		3.1		3	14
			V/C	0.67		0.44						1.43	0.26				0.80			0.81
			Q	52.9		34.9						64	23.5				14.1			

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
TWSC - Two-Way Stop Control
AWSC - All-Way Stop Control
< / > - Shared with through movement

TABLE 7.9: 2051 TOTAL TRAFFIC OPERATIONS (OPTION 2) – PM PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
PM Peak Hour	Centreville Creek Road & Healey Road	TCS	LOS	B	C	>	C	E	B	>	D	C	C	>	C	C	C	>	C	C
			Delay	17.2	22.4	>	22	60.8	11.5	>	38	27.5	33.6	>	33	28.0	27.0	>	27	29
			V/C	0.07	0.48	>		0.91	0.09	>		0.09	0.47	>		0.09	0.07	>		0.65
			Q	9.6	71.6	>		95.7	3.2	>		22.3	114	>		12.4	17.7	>		
	The Gore Road & Healey Road	TCS	LOS	B	B	>	B	F	B	>	F	C	F	>	F	F	C	>	E	F
			Delay	15	18.5	>	18	1239	15.7	>	659	27.8	454.3	>	444	382.8	34.8	>	67	346
			V/C	0.09	0.62	>		3.65	0.29	>		0.29	1.92	>		1.56	0.50	>		1.43
			Q	10	171	>		377	54.9	>		20.5	666	>		47.4	95.4	>		
	Humber Station Road & Healey Road	TCS	LOS	F	A	>	F	A	B	>	B	C	F	>	F	F	D	>	D	F
			Delay	1694	8.1	>	964	10	12	>	12	21	355	>	351	95.0	42.0	>	44	416
			V/C	4.71	0.35	>		0.24	0.54	>		0.20	1.71	>		0.67	0.63	>		1.50
			Q	580	57.1	>		15	91	>		6	555	>		29.2	130	>		
	Coleraine Drive & Healey Road	TCS	LOS	F	C	>	F	D	E	>	E	F	F	>	F	F	B	>	C	F
			Delay	157	24	>	106	51.7	69.5	>	69	89.8	163.4	>	153	83.0	15.8	>	22	113
			V/C	1.19	0.19	>		0.09	0.83	>		1.03	1.28	>		0.85	0.39	>		1.12
			Q	206	30	>		10.4	96.6	>		190	475	>		40.3	44.6	>		
			Stor.	30	-	>		20.0	-	>		60.0	-	>		55.0	-	>		
			Avail.	-176	-	>		-	-	>		-	-	>		-	-	>		
	Street B & Healey Road	TWSC	LOS		A	>	A	C	A		A	E		C	E					A
			Delay		0	>	0	16	0		1	47		18	37					1
			V/C		0.65	>		1.41	0.30			0.35		0.08						
			Q		0	>		2.5	0			12		2						
	N/S Collector & Healey Road	TCS	LOS	A	A	>	A	B	B	>	B	D	D	>	D	D	D	>	D	B
			Delay	4	7	>	7	11	10.4	>	10	48.8	50.6	>	50	46.0	48.5	>	48	12
			V/C	0.19	0.64	>		0.41	0.38	>		0.19	0.31	>		0.04	0.20	>		0.66
			Q	2	27	>		16	55.4	>		28.2	53.8	>		8.5	38.7	>		
	The Gore Road & Street A	TWSC	LOS					F		E	F		A	>	A	E	A		A	D
			Delay					376		42	209		0	>	0	40	0		1	5
			V/C					1.18		0.31			1.03	>		0.31	0.38			
			Q					36		10			0	>		10	10			
	Street B & Street A	AWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	A	>	A	A
			Delay	<	7	>	7	<	7	>	7	<	8	>	8	<	7	>	7	7
			V/C	<	0.10	>		<	0.04	>		<	0.05	>		<	0.05	>		
			Q	<		>		<		>		<		>		<		>		
	N/S Collector & Street A	TWSC	LOS	B		A	B					<	A		A		A	>	A	A
			Delay	12		9	11					<	2		2		0	>	0	2
			V/C	0.04		0.03						<	0.03				0.12	>		
			Q	1		1						<	1				0	>		
	N/S Collector & Street C/E/W Collector	AWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	A	>	A	A
			Delay	<	8	>	8	<	8	>	8	<	8	>	8	<	9	>	9	9
			V/C	<	0.02	>		<	0.16	>		<	0.20	>		<	0.26	>		
			Q	<		>		<		>		<		>		<		>		
	Humber Station Road & E/W Collector	TCS	LOS	E		E	E					A	A		A		A	>	A	A
			Delay	69.4		68.3	68					1	1.5		1		2.3	>	2	4
			V/C	0.17		0.05						0.10	0.71				0.29	>		0.69
			Q	12.3		17.1						0	17.7				131	>		
	The Gore Road & George Bolton Parkway	TCS	LOS	C	C	>	C	C	C	D	C	C	C	>	C	B	C	>	C	C
			Delay	27.4	23.0	>	26	30	27	42	34	30.6	30.2	>	30	18	22	>	22	27
			V/C	0.31	0.04	>		0.31	0.04	0.07		0.49	0.67	>		0.53	0.77	>		0.66
			Q	65.8	13.2	>		40	8	7		19.9	134	>		12	78	>		
	Humber Station Road & George Bolton Parkway	TCS	LOS	A	A	>	A	F	C	>	F	F	F	>	F	F	C	>	D	F
			Delay	8.8	3.4	>	6	248.5	25.6	>	187	80.5	145.7	>	141	351.9	23.7	>	48	126
			V/C	0.25	0.03	>		1.44	0.22	>		0.92	1.23	>		1.51	0.55	>		1.20
			Q	9.9	0.5	>		433	42.1	>		100	467	>		65.8	121	>		
	Humber Station Road & N/S Collector	TCS	LOS	E		E	E					A	A		A		A	>	A	A
			Delay	70.4		66.9	68					0	5		5		0.6	>	1	6
			V/C	0.39		0.05						0.10	0.73				0.33	>		0.70
			Q	25		17.5						0	8				5.5	>		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TCS - Traffic Control Signal
TWSC - Two-Way Stop Control
AWSC - All-Way Stop Control
< / > - Shared with through movement

7.4.4 Mitigation Measures

As documented within the background and total traffic operational results, multiple critical movements are forecast to occur during the AM and PM peak hours, mainly under the 2051 horizon. It is understood significant growth is forecast to occur within the study area and within the immediate vicinity of the study area.

Long-term traffic projections are generally considered an approximation as they heavily rely on a multitude of assumptions including land density, changes in traffic patterns, changes in modal split and transportation network improvement.

From our review of background documents/studies undertaken within the surrounding areas, there appears to be discrepancies regarding future long-term traffic forecasts. Reviewing the 2051 traffic forecasts as documented within the *Wildfield Secondary Plan Transportation Study* in comparison to the 2051 traffic forecasts as documented within the *Multimodal Transportation Master Plan Addendum* and the Bolton Parkway Extension study, the forecasts are found to be nearly 50% lower in comparison.

As the future traffic volumes within this report are based upon the *Multimodal Transportation Master Plan Addendum* 2051 forecasts which were found to be significantly higher than other studies completed within the study area, it is alluded these forecast volumes may require further refinement to appropriately determine the future transportation needs within the study area. The ongoing Bolton West Secondary Plan will need to assess the appropriate road and intersection improvements within the study area that relate to background growth.

No mitigation measures are recommended for the Year 2051 as the proposed residential subdivision development is not anticipated to significantly impact the study area intersection operations when compared to background traffic operations.

Under the 2032 total traffic conditions (with site generated traffic) the operations are forecast to be similar to background traffic operations (without of site generated traffic). That is, if the subject residential development were constructed today, the existing transportation network would be able to accommodate the development without any major improvements. The minor exception would be at the external intersection of Healey Road and Centreville Creek Road.

Under background traffic conditions the westbound approach is noted to be operating with a v/c ratio approaching 0.90 which indicated the approach is nearing capacity. With the addition of site-generated traffic the westbound approach is reported to operate at a LOS F with a v/c ratio 0.98 under total traffic conditions. The movement is forecast to operate within capacity.

It is understood that Healey Road is anticipated to be widened to four-lanes before the 2051 horizon year which will require intersection signalization.

No interim improvements/mitigation is recommended at this All-Way Stop-Controlled (AWSC) intersection. The introduction of additional lanes for increased capacity would introduce potential conflicts as multi-lane approaches at AWSC intersections introduce increased conflicts with drivers not paying attention to which motorist arrived first.

It is further noted the development of the 2032 background traffic forecasts are conservative (i.e., errs on the high side), and there is the potential the volumes as forecast may not be realized.

8 Remedial Measures

8.1 Signal Warrants

Traffic signal warrants were carried out for the following two intersections, where site driveways meet arterial roads:

- Street A and The Gore Road
- Healey Road and Street B

These were conducted under 2032 and 2051 total traffic conditions; the two options for 2051 do not affect the volumes at these two intersections.

Ontario Traffic Manual (OTM) Book 12 includes several justifications for estimating the need for traffic signals at an intersection.[26] The justifications rely on existing or forecast traffic volumes, collision history, or pedestrian volumes in the case of signalized pedestrian crossings.

Justification 7 (Projected Volumes) was used to determine the need for traffic signals at any existing or future intersection using forecast traffic volumes. Justification 7 uses average hourly volumes (AHV) derived from peak hour volumes (PHV) rather than eight-hour volumes, because future eight-hour traffic volumes are difficult to predict with the necessary accuracy.

The uncertainty of estimating future traffic volumes requires an *existing* intersection with forecast traffic volumes to satisfy both Warrants 1A and 1B, or both Warrants 2A and 2B, to 120% of the threshold volumes.

Table 8.1 summarizes the Signal Justification Calculation for Forecast Volumes results.

[26] OTM Book 12: Traffic Signals, *Ministry of Transportation of Ontario,* 2012

TABLE 8.1: SIGNAL JUSTIFICATION RESULTS

Intersection	Warrant		Results	Warranted?
2032 Horizon Year				
Street A and The Gore Road	Warrant 1 - Minimum Vehicular Volume	*1A*	140%	No
		1B	42%	
	Warrant 2 - Delay To Cross Traffic	*2A*	124%	No
		2B	70%	
Healey Road and Street B	Warrant 1 - Minimum Vehicular Volume	*1A*	139%	No
		1B	32%	
	Warrant 2 - Delay To Cross Traffic	*2A*	127%	No
		2B	83%	
2051 Horizon Year				
Street A and The Gore Road	Warrant 1 - Minimum Vehicular Volume	*1A*	372%	No
		1B	29%	
	Warrant 2 - Delay To Cross Traffic	*2A*	361%	No
		2B	55%	
Healey Road and Street B	Warrant 1 - Minimum Vehicular Volume	*1A*	255%	No
		1B	22%	
	Warrant 2 - Delay To Cross Traffic	*2A*	246%	No
		2B	52%	

The traffic signal warrant analyses indicate that the intersection volumes do not justify signalization under 2032 or 2051 total traffic conditions for the two site driveway intersections on arterial roads.

Appendix G contains the traffic signal warrant reports.

8.2 Auxiliary Turn Lanes

8.2.1 Left-Turn Lanes

Left-turn lane warrants were conducted for the intersections of Healey Road and Street B, and for Street A and The Gore Road. This was done under 2032 and 2051 total traffic conditions. (The two options for 2051 do not affect the volumes at these two intersections).

The results were as follows:

- A southbound left-turn lane at Street A and The Gore Road is warranted under both 2032 and 2052 conditions.
- An eastbound left-turn lane at Healey Road and Street B is not warranted under 2032 conditions, but is warranted under 2051 conditions.

The left-turn lane nomographs are shown in **Appendix H**.

8.2.2 Right-Turn Lanes

No operational issues for right-turn movements were observed at site driveways under 2032 or 2051 total traffic conditions. However, a right-turn lane for traffic entering the subject site may be appropriate for other reasons at the intersections of Healey Road and Street B, and Street A and The Gore Road.

9 Conclusions and Recommendations

9.1 Conclusions

- **Existing Operations:** All study area intersections operate at acceptable levels of service and all movements within capacity during the AM and PM peak hours. The exceptions include critical movements identified at the following intersections during the PM peak hour:
  - At the signalized Healey Road/The Gore Road intersection, the westbound shared left/through/right movement reports a LOS F with a v/c ratio of 1.41.
  - At the unsignalized Healey Road/Humber Station Road intersection, the westbound shared left/through/right movement reports a LOS E; however, this movement is noted to be approaching capacity with a v/c ratio of 0.95.
- **2032 Background Traffic Operations:** All study area intersections are forecast to operate at acceptable levels of service and within capacity during the AM and PM peak hour analysis time periods. The exception noted is:
  - At the signalized Healey Road/Coleraine Drive intersection, where the forecast queues for both the eastbound and westbound left-turn movements slightly exceed the available storage provisions under both the AM and PM peak hours.

    These minor queue exceedances are not considered a critical issue as the reported 50th percentile average queues would be accommodated within the available storage provisions.
- **2051 Background Traffic Operations:** Congestion issues associated with high traffic volumes were observed at the following intersections under both Option 1 and Option 2:
  - The Gore Road and Healey Road
  - Humber Station Road and Healey Road
  - Coleraine Drive and Healey Road
  - The Gore Road and George Bolton Parkway
  - Humber Station Road and George Bolton Parkway
  - Humber Station Road and North-South Collector Road

  Otherwise, all study area intersections operate at acceptable levels of service and within capacity during the AM, and PM peak hour analysis time periods.



- **Development proposal:** The proposed development is a residential subdivision with 835 units, comprising 128 detached houses, 430 semi-detached units, and 277 townhouse units. The proposed site plan includes connections to The Gore Road, Healey Road, and the future north-south collector road.
  - **Intersection spacing and sight distances** under the proposed site design fulfil the relevant recommendations for. The exception is one internal intersection, where further analysis will be needed during the detailed design stage.
  - **Transit implementation** is consistent with the directions of the *Multi-Modal Transportation Plan*, and enables good access to transit for all residents in the subject site.
  - **Multi-use/cycling facility provision** within the subject site is consistent with the directions of the *Active Transportation Plan*, and allows for connections to planned facilities at the boundaries of the site.
  - **Sidewalk provision** within the subject site is consistent with the directions of the *Active Transportation Plan*, and allows for connections with sidewalks on adjacent roads
  - **Traffic calming**: There are a variety of suitable traffic calming measures that could be applied within the subject site. Further engagement with Town staff is needed to determine the specific measures and locations. These measures will then be included in the detailed design stage.
- **Site Generated Traffic:** The subject site is estimated to generate approximately 439 new AM peak hour trips and approximately 498 new PM peak hour trips.
- **2032 Total Traffic Operations:** The following critical movements were not present under the 2032 background operations:
  - Healey Road and Centreville Creek Road: Under the PM peak hour, the westbound shared movement is forecast to operate at LOS F with a v/c ratio of 0.98
- **2051 Total Traffic Operations:** No new critical movements were compared with 2051 background operations (option 1 and option 2).
- The following **mitigation measures** were considered where site driveways intersect arterial roads (that is, at Healey Road and Street B, and at Street A and The Gore Road):
  - **Signal warrants**: signalization of these intersections was not warranted under 2032 or 2051 total traffic conditions.



- **Auxiliary left-turn turn lanes***:* A southbound left-turn lane at Street A and The Gore Road is warranted under both 2032 and 2052 conditions. An eastbound left-turn lane at Healey Road and Street B is not warranted under 2032 conditions, but is warranted under 2051 conditions.
- **Auxiliary right-turn turn lanes**: No operational issues for right-turn movements were observed at site driveways under 2032 or 2051 total traffic conditions. However, a right-turn lane for traffic entering the subject site may be appropriate for other reasons at these intersections.

9.2 Recommendations

The following mitigation measures are recommended:

- A southbound left-turn lane at Street A and The Gore Road
- An eastbound left-turn lane at Healey Road and Street B as a long-term improvement.

Based on the findings and conclusions of this study, it is recommended from a transportation perspective, the required planning applications to allow the proposed development should be approved.

Appendix A

Study Terms of Reference / Correspondence

5A-150 Pinebush Road
Cambridge ON N1R 8J8
p: 416.479.9684
905.381.2229
519.896.3163

www.ptsl.com

2026-01-26
Project: 250381

Emma Howlett, EIT
Transportation Coordinator
Town of Caledon
6311 Old Church Road,
Caledon, ON
L7C 1J6

Dear Emma:

RE: *REVISED* TERMS OF REFERENCE FOR TRANSPORTATION STUDY – RESIDENTIAL DEVELOPMENT, 12879 THE GORE ROAD (HEALEY GORE)

Paradigm Transportation Solutions Limited is pleased to provide our terms of reference for a transportation study in support of the above development. The following outlines our understanding of the assignment and details our work plan. **A concept plan is attached as Figure 1.**

These terms of reference have been revised in response the comments from yourself dated October 21, 2025.

Project Understanding

The subject site is located at 12879 The Gore Road within the Town of Caledon. The subject lands are generally bound by The Gore Road, Healey Road, Humber Station Road, and the GTA West Highway corridor. These lands will form the Healey Gore Secondary Plan area.

The property owner is proposing to construct a residential subdivision with a mix of detached, semi-detached, and townhouse units. The concept plan currently proposes approximately 620 residential units of various types, with a build-out targeted for 2032. The proponent is planning a Secondary Plan submission, to be followed with a Draft Plan of Subdivision. The concept plan includes various internal roads including two full-move accesses via Healey Road and The Gore Road. We have assumed preparation of the following investigations:

- A **Transportation Impact Assessment (TIA)** to evaluate the effects of the proposed development on the transportation system and recommend improvements, if necessary, to address potential impacts. With the information we have to date, we believe that a

reasonable study area would include the following 15 intersections, as shown in the attached **Figure 2**:

- Healey Road and Centreville Creek Road (unsignalized)
- Healey Road and The Gore Road (signalized)
- Healey Road and internal north-south road (future)
- Healey Road and future North-South Collector (future)
- Healey Road and Humber Station Road (unsignalized)
- Healey Road and Coleraine Drive (unsignalized)
- Internal east-west road 1 and The Gore Road (future)
- Internal east-west road 1 and internal north-south road (future)
- Internal east-west road 1 and future North-South Collector (future)
- Internal east-west road 2 / future East-West Collector and future North-South Collector (future)
- future East-West Collector and Humber Station Road (future)
- Wildfield Street F / George Bolton Pkwy Extension and The Gore Rd (future)
- *Two options for* George Bolton Parkway Extension and future North-South Collector (future)
- George Bolton Parkway Extension and Humber Station Road (future)

The set of intersections for analysis will be discussed and potentially refined following preliminary analysis of future traffic volumes generated by the site.

Traffic forecasts and analysis will be completed for two planning horizons (2032 and 2051) and two analysis periods (weekday AM peak hour and weekday PM peak hours).

- An **Access and Circulation Review** to ensure compliance of the proposed development plan with review agency requirements and applicable industry guidelines. This will include Secondary Plan Level Pedestrian and Cyclist Circulation Plan in accordance with Town of Caledon requirements.

The study will follow the Town of Caledon's *Traffic Impact Study: Terms of Reference and Guidelines* (March 2017), Peel Region's *Traffic Impact Study - Terms of Reference* (2008), and MTO's *General Guidelines for the Preparation of Traffic Impact Studies* (March 2023). We will also incorporate the relevant findings and directions form the Town of Caledon's *Multi-Modal Transportation Master Plan* (2024) and *Active Transportation Master Plan* (2024).

In preparing our submission, we have assumed all investigations will be carried out concurrently and documented in one comprehensive report. Separate reports will not be prepared.

Work Plan

The following outlines our proposed work plan to carry out this assignment:

Task 1 – Pre-Study Consultation and Data Assembly

We will contact the Town of Caledon, the Region of Peel and MTO (the review agencies) to request their feedback on the scope of work, study area and other assumptions.

The Gore Road, Mayfield Road and Coleraine Road are currently under the jurisdiction of Peel Region. However, these roads are planned to be transferred to the Town of Caledon on July 1, 2026.

We will gather available data, relevant background reports and any other information about the study area pertinent to the assessment. This will include other approved developments in the vicinity, zoning by-law provisions, the recommendations of the Town's *Multi-Modal Transportation Master Plan*, the Town's Official Plan, the Environmental Assessment for the extension of George Bolton Parkway to Humber Station Road, and the Town's ongoing analysis of new east-west collector roadways.

Any apparent data gaps or discrepancies will be addressed with the review agencies. We will conduct traffic counts at all the intersections included within our study area or use recently conducted traffic counts obtained from the review agencies and/or previously collected by Paradigm (from 2024 or 2025).

We will visit the subject site and the surrounding study area to observe and document the existing transportation environment which includes traffic patterns, pedestrian/cycling facilities, transit facilities and on-road parking conditions. Any observed conditions, including the existing roadway configuration and traffic control will be documented and/or illustrated within the report.

Task 2 – Forecasting and Analysis

<u>Transportation Impact Assessment</u>

We will prepare vehicle traffic forecasts for each planning horizon and analysis period. The components of the forecasts are as follows:

- **Existing (Year 2026)** Traffic volumes will be derived from the traffic data assembled in Task 1. As the existing study area is generally considered rural in nature, TMC volumes collected prior to 2026 will be normalized to a 2026 base year condition with the use of a 2% per annum growth rate. No improvements the existing lane configuration and traffic control will be assumed.
- **Future Background Traffic Volumes (Year 2031 and 2051)** volumes will be derived from the Town's *Multi-Modal Transportation Master Plan* (2024), which also includes the ongoing Addendum to examine additional east-west connectivity south of Hwy 413.

We ask the Town to provide the traffic volumes from the updated *Multi-Modal Transportation Master Plan* for the future horizon years.

We will also consider and incorporate anticipated trips from nearby approved and in-stream developments, including:

- POPA 2025-0015 Town-Led Bolton West Secondary Plan;
- POPA 2024-0002 Humber Station Employment Area Secondary Plan Amendment;
- POPA 2024-0010 Wildfield Village Landowners Group Inc;
- Any active applications within the lands south of the proposed 413 Highway generally bounded by The Gore Road, Mayfield Road, and Healey Road;
- The findings of the Town's ongoing analysis of east-west collector roadways that affect the study area; and
- Any additional developments identified by the Town of Caledon and City of Brampton.

An annual growth rate will be derived for the study area by comparing existing traffic volumes (Year 2026), traffic volume projections from the MMTMP (Year 2051), and/or any relevant in-steam transportation studies detailed above. The derived annual growth rate may be adjusted to factor for the inclusion of specific in-stream developments.

Different background traffic growth rate may be used for the Year 2032 and Year 2051 planning horizons to align with the anticipated intensification of the Town of Caledon. The methodology and justification of the derived background traffic growth rate(s) will be documented within the report.

- **Year 2032 background traffic volumes** are assumed to consist of the existing traffic volumes (Year 2026) which will be factored to Year 2032 using the derived annual growth rate. Additionally, any active background developments and/or traffic volumes related to the planning horizon from the relevant in-steam transportation studies will be considered.
- **Year 2051 background traffic volumes** will be mainly focus on the traffic volumes detailed in the MMTMP (Year 2051), background Year 2026 traffic volumes noting that existing traffic volumes will be factored using the derived growth rate, but in-stream development traffic will not be factored. Additionally, any traffic volumes related to the planning horizon from the relevant in-steam transportation studies will also be considered.
- **Trips generated** by the proposed development will be forecast based on the rates contained in the Institute of Transportation Engineers (ITE) *Trip Generation Manual (12th Edition)* or as directed by the review agencies. The following land-use codes (LUC) are proposed:
  - Townhouse units – Multifamily Housing (Low-Rise) (LUC 220)
  - Semi-detached units – Single-Family Attached Housing (215)

- Detached units – Single-Family Detached Housing (LUC 210)

Forecast traffic volumes will not apply mode split reduction relating to use of sustainable travel modes; this will provide a conservative estimate of vehicle tips generation.

- **Year 2032 future road network** is anticipated to consist of the existing lane configuration/traffic control within the study area, the anticipated build-out of Highway 413, and other improvements planned for implementation by that year. The latter will derived from the Town's Official Plan, updated *Multi-Modal Transportation Master Plan* or any other supporting document.
- **Year 2051 future road network**, is anticipated to consist of the following improvements:
  - Year 2032 transportation network improvements;
  - George Bolton Parkway extension to The Gore Road; and
  - The new collector roadway located on the eastern boundary of the subject site. Two options for the North-South Collector road's southern connection will be considered.
  - Oher changes consistent with the Town's Official Plan, updated *Multi-Modal Transportation Master Plan* or any other supporting document may be considered.
- The site-generated vehicle trips will be then **distributed and assigned** to the study area intersections in the future road network based on the latest *Transportation Tomorrow Survey* data (zones 3442, 3443, 3192), and the work done for the Town's (updated) *Multi-Modal Transportation Master Plan*. The resulting site traffic assignments will be added to the Future Background estimates to produce **Future Total** volumes for each future horizon year and analysis period.
- An **operational analysis** will be completed at the study area intersections for the Existing (Year 2026), Future Background (Year 2032/2051 – without subject site traffic) and Future Total (Year 2032/2051 – addition of subject site traffic) conditions for the weekday AM/PM peak hours using Synchro 12 software. Volume-to-capacity (v/c) ratios, Level of Service (LOS), and queuing will be assessed using HCM 7th edition.

  Based on the analysis results, we will identify any operational deficiencies as well as the net impact of the proposed development on the study area road network. We will assess whether these deficiencies arise because of non-site traffic (that is, Existing or Future Background traffic) or the increase in volumes resulting from the proposed development (that is, Future Total traffic). The need for road improvements (such as auxiliary turn lanes) or other mitigating measures (such as traffic control device modifications) to address deficiencies arising from the proposed development (only) will be determined.

  Where it is uncertain whether a road network change is likely to be in place for a given horizon year (such as Highway 413 or the George Bolton Parkway extension to The Gore Road), we will conduct sensitivity (scenario) tests. This will assist in determining the operational effects and appropriate mitigation measures with and without the road network change in place.

- We will prepare **left-turn lane warrants** (for unsignalized intersections) and **right-turn lane warrants** for intersections where the relevant movement is forecast to have critical delays, and for the site boundary intersections.

Access and Circulation Review

We will assess the design and operation of the proposed accesses and internal roadways and laneways. This includes the adequacy of sight lines, spacing and location of the proposed site access locations, and a review of the roadway and intersection design for the intended functional classifications.

- We will review the **site circulation** design to ensure compliance with review agency requirements and applicable industry guidelines. The analysis will be completed using AutoTURN and include assessments of site's internal road network and access points. Vehicle access and egress, clearance and swept path manoeuvres within the site based on a suitable design vehicle (e.g. fire truck, garbage truck) will be completed to identify potential conflicts with the site driveways, circulation aisles, loading areas and/or parking layout (i.e. no "dead end" spaces). Recommended design changes resulting from the assessment will be provided to the client (or its agents) for consideration.
- **Conflict Analysis and Intersection Design:** We will identify potential conflict points among vehicles, pedestrians, and cyclists based on anticipated desire lines, user volumes, and travel patterns. We will identify any anticipated deficiencies in **sight distance requirements** following applicable review agency and industry guidelines and if required, a sightline assessment will be completed based on field measurements. If the sight distance available does not meet the minimum requirement, mitigating measures will be identified.
- In accordance with Town of Caledon requirements, we will prepare a **Secondary Plan Level Pedestrian and Cyclist Circulation Plan.** This will include boundary connections for pedestrians and cyclists, internal circulation, and identification of pedestrian walkways, cycling facilities, and crossing points. This will include mid-block or other crossing points arising from analysis of desire lines. We will demonstrate how the proposed development aligns with the goals of the Official Plan and the *Active Transportation Master Plan* by enhancing active transportation infrastructure and improving the user experience.

  The active transportation network map will indicate the type(s) of facilities on the proposed road network within the study area and the boundary roads. Potential trail locations will reflect the *Active Transportation Master Plan*, with the understanding that further work will be needed as part of the detailed design process. The maps will also be provided as a standalone file.
- We will provide information on **transit support and implementation**. Given the Town's current plans, it is anticipated that fixed-route service will be provided on The Gore Road and on Healey Road, with stops at the intersections on the site boundary. We will

confirm that the proposed design can accommodate stops at these locations, and that the main internal roads can accommodate transit vehicles if required.

- We will recommend appropriate **traffic calming** measures to promote safety and compliance with the design speed. This will focus on the geometric requirements (such as curb bump-outs for parking lanes and reduced corner radii) and pedestrian crossings (such as mid-block crossings and raised crosswalks). The aim is to apply industry best practice within the Caledon context.

Task 3 – Report Preparation

We will document the study methodologies, findings and conclusions in a report for review by the client, prior to their submission to the Town. The final report will include appendices containing the detailed analysis results and any data collected. The report will be stamped by a suitably qualified Professional Engineer.

Conclusion

Please contact Tom Willis, who will be the Project Manager for this assignment, at (416) 479 9684 x503 or by e-mail at twillis@ptsl.com if you have any questions related to this project.

Yours truly,

PARADIGM TRANSPORTATION SOLUTIONS LIMITED



Tom Willis
MMath
Senior Project Manager

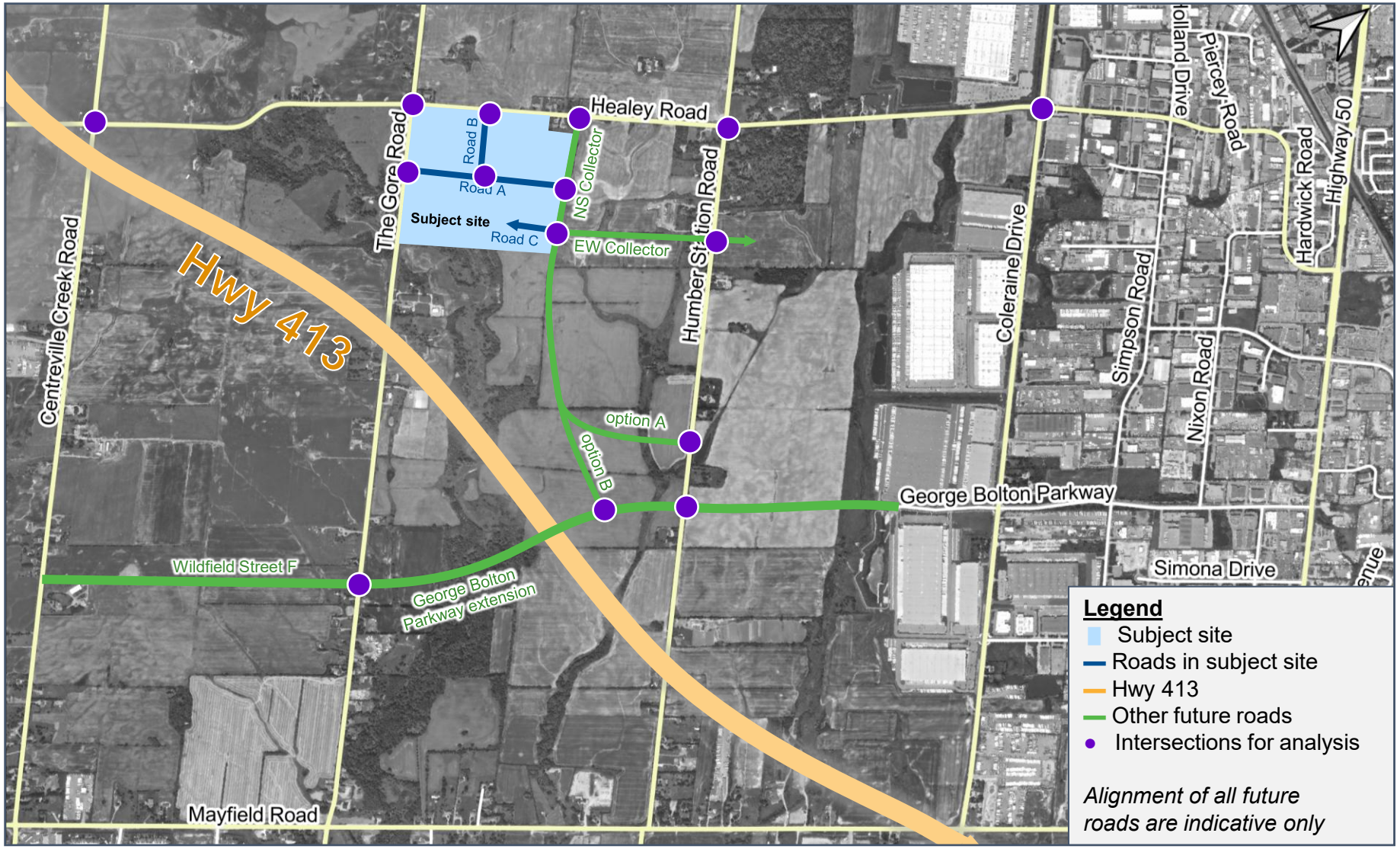


paradigm
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Concept Plan

12879 The Gore Road, Caledon
250381

Figure 1



paradigm TRANSPORTATION SOLUTIONS LIMITED

Intersections for analysis

12879 The Gore Road, Caledon
250381

Figure 2

Tom Willis

From: Tong Wang <Tong.Wang@caledon.ca>
Sent: 26-Jan-26 15:38
To: Tom Willis
Cc: Emma Howlett; Dan Terzievski
Subject: RE: (250381) 12879 The Gore Rd (Healey Gore) - transportation study Terms of Reference
Attachments: Town of Caledon Transportation Impact Study ToR.pdf

Hi Tom,

This Tor sufficiently captures our discussions from last week. My only comment is that work should also be done in alignment with our ToR attached which I know you have already reviewed. Please let me know if you have any questions

Regards,

Tong Wang
Manager Transportation Engineering
Engineering Public Works & Transportation
Office: 905-584-2272, 4596
Email: Tong.Wang@caledon.ca

NOTICE: This email and any attachments are intended only for the named recipient(s) and may contain confidential information. If you received this in error, please notify the sender and delete it immediately. Unauthorized use or disclosure is prohibited.

From: Tom Willis <twillis@ptsl.com>
Sent: Monday, January 26, 2026 3:21 PM
To: Tong Wang <Tong.Wang@caledon.ca>
Subject: FW: (250381) 12879 The Gore Rd (Healey Gore) - transportation study Terms of Reference

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

Hi Tong,

My apologies – I should have included you in the email below.

Regards,

Tom Willis, MMath
Senior Project Manager (he/him)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Road, Cambridge ON N1R 8J8
twillis@ptsl.com | 289.893.0250 | www.ptsl.com

Paradigm operates on a four-day workweek. Our offices are closed on Fridays.

From: Tom Willis
Sent: 26-Jan-26 14:42
To: Emma Howlett <emma.howlett@caledon.ca>; Dan Terzievski <dan.terzievski@caledon.ca>
Cc: Nimrit Chahal <nimrit@solmar.ca>; Luis Correia <luis@solmar.ca>; Creighton Chartier <cchartier@ptsl.com>
Subject: (250381) 12879 The Gore Rd (Healey Gore) - transportation study Terms of Reference

Dear Emma and Dan,

Further to our various discussions regarding the transportation study for the Healey Gore residential development, please find attached our revised terms of reference / work plan.

We will also be sending copies to the Region of Peel and MTO as the parties with jurisdiction over some of roads within the study area.

Regards,

Tom Willis, MMath
Senior Project Manager (he/him)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Road, Cambridge ON N1R 8J8
twillis@ptsl.com | 289.893.0250 | www.ptsl.com

Paradigm operates on a four-day workweek. Our offices are closed on Fridays.

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Appendix B

Turning Movement Count Data

Spectrum

Turning Movement Count
Location Name: HUMBER STATION RD & HEALEY RD
Date: Thu, Aug 05, 2021 Deployment Lead: David Chu

Turning Movement Count (1 . HUMBER STATION RD & HEALEY RD)

Start Time	N Approach HUMBER STATION RD						E Approach HEALEY RD						S Approach HUMBER STATION RD						W Approach HEALEY RD						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
2021-08-05 07:00:00	1	12	13	0	0	26	1	30	4	0	0	35	7	5	0	0	0	12	1	88	1	0	0	90	163	
2021-08-05 07:15:00	2	19	12	0	0	33	3	28	6	0	0	37	5	1	1	0	0	7	4	77	0	0	0	81	158	
2021-08-05 07:30:00	3	12	15	0	0	30	2	37	5	0	0	44	3	5	2	0	0	10	4	80	1	0	0	85	169	
2021-08-05 07:45:00	0	17	11	0	0	28	1	30	5	0	0	36	9	5	3	0	0	17	3	109	2	0	0	114	195	685
2021-08-05 08:00:00	2	18	9	0	0	29	0	25	1	0	0	26	8	5	2	0	0	15	2	61	2	0	0	65	135	657
2021-08-05 08:15:00	1	15	13	0	0	29	1	23	3	0	0	27	8	5	2	0	0	15	2	68	1	0	0	71	142	641
2021-08-05 08:30:00	2	12	8	0	0	22	3	23	1	0	0	27	6	5	1	0	0	12	4	64	2	0	0	70	131	603
2021-08-05 08:45:00	1	9	11	0	0	21	3	30	2	0	0	35	2	7	1	0	0	10	1	89	4	0	0	94	160	568
BREAK																										
2021-08-05 16:00:00	2	2	6	0	0	10	17	112	8	0	0	137	4	28	4	0	0	36	0	63	3	0	0	66	249	
2021-08-05 16:15:00	3	8	5	0	0	16	14	100	3	0	0	117	6	18	6	0	0	30	3	65	3	0	0	71	234	
2021-08-05 16:30:00	2	8	5	0	0	15	12	117	9	0	0	138	5	17	2	0	0	24	3	49	1	0	0	53	230	
2021-08-05 16:45:00	1	7	3	0	0	11	14	115	10	0	0	139	10	25	3	0	0	38	2	54	1	0	0	57	245	958
2021-08-05 17:00:00	3	10	8	0	0	21	10	139	6	0	0	155	5	11	4	0	0	20	0	48	6	0	0	54	250	959
2021-08-05 17:15:00	1	9	6	0	0	16	14	129	5	0	0	148	7	16	3	0	0	26	0	51	4	0	0	55	245	970
2021-08-05 17:30:00	1	6	2	0	0	9	8	101	3	0	0	112	4	27	6	0	0	37	2	62	1	0	0	65	223	963
2021-08-05 17:45:00	4	9	5	0	0	18	12	100	6	0	0	118	10	18	3	0	0	31	1	69	2	0	0	72	239	957
Grand Total	29	173	132	0	0	334	115	1139	77	0	0	1331	99	198	43	0	0	340	32	1097	34	0	0	1163	**3168**	-
Approach%	8.7%	51.8%	39.5%	0%		-	8.6%	85.6%	5.8%	0%		-	29.1%	58.2%	12.6%	0%		-	2.8%	94.3%	2.9%	0%		-	-	-
Totals %	0.9%	5.5%	4.2%	0%		10.5%	3.6%	36%	2.4%	0%		42%	3.1%	6.3%	1.4%	0%		10.7%	1%	34.6%	1.1%	0%		36.7%	-	-
Heavy	1	7	5	0		-	4	16	2	0		-	3	6	0	0		-	0	14	1	0		-	-	-
Heavy %	3.4%	4%	3.8%	0%		-	3.5%	1.4%	2.6%	0%		-	3%	3%	0%	0%		-	0%	1.3%	2.9%	0%		-	-	-
Bicycles	0	1	0	0		-	0	1	1	0		-	1	4	0	1		-	0	0	0	0		-	-	-
Bicycle %	0%	0.6%	0%	0%		-	0%	0.1%	1.3%	0%		-	1%	2%	0%	0%		-	0%	0%	0%	0%		-	-	-

Spectrum

Turning Movement Count
Location Name: HUMBER STATION RD & HEALEY RD
Date: Thu, Aug 05, 2021 Deployment Lead: David Chu

Peak Hour: 07:00 AM - 08:00 AM Weather: Clear Sky (15.46 °C)

Start Time	N Approach HUMBER STATION RD						E Approach HEALEY RD						S Approach HUMBER STATION RD						W Approach HEALEY RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
2021-08-05 07:00:00	1	12	13	0	0	26	1	30	4	0	0	35	7	5	0	0	0	12	1	88	1	0	0	90	163
2021-08-05 07:15:00	2	19	12	0	0	33	3	28	6	0	0	37	5	1	1	0	0	7	4	77	0	0	0	81	158
2021-08-05 07:30:00	3	12	15	0	0	30	2	37	5	0	0	44	3	5	2	0	0	10	4	80	1	0	0	85	169
2021-08-05 07:45:00	0	17	11	0	0	28	1	30	5	0	0	36	9	5	3	0	0	17	3	109	2	0	0	114	195
Grand Total	6	60	51	0	0	117	7	125	20	0	0	152	24	16	6	0	0	46	12	354	4	0	0	370	**685**
Approach%	5.1%	51.3%	43.6%	0%		-	4.6%	82.2%	13.2%	0%		-	52.2%	34.8%	13%	0%		-	3.2%	95.7%	1.1%	0%		-	**-**
Totals %	0.9%	8.8%	7.4%	0%		17.1%	1%	18.2%	2.9%	0%		22.2%	3.5%	2.3%	0.9%	0%		6.7%	1.8%	51.7%	0.6%	0%		54%	**-**
PHF	0.5	0.79	0.85	0		0.89	0.58	0.84	0.83	0		0.86	0.67	0.8	0.5	0		0.68	0.75	0.81	0.5	0		0.81	0.88
Heavy	0	2	1	0		3	0	5	2	0		7	0	1	0	0		1	0	6	0	0		6	17
Heavy %	0%	3.3%	2%	0%		2.6%	0%	4%	10%	0%		4.6%	0%	6.3%	0%	0%		2.2%	0%	1.7%	0%	0%		1.6%	2.5%
Lights	6	58	50	0		114	7	120	18	0		145	24	15	6	0		45	12	348	4	0		364	668
Lights %	100%	96.7%	98%	0%		97.4%	100%	96%	90%	0%		95.4%	100%	93.8%	100%	0%		97.8%	100%	98.3%	100%	0%		98.4%	97.5%
Single-Unit Trucks	0	2	1	0		3	0	3	2	0		5	0	1	0	0		1	0	5	0	0		5	14
Single-Unit Trucks %	0%	3.3%	2%	0%		2.6%	0%	2.4%	10%	0%		3.3%	0%	6.3%	0%	0%		2.2%	0%	1.4%	0%	0%		1.4%	2%
Buses	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	0	0	0	0		0	2
Buses %	0%	0%	0%	0%		0%	0%	1.6%	0%	0%		1.3%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0.3%
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	1
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.3%	0.1%
Bicycles on Road	0	1	0	0		-	0	0	0	0		-	0	0	0	0		-	0	0	0	0		-	**-**
Bicycles on Road%	0%	100%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			0%	0%	0%	0%			**-**

Spectrum

Turning Movement Count
Location Name: HUMBER STATION RD & HEALEY RD
Date: Thu, Aug 05, 2021 Deployment Lead: David Chu

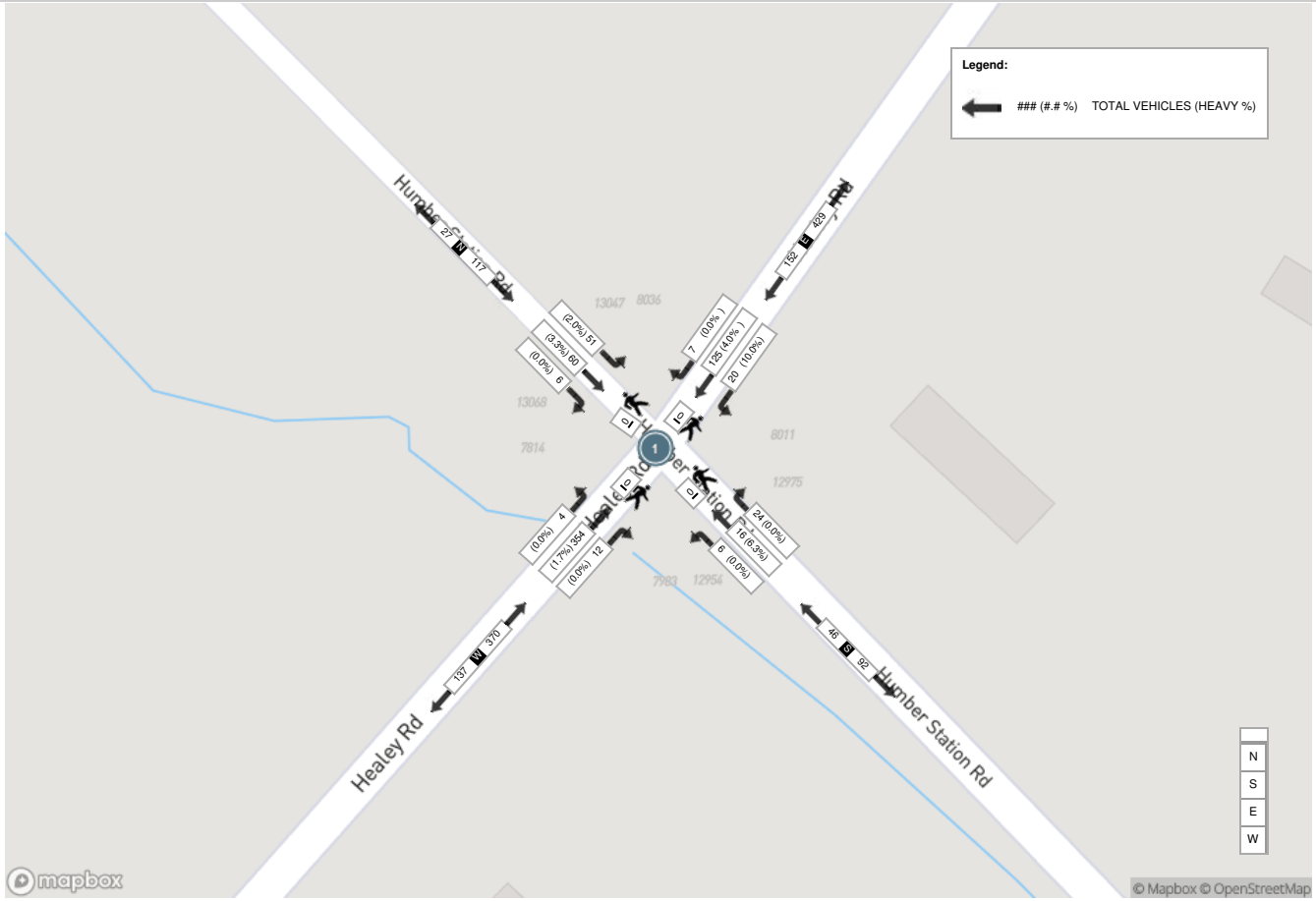
Peak Hour: 04:30 PM - 05:30 PM Weather: Clear Sky (27.94 °C)

Start Time	N Approach HUMBER STATION RD						E Approach HEALEY RD						S Approach HUMBER STATION RD						W Approach HEALEY RD						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
2021-08-05 16:30:00	2	8	5	0	0	15	12	117	9	0	0	138	5	17	2	0	0	24	3	49	1	0	0	53	230
2021-08-05 16:45:00	1	7	3	0	0	11	14	115	10	0	0	139	10	25	3	0	0	38	2	54	1	0	0	57	245
2021-08-05 17:00:00	3	10	8	0	0	21	10	139	6	0	0	155	5	11	4	0	0	20	0	48	6	0	0	54	250
2021-08-05 17:15:00	1	9	6	0	0	16	14	129	5	0	0	148	7	16	3	0	0	26	0	51	4	0	0	55	245
Grand Total	7	34	22	0	0	63	50	500	30	0	0	580	27	69	12	0	0	108	5	202	12	0	0	219	**970**
Approach%	11.1%	54%	34.9%	0%		-	8.6%	86.2%	5.2%	0%		-	25%	63.9%	11.1%	0%		-	2.3%	92.2%	5.5%	0%		-	**-**
Totals %	0.7%	3.5%	2.3%	0%		6.5%	5.2%	51.5%	3.1%	0%		59.8%	2.8%	7.1%	1.2%	0%		11.1%	0.5%	20.8%	1.2%	0%		22.6%	**-**
PHF	0.58	0.85	0.69	0		0.75	0.89	0.9	0.75	0		0.94	0.68	0.69	0.75	0		0.71	0.42	0.94	0.5	0		0.96	0.97
Heavy	0	1	1	0		2	1	2	0	0		3	2	3	0	0		5	0	0	1	0		1	11
Heavy %	0%	2.9%	4.5%	0%		3.2%	2%	0.4%	0%	0%		0.5%	7.4%	4.3%	0%	0%		4.6%	0%	0%	8.3%	0%		0.5%	1.1%
Lights	7	33	21	0		61	49	498	30	0		577	25	66	12	0		103	5	202	11	0		218	959
Lights %	100%	97.1%	95.5%	0%		96.8%	98%	99.6%	100%	0%		99.5%	92.6%	95.7%	100%	0%		95.4%	100%	100%	91.7%	0%		99.5%	98.9%
Single-Unit Trucks	0	1	1	0		2	0	2	0	0		2	2	2	0	0		4	0	0	1	0		1	9
Single-Unit Trucks %	0%	2.9%	4.5%	0%		3.2%	0%	0.4%	0%	0%		0.3%	7.4%	2.9%	0%	0%		3.7%	0%	0%	8.3%	0%		0.5%	0.9%
Buses	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Buses %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%
Articulated Trucks	0	0	0	0		0	1	0	0	0		1	0	1	0	0		1	0	0	0	0		0	2
Articulated Trucks %	0%	0%	0%	0%		0%	2%	0%	0%	0%		0.2%	0%	1.4%	0%	0%		0.9%	0%	0%	0%	0%		0%	0.2%
Bicycles on Road	0	0	0	0		-	0	0	1	0		-	0	0	0	1		-	0	0	0	0		-	**-**
Bicycles on Road%	0%	0%	0%	0%			0%	0%	100%	0%			0%	0%	0%	100%			0%	0%	0%	0%			**-**

Spectrum

Turning Movement Count
Location Name: HUMBER STATION RD & HEALEY RD
Date: Thu, Aug 05, 2021 Deployment Lead: David Chu

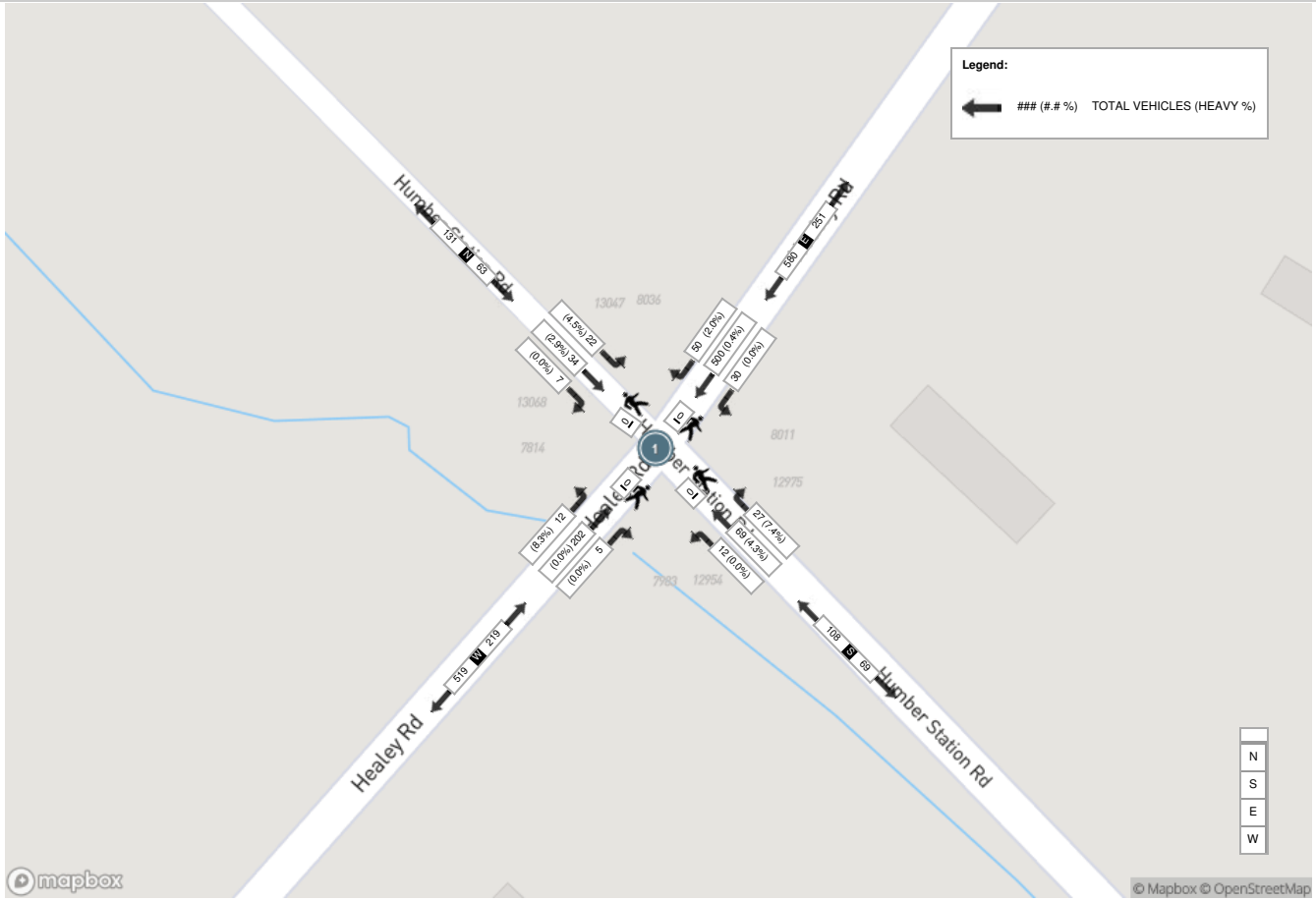
Peak Hour: 07:00 AM - 08:00 AM Weather: Clear Sky (15.46 °C)



Spectrum

Turning Movement Count
Location Name: HUMBER STATION RD & HEALEY RD
Date: Thu, Aug 05, 2021 Deployment Lead: David Chu

Peak Hour: 04:30 PM - 05:30 PM Weather: Clear Sky (27.94 °C)



	N Approach THE GORE RD						E Approach HEALEY RD					
START TIME	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total
2025-06-17 07:15:00	9	112	6	0	0	127	13	43	8	0	0	64
2025-06-17 07:30:00	17	106	1	0	0	124	6	30	4	0	0	40
2025-06-17 07:45:00	18	118	1	0	0	137	4	20	7	0	0	31
2025-06-17 08:00:00	18	133	1	0	1	152	7	28	6	0	0	41
Grand Total	62	469	9	0	1	540	30	121	25	0	0	176
Approach%	11.5%	86.9%	1.7%	0.0%	-	-	17.0%	68.8%	14.2%	0.0%	-	-
Totals%	5.1%	38.3%	0.7%	0.0%	-	44.0%	2.4%	9.9%	2.0%	0.0%	-	14.4%
PHF	0.86	0.88	0.38	0	-	0.89	0.58	0.7	0.78	0	-	0.69
Heavy	2	18	0	0	-	20	1	5	11	0	-	17
Heavy%	3.2%	3.8%	0.0%	0.0%	-	3.7%	3.3%	4.1%	44.0%	0.0%	-	9.7%
Lights	60	451	9	0	-	520	29	116	14	0	-	159
Lights%	96.8%	96.2%	100.0%	-	-	96.3%	96.7%	95.9%	56.0%	-	-	90.3%
Single-Unit Trucks	2	14	0	0	-	16	0	4	6	0	-	10
Single-Unit Trucks%	3.2%	3.0%	0.0%	-	-	3.0%	0.0%	3.3%	24.0%	-	-	5.7%
Buses	0	2	0	0	-	2	1	1	0	0	-	2
Buses%	0.0%	0.4%	0.0%	-	-	0.4%	3.3%	0.8%	0.0%	-	-	1.1%
Articulated Trucks	0	2	0	0	-	2	0	0	5	0	-	5
Articulated Trucks%	0.0%	0.4%	0.0%	-	-	0.4%	0.0%	0.0%	20.0%	-	-	2.8%
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-
Pedestrians%					100.0%	-					0.0%	-
Bicycles on Road	0	0	0	0	-	-	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	-		-	-	-	-	-	

	S Approach THE GORE RD						W Approach HEALEY RD						
START TIME	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
2025-06-17 07:15:00	1	31	20	0	0	52	0	82	1	0	0	83	326
2025-06-17 07:30:00	1	30	11	0	0	42	1	69	2	0	0	72	278
2025-06-17 07:45:00	0	30	21	0	0	51	3	83	4	0	0	90	309
2025-06-17 08:00:00	1	41	14	0	0	56	2	58	4	0	0	64	313
Grand Total	3	132	66	0	0	201	6	292	11	0	0	309	1226
Approach%	1.5%	65.7%	32.8%	0.0%	-	-	1.9%	94.5%	3.6%	0.0%	-	-	-
Totals%	0.2%	10.8%	5.4%	0.0%	-	16.4%	0.5%	23.8%	0.9%	0.0%	-	25.2%	-
PHF	0.75	0.8	0.79	0	-	0.9	0.5	0.88	0.69	0	-	0.86	0.94
Heavy	0	20	1	0	-	21	1	9	1	0	-	11	69
Heavy%	0.0%	15.2%	1.5%	0.0%	-	10.4%	16.7%	3.1%	9.1%	0.0%	-	3.6%	5.6%
Lights	3	112	65	0	-	180	5	283	10	0	-	298	1157
Lights%	100.0%	84.8%	98.5%	-	-	89.6%	83.3%	96.9%	90.9%	-	-	96.4%	94.4%
Single-Unit Trucks	0	16	0	0	-	16	0	5	0	0	-	5	47
Single-Unit Trucks%	0.0%	12.1%	0.0%	-	-	8.0%	0.0%	1.7%	0.0%	-	-	1.6%	3.8%
Buses	0	2	1	0	-	3	1	4	1	0	-	6	13
Buses%	0.0%	1.5%	1.5%	-	-	1.5%	16.7%	1.4%	9.1%	-	-	1.9%	1.1%
Articulated Trucks	0	2	0	0	-	2	0	0	0	0	-	0	9
Articulated Trucks%	0.0%	1.5%	0.0%	-	-	1.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.7%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-
Pedestrians%					0.0%	-					0.0%	-	-
Bicycles on Road	0	0	0	0	-	-	0	0	0	0	-	-	-
Bicycles on Road%	-	-	-	-	-		-	-	-	-	-		-

	N Approach THE GORE RD						E Approach HEALEY RD					
START TIME	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total
2025-06-17 13:00:00	4	54	1	0	0	59	8	28	9	0	0	45
2025-06-17 13:15:00	9	38	1	0	0	48	4	18	9	0	0	31
2025-06-17 13:30:00	4	40	1	0	0	45	1	21	11	0	0	33
2025-06-17 13:45:00	8	33	1	0	0	42	7	25	5	0	0	37
Grand Total	25	165	4	0	0	194	20	92	34	0	0	146
Approach%	12.9%	85.1%	2.1%	0.0%	-	-	13.7%	63.0%	23.3%	0.0%	-	-
Totals%	3.8%	25.1%	0.6%	0.0%	-	29.5%	3.0%	14.0%	5.2%	0.0%	-	22.2%
PHF	0.69	0.76	1	0	-	0.82	0.63	0.82	0.77	0	-	0.81
Heavy	0	21	0	0	-	21	2	6	0	0	-	8
Heavy%	0.0%	12.7%	0.0%	0.0%	-	10.8%	10.0%	6.5%	0.0%	0.0%	-	5.5%
Lights	25	144	4	0	-	173	18	86	34	0	-	138
Lights%	100.0%	87.3%	100.0%	-	-	89.2%	90.0%	93.5%	100.0%	-	-	94.5%
Single-Unit Trucks	0	15	0	0	-	15	2	5	0	0	-	7
Single-Unit Trucks%	0.0%	9.1%	0.0%	-	-	7.7%	10.0%	5.4%	0.0%	-	-	4.8%
Buses	0	1	0	0	-	1	0	1	0	0	-	1
Buses%	0.0%	0.6%	0.0%	-	-	0.5%	0.0%	1.1%	0.0%	-	-	0.7%
Articulated Trucks	0	5	0	0	-	5	0	0	0	0	-	0
Articulated Trucks%	0.0%	3.0%	0.0%	-	-	2.6%	0.0%	0.0%	0.0%	-	-	0.0%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-
Pedestrians%						-						-
Bicycles on Road	0	0	0	0	-	-	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	-		-	-	-	-	-	

	S Approach THE GORE RD						W Approach HEALEY RD						
START TIME	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
2025-06-17 13:00:00	1	31	6	0	0	38	0	22	1	0	0	23	165
2025-06-17 13:15:00	1	44	8	0	0	53	0	15	3	0	0	18	150
2025-06-17 13:30:00	3	43	8	0	0	54	0	30	2	0	0	32	164
2025-06-17 13:45:00	4	45	6	0	0	55	1	42	2	0	0	45	179
Grand Total	9	163	28	0	0	200	1	109	8	0	0	118	658
Approach%	4.5%	81.5%	14.0%	0.0%	-	-	0.8%	92.4%	6.8%	0.0%	-	-	-
Totals%	1.4%	24.8%	4.3%	0.0%	-	30.4%	0.2%	16.6%	1.2%	0.0%	-	17.9%	-
PHF	0.56	0.91	0.88	0	-	0.91	0.25	0.65	0.67	0	-	0.66	0.92
Heavy	0	17	4	0	-	21	1	7	1	0	-	9	59
Heavy%	0.0%	10.4%	14.3%	0.0%	-	10.5%	100.0%	6.4%	12.5%	0.0%	-	7.6%	9.0%
Lights	9	146	24	0	-	179	0	102	7	0	-	109	599
Lights%	100.0%	89.6%	85.7%	-	-	89.5%	0.0%	93.6%	87.5%	-	-	92.4%	91.0%
Single-Unit Trucks	0	15	3	0	-	18	0	6	1	0	-	7	47
Single-Unit Trucks%	0.0%	9.2%	10.7%	-	-	9.0%	0.0%	5.5%	12.5%	-	-	5.9%	7.1%
Buses	0	1	1	0	-	2	1	1	0	0	-	2	6
Buses%	0.0%	0.6%	3.6%	-	-	1.0%	100.0%	0.9%	0.0%	-	-	1.7%	0.9%
Articulated Trucks	0	1	0	0	-	1	0	0	0	0	-	0	6
Articulated Trucks%	0.0%	0.6%	0.0%	-	-	0.5%	0.0%	0.0%	0.0%	-	-	0.0%	0.9%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-
Pedestrians%						-						-	-
Bicycles on Road	0	0	0	0	-	-	0	2	0	0	-	-	-
Bicycles on Road%	-	-	-	-	-		-	100.0%	-	-	-		-

	N Approach THE GORE RD						E Approach HEALEY RD					
START TIME	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total
2025-06-17 15:15:00	8	45	2	0	0	55	16	82	8	0	0	106
2025-06-17 15:30:00	10	38	3	0	0	51	20	97	22	0	0	139
2025-06-17 15:45:00	9	49	4	0	0	62	19	124	18	0	0	161
2025-06-17 16:00:00	5	45	1	0	0	51	27	117	12	0	0	156
Grand Total	32	177	10	0	0	219	82	420	60	0	0	562
Approach%	14.6%	80.8%	4.6%	0.0%	-	-	14.6%	74.7%	10.7%	0.0%	-	-
Totals%	2.2%	12.1%	0.7%	0.0%	-	15.0%	5.6%	28.8%	4.1%	0.0%	-	38.6%
PHF	0.8	0.9	0.63	0	-	0.88	0.76	0.85	0.68	0	-	0.87
Heavy	5	17	0	0	-	22	3	6	4	0	-	13
Heavy%	15.6%	9.6%	0.0%	0.0%	-	10.0%	3.7%	1.4%	6.7%	0.0%	-	2.3%
Lights	27	160	10	0	-	197	79	414	56	0	-	549
Lights%	84.4%	90.4%	100.0%	-	-	90.0%	96.3%	98.6%	93.3%	-	-	97.7%
Single-Unit Trucks	3	7	0	0	-	10	1	3	2	0	-	6
Single-Unit Trucks%	9.4%	4.0%	0.0%	-	-	4.6%	1.2%	0.7%	3.3%	-	-	1.1%
Buses	2	5	0	0	-	7	2	2	2	0	-	6
Buses%	6.3%	2.8%	0.0%	-	-	3.2%	2.4%	0.5%	3.3%	-	-	1.1%
Articulated Trucks	0	5	0	0	-	5	0	1	0	0	-	1
Articulated Trucks%	0.0%	2.8%	0.0%	-	-	2.3%	0.0%	0.2%	0.0%	-	-	0.2%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-
Pedestrians%						-						-
Bicycles on Road	0	0	0	0	-	-	0	0	0	0	-	-
Bicycles on Road%	-	-	-	-	-		-	-	-	-	-	

	S Approach THE GORE RD						W Approach HEALEY RD						
START TIME	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
2025-06-17 15:15:00	0	80	15	0	0	95	3	80	1	0	0	84	340
2025-06-17 15:30:00	6	74	15	0	0	95	6	75	2	0	0	83	368
2025-06-17 15:45:00	5	81	8	0	0	94	4	62	3	0	0	69	386
2025-06-17 16:00:00	3	93	11	0	0	107	2	43	4	0	0	49	363
Grand Total	14	328	49	0	0	391	15	260	10	0	0	285	1457
Approach%	3.6%	83.9%	12.5%	0.0%	-	-	5.3%	91.2%	3.5%	0.0%	-	-	-
Totals%	1.0%	22.5%	3.4%	0.0%	-	26.8%	1.0%	17.8%	0.7%	0.0%	-	19.6%	-
PHF	0.58	0.88	0.82	0	-	0.91	0.63	0.81	0.63	0	-	0.85	0.94
Heavy	1	22	2	0	-	25	0	2	1	0	-	3	63
Heavy%	7.1%	6.7%	4.1%	0.0%	-	6.4%	0.0%	0.8%	10.0%	0.0%	-	1.1%	4.3%
Lights	13	306	47	0	-	366	15	258	9	0	-	282	1394
Lights%	92.9%	93.3%	95.9%	-	-	93.6%	100.0%	99.2%	90.0%	-	-	98.9%	95.7%
Single-Unit Trucks	0	13	0	0	-	13	0	2	0	0	-	2	31
Single-Unit Trucks%	0.0%	4.0%	0.0%	-	-	3.3%	0.0%	0.8%	0.0%	-	-	0.7%	2.1%
Buses	1	6	1	0	-	8	0	0	1	0	-	1	22
Buses%	7.1%	1.8%	2.0%	-	-	2.0%	0.0%	0.0%	10.0%	-	-	0.4%	1.5%
Articulated Trucks	0	3	1	0	-	4	0	0	0	0	-	0	10
Articulated Trucks%	0.0%	0.9%	2.0%	-	-	1.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.7%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-
Pedestrians%						-						-	-
Bicycles on Road	0	0	0	0	-	-	0	0	0	0	-	-	-
Bicycles on Road%	-	-	-	-	-		-	-	-	-	-		-

	N Approach COLERAINE DR						E Approach HEALY RD					
START TIME	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total
2024-04-17 07:00:00	25	101	21	0	0	147	4	18	3	0	0	25
2024-04-17 07:15:00	5	120	47	0	0	172	10	26	4	0	0	40
2024-04-17 07:30:00	20	90	33	0	0	143	10	14	6	0	0	30
2024-04-17 07:45:00	24	109	19	0	0	152	8	28	1	0	0	37
Grand Total	74	420	120	0	0	614	32	86	14	0	0	132
Approach%	12.1%	68.4%	19.5%	0.0%	-	-	24.2%	65.2%	10.6%	0.0%	-	-
Totals%	5.3%	30.2%	8.6%	0.0%	-	44.1%	2.3%	6.2%	1.0%	0.0%	-	9.5%
PHF	0.74	0.88	0.64	0	-	0.89	0.8	0.77	0.58	0	-	0.83
Heavy	20	47	2	0	-	69	11	3	5	0	-	19
Heavy%	27.0%	11.2%	1.7%	0.0%	-	11.2%	34.4%	3.5%	35.7%	0.0%	-	14.4%
Lights	54	373	118	0	-	545	21	83	9	0	-	113
Lights%	73.0%	88.8%	98.3%	-	-	88.8%	65.6%	96.5%	64.3%	-	-	85.6%
Single-Unit Trucks	19	15	0	0	-	34	2	1	1	0	-	4
Single-Unit Trucks%	25.7%	3.6%	0.0%	-	-	5.5%	6.3%	1.2%	7.1%	-	-	3.0%
Buses	0	1	2	0	-	3	1	2	0	0	-	3
Buses%	0.0%	0.2%	1.7%	-	-	0.5%	3.1%	2.3%	0.0%	-	-	2.3%
Articulated Trucks	1	31	0	0	-	32	8	0	4	0	-	12
Articulated Trucks%	1.4%	7.4%	0.0%	-	-	5.2%	25.0%	0.0%	28.6%	-	-	9.1%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-
Pedestrians%						-						-

	S Approach COLERAINE DR						W Approach HEALY RD						
START TIME	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
2024-04-17 07:00:00	5	40	13	0	0	58	16	56	39	0	0	111	341
2024-04-17 07:15:00	5	26	11	0	0	42	20	75	35	0	0	130	384
2024-04-17 07:30:00	7	38	4	0	0	49	24	47	19	0	0	90	312
2024-04-17 07:45:00	5	22	8	0	0	35	29	82	21	0	0	132	356
Grand Total	22	126	36	0	0	184	89	260	114	0	0	463	1393
Approach%	12.0%	68.5%	19.6%	0.0%	-	-	19.2%	56.2%	24.6%	0.0%	-	-	-
Totals%	1.6%	9.0%	2.6%	0.0%	-	13.2%	6.4%	18.7%	8.2%	0.0%	-	33.2%	-
PHF	0.79	0.79	0.69	0	-	0.79	0.77	0.79	0.73	0	-	0.88	0.91
Heavy	2	41	5	0	-	48	6	8	2	0	-	16	152
Heavy%	9.1%	32.5%	13.9%	0.0%	-	26.1%	6.7%	3.1%	1.8%	0.0%	-	3.5%	10.9%
Lights	20	85	31	0	-	136	83	252	112	0	-	447	1241
Lights%	90.9%	67.5%	86.1%	-	-	73.9%	93.3%	96.9%	98.2%	-	-	96.5%	89.1%
Single-Unit Trucks	2	12	1	0	-	15	3	1	2	0	-	6	59
Single-Unit Trucks%	9.1%	9.5%	2.8%	-	-	8.2%	3.4%	0.4%	1.8%	-	-	1.3%	4.2%
Buses	0	0	0	0	-	0	3	7	0	0	-	10	16
Buses%	0.0%	0.0%	0.0%	-	-	0.0%	3.4%	2.7%	0.0%	-	-	2.2%	1.1%
Articulated Trucks	0	29	4	0	-	33	0	0	0	0	-	0	77
Articulated Trucks%	0.0%	23.0%	11.1%	-	-	17.9%	0.0%	0.0%	0.0%	-	-	0.0%	5.5%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-
Pedestrians%						-						-	-

	N Approach COLERAINE DR						E Approach HEALY RD					
START TIME	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total
2024-04-17 12:30:00	13	56	9	0	0	78	18	26	9	0	0	53
2024-04-17 12:45:00	12	51	11	0	0	74	12	27	11	0	0	50
2024-04-17 13:00:00	9	67	8	0	0	84	3	35	10	0	0	48
2024-04-17 13:15:00	7	60	5	0	0	72	7	26	3	0	0	36
Grand Total	41	234	33	0	0	308	40	114	33	0	0	187
Approach%	13.3%	76.0%	10.7%	0.0%	-	-	21.4%	61.0%	17.6%	0.0%	-	-
Totals%	4.4%	25.0%	3.5%	0.0%	-	32.9%	4.3%	12.2%	3.5%	0.0%	-	20.0%
PHF	0.79	0.87	0.75	0	-	0.92	0.56	0.81	0.75	0	-	0.88
Heavy	7	72	2	0	-	81	15	6	8	0	-	29
Heavy%	17.1%	30.8%	6.1%	0.0%	-	26.3%	37.5%	5.3%	24.2%	0.0%	-	15.5%
Lights	34	162	31	0	-	227	25	108	25	0	-	158
Lights%	82.9%	69.2%	93.9%	-	-	73.7%	62.5%	94.7%	75.8%	-	-	84.5%
Single-Unit Trucks	4	27	1	0	-	32	8	6	7	0	-	21
Single-Unit Trucks%	9.8%	11.5%	3.0%	-	-	10.4%	20.0%	5.3%	21.2%	-	-	11.2%
Buses	0	0	1	0	-	1	0	0	0	0	-	0
Buses%	0.0%	0.0%	3.0%	-	-	0.3%	0.0%	0.0%	0.0%	-	-	0.0%
Articulated Trucks	3	45	0	0	-	48	7	0	1	0	-	8
Articulated Trucks%	7.3%	19.2%	0.0%	-	-	15.6%	17.5%	0.0%	3.0%	-	-	4.3%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-
Pedestrians%						-						-

	S Approach COLERAINE DR						W Approach HEALY RD						
START TIME	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
2024-04-17 12:30:00	2	34	17	0	0	53	6	34	5	0	0	45	229
2024-04-17 12:45:00	4	51	19	0	0	74	17	34	5	0	0	56	254
2024-04-17 13:00:00	7	38	12	0	0	57	5	24	2	0	0	31	220
2024-04-17 13:15:00	11	55	14	0	0	80	6	30	8	0	0	44	232
Grand Total	24	178	62	0	0	264	34	122	20	0	0	176	935
Approach%	9.1%	67.4%	23.5%	0.0%	-	-	19.3%	69.3%	11.4%	0.0%	-	-	-
Totals%	2.6%	19.0%	6.6%	0.0%	-	28.2%	3.6%	13.0%	2.1%	0.0%	-	18.8%	-
PHF	0.55	0.81	0.82	0	-	0.83	0.5	0.9	0.63	0	-	0.79	0.92
Heavy	5	55	11	0	-	71	1	6	1	0	-	8	189
Heavy%	20.8%	30.9%	17.7%	0.0%	-	26.9%	2.9%	4.9%	5.0%	0.0%	-	4.5%	20.2%
Lights	19	123	51	0	-	193	33	116	19	0	-	168	746
Lights%	79.2%	69.1%	82.3%	-	-	73.1%	97.1%	95.1%	95.0%	-	-	95.5%	79.8%
Single-Unit Trucks	5	15	5	0	-	25	1	6	1	0	-	8	86
Single-Unit Trucks%	20.8%	8.4%	8.1%	-	-	9.5%	2.9%	4.9%	5.0%	-	-	4.5%	9.2%
Buses	0	0	0	0	-	0	0	0	0	0	-	0	1
Buses%	0.0%	0.0%	0.0%	-	-	0.0%	0.0%	0.0%	0.0%	-	-	0.0%	0.1%
Articulated Trucks	0	40	6	0	-	46	0	0	0	0	-	0	102
Articulated Trucks%	0.0%	22.5%	9.7%	-	-	17.4%	0.0%	0.0%	0.0%	-	-	0.0%	10.9%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-
Pedestrians%						-						-	-

	N Approach COLERAINE DR						E Approach HEALY RD					
START TIME	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total
2024-04-17 15:15:00	9	61	36	0	0	106	11	61	12	0	0	84
2024-04-17 15:30:00	8	59	21	0	1	88	8	86	25	0	0	119
2024-04-17 15:45:00	18	51	19	0	0	88	11	54	14	0	0	79
2024-04-17 16:00:00	13	49	20	0	0	82	13	76	11	0	0	100
Grand Total	48	220	96	0	1	364	43	277	62	0	0	382
Approach%	13.2%	60.4%	26.4%	0.0%	-	-	11.3%	72.5%	16.2%	0.0%	-	-
Totals%	2.9%	13.2%	5.8%	0.0%	-	21.9%	2.6%	16.7%	3.7%	0.0%	-	23.0%
PHF	0.67	0.9	0.67	0	-	0.86	0.83	0.81	0.62	0	-	0.8
Heavy	6	73	5	0	-	84	9	5	12	0	-	26
Heavy%	12.5%	33.2%	5.2%	0.0%	-	23.1%	20.9%	1.8%	19.4%	0.0%	-	6.8%
Lights	42	147	91	0	-	280	34	272	50	0	-	356
Lights%	87.5%	66.8%	94.8%	-	-	76.9%	79.1%	98.2%	80.6%	-	-	93.2%
Single-Unit Trucks	2	20	3	0	-	25	4	4	9	0	-	17
Single-Unit Trucks%	4.2%	9.1%	3.1%	-	-	6.9%	9.3%	1.4%	14.5%	-	-	4.5%
Buses	0	0	2	0	-	2	0	1	0	0	-	1
Buses%	0.0%	0.0%	2.1%	-	-	0.5%	0.0%	0.4%	0.0%	-	-	0.3%
Articulated Trucks	4	53	0	0	-	57	5	0	3	0	-	8
Articulated Trucks%	8.3%	24.1%	0.0%	-	-	15.7%	11.6%	0.0%	4.8%	-	-	2.1%
Pedestrians	-	-	-	-	1	-	-	-	-	-	0	-
Pedestrians%					100.0%	-					0.0%	-

	S Approach COLERAINE DR						W Approach HEALY RD						
START TIME	Left	Thru	Right	UTurn	Peds	Approach Total	Left	Thru	Right	UTurn	Peds	Approach Total	
2024-04-17 15:15:00	36	82	12	0	0	130	25	52	7	0	0	84	404
2024-04-17 15:30:00	33	103	20	0	0	156	33	37	13	0	0	83	446
2024-04-17 15:45:00	21	88	12	0	0	121	38	70	24	0	0	132	420
2024-04-17 16:00:00	25	96	11	0	0	132	27	42	10	0	0	79	393
Grand Total	115	369	55	0	0	539	123	201	54	0	0	378	1663
Approach%	21.3%	68.5%	10.2%	0.0%	-	-	32.5%	53.2%	14.3%	0.0%	-	-	-
Totals%	6.9%	22.2%	3.3%	0.0%	-	32.4%	7.4%	12.1%	3.2%	0.0%	-	22.7%	-
PHF	0.8	0.9	0.69	0	-	0.86	0.81	0.72	0.56	0	-	0.72	0.93
Heavy	1	51	7	0	-	59	1	2	2	0	-	5	174
Heavy%	0.9%	13.8%	12.7%	0.0%	-	10.9%	0.8%	1.0%	3.7%	0.0%	-	1.3%	10.5%
Lights	114	318	48	0	-	480	122	199	52	0	-	373	1489
Lights%	99.1%	86.2%	87.3%	-	-	89.1%	99.2%	99.0%	96.3%	-	-	98.7%	89.5%
Single-Unit Trucks	1	13	4	0	-	18	0	2	1	0	-	3	63
Single-Unit Trucks%	0.9%	3.5%	7.3%	-	-	3.3%	0.0%	1.0%	1.9%	-	-	0.8%	3.8%
Buses	0	0	0	0	-	0	1	0	1	0	-	2	5
Buses%	0.0%	0.0%	0.0%	-	-	0.0%	0.8%	0.0%	1.9%	-	-	0.5%	0.3%
Articulated Trucks	0	38	3	0	-	41	0	0	0	0	-	0	106
Articulated Trucks%	0.0%	10.3%	5.5%	-	-	7.6%	0.0%	0.0%	0.0%	-	-	0.0%	6.4%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-
Pedestrians%					0.0%	-					0.0%	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Healey Road & Centreville Creek Road
Site Code: 240562
Start Date: 10/30/2024

Turning Movement Data

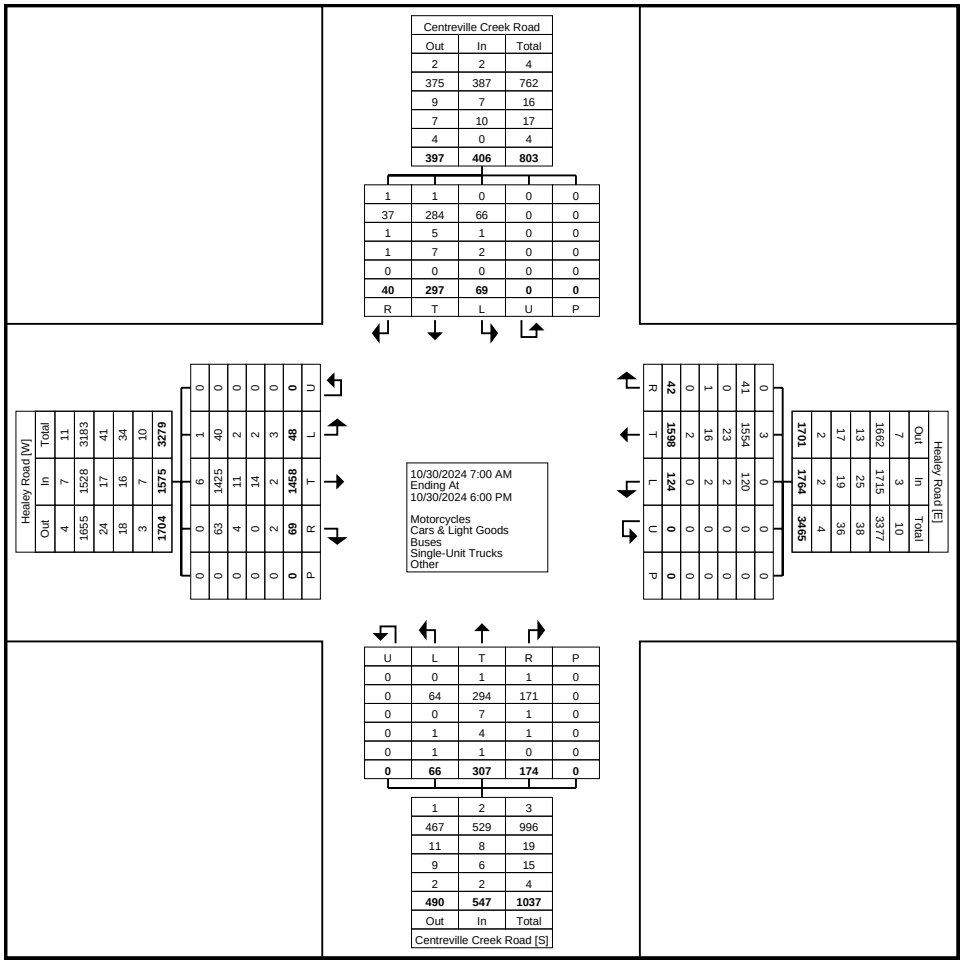
Start Time	Healey Road Eastbound						Healey Road Westbound						Centreville Creek Road Northbound						Centreville Creek Road Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	2	60	4	0	0	66	3	32	0	0	0	35	1	3	5	0	0	9	2	14	1	0	0	17	127
7:15 AM	1	78	3	0	0	82	3	32	1	0	0	36	1	6	9	0	0	16	1	15	0	0	0	16	150
7:30 AM	3	71	3	0	0	77	3	40	0	0	0	43	3	3	6	0	0	12	2	20	0	0	0	22	154
7:45 AM	0	95	8	0	0	103	5	63	1	0	0	69	2	7	4	0	0	13	6	21	1	0	0	28	213
Hourly Total	6	304	18	0	0	328	14	167	2	0	0	183	7	19	24	0	0	50	11	70	2	0	0	83	644
8:00 AM	0	71	4	0	0	75	8	56	0	0	0	64	1	5	5	0	0	11	4	22	1	0	0	27	177
8:15 AM	0	69	4	0	0	73	6	63	2	0	0	71	0	7	8	0	0	15	2	19	1	0	0	22	181
8:30 AM	3	78	2	0	0	83	12	59	2	0	0	73	1	3	6	0	0	10	3	12	2	0	0	17	183
8:45 AM	1	78	2	0	0	81	3	52	3	0	0	58	2	6	3	0	0	11	7	13	1	0	0	21	171
Hourly Total	4	296	12	0	0	312	29	230	7	0	0	266	4	21	22	0	0	47	16	66	5	0	0	87	712
9:00 AM	1	59	3	0	0	63	5	35	2	0	0	42	0	15	4	0	0	19	11	13	2	0	0	26	150
9:15 AM	3	44	1	0	0	48	4	25	1	0	0	30	0	8	7	0	0	15	3	15	1	0	0	19	112
9:30 AM	1	33	1	0	0	35	2	22	0	0	0	24	0	1	2	0	0	3	2	8	1	0	0	11	73
9:45 AM	1	36	1	0	0	38	5	22	0	0	0	27	0	5	5	0	0	10	1	2	1	0	0	4	79
Hourly Total	6	172	6	0	0	184	16	104	3	0	0	123	0	29	18	0	0	47	17	38	5	0	0	60	414
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	2	51	2	0	0	55	8	64	0	0	0	72	1	15	8	0	0	24	1	11	2	0	0	14	165
3:15 PM	1	91	6	0	0	98	2	82	1	0	0	85	5	18	11	0	0	34	2	4	1	0	0	7	224
3:30 PM	5	56	5	0	0	66	5	80	1	0	0	86	4	14	8	0	0	26	6	8	4	0	0	18	196
3:45 PM	6	55	5	0	0	66	5	98	3	0	0	106	4	18	16	0	0	38	0	15	6	0	0	21	231
Hourly Total	14	253	18	0	0	285	20	324	5	0	0	349	14	65	43	0	0	122	9	38	13	0	0	60	816
4:00 PM	2	54	1	0	0	57	4	85	6	0	0	95	11	19	14	0	0	44	1	6	2	0	0	9	205
4:15 PM	4	49	1	0	0	54	8	104	4	0	0	116	0	24	9	0	0	33	1	10	2	0	0	13	216
4:30 PM	1	65	2	0	0	68	5	104	4	0	0	113	7	18	11	0	0	36	1	14	2	0	0	17	234
4:45 PM	4	53	4	0	0	61	7	90	2	0	0	99	8	22	5	0	0	35	1	12	1	0	0	14	209
Hourly Total	11	221	8	0	0	240	24	383	16	0	0	423	26	83	39	0	0	148	4	42	7	0	0	53	864
5:00 PM	0	48	1	0	0	49	4	93	2	0	0	99	3	26	5	0	0	34	3	15	0	0	0	18	200
5:15 PM	2	52	2	0	0	56	7	106	1	0	0	114	1	17	9	0	0	27	3	6	0	0	0	9	206
5:30 PM	2	51	3	0	0	56	4	101	3	0	0	108	4	28	8	0	0	40	3	7	4	0	0	14	218
5:45 PM	3	61	1	0	0	65	6	90	3	0	0	99	7	19	6	0	0	32	3	15	4	0	0	22	218
Hourly Total	7	212	7	0	0	226	21	390	9	0	0	420	15	90	28	0	0	133	12	43	8	0	0	63	842
Grand Total	48	1458	69	0	0	1575	124	1598	42	0	0	1764	66	307	174	0	0	547	69	297	40	0	0	406	4292
Approach %	3.0	92.6	4.4	0.0	-	-	7.0	90.6	2.4	0.0	-	-	12.1	56.1	31.8	0.0	-	-	17.0	73.2	9.9	0.0	-	-	-
Total %	1.1	34.0	1.6	0.0	-	36.7	2.9	37.2	1.0	0.0	-	41.1	1.5	7.2	4.1	0.0	-	12.7	1.6	6.9	0.9	0.0	-	9.5	-
Motorcycles	1	6	0	0	-	7	0	3	0	0	-	3	0	1	1	0	-	2	0	1	1	0	-	2	14

% Motorcycles	2.1	0.4	0.0	-	-	0.4	0.0	0.2	0.0	-	-	0.2	0.0	0.3	0.6	-	-	0.4	0.0	0.3	2.5	-	-	0.5	0.3
Cars & Light Goods	40	1425	63	0	-	1528	120	1554	41	0	-	1715	64	294	171	0	-	529	66	284	37	0	-	387	4159
% Cars & Light Goods	83.3	97.7	91.3	-	-	97.0	96.8	97.2	97.6	-	-	97.2	97.0	95.8	98.3	-	-	96.7	95.7	95.6	92.5	-	-	95.3	96.9
Buses	2	11	4	0	-	17	2	23	0	0	-	25	0	7	1	0	-	8	1	5	1	0	-	7	57
% Buses	4.2	0.8	5.8	-	-	1.1	1.6	1.4	0.0	-	-	1.4	0.0	2.3	0.6	-	-	1.5	1.4	1.7	2.5	-	-	1.7	1.3
Single-Unit Trucks	2	14	0	0	-	16	2	16	1	0	-	19	1	4	1	0	-	6	2	7	1	0	-	10	51
% Single-Unit Trucks	4.2	1.0	0.0	-	-	1.0	1.6	1.0	2.4	-	-	1.1	1.5	1.3	0.6	-	-	1.1	2.9	2.4	2.5	-	-	2.5	1.2
Articulated Trucks	0	2	0	0	-	2	0	2	0	0	-	2	0	0	0	0	-	0	0	0	0	0	-	0	4
% Articulated Trucks	0.0	0.1	0.0	-	-	0.1	0.0	0.1	0.0	-	-	0.1	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.1
Bicycles on Road	3	0	2	0	-	5	0	0	0	0	-	0	1	1	0	0	-	2	0	0	0	0	-	0	7
% Bicycles on Road	6.3	0.0	2.9	-	-	0.3	0.0	0.0	0.0	-	-	0.0	1.5	0.3	0.0	-	-	0.4	0.0	0.0	0.0	-	-	0.0	0.2
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Turning Movement Data Plot

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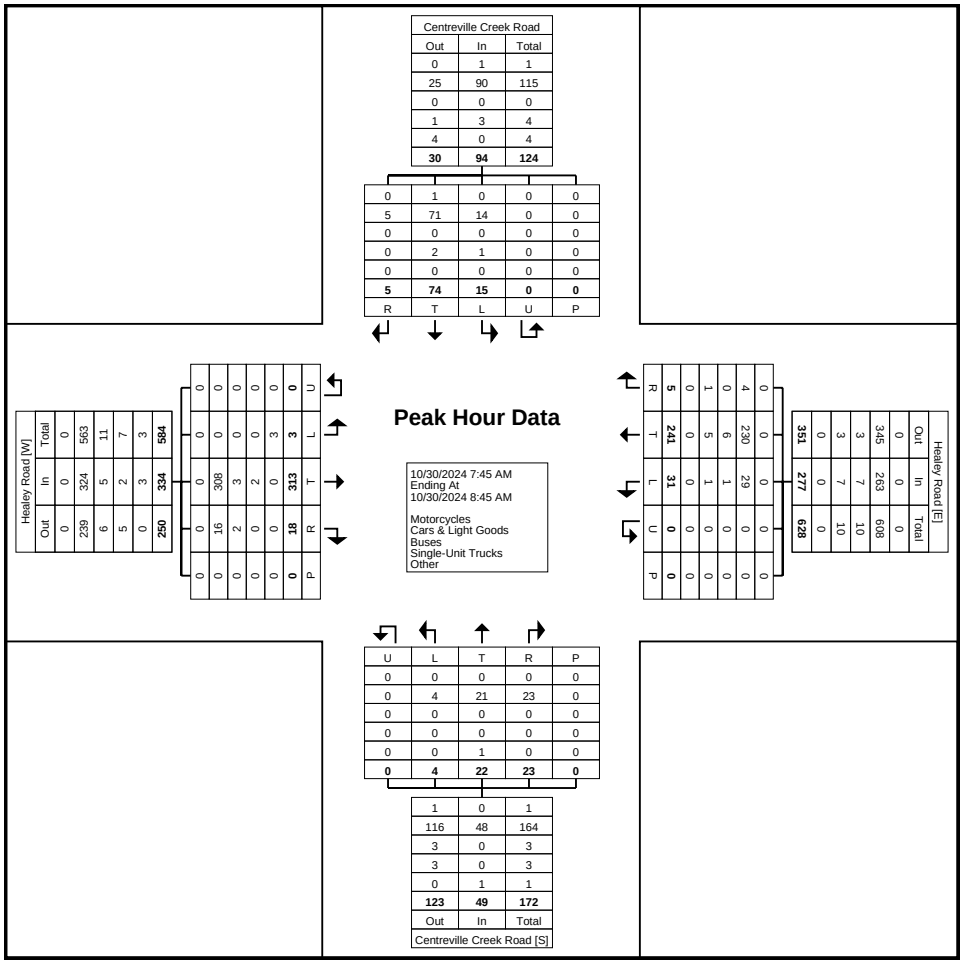
Turning Movement Peak Hour Data (7:45 AM)

Start Time	Healey Road Eastbound						Healey Road Westbound						Centreville Creek Road Northbound						Centreville Creek Road Southbound						
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Int. Total
7:45 AM	0	95	8	0	0	103	5	63	1	0	0	69	2	7	4	0	0	13	6	21	1	0	0	28	213
8:00 AM	0	71	4	0	0	75	8	56	0	0	0	64	1	5	5	0	0	11	4	22	1	0	0	27	177
8:15 AM	0	69	4	0	0	73	6	63	2	0	0	71	0	7	8	0	0	15	2	19	1	0	0	22	181
8:30 AM	3	78	2	0	0	83	12	59	2	0	0	73	1	3	6	0	0	10	3	12	2	0	0	17	183
Total	3	313	18	0	0	334	31	241	5	0	0	277	4	22	23	0	0	49	15	74	5	0	0	94	754
Approach %	0.9	93.7	5.4	0.0	-	-	11.2	87.0	1.8	0.0	-	-	8.2	44.9	46.9	0.0	-	-	16.0	78.7	5.3	0.0	-	-	-
Total %	0.4	41.5	2.4	0.0	-	44.3	4.1	32.0	0.7	0.0	-	36.7	0.5	2.9	3.1	0.0	-	6.5	2.0	9.8	0.7	0.0	-	12.5	-
PHF	0.250	0.824	0.563	0.000	-	0.811	0.646	0.956	0.625	0.000	-	0.949	0.500	0.786	0.719	0.000	-	0.817	0.625	0.841	0.625	0.000	-	0.839	0.885
Motorcycles	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	1	1
% Motorcycles	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	1.4	0.0	-	-	1.1	0.1
Cars & Light Goods	0	308	16	0	-	324	29	230	4	0	-	263	4	21	23	0	-	48	14	71	5	0	-	90	725
% Cars & Light Goods	0.0	98.4	88.9	-	-	97.0	93.5	95.4	80.0	-	-	94.9	100.0	95.5	100.0	-	-	98.0	93.3	95.9	100.0	-	-	95.7	96.2
Buses	0	3	2	0	-	5	1	6	0	0	-	7	0	0	0	0	-	0	0	0	0	0	-	0	12
% Buses	0.0	1.0	11.1	-	-	1.5	3.2	2.5	0.0	-	-	2.5	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	1.6
Single-Unit Trucks	0	2	0	0	-	2	1	5	1	0	-	7	0	0	0	0	-	0	1	2	0	0	-	3	12
% Single-Unit Trucks	0.0	0.6	0.0	-	-	0.6	3.2	2.1	20.0	-	-	2.5	0.0	0.0	0.0	-	-	0.0	6.7	2.7	0.0	-	-	3.2	1.6
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Road	3	0	0	0	-	3	0	0	0	0	-	0	0	1	0	0	-	1	0	0	0	0	-	0	4
% Bicycles on Road	100.0	0.0	0.0	-	-	0.9	0.0	0.0	0.0	-	-	0.0	0.0	4.5	0.0	-	-	2.0	0.0	0.0	0.0	-	-	0.0	0.5
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Healey Road & Centreville Creek Road
Site Code: 240562
Start Date: 10/30/2024



Turning Movement Peak Hour Data Plot (7:45 AM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Healey Road & Centreville Creek Road
Site Code: 240562
Start Date: 10/30/2024

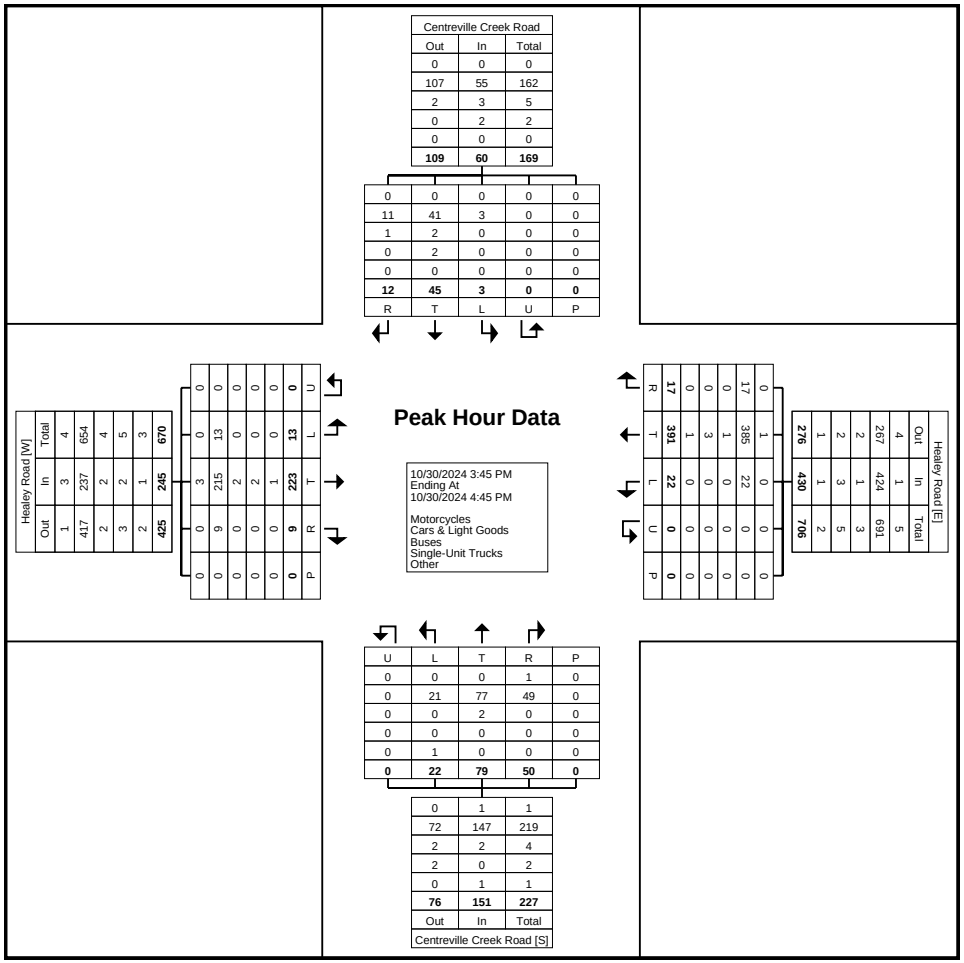
Turning Movement Peak Hour Data (3:45 PM)

Start Time	Healey Road Eastbound						Healey Road Westbound						Centreville Creek Road Northbound						Centreville Creek Road Southbound						
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Int. Total
3:45 PM	6	55	5	0	0	66	5	98	3	0	0	106	4	18	16	0	0	38	0	15	6	0	0	21	231
4:00 PM	2	54	1	0	0	57	4	85	6	0	0	95	11	19	14	0	0	44	1	6	2	0	0	9	205
4:15 PM	4	49	1	0	0	54	8	104	4	0	0	116	0	24	9	0	0	33	1	10	2	0	0	13	216
4:30 PM	1	65	2	0	0	68	5	104	4	0	0	113	7	18	11	0	0	36	1	14	2	0	0	17	234
Total	13	223	9	0	0	245	22	391	17	0	0	430	22	79	50	0	0	151	3	45	12	0	0	60	886
Approach %	5.3	91.0	3.7	0.0	-	-	5.1	90.9	4.0	0.0	-	-	14.6	52.3	33.1	0.0	-	-	5.0	75.0	20.0	0.0	-	-	-
Total %	1.5	25.2	1.0	0.0	-	27.7	2.5	44.1	1.9	0.0	-	48.5	2.5	8.9	5.6	0.0	-	17.0	0.3	5.1	1.4	0.0	-	6.8	-
PHF	0.542	0.858	0.450	0.000	-	0.901	0.688	0.940	0.708	0.000	-	0.927	0.500	0.823	0.781	0.000	-	0.858	0.750	0.750	0.500	0.000	-	0.714	0.947
Motorcycles	0	3	0	0	-	3	0	1	0	0	-	1	0	0	1	0	-	1	0	0	0	0	-	0	5
% Motorcycles	0.0	1.3	0.0	-	-	1.2	0.0	0.3	0.0	-	-	0.2	0.0	0.0	2.0	-	-	0.7	0.0	0.0	0.0	-	-	0.0	0.6
Cars & Light Goods	13	215	9	0	-	237	22	385	17	0	-	424	21	77	49	0	-	147	3	41	11	0	-	55	863
% Cars & Light Goods	100.0	96.4	100.0	-	-	96.7	100.0	98.5	100.0	-	-	98.6	95.5	97.5	98.0	-	-	97.4	100.0	91.1	91.7	-	-	91.7	97.4
Buses	0	2	0	0	-	2	0	1	0	0	-	1	0	2	0	0	-	2	0	2	1	0	-	3	8
% Buses	0.0	0.9	0.0	-	-	0.8	0.0	0.3	0.0	-	-	0.2	0.0	2.5	0.0	-	-	1.3	0.0	4.4	8.3	-	-	5.0	0.9
Single-Unit Trucks	0	2	0	0	-	2	0	3	0	0	-	3	0	0	0	0	-	0	0	2	0	0	-	2	7
% Single-Unit Trucks	0.0	0.9	0.0	-	-	0.8	0.0	0.8	0.0	-	-	0.7	0.0	0.0	0.0	-	-	0.0	0.0	4.4	0.0	-	-	3.3	0.8
Articulated Trucks	0	1	0	0	-	1	0	1	0	0	-	1	0	0	0	0	-	0	0	0	0	0	-	0	2
% Articulated Trucks	0.0	0.4	0.0	-	-	0.4	0.0	0.3	0.0	-	-	0.2	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	0.2
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	0	-	1	0	0	0	0	-	0	1
% Bicycles on Road	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	-	0.0	4.5	0.0	0.0	-	-	0.7	0.0	0.0	0.0	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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Count Name: Healey Road & Centreville Creek Road
Site Code: 240562
Start Date: 10/30/2024



Turning Movement Peak Hour Data Plot (3:45 PM)

Appendix C

Synchro Reports – Base Year

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	326	19	32	251	5	4	23	24	16	77	5
Future Volume (vph)	3	326	19	32	251	5	4	23	24	16	77	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.997			0.936			0.993	
Flt Protected					0.994			0.997			0.992	
Satd. Flow (prot)	0	1828	0	0	1787	0	0	1734	0	0	1795	0
Flt Permitted					0.994			0.997			0.992	
Satd. Flow (perm)	0	1828	0	0	1787	0	0	1734	0	0	1795	0
Link Speed (k/h)		60			60			80			80	
Link Distance (m)		295.9			1421.0			432.6			556.0	
Travel Time (s)		17.8			85.3			19.5			25.0	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	100%	2%	11%	6%	5%	20%	0%	5%	0%	7%	4%	0%
Adj. Flow (vph)	3	366	21	36	282	6	4	26	27	18	87	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	390	0	0	324	0	0	57	0	0	111	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control		Stop			Stop			Stop			Stop	

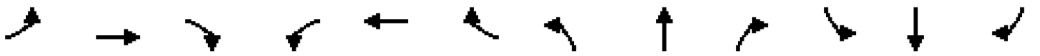
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	3	326	19	32	251	5	4	23	24	16	77	5
Future Volume (vph)	3	326	19	32	251	5	4	23	24	16	77	5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	3	366	21	36	282	6	4	26	27	18	87	6

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	390	324	57	111
Volume Left (vph)	3	36	4	18
Volume Right (vph)	21	6	27	6
Hadj (s)	0.02	0.10	-0.23	0.07
Departure Headway (s)	4.9	5.0	5.7	5.8
Degree Utilization, x	0.53	0.45	0.09	0.18
Capacity (veh/h)	710	689	537	543
Control Delay (s/veh)	13.2	12.1	9.2	10.1
Approach Delay (s/veh)	13.2	12.1	9.2	10.1
Approach LOS	B	B	A	B

Intersection Summary				
Delay	12.1			
Level of Service	B			
Intersection Capacity Utilization	50.9%	ICU Level of Service	A	
Analysis Period (min)	15			

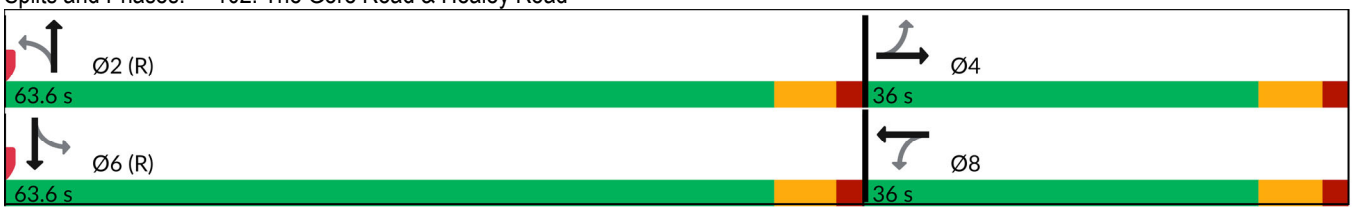


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	346	13	31	187	26	5	135	67	9	478	96
Future Volume (vph)	7	346	13	31	187	26	5	135	67	9	478	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00							
Frt		0.995			0.985			0.956			0.978	
Flt Protected		0.999			0.994			0.999			0.999	
Satd. Flow (prot)	0	1825	0	0	1715	0	0	1643	0	0	1797	0
Flt Permitted		0.993			0.869			0.988			0.995	
Satd. Flow (perm)	0	1814	0	0	1500	0	0	1625	0	0	1789	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			6			40			17	
Link Speed (k/h)		60			60			80			80	
Link Distance (m)		1421.0			1356.5			241.9			1079.4	
Travel Time (s)		85.3			81.4			10.9			48.6	
Confl. Peds. (#/hr)	1					1						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	17%	3%	9%	3%	4%	44%	0%	15%	2%	3%	4%	0%
Adj. Flow (vph)	7	368	14	33	199	28	5	144	71	10	509	102
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	389	0	0	260	0	0	220	0	0	621	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.6	25.6		25.6	25.6		26.6	26.6		26.6	26.6	
Total Split (s)	36.0	36.0		36.0	36.0		63.6	63.6		63.6	63.6	
Total Split (%)	36.1%	36.1%		36.1%	36.1%		63.9%	63.9%		63.9%	63.9%	
Maximum Green (s)	29.4	29.4		29.4	29.4		57.0	57.0		57.0	57.0	
Yellow Time (s)	4.6	4.6		4.6	4.6		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.6			6.6			6.6			6.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		29.4			29.4			57.0			57.0	
Actuated g/C Ratio		0.30			0.30			0.57			0.57	
v/c Ratio		0.73			0.58			0.23			0.60	
Control Delay (s/veh)		40.4			35.3			9.2			16.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay (s/veh)		40.4			35.3			9.2			16.6	
LOS		D			D			A			B	
Approach Delay (s/veh)		40.4			35.3			9.2			16.6	
Approach LOS		D			D			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 99.6			
Actuated Cycle Length: 99.6			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay (s/veh): 25.0		Intersection LOS: C	
Intersection Capacity Utilization 75.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 102: The Gore Road & Healey Road



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	389	260	220	621
v/c Ratio	0.73	0.58	0.23	0.60
Control Delay (s/veh)	40.4	35.3	9.2	16.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	40.4	35.3	9.2	16.6
Queue Length 50th (m)	69.4	43.0	15.4	73.6
Queue Length 95th (m)	103.9	69.3	27.1	107.9
Internal Link Dist (m)	1397.0	1332.5	217.9	1055.4
Turn Bay Length (m)				
Base Capacity (vph)	536	447	947	1031
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	0.73	0.58	0.23	0.60

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	346	13	31	187	26	5	135	67	9	478	96
Future Volume (vph)	7	346	13	31	187	26	5	135	67	9	478	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6			6.6			6.6			6.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.96			0.98	
Flt Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		1826			1716			1643			1797	
Flt Permitted		0.99			0.87			0.99			0.99	
Satd. Flow (perm)		1815			1501			1626			1789	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	7	368	14	33	199	28	5	144	71	10	509	102
RTOR Reduction (vph)	0	1	0	0	4	0	0	17	0	0	7	0
Lane Group Flow (vph)	0	388	0	0	256	0	0	203	0	0	614	0
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	17%	3%	9%	3%	4%	44%	0%	15%	2%	3%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.4			29.4			57.0			57.0	
Effective Green, g (s)		29.4			29.4			57.0			57.0	
Actuated g/C Ratio		0.30			0.30			0.57			0.57	
Clearance Time (s)		6.6			6.6			6.6			6.6	
Lane Grp Cap (vph)		535			443			930			1023	
v/s Ratio Prot												
v/s Ratio Perm		c0.21			0.17			0.12			c0.34	
v/c Ratio		0.72			0.58			0.22			0.60	
Uniform Delay, d1		31.5			29.8			10.4			13.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		8.3			5.4			0.5			2.6	
Delay (s)		39.8			35.2			10.9			16.5	
Level of Service		D			D			B			B	
Approach Delay (s/veh)		39.8			35.2			10.9			16.5	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	25.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	99.6	Sum of lost time (s)	13.2
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
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)	4	391	13	22	219	8	10	18	26	56	66	11
Future Volume (vph)	4	391	13	22	219	8	10	18	26	56	66	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.996			0.934			0.988	
Flt Protected		0.999			0.996			0.991			0.979	
Satd. Flow (prot)	0	1855	0	0	1805	0	0	1725	0	0	1796	0
Flt Permitted		0.999			0.996			0.991			0.979	
Satd. Flow (perm)	0	1855	0	0	1805	0	0	1725	0	0	1796	0
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1356.5			1380.2			3025.5			680.2	
Travel Time (s)		81.4			82.8			181.5			40.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	10%	4%	0%	0%	6%	0%	2%	3%	0%
Adj. Flow (vph)	5	444	15	25	249	9	11	20	30	64	75	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	464	0	0	283	0	0	61	0	0	152	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control		Stop			Stop			Stop			Stop	

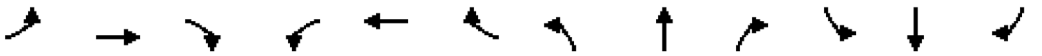
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	391	13	22	219	8	10	18	26	56	66	11
Future Volume (vph)	4	391	13	22	219	8	10	18	26	56	66	11
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	5	444	15	25	249	9	11	20	30	64	75	13

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	464	283	61	152
Volume Left (vph)	5	25	11	64
Volume Right (vph)	15	9	30	13
Hadj (s)	0.02	0.07	-0.23	0.07
Departure Headway (s)	5.0	5.3	5.9	6.0
Degree Utilization, x	0.64	0.42	0.10	0.25
Capacity (veh/h)	697	646	504	532
Control Delay (s/veh)	16.6	12.0	9.6	11.0
Approach Delay (s/veh)	16.6	12.0	9.6	11.0
Approach LOS	C	B	A	B

Intersection Summary				
Delay	13.9			
Level of Service	B			
Intersection Capacity Utilization	47.0%	ICU Level of Service	A	
Analysis Period (min)	15			

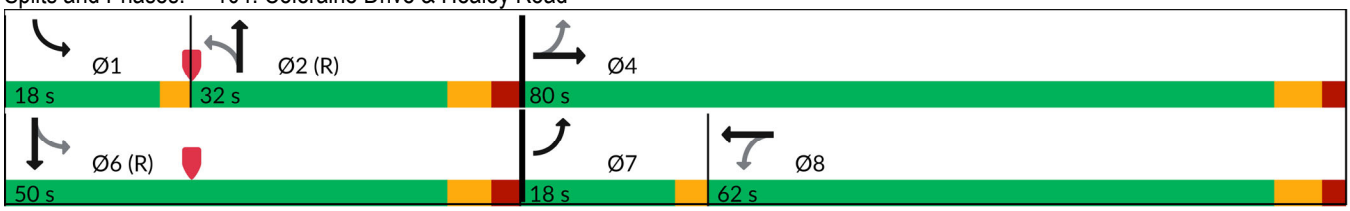


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	271	119	33	110	15	94	437	125	23	131	45
Future Volume (vph)	93	271	119	33	110	15	94	437	125	23	131	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	20.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.954			0.982			0.967			0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1765	0	1347	1746	0	1656	2711	0	1421	3194	0
Flt Permitted	0.553			0.345			0.630			0.367		
Satd. Flow (perm)	982	1765	0	489	1746	0	1098	2711	0	549	3194	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			6			25			38	
Link Speed (k/h)		60			50			70			70	
Link Distance (m)		1380.2			427.4			630.5			589.7	
Travel Time (s)		82.8			30.8			32.4			30.3	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	7%	3%	2%	34%	3%	36%	9%	33%	14%	27%	11%	2%
Adj. Flow (vph)	102	298	131	36	121	16	103	480	137	25	144	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	102	429	0	36	137	0	103	617	0	25	193	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	12.0		12.0	12.0		12.0	12.0		5.0	12.0	
Minimum Split (s)	8.0	37.0		37.0	37.0		37.0	37.0		8.0	37.0	
Total Split (s)	18.0	80.0		62.0	62.0		32.0	32.0		18.0	50.0	
Total Split (%)	13.8%	61.5%		47.7%	47.7%		24.6%	24.6%		13.8%	38.5%	
Maximum Green (s)	15.0	73.0		55.0	55.0		25.0	25.0		15.0	43.0	
Yellow Time (s)	3.0	4.6		4.6	4.6		4.2	4.2		3.0	4.2	
All-Red Time (s)	0.0	2.4		2.4	2.4		2.8	2.8		0.0	2.8	
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	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	
Walk Time (s)		12.0		12.0	12.0		12.0	12.0			12.0	
Flash Don't Walk (s)		18.0		18.0	18.0		18.0	18.0			18.0	
Pedestrian Calls (#/hr)		0		0	0		0	0			0	
Act Effct Green (s)	42.0	38.0		24.1	24.1		71.9	71.9		82.0	78.0	
Actuated g/C Ratio	0.32	0.29		0.19	0.19		0.55	0.55		0.63	0.60	
v/c Ratio	0.27	0.80		0.40	0.42		0.17	0.41		0.06	0.10	
Control Delay (s/veh)	31.1	50.3		57.0	46.7		19.4	19.7		12.5	10.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	31.1	50.3		57.0	46.7		19.4	19.7		12.5	10.6	
LOS	C	D		E	D		B	B		B	B	
Approach Delay (s/veh)		46.6			48.9			19.7			10.8	
Approach LOS		D			D			B			B	

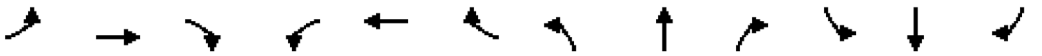
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 92 (71%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay (s/veh): 30.3		Intersection LOS: C	
Intersection Capacity Utilization 74.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 104: Coleraine Drive & Healey Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	102	429	36	137	103	617	25	193
v/c Ratio	0.27	0.80	0.40	0.42	0.17	0.41	0.06	0.10
Control Delay (s/veh)	31.1	50.3	57.0	46.7	19.4	19.7	12.5	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	31.1	50.3	57.0	46.7	19.4	19.7	12.5	10.6
Queue Length 50th (m)	19.2	99.5	7.4	31.1	13.4	42.2	2.1	8.3
Queue Length 95th (m)	28.0	119.4	16.0	46.5	30.6	70.2	6.9	17.4
Internal Link Dist (m)		1356.2		403.4		606.5		565.7
Turn Bay Length (m)	30.0		20.0		60.0		55.0	
Base Capacity (vph)	399	1003	206	742	607	1510	446	1930
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.43	0.17	0.18	0.17	0.41	0.06	0.10

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	271	119	33	110	15	94	437	125	23	131	45
Future Volume (vph)	93	271	119	33	110	15	94	437	125	23	131	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	0.98		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1687	1765		1347	1747		1656	2710		1421	3194	
Flt Permitted	0.55	1.00		0.34	1.00		0.63	1.00		0.37	1.00	
Satd. Flow (perm)	982	1765		489	1747		1099	2710		549	3194	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	102	298	131	36	121	16	103	480	137	25	144	49
RTOR Reduction (vph)	0	20	0	0	5	0	0	11	0	0	15	0
Lane Group Flow (vph)	102	409	0	36	132	0	103	606	0	25	178	0
Heavy Vehicles (%)	7%	3%	2%	34%	3%	36%	9%	33%	14%	27%	11%	2%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	38.0	38.0		24.1	24.1		70.7	70.7		78.0	78.0	
Effective Green, g (s)	38.0	38.0		24.1	24.1		70.7	70.7		78.0	78.0	
Actuated g/C Ratio	0.29	0.29		0.19	0.19		0.54	0.54		0.60	0.60	
Clearance Time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	346	515		90	323		597	1473		358	1916	
v/s Ratio Prot	0.02	c0.23			0.08			c0.22		0.00	c0.06	
v/s Ratio Perm	0.06			0.07			0.09			0.04		
v/c Ratio	0.29	0.79		0.40	0.41		0.17	0.41		0.07	0.09	
Uniform Delay, d1	34.7	42.4		46.6	46.7		14.9	17.4		10.9	11.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	8.3		2.9	0.8		0.6	0.9		0.1	0.1	
Delay (s)	35.2	50.7		49.5	47.5		15.6	18.3		11.0	11.1	
Level of Service	D	D		D	D		B	B		B	B	
Approach Delay (s/veh)		47.7			47.9			17.9			11.1	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	29.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
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)	14	232	9	23	407	18	23	82	52	3	47	12
Future Volume (vph)	14	232	9	23	407	18	23	82	52	3	47	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.995			0.955			0.973	
Flt Protected		0.997			0.997			0.993			0.998	
Satd. Flow (prot)	0	1819	0	0	1851	0	0	1750	0	0	1702	0
Flt Permitted		0.997			0.997			0.993			0.998	
Satd. Flow (perm)	0	1819	0	0	1851	0	0	1750	0	0	1702	0
Link Speed (k/h)		60			60			80			80	
Link Distance (m)		295.9			1421.0			432.6			556.0	
Travel Time (s)		17.8			85.3			19.5			25.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	0%	0%	2%	0%	5%	3%	2%	0%	9%	8%
Adj. Flow (vph)	15	247	10	24	433	19	24	87	55	3	50	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	272	0	0	476	0	0	166	0	0	66	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control		Stop			Stop			Stop			Stop	

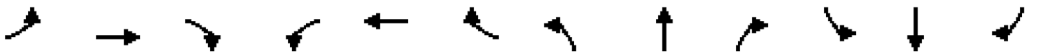
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 52.0%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	14	232	9	23	407	18	23	82	52	3	47	12
Future Volume (vph)	14	232	9	23	407	18	23	82	52	3	47	12
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	15	247	10	24	433	19	24	87	55	3	50	13

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	272	476	166	66
Volume Left (vph)	15	24	24	3
Volume Right (vph)	10	19	55	13
Hadj (s)	0.05	0.02	-0.12	0.03
Departure Headway (s)	5.3	5.0	5.8	6.2
Degree Utilization, x	0.40	0.67	0.27	0.11
Capacity (veh/h)	631	693	543	474
Control Delay (s/veh)	11.9	17.6	11.0	10.0
Approach Delay (s/veh)	11.9	17.6	11.0	10.0
Approach LOS	B	C	B	B

Intersection Summary				
Delay		14.4		
Level of Service		B		
Intersection Capacity Utilization		52.0%	ICU Level of Service	A
Analysis Period (min)		15		

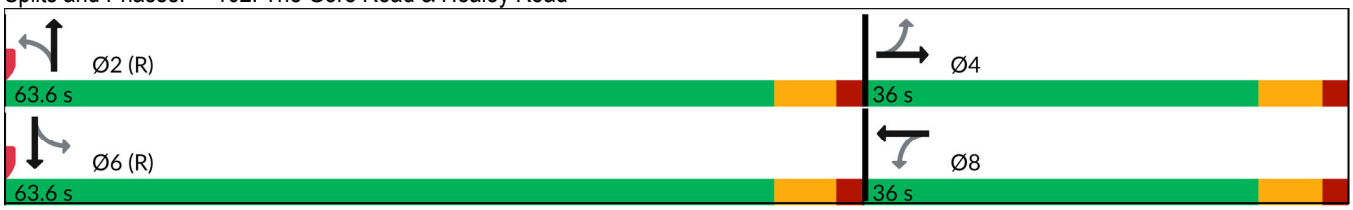


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	265	10	84	428	61	14	335	50	33	181	10
Future Volume (vph)	15	265	10	84	428	61	14	335	50	33	181	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.986			0.983			0.994	
Flt Protected		0.997			0.993			0.998			0.993	
Satd. Flow (prot)	0	1861	0	0	1822	0	0	1748	0	0	1698	0
Flt Permitted		0.927			0.793			0.987			0.903	
Satd. Flow (perm)	0	1731	0	0	1455	0	0	1729	0	0	1544	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			6			12			4	
Link Speed (k/h)		60			60			80			80	
Link Distance (m)		1421.0			1356.5			241.9			1079.4	
Travel Time (s)		85.3			81.4			10.9			48.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	10%	4%	1%	7%	7%	7%	4%	16%	10%	0%
Adj. Flow (vph)	16	282	11	89	455	65	15	356	53	35	193	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	309	0	0	609	0	0	424	0	0	239	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.6	25.6		25.6	25.6		26.6	26.6		26.6	26.6	
Total Split (s)	36.0	36.0		36.0	36.0		63.6	63.6		63.6	63.6	
Total Split (%)	36.1%	36.1%		36.1%	36.1%		63.9%	63.9%		63.9%	63.9%	
Maximum Green (s)	29.4	29.4		29.4	29.4		57.0	57.0		57.0	57.0	
Yellow Time (s)	4.6	4.6		4.6	4.6		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		6.6			6.6			6.6			6.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		29.4			29.4			57.0			57.0	
Actuated g/C Ratio		0.30			0.30			0.57			0.57	
v/c Ratio		0.60			1.41			0.43			0.27	
Control Delay (s/veh)		35.8			226.2			13.3			11.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay (s/veh)		35.8			226.2			13.3			11.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		D			F			B			B	
Approach Delay (s/veh)		35.8			226.2			13.3			11.6	
Approach LOS		D			F			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 99.6			
Actuated Cycle Length: 99.6			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 1.41			
Intersection Signal Delay (s/veh): 99.4		Intersection LOS: F	
Intersection Capacity Utilization 87.6%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 102: The Gore Road & Healey Road



Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	309	609	424	239
v/c Ratio	0.60	1.41	0.43	0.27
Control Delay (s/veh)	35.8	226.2	13.3	11.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	35.8	226.2	13.3	11.6
Queue Length 50th (m)	53.1	~166.6	42.9	21.6
Queue Length 95th (m)	82.1	#235.3	64.6	35.2
Internal Link Dist (m)	1397.0	1332.5	217.9	1055.4
Turn Bay Length (m)				
Base Capacity (vph)	512	433	994	885
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	0.60	1.41	0.43	0.27

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	265	10	84	428	61	14	335	50	33	181	10
Future Volume (vph)	15	265	10	84	428	61	14	335	50	33	181	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.6			6.6			6.6			6.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		1.00			0.99			0.98			0.99	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		1862			1821			1749			1698	
Flt Permitted		0.93			0.79			0.99			0.90	
Satd. Flow (perm)		1731			1455			1728			1543	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	16	282	11	89	455	65	15	356	53	35	193	11
RTOR Reduction (vph)	0	1	0	0	4	0	0	5	0	0	2	0
Lane Group Flow (vph)	0	308	0	0	605	0	0	419	0	0	237	0
Heavy Vehicles (%)	0%	1%	10%	4%	1%	7%	7%	7%	4%	16%	10%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.4			29.4			57.0			57.0	
Effective Green, g (s)		29.4			29.4			57.0			57.0	
Actuated g/C Ratio		0.30			0.30			0.57			0.57	
Clearance Time (s)		6.6			6.6			6.6			6.6	
Lane Grp Cap (vph)		510			429			988			883	
v/s Ratio Prot												
v/s Ratio Perm		0.18			c0.42			c0.24			0.15	
v/c Ratio		0.60			1.41			0.42			0.27	
Uniform Delay, d1		30.1			35.1			12.0			10.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		5.2			197.8			1.3			0.7	
Delay (s)		35.3			232.9			13.4			11.5	
Level of Service		D			F			B			B	
Approach Delay (s/veh)		35.3			232.9			13.4			11.5	
Approach LOS		D			F			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	101.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	99.6	Sum of lost time (s)	13.2
Intersection Capacity Utilization	87.6%	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)	13	316	6	33	552	55	13	76	43	34	38	8
Future Volume (vph)	13	316	6	33	552	55	13	76	43	34	38	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.988			0.956			0.987	
Flt Protected		0.998			0.997			0.995			0.979	
Satd. Flow (prot)	0	1887	0	0	1868	0	0	1728	0	0	1773	0
Flt Permitted		0.998			0.997			0.995			0.979	
Satd. Flow (perm)	0	1887	0	0	1868	0	0	1728	0	0	1773	0
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		1356.5			1380.2			3025.5			680.2	
Travel Time (s)		81.4			82.8			181.5			40.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	0%	0%	0%	0%	2%	0%	4%	7%	5%	3%	0%
Adj. Flow (vph)	13	326	6	34	569	57	13	78	44	35	39	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	345	0	0	660	0	0	135	0	0	82	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control		Stop			Stop			Stop			Stop	

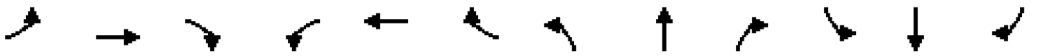
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.1%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	13	316	6	33	552	55	13	76	43	34	38	8
Future Volume (vph)	13	316	6	33	552	55	13	76	43	34	38	8
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	13	326	6	34	569	57	13	78	44	35	39	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	345	660	135	82
Volume Left (vph)	13	34	13	35
Volume Right (vph)	6	57	44	8
Hadj (s)	0.00	-0.04	-0.10	0.09
Departure Headway (s)	5.7	5.2	6.7	7.0
Degree Utilization, x	0.54	0.95	0.25	0.16
Capacity (veh/h)	616	682	512	475
Control Delay (s/veh)	15.2	45.8	11.9	11.4
Approach Delay (s/veh)	15.2	45.8	11.9	11.4
Approach LOS	C	E	B	B

Intersection Summary				
Delay	31.1			
Level of Service	D			
Intersection Capacity Utilization	63.1%	ICU Level of Service	B	
Analysis Period (min)	15			

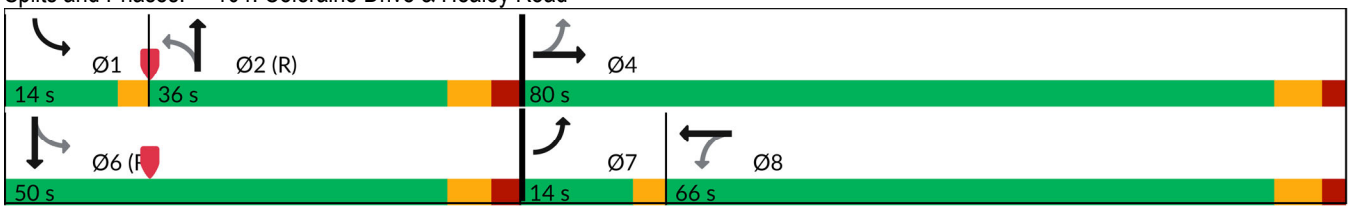


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	209	56	45	467	65	81	229	100	120	384	92
Future Volume (vph)	128	209	56	45	467	65	81	229	100	120	384	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	20.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00				1.00							
Frt		0.968			0.982			0.954			0.971	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	1810	0	1492	1790	0	1787	3029	0	1597	2747	0
Flt Permitted	0.153			0.585			0.463			0.459		
Satd. Flow (perm)	288	1810	0	919	1790	0	871	3029	0	772	2747	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			7			49			24	
Link Speed (k/h)		60			50			70			70	
Link Distance (m)		1380.2			427.4			630.5			589.7	
Travel Time (s)		82.8			30.8			32.4			30.3	
Confl. Peds. (#/hr)	1					1						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	4%	21%	2%	19%	1%	14%	13%	13%	33%	5%
Adj. Flow (vph)	138	225	60	48	502	70	87	246	108	129	413	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	138	285	0	48	572	0	87	354	0	129	512	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	12.0		12.0	12.0		12.0	12.0		5.0	12.0	
Minimum Split (s)	15.0	37.0		37.0	37.0		37.0	37.0		8.0	37.0	
Total Split (s)	14.0	80.0		66.0	66.0		36.0	36.0		14.0	50.0	
Total Split (%)	10.8%	61.5%		50.8%	50.8%		27.7%	27.7%		10.8%	38.5%	
Maximum Green (s)	11.0	73.0		59.0	59.0		29.0	29.0		11.0	43.0	
Yellow Time (s)	3.0	4.6		4.6	4.6		4.2	4.2		3.0	4.2	
All-Red Time (s)	0.0	2.4		2.4	2.4		2.8	2.8		0.0	2.8	
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	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	
Walk Time (s)		12.0		12.0	12.0		12.0	12.0			12.0	
Flash Don't Walk (s)		18.0		18.0	18.0		18.0	18.0			18.0	
Pedestrian Calls (#/hr)		0		0	0		0	0			0	
Act Effct Green (s)	66.2	62.2		48.5	48.5		39.9	39.9		57.8	53.8	
Actuated g/C Ratio	0.51	0.48		0.37	0.37		0.31	0.31		0.44	0.41	
v/c Ratio	0.51	0.33		0.14	0.85		0.33	0.37		0.31	0.45	
Control Delay (s/veh)	22.4	19.5		25.1	49.0		43.4	33.7		26.6	29.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	22.4	19.5		25.1	49.0		43.4	33.7		26.6	29.2	
LOS	C	B		C	D		D	C		C	C	
Approach Delay (s/veh)		20.5			47.1			35.6			28.7	
Approach LOS		C			D			D			C	

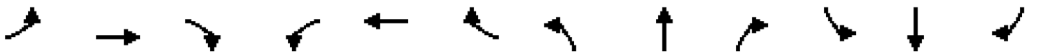
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 92 (71%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay (s/veh): 33.9		Intersection LOS: C	
Intersection Capacity Utilization 80.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 104: Coleraine Drive & Healey Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	138	285	48	572	87	354	129	512
v/c Ratio	0.51	0.33	0.14	0.85	0.33	0.37	0.31	0.45
Control Delay (s/veh)	22.4	19.5	25.1	49.0	43.4	33.7	26.6	29.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.4	19.5	25.1	49.0	43.4	33.7	26.6	29.2
Queue Length 50th (m)	18.8	42.6	7.7	136.9	18.4	32.2	19.8	42.4
Queue Length 95th (m)	25.6	53.0	14.2	163.3	38.4	50.8	37.8	64.5
Internal Link Dist (m)		1356.2		403.4		606.5		565.7
Turn Bay Length (m)	30.0		20.0		60.0		55.0	
Base Capacity (vph)	273	1023	417	816	267	964	418	1150
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.28	0.12	0.70	0.33	0.37	0.31	0.45

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	209	56	45	467	65	81	229	100	120	384	92
Future Volume (vph)	128	209	56	45	467	65	81	229	100	120	384	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1810		1492	1789		1787	3030		1597	2747	
Flt Permitted	0.15	1.00		0.59	1.00		0.46	1.00		0.46	1.00	
Satd. Flow (perm)	288	1810		919	1789		871	3030		772	2747	
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)	138	225	60	48	502	70	87	246	108	129	413	99
RTOR Reduction (vph)	0	9	0	0	4	0	0	34	0	0	14	0
Lane Group Flow (vph)	138	276	0	48	568	0	87	320	0	129	498	0
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	1%	1%	4%	21%	2%	19%	1%	14%	13%	13%	33%	5%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	62.2	62.2		48.5	48.5		39.9	39.9		53.8	53.8	
Effective Green, g (s)	62.2	62.2		48.5	48.5		39.9	39.9		53.8	53.8	
Actuated g/C Ratio	0.48	0.48		0.37	0.37		0.31	0.31		0.41	0.41	
Clearance Time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	261	866		342	667		267	929		388	1136	
v/s Ratio Prot	c0.04	0.15			c0.32			0.11		0.03	c0.18	
v/s Ratio Perm	0.21			0.05			0.10			0.11		
v/c Ratio	0.53	0.32		0.14	0.85		0.33	0.34		0.33	0.44	
Uniform Delay, d1	24.5	20.9		27.0	37.4		34.7	34.9		24.5	27.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.9	0.2		0.2	10.2		3.2	1.0		0.5	1.2	
Delay (s)	26.4	21.1		27.1	47.6		37.9	35.9		25.0	28.5	
Level of Service	C	C		C	D		D	D		C	C	
Approach Delay (s/veh)		22.8			46.0			36.3			27.8	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	33.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Appendix D

Synchro Reports – Background Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	396	23	39	305	6	5	28	29	19	94	6
Future Volume (vph)	4	396	23	39	305	6	5	28	29	19	94	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.998			0.936			0.993	
Flt Protected					0.994			0.996			0.992	
Satd. Flow (prot)	0	1826	0	0	1789	0	0	1733	0	0	1795	0
Flt Permitted					0.994			0.996			0.992	
Satd. Flow (perm)	0	1826	0	0	1789	0	0	1733	0	0	1795	0
Link Speed (k/h)		60			60			80			80	
Link Distance (m)		295.9			1293.6			432.6			556.0	
Travel Time (s)		17.8			77.6			19.5			25.0	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	100%	2%	11%	6%	5%	20%	0%	5%	0%	7%	4%	0%
Adj. Flow (vph)	4	445	26	44	343	7	6	31	33	21	106	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	475	0	0	394	0	0	70	0	0	134	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 59.8%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	396	23	39	305	6	5	28	29	19	94	6
Future Volume (vph)	4	396	23	39	305	6	5	28	29	19	94	6
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	4	445	26	44	343	7	6	31	33	21	106	7

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	475	394	70	134
Volume Left (vph)	4	44	6	21
Volume Right (vph)	26	7	33	7
Hadj (s)	0.03	0.10	-0.23	0.07
Departure Headway (s)	5.2	5.4	6.3	6.4
Degree Utilization, x	0.68	0.59	0.12	0.24
Capacity (veh/h)	670	646	477	489
Control Delay (s/veh)	18.6	15.7	10.1	11.3
Approach Delay (s/veh)	18.6	15.7	10.1	11.3
Approach LOS	C	C	B	B

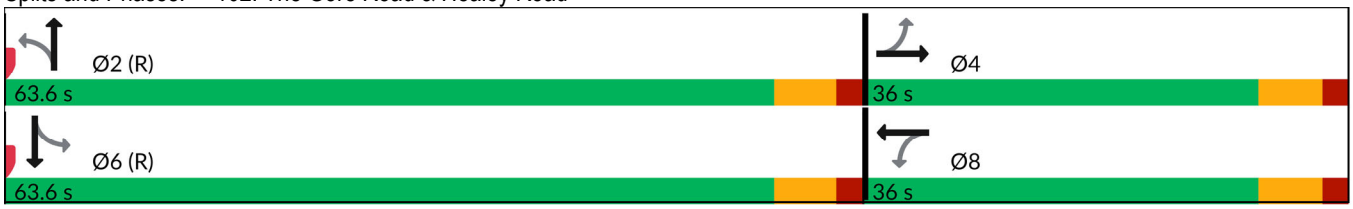
Intersection Summary				
Delay	16.1			
Level of Service	C			
Intersection Capacity Utilization	59.8%	ICU Level of Service	B	
Analysis Period (min)	15			

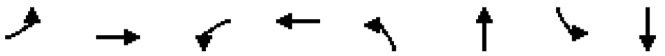
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	455	17	41	246	34	7	178	88	12	629	126
Future Volume (vph)	9	455	17	41	246	34	7	178	88	12	629	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00				1.00							
Frt		0.995			0.982			0.950			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1543	3480	0	1752	3252	0	1805	3099	0	1752	3406	0
Flt Permitted	0.568			0.381			0.309			0.578		
Satd. Flow (perm)	921	3480	0	703	3252	0	587	3099	0	1066	3406	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			15			94			39	
Link Speed (k/h)		60			60			80			80	
Link Distance (m)		127.3			530.2			483.8			177.3	
Travel Time (s)		7.6			31.8			21.8			8.0	
Confl. Peds. (#/hr)	1					1						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	17%	3%	9%	3%	4%	44%	0%	15%	2%	3%	4%	0%
Adj. Flow (vph)	10	484	18	44	262	36	7	189	94	13	669	134
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	502	0	44	298	0	7	283	0	13	803	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.6	25.6		25.6	25.6		26.6	26.6		26.6	26.6	
Total Split (s)	36.0	36.0		36.0	36.0		63.6	63.6		63.6	63.6	
Total Split (%)	36.1%	36.1%		36.1%	36.1%		63.9%	63.9%		63.9%	63.9%	
Maximum Green (s)	29.4	29.4		29.4	29.4		57.0	57.0		57.0	57.0	
Yellow Time (s)	4.6	4.6		4.6	4.6		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	29.4	29.4		29.4	29.4		57.0	57.0		57.0	57.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.57	0.57		0.57	0.57	
v/c Ratio	0.04	0.49		0.21	0.31		0.02	0.16		0.02	0.41	
Control Delay (s/veh)	25.7	30.6		29.8	26.8		9.6	6.8		9.4	12.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	25.7	30.6		29.8	26.8		9.6	6.8		9.4	12.0	
LOS	C	C		C	C		A	A		A	B	
Approach Delay (s/veh)		30.5			27.2			6.8			12.0	
Approach LOS		C			C			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 99.6			
Actuated Cycle Length: 99.6			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay (s/veh): 18.7		Intersection LOS: B	
Intersection Capacity Utilization 60.4%		ICU Level of Service B	
Analysis Period (min) 15			

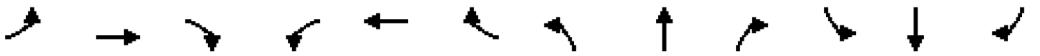
Splits and Phases: 102: The Gore Road & Healey Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	10	502	44	298	7	283	13	803
v/c Ratio	0.04	0.49	0.21	0.31	0.02	0.16	0.02	0.41
Control Delay (s/veh)	25.7	30.6	29.8	26.8	9.6	6.8	9.4	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.7	30.6	29.8	26.8	9.6	6.8	9.4	12.0
Queue Length 50th (m)	1.3	43.1	6.6	22.8	0.6	8.0	1.1	41.7
Queue Length 95th (m)	5.1	59.0	16.2	34.3	2.6	13.7	3.7	54.8
Internal Link Dist (m)		103.3		506.2		459.8		153.3
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	271	1030	207	970	335	1813	610	1965
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.49	0.21	0.31	0.02	0.16	0.02	0.41

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	455	17	41	246	34	7	178	88	12	629	126
Future Volume (vph)	9	455	17	41	246	34	7	178	88	12	629	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1541	3479		1752	3252		1805	3099		1752	3406	
Flt Permitted	0.57	1.00		0.38	1.00		0.31	1.00		0.58	1.00	
Satd. Flow (perm)	921	3479		702	3252		587	3099		1066	3406	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	10	484	18	44	262	36	7	189	94	13	669	134
RTOR Reduction (vph)	0	3	0	0	11	0	0	40	0	0	17	0
Lane Group Flow (vph)	10	499	0	44	287	0	7	243	0	13	786	0
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	17%	3%	9%	3%	4%	44%	0%	15%	2%	3%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	29.4	29.4		29.4	29.4		57.0	57.0		57.0	57.0	
Effective Green, g (s)	29.4	29.4		29.4	29.4		57.0	57.0		57.0	57.0	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.57	0.57		0.57	0.57	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Grp Cap (vph)	271	1026		207	959		335	1773		610	1949	
v/s Ratio Prot		c0.14			0.09			0.08			c0.23	
v/s Ratio Perm	0.01			0.06			0.01			0.01		
v/c Ratio	0.04	0.49		0.21	0.30		0.02	0.14		0.02	0.40	
Uniform Delay, d1	25.0	28.9		26.4	27.1		9.2	9.9		9.2	11.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	1.7		2.3	0.8		0.1	0.2		0.1	0.6	
Delay (s)	25.3	30.5		28.7	27.9		9.3	10.0		9.3	12.5	
Level of Service	C	C		C	C		A	B		A	B	
Approach Delay (s/veh)		30.4			28.0			10.0			12.4	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	99.6	Sum of lost time (s)	13.2
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

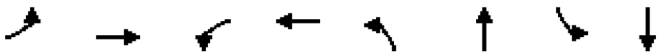
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	600	20	34	336	12	15	28	40	86	101	17
Future Volume (vph)	6	600	20	34	336	12	15	28	40	86	101	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.995			0.995			0.912			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3524	0	1641	3459	0	1805	3212	0	1770	3445	0
Flt Permitted	0.518			0.384			0.667			0.704		
Satd. Flow (perm)	984	3524	0	663	3459	0	1267	3212	0	1311	3445	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			6			45			19	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		826.3			1380.2			3025.5			680.2	
Travel Time (s)		49.6			82.8			181.5			40.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	10%	4%	0%	0%	6%	0%	2%	3%	0%
Adj. Flow (vph)	7	682	23	39	382	14	17	32	45	98	115	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	705	0	39	396	0	17	77	0	98	134	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	52.0	52.0		52.0	52.0		38.0	38.0		38.0	38.0	
Total Split (%)	57.8%	57.8%		57.8%	57.8%		42.2%	42.2%		42.2%	42.2%	
Maximum Green (s)	47.5	47.5		47.5	47.5		33.5	33.5		33.5	33.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	12.6	12.6		12.6	12.6		8.1	8.1		8.1	8.1	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.27	0.27		0.27	0.27	
v/c Ratio	0.02	0.48		0.14	0.27		0.05	0.09		0.28	0.14	
Control Delay (s/veh)	5.5	7.5		7.0	6.2		9.5	5.7		11.8	8.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	5.5	7.5		7.0	6.2		9.5	5.7		11.8	8.4	
LOS	A	A		A	A		A	A		B	A	
Approach Delay (s/veh)		7.5			6.3			6.4			9.8	
Approach LOS		A			A			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 29.9			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay (s/veh): 7.4		Intersection LOS: A	
Intersection Capacity Utilization 44.1%		ICU Level of Service A	
Analysis Period (min) 15			

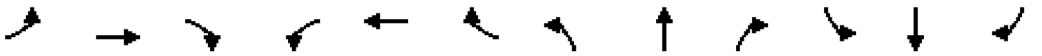
Splits and Phases: 103: Humber Station Road & Healey Road





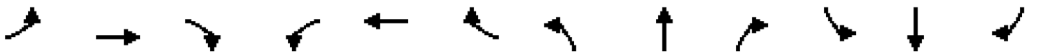
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	7	705	39	396	17	77	98	134
v/c Ratio	0.02	0.48	0.14	0.27	0.05	0.09	0.28	0.14
Control Delay (s/veh)	5.5	7.5	7.0	6.2	9.5	5.7	11.8	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	5.5	7.5	7.0	6.2	9.5	5.7	11.8	8.4
Queue Length 50th (m)	0.2	11.0	1.0	5.5	0.6	0.5	3.7	2.1
Queue Length 95th (m)	1.4	22.2	4.4	12.1	3.5	3.5	12.2	6.6
Internal Link Dist (m)		802.3		1356.2		3001.5		656.2
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	984	3524	663	3459	1239	3141	1282	3369
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	0.01	0.20	0.06	0.11	0.01	0.02	0.08	0.04

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	600	20	34	336	12	15	28	40	86	101	17
Future Volume (vph)	6	600	20	34	336	12	15	28	40	86	101	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	0.99		1.00	0.91		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3524		1641	3457		1805	3213		1770	3445	
Flt Permitted	0.52	1.00		0.38	1.00		0.67	1.00		0.70	1.00	
Satd. Flow (perm)	985	3524		663	3457		1267	3213		1312	3445	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	7	682	23	39	382	14	17	32	45	98	115	19
RTOR Reduction (vph)	0	3	0	0	3	0	0	33	0	0	14	0
Lane Group Flow (vph)	7	702	0	39	393	0	17	44	0	98	120	0
Heavy Vehicles (%)	0%	2%	0%	10%	4%	0%	0%	6%	0%	2%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	12.5	12.5		12.5	12.5		8.1	8.1		8.1	8.1	
Effective Green, g (s)	12.5	12.5		12.5	12.5		8.1	8.1		8.1	8.1	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.27	0.27		0.27	0.27	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	415	1488		279	1459		346	879		359	942	
v/s Ratio Prot		c0.20			0.11			0.01			0.03	
v/s Ratio Perm	0.01			0.06			0.01			c0.07		
v/c Ratio	0.02	0.47		0.14	0.27		0.05	0.05		0.27	0.13	
Uniform Delay, d1	5.0	6.2		5.2	5.6		7.9	7.9		8.4	8.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.2		0.2	0.1		0.1	0.0		0.4	0.1	
Delay (s)	5.0	6.4		5.5	5.7		8.0	7.9		8.9	8.2	
Level of Service	A	A		A	A		A	A		A	A	
Approach Delay (s/veh)		6.4			5.7			7.9			8.4	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	29.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

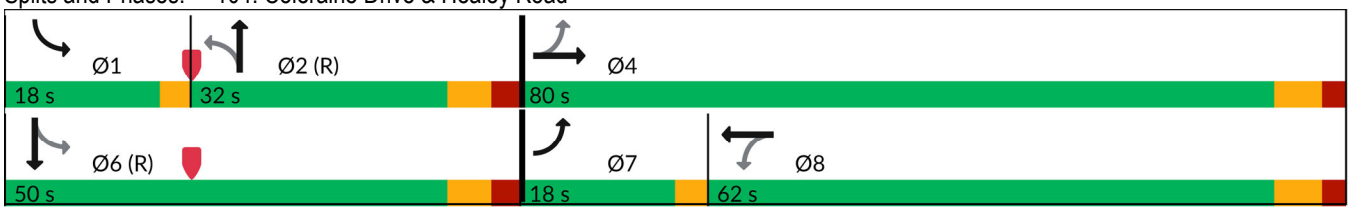


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	337	148	41	137	19	117	543	155	29	163	56
Future Volume (vph)	116	337	148	41	137	19	117	543	155	29	163	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	20.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.954			0.982			0.967			0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	3354	0	1347	3312	0	1656	2711	0	1421	3192	0
Flt Permitted	0.543			0.454			0.602			0.309		
Satd. Flow (perm)	964	3354	0	644	3312	0	1049	2711	0	462	3192	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		87			14			25			39	
Link Speed (k/h)		60			50			70			70	
Link Distance (m)		1380.2			427.4			630.5			589.7	
Travel Time (s)		82.8			30.8			32.4			30.3	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	7%	3%	2%	34%	3%	36%	9%	33%	14%	27%	11%	2%
Adj. Flow (vph)	127	370	163	45	151	21	129	597	170	32	179	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	127	533	0	45	172	0	129	767	0	32	241	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	12.0		12.0	12.0		12.0	12.0		5.0	12.0	
Minimum Split (s)	8.0	37.0		37.0	37.0		37.0	37.0		8.0	37.0	
Total Split (s)	18.0	80.0		62.0	62.0		32.0	32.0		18.0	50.0	
Total Split (%)	13.8%	61.5%		47.7%	47.7%		24.6%	24.6%		13.8%	38.5%	
Maximum Green (s)	15.0	73.0		55.0	55.0		25.0	25.0		15.0	43.0	
Yellow Time (s)	3.0	4.6		4.6	4.6		4.2	4.2		3.0	4.2	
All-Red Time (s)	0.0	2.4		2.4	2.4		2.8	2.8		0.0	2.8	
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	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	
Walk Time (s)		12.0		12.0	12.0		12.0	12.0			12.0	
Flash Don't Walk (s)		18.0		18.0	18.0		18.0	18.0			18.0	
Pedestrian Calls (#/hr)		0		0	0		0	0			0	
Act Effct Green (s)	36.1	32.1		16.2	16.2		77.7	77.7		87.9	83.9	
Actuated g/C Ratio	0.28	0.25		0.12	0.12		0.60	0.60		0.68	0.65	
v/c Ratio	0.37	0.60		0.56	0.40		0.21	0.47		0.09	0.12	
Control Delay (s/veh)	38.3	37.8		78.4	49.9		15.9	17.3		9.4	8.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	38.3	37.8		78.4	49.9		15.9	17.3		9.4	8.5	
LOS	D	D		E	D		B	B		A	A	
Approach Delay (s/veh)		37.9			55.8			17.1			8.6	
Approach LOS		D			E			B			A	

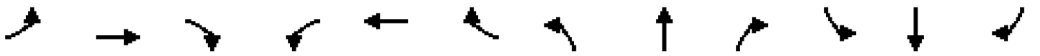
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 92 (71%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay (s/veh): 26.8		Intersection LOS: C	
Intersection Capacity Utilization 69.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 104: Coleraine Drive & Healey Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	127	533	45	172	129	767	32	241
v/c Ratio	0.37	0.60	0.56	0.40	0.21	0.47	0.09	0.12
Control Delay (s/veh)	38.3	37.8	78.4	49.9	15.9	17.3	9.4	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.3	37.8	78.4	49.9	15.9	17.3	9.4	8.5
Queue Length 50th (m)	26.3	56.0	10.0	21.0	15.3	50.1	2.3	9.4
Queue Length 95th (m)	38.7	66.6	20.5	30.2	33.1	80.7	7.0	18.4
Internal Link Dist (m)		1356.2		403.4		606.5		565.7
Turn Bay Length (m)	30.0		20.0		60.0		55.0	
Base Capacity (vph)	351	1921	272	1409	627	1630	422	2073
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.28	0.17	0.12	0.21	0.47	0.08	0.12

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	337	148	41	137	19	117	543	155	29	163	56
Future Volume (vph)	116	337	148	41	137	19	117	543	155	29	163	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	0.98		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1687	3354		1347	3311		1656	2710		1421	3193	
Flt Permitted	0.54	1.00		0.45	1.00		0.60	1.00		0.31	1.00	
Satd. Flow (perm)	964	3354		643	3311		1049	2710		462	3193	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	127	370	163	45	151	21	129	597	170	32	179	62
RTOR Reduction (vph)	0	66	0	0	12	0	0	10	0	0	14	0
Lane Group Flow (vph)	127	467	0	45	160	0	129	757	0	32	227	0
Heavy Vehicles (%)	7%	3%	2%	34%	3%	36%	9%	33%	14%	27%	11%	2%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	32.1	32.1		16.2	16.2		76.6	76.6		83.9	83.9	
Effective Green, g (s)	32.1	32.1		16.2	16.2		76.6	76.6		83.9	83.9	
Actuated g/C Ratio	0.25	0.25		0.12	0.12		0.59	0.59		0.65	0.65	
Clearance Time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	309	828		80	412		618	1596		329	2060	
v/s Ratio Prot	0.04	c0.14			0.05			c0.28		0.00	c0.07	
v/s Ratio Perm	0.06			0.07			0.12			0.06		
v/c Ratio	0.41	0.56		0.56	0.39		0.21	0.47		0.10	0.11	
Uniform Delay, d1	39.9	42.8		53.6	52.3		12.5	15.2		8.9	8.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.9		8.8	0.6		0.8	1.0		0.1	0.1	
Delay (s)	40.8	43.7		62.3	52.9		13.3	16.2		9.0	8.9	
Level of Service	D	D		E	D		B	B		A	A	
Approach Delay (s/veh)		43.2			54.9			15.8			8.9	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	27.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	69.0%	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)	17	279	11	28	489	22	28	99	63	4	57	14
Future Volume (vph)	17	279	11	28	489	22	28	99	63	4	57	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.995			0.955			0.975	
Flt Protected		0.997			0.997			0.993			0.998	
Satd. Flow (prot)	0	1819	0	0	1851	0	0	1750	0	0	1706	0
Flt Permitted		0.997			0.997			0.993			0.998	
Satd. Flow (perm)	0	1819	0	0	1851	0	0	1750	0	0	1706	0
Link Speed (k/h)		60			60			80			80	
Link Distance (m)		295.9			1293.6			432.6			556.0	
Travel Time (s)		17.8			77.6			19.5			25.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	0%	0%	2%	0%	5%	3%	2%	0%	9%	8%
Adj. Flow (vph)	18	297	12	30	520	23	30	105	67	4	61	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	327	0	0	573	0	0	202	0	0	80	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.0%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	279	11	28	489	22	28	99	63	4	57	14
Future Volume (vph)	17	279	11	28	489	22	28	99	63	4	57	14
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	18	297	12	30	520	23	30	105	67	4	61	15

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	327	573	202	80
Volume Left (vph)	18	30	30	4
Volume Right (vph)	12	23	67	15
Hadj (s)	0.05	0.02	-0.12	0.04
Departure Headway (s)	5.9	5.5	6.5	7.0
Degree Utilization, x	0.53	0.87	0.36	0.16
Capacity (veh/h)	576	573	511	456
Control Delay (s/veh)	15.4	34.2	13.1	11.3
Approach Delay (s/veh)	15.4	34.2	13.1	11.3
Approach LOS	C	D	B	B

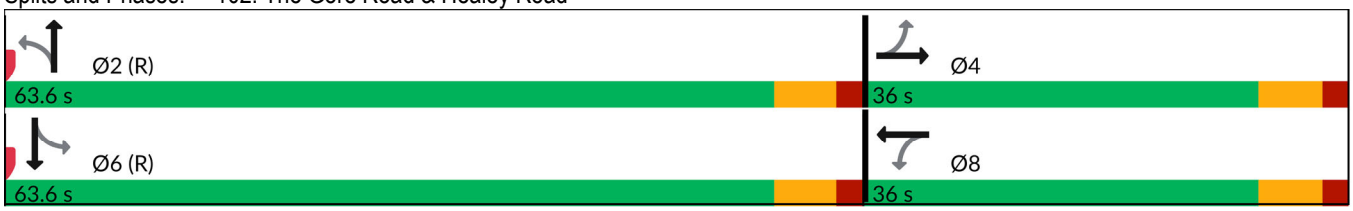
Intersection Summary				
Delay		23.8		
Level of Service		C		
Intersection Capacity Utilization		60.0%	ICU Level of Service	B
Analysis Period (min)		15		

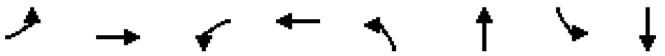
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	354	13	112	572	82	19	448	67	44	242	13
Future Volume (vph)	20	354	13	112	572	82	19	448	67	44	242	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.995			0.981			0.981			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3545	0	1736	3481	0	1687	3322	0	1556	3271	0
Flt Permitted	0.238			0.477			0.585			0.435		
Satd. Flow (perm)	452	3545	0	871	3481	0	1039	3322	0	712	3271	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			16			28			9	
Link Speed (k/h)		60			60			80			80	
Link Distance (m)		127.3			530.2			483.8			177.3	
Travel Time (s)		7.6			31.8			21.8			8.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	10%	4%	1%	7%	7%	7%	4%	16%	10%	0%
Adj. Flow (vph)	21	377	14	119	609	87	20	477	71	47	257	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	391	0	119	696	0	20	548	0	47	271	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.6	25.6		25.6	25.6		26.6	26.6		26.6	26.6	
Total Split (s)	36.0	36.0		36.0	36.0		63.6	63.6		63.6	63.6	
Total Split (%)	36.1%	36.1%		36.1%	36.1%		63.9%	63.9%		63.9%	63.9%	
Maximum Green (s)	29.4	29.4		29.4	29.4		57.0	57.0		57.0	57.0	
Yellow Time (s)	4.6	4.6		4.6	4.6		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	29.4	29.4		29.4	29.4		57.0	57.0		57.0	57.0	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.57	0.57		0.57	0.57	
v/c Ratio	0.16	0.37		0.46	0.67		0.03	0.29		0.12	0.14	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay (s/veh)	29.8	28.8		35.8	33.9		9.6	10.8		10.7	9.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	29.8	28.8		35.8	33.9		9.6	10.8		10.7	9.8	
LOS	C	C		D	C		A	B		B	A	
Approach Delay (s/veh)		28.8			34.2			10.7			10.0	
Approach LOS		C			C			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 99.6			
Actuated Cycle Length: 99.6			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay (s/veh): 23.2		Intersection LOS: C	
Intersection Capacity Utilization 68.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 102: The Gore Road & Healey Road





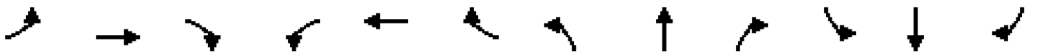
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	21	391	119	696	20	548	47	271
v/c Ratio	0.16	0.37	0.46	0.67	0.03	0.29	0.12	0.14
Control Delay (s/veh)	29.8	28.8	35.8	33.9	9.6	10.8	10.7	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	29.8	28.8	35.8	33.9	9.6	10.8	10.7	9.8
Queue Length 50th (m)	3.1	32.5	19.4	63.4	1.6	25.5	3.8	11.6
Queue Length 95th (m)	9.7	46.0	37.3	83.7	4.9	35.2	9.2	17.7
Internal Link Dist (m)		103.3		506.2		459.8		153.3
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	133	1049	257	1038	594	1913	407	1875
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.37	0.46	0.67	0.03	0.29	0.12	0.14

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	354	13	112	572	82	19	448	67	44	242	13
Future Volume (vph)	20	354	13	112	572	82	19	448	67	44	242	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	0.98		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)	1805	3544		1736	3481		1687	3320		1556	3272	
Flt Permitted	0.24	1.00		0.48	1.00		0.58	1.00		0.44	1.00	
Satd. Flow (perm)	452	3544		872	3481		1039	3320		713	3272	
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)	21	377	14	119	609	87	20	477	71	47	257	14
RTOR Reduction (vph)	0	3	0	0	11	0	0	12	0	0	4	0
Lane Group Flow (vph)	21	388	0	119	685	0	20	536	0	47	267	0
Heavy Vehicles (%)	0%	1%	10%	4%	1%	7%	7%	7%	4%	16%	10%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	29.4	29.4		29.4	29.4		57.0	57.0		57.0	57.0	
Effective Green, g (s)	29.4	29.4		29.4	29.4		57.0	57.0		57.0	57.0	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.57	0.57		0.57	0.57	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Grp Cap (vph)	133	1046		257	1027		594	1900		408	1872	
v/s Ratio Prot		0.11			c0.20			c0.16			0.08	
v/s Ratio Perm	0.05			0.14			0.02			0.07		
v/c Ratio	0.16	0.37		0.46	0.67		0.03	0.28		0.12	0.14	
Uniform Delay, d1	25.9	27.8		28.7	30.8		9.3	10.9		9.8	9.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.5	1.0		5.9	3.4		0.1	0.4		0.6	0.2	
Delay (s)	28.5	28.8		34.6	34.2		9.4	11.2		10.3	10.1	
Level of Service	C	C		C	C		A	B		B	B	
Approach Delay (s/veh)		28.8			34.3			11.2			10.1	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	99.6	Sum of lost time (s)	13.2
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

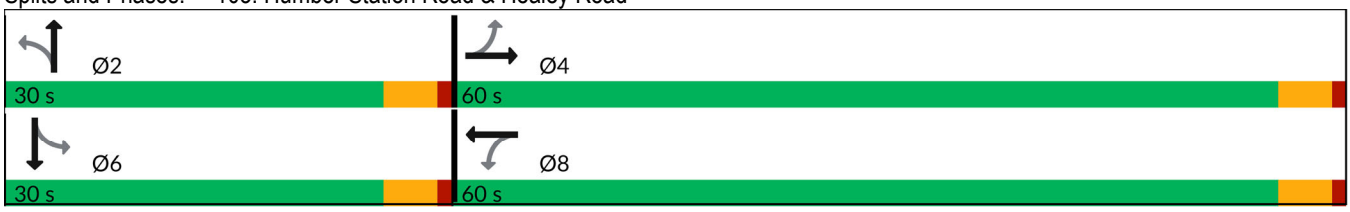


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	457	9	48	799	80	19	110	62	49	55	12
Future Volume (vph)	19	457	9	48	799	80	19	110	62	49	55	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.997			0.986			0.946			0.974	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1671	3599	0	1805	3553	0	1805	3250	0	1719	3431	0
Flt Permitted	0.287			0.478			0.710			0.640		
Satd. Flow (perm)	505	3599	0	908	3553	0	1349	3250	0	1158	3431	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			22			64			12	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		826.3			1380.2			3025.5			680.2	
Travel Time (s)		49.6			82.8			181.5			40.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	0%	0%	0%	0%	2%	0%	4%	7%	5%	3%	0%
Adj. Flow (vph)	20	471	9	49	824	82	20	113	64	51	57	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	480	0	49	906	0	20	177	0	51	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	60.0	60.0		60.0	60.0		30.0	30.0		30.0	30.0	
Total Split (%)	66.7%	66.7%		66.7%	66.7%		33.3%	33.3%		33.3%	33.3%	
Maximum Green (s)	55.5	55.5		55.5	55.5		25.5	25.5		25.5	25.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	15.4	15.4		15.4	15.4		7.2	7.2		7.2	7.2	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.23	0.23		0.23	0.23	
v/c Ratio	0.08	0.28		0.11	0.52		0.07	0.23		0.20	0.09	
Control Delay (s/veh)	5.3	5.2		5.2	6.7		12.1	8.7		13.7	10.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	5.3	5.2		5.2	6.7		12.1	8.7		13.7	10.1	
LOS	A	A		A	A		B	A		B	B	
Approach Delay (s/veh)		5.2			6.6			9.0			11.6	
Approach LOS		A			A			A			B	

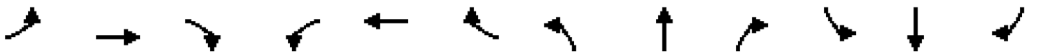
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 31.9			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay (s/veh): 6.8		Intersection LOS: A	
Intersection Capacity Utilization 53.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 103: Humber Station Road & Healey Road



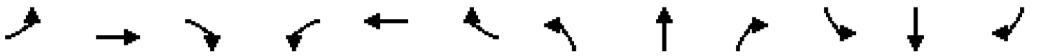
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	20	480	49	906	20	177	51	69
v/c Ratio	0.08	0.28	0.11	0.52	0.07	0.23	0.20	0.09
Control Delay (s/veh)	5.3	5.2	5.2	6.7	12.1	8.7	13.7	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	5.3	5.2	5.2	6.7	12.1	8.7	13.7	10.1
Queue Length 50th (m)	0.5	6.3	1.2	13.6	0.8	2.4	2.1	1.2
Queue Length 95th (m)	2.6	13.5	4.7	27.1	4.9	9.0	9.3	5.1
Internal Link Dist (m)		802.3		1356.2		3001.5		656.2
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	505	3599	908	3553	1103	2669	946	2808
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.13	0.05	0.25	0.02	0.07	0.05	0.02

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	457	9	48	799	80	19	110	62	49	55	12
Future Volume (vph)	19	457	9	48	799	80	19	110	62	49	55	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	0.99		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1671	3600		1805	3555		1805	3249		1719	3431	
Flt Permitted	0.29	1.00		0.48	1.00		0.71	1.00		0.64	1.00	
Satd. Flow (perm)	505	3600		908	3555		1348	3249		1158	3431	
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)	20	471	9	49	824	82	20	113	64	51	57	12
RTOR Reduction (vph)	0	2	0	0	11	0	0	49	0	0	9	0
Lane Group Flow (vph)	20	478	0	49	895	0	20	128	0	51	60	0
Heavy Vehicles (%)	8%	0%	0%	0%	0%	2%	0%	4%	7%	5%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	15.4	15.4		15.4	15.4		7.2	7.2		7.2	7.2	
Effective Green, g (s)	15.4	15.4		15.4	15.4		7.2	7.2		7.2	7.2	
Actuated g/C Ratio	0.49	0.49		0.49	0.49		0.23	0.23		0.23	0.23	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	246	1754		442	1732		307	740		263	781	
v/s Ratio Prot		0.13			c0.25			0.04			0.02	
v/s Ratio Perm	0.04			0.05			0.01			c0.04		
v/c Ratio	0.08	0.27		0.11	0.52		0.07	0.17		0.19	0.08	
Uniform Delay, d1	4.3	4.8		4.4	5.5		9.6	9.8		9.9	9.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		0.1	0.3		0.1	0.1		0.4	0.0	
Delay (s)	4.5	4.9		4.5	5.8		9.7	9.9		10.2	9.6	
Level of Service	A	A		A	A		A	A		B	A	
Approach Delay (s/veh)		4.9			5.7			9.9			9.9	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	31.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

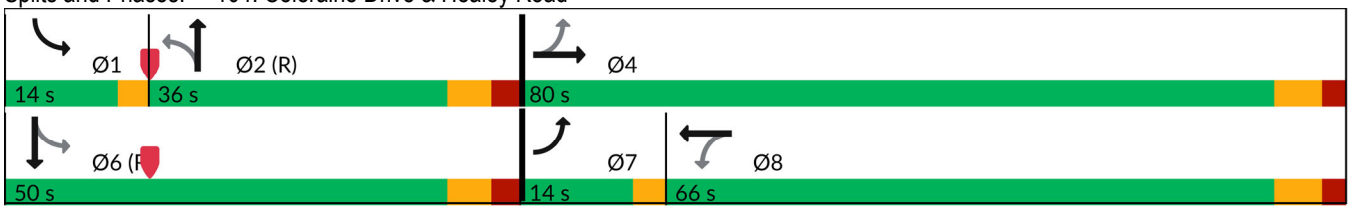


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	250	67	54	558	78	97	274	119	143	459	110
Future Volume (vph)	153	250	67	54	558	78	97	274	119	143	459	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	20.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00				1.00							
Frt		0.968			0.982			0.955			0.971	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3438	0	1492	3400	0	1787	3032	0	1597	2747	0
Flt Permitted	0.181			0.547			0.420			0.443		
Satd. Flow (perm)	340	3438	0	859	3400	0	790	3032	0	745	2747	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		42			15			48			24	
Link Speed (k/h)		60			50			70			70	
Link Distance (m)		1380.2			427.4			630.5			589.7	
Travel Time (s)		82.8			30.8			32.4			30.3	
Confl. Peds. (#/hr)	1					1						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	4%	21%	2%	19%	1%	14%	13%	13%	33%	5%
Adj. Flow (vph)	165	269	72	58	600	84	104	295	128	154	494	118
Shared Lane Traffic (%)												
Lane Group Flow (vph)	165	341	0	58	684	0	104	423	0	154	612	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	12.0		12.0	12.0		12.0	12.0		5.0	12.0	
Minimum Split (s)	8.0	37.0		37.0	37.0		37.0	37.0		8.0	37.0	
Total Split (s)	14.0	80.0		66.0	66.0		36.0	36.0		14.0	50.0	
Total Split (%)	10.8%	61.5%		50.8%	50.8%		27.7%	27.7%		10.8%	38.5%	
Maximum Green (s)	11.0	73.0		59.0	59.0		29.0	29.0		11.0	43.0	
Yellow Time (s)	3.0	4.6		4.6	4.6		4.2	4.2		3.0	4.2	
All-Red Time (s)	0.0	2.4		2.4	2.4		2.8	2.8		0.0	2.8	
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	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	
Walk Time (s)		12.0		12.0	12.0		12.0	12.0			12.0	
Flash Don't Walk (s)		18.0		18.0	18.0		18.0	18.0			18.0	
Pedestrian Calls (#/hr)		0		0	0		0	0			0	
Act Effct Green (s)	52.0	48.0		34.1	34.1		53.0	53.0		72.0	68.0	
Actuated g/C Ratio	0.40	0.37		0.26	0.26		0.41	0.41		0.55	0.52	
v/c Ratio	0.64	0.26		0.26	0.76		0.32	0.33		0.31	0.42	
Control Delay (s/veh)	36.5	24.6		39.0	48.5		33.4	26.0		17.5	20.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	36.5	24.6		39.0	48.5		33.4	26.0		17.5	20.2	
LOS	D	C		D	D		C	C		B	C	
Approach Delay (s/veh)		28.5			47.8			27.4			19.7	
Approach LOS		C			D			C			B	

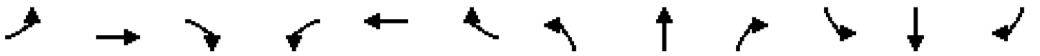
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 92 (71%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay (s/veh): 31.3		Intersection LOS: C	
Intersection Capacity Utilization 73.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 104: Coleraine Drive & Healey Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	165	341	58	684	104	423	154	612
v/c Ratio	0.64	0.26	0.26	0.76	0.32	0.33	0.31	0.42
Control Delay (s/veh)	36.5	24.6	39.0	48.5	33.4	26.0	17.5	20.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	36.5	24.6	39.0	48.5	33.4	26.0	17.5	20.2
Queue Length 50th (m)	29.0	29.1	11.3	87.4	18.7	33.3	18.5	42.1
Queue Length 95th (m)	40.6	36.7	21.2	100.2	41.4	55.2	34.9	63.2
Internal Link Dist (m)		1356.2		403.4		606.5		565.7
Turn Bay Length (m)	30.0		20.0		60.0		55.0	
Base Capacity (vph)	258	1948	389	1551	321	1264	497	1448
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	0.64	0.18	0.15	0.44	0.32	0.33	0.31	0.42

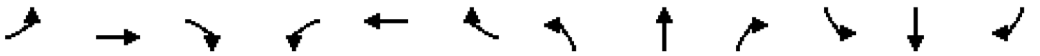
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	250	67	54	558	78	97	274	119	143	459	110
Future Volume (vph)	153	250	67	54	558	78	97	274	119	143	459	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	3439		1492	3399		1787	3031		1597	2747	
Flt Permitted	0.18	1.00		0.55	1.00		0.42	1.00		0.44	1.00	
Satd. Flow (perm)	340	3439		858	3399		790	3031		745	2747	
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)	165	269	72	58	600	84	104	295	128	154	494	118
RTOR Reduction (vph)	0	26	0	0	11	0	0	28	0	0	11	0
Lane Group Flow (vph)	165	315	0	58	673	0	104	395	0	154	601	0
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	1%	1%	4%	21%	2%	19%	1%	14%	13%	13%	33%	5%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	48.0	48.0		34.1	34.1		53.0	53.0		68.0	68.0	
Effective Green, g (s)	48.0	48.0		34.1	34.1		53.0	53.0		68.0	68.0	
Actuated g/C Ratio	0.37	0.37		0.26	0.26		0.41	0.41		0.52	0.52	
Clearance Time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	246	1269		225	891		322	1235		468	1436	
v/s Ratio Prot	c0.06	0.09			c0.20			0.13		0.03	c0.22	
v/s Ratio Perm	0.19			0.07			0.13			0.14		
v/c Ratio	0.67	0.25		0.26	0.76		0.32	0.32		0.33	0.42	
Uniform Delay, d1	30.5	28.5		37.9	44.1		26.3	26.2		16.6	18.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.0	0.1		0.6	3.7		2.6	0.7		0.4	0.9	
Delay (s)	37.5	28.6		38.5	47.8		28.9	26.9		17.0	19.8	
Level of Service	D	C		D	D		C	C		B	B	
Approach Delay (s/veh)		31.5			47.1			27.3			19.3	
Approach LOS		C			D			C			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	31.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

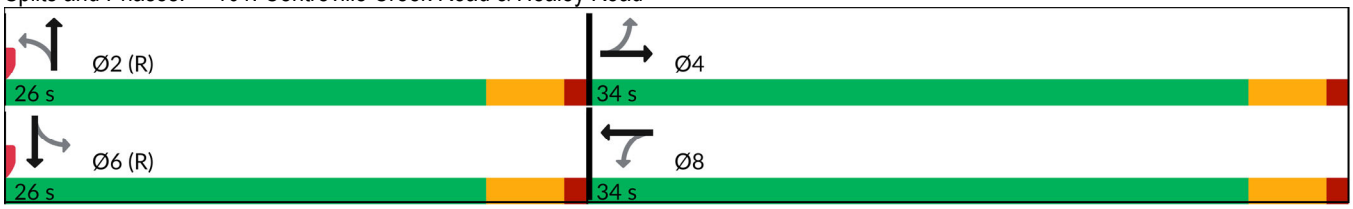


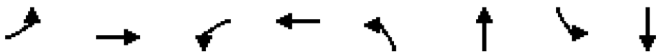
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	90	40	220	700	8	40	60	180	20	360	40
Future Volume (vph)	10	90	40	220	700	8	40	60	180	20	360	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.954			0.998			0.887			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	902	3287	0	1703	3426	0	1805	3163	0	1687	3432	0
Flt Permitted	0.244			0.659			0.488			0.586		
Satd. Flow (perm)	232	3287	0	1181	3426	0	927	3163	0	1041	3432	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45			3			202			22	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		295.9			1421.0			432.6			556.0	
Travel Time (s)		17.8			85.3			22.2			28.6	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	100%	2%	11%	6%	5%	20%	0%	5%	0%	7%	4%	0%
Adj. Flow (vph)	11	101	45	247	787	9	45	67	202	22	404	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	146	0	247	796	0	45	269	0	22	449	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	34.0	34.0		34.0	34.0		26.0	26.0		26.0	26.0	
Total Split (%)	56.7%	56.7%		56.7%	56.7%		43.3%	43.3%		43.3%	43.3%	
Maximum Green (s)	29.5	29.5		29.5	29.5		21.5	21.5		21.5	21.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	22.5	22.5		22.5	22.5		28.5	28.5		28.5	28.5	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.48	0.48		0.48	0.48	
v/c Ratio	0.13	0.12		0.56	0.62		0.10	0.17		0.04	0.27	
Control Delay (s/veh)	13.4	7.5		18.9	16.8		12.1	4.0		11.6	10.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	13.4	7.5		18.9	16.8		12.1	4.0		11.6	10.9	
LOS	B	A		B	B		B	A		B	B	
Approach Delay (s/veh)		7.9			17.3			5.1			10.9	
Approach LOS		A			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay (s/veh): 13.1		Intersection LOS: B	
Intersection Capacity Utilization 54.2%		ICU Level of Service A	
Analysis Period (min) 15			

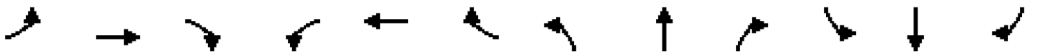
Splits and Phases: 101: Centreville Creek Road & Healey Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	146	247	796	45	269	22	449
v/c Ratio	0.13	0.12	0.56	0.62	0.10	0.17	0.04	0.27
Control Delay (s/veh)	13.4	7.5	18.9	16.8	12.1	4.0	11.6	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.4	7.5	18.9	16.8	12.1	4.0	11.6	10.9
Queue Length 50th (m)	0.5	3.8	21.4	37.3	2.7	2.0	1.2	14.2
Queue Length 95th (m)	1.8	6.7	31.9	41.1	9.6	8.9	5.5	28.2
Internal Link Dist (m)		271.9		1397.0		408.6		532.0
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	114	1638	580	1685	440	1607	494	1640
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.09	0.43	0.47	0.10	0.17	0.04	0.27

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	90	40	220	700	8	40	60	180	20	360	40
Future Volume (vph)	10	90	40	220	700	8	40	60	180	20	360	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	1.00		1.00	0.89		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	903	3286		1703	3427		1805	3164		1687	3432	
Flt Permitted	0.24	1.00		0.66	1.00		0.49	1.00		0.59	1.00	
Satd. Flow (perm)	231	3286		1182	3427		927	3164		1041	3432	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	11	101	45	247	787	9	45	67	202	22	404	45
RTOR Reduction (vph)	0	28	0	0	2	0	0	106	0	0	12	0
Lane Group Flow (vph)	11	118	0	247	794	0	45	163	0	22	437	0
Heavy Vehicles (%)	100%	2%	11%	6%	5%	20%	0%	5%	0%	7%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	22.5	22.5		22.5	22.5		28.5	28.5		28.5	28.5	
Effective Green, g (s)	22.5	22.5		22.5	22.5		28.5	28.5		28.5	28.5	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.48	0.48		0.48	0.48	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	86	1232		443	1285		440	1502		494	1630	
v/s Ratio Prot		0.04			c0.23			0.05			c0.13	
v/s Ratio Perm	0.05			0.21			0.05			0.02		
v/c Ratio	0.13	0.10		0.56	0.62		0.10	0.11		0.04	0.27	
Uniform Delay, d1	12.3	12.2		14.8	15.3		8.7	8.7		8.4	9.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.0		1.5	0.9		0.5	0.1		0.2	0.4	
Delay (s)	13.0	12.2		16.3	16.1		9.2	8.9		8.6	9.9	
Level of Service	B	B		B	B		A	A		A	A	
Approach Delay (s/veh)		12.2			16.2			8.9			9.8	
Approach LOS		B			B			A			A	

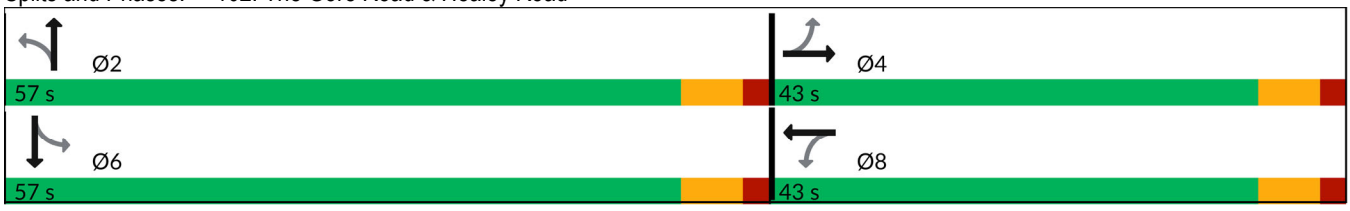
Intersection Summary			
HCM 2000 Control Delay (s/veh)	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

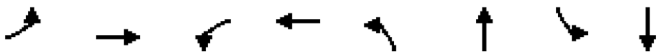
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	252	27	371	886	62	23	519	460	62	1700	16
Future Volume (vph)	2	252	27	371	886	62	23	519	460	62	1700	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor					1.00							
Frt		0.985			0.990			0.930			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1543	3433	0	1752	3349	0	1805	3083	0	1752	3469	0
Flt Permitted	0.128			0.570			0.079			0.193		
Satd. Flow (perm)	208	3433	0	1051	3349	0	150	3083	0	356	3469	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			8			323			1	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		1421.0			530.2			483.8			1079.4	
Travel Time (s)		85.3			31.8			24.9			55.5	
Confl. Peds. (#/hr)	1					1						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	17%	3%	9%	3%	4%	44%	0%	15%	2%	3%	4%	0%
Adj. Flow (vph)	2	268	29	395	943	66	24	552	489	66	1809	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	297	0	395	1009	0	24	1041	0	66	1826	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Minimum Split (s)	25.6	25.6		25.6	25.6		26.6	26.6		26.6	26.6	
Total Split (s)	43.0	43.0		43.0	43.0		57.0	57.0		57.0	57.0	
Total Split (%)	43.0%	43.0%		43.0%	43.0%		57.0%	57.0%		57.0%	57.0%	
Maximum Green (s)	36.4	36.4		36.4	36.4		50.4	50.4		50.4	50.4	
Yellow Time (s)	4.6	4.6		4.6	4.6		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	36.4	36.4		36.4	36.4		50.4	50.4		50.4	50.4	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.50	0.50		0.50	0.50	
v/c Ratio	0.03	0.24		1.03	0.82		0.32	0.61		0.37	1.04	
Control Delay (s/veh)	22.0	22.1		88.3	35.6		29.0	13.4		22.7	59.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	22.0	22.1		88.3	35.6		29.0	13.4		22.7	59.9	
LOS	C	C		F	D		C	B		C	E	
Approach Delay (s/veh)		22.1			50.4			13.7			58.6	
Approach LOS		C			D			B			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay (s/veh): 43.5		Intersection LOS: D	
Intersection Capacity Utilization 101.2%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 102: The Gore Road & Healey Road



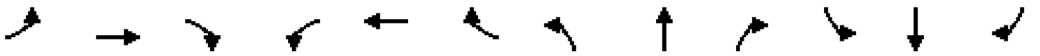


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	2	297	395	1009	24	1041	66	1826
v/c Ratio	0.03	0.24	1.03	0.82	0.32	0.61	0.37	1.04
Control Delay (s/veh)	22.0	22.1	88.3	35.6	29.0	13.4	22.7	59.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.0	22.1	88.3	35.6	29.0	13.4	22.7	59.9
Queue Length 50th (m)	0.2	21.0	~85.8	94.7	2.8	48.5	7.8	~210.3
Queue Length 95th (m)	1.8	31.1	#143.5	121.4	11.1	67.6	19.8	#254.7
Internal Link Dist (m)		1397.0		506.2		459.8		1055.4
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	75	1254	382	1224	75	1714	179	1748
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.24	1.03	0.82	0.32	0.61	0.37	1.04

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

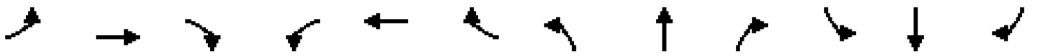
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	252	27	371	886	62	23	519	460	62	1700	16
Future Volume (vph)	2	252	27	371	886	62	23	519	460	62	1700	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.93		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1543	3434		1752	3350		1805	3082		1752	3468	
Flt Permitted	0.13	1.00		0.57	1.00		0.08	1.00		0.19	1.00	
Satd. Flow (perm)	208	3434		1052	3350		151	3082		355	3468	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	2	268	29	395	943	66	24	552	489	66	1809	17
RTOR Reduction (vph)	0	5	0	0	5	0	0	160	0	0	0	0
Lane Group Flow (vph)	2	292	0	395	1004	0	24	881	0	66	1826	0
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	17%	3%	9%	3%	4%	44%	0%	15%	2%	3%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	36.4	36.4		36.4	36.4		50.4	50.4		50.4	50.4	
Effective Green, g (s)	36.4	36.4		36.4	36.4		50.4	50.4		50.4	50.4	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.50	0.50		0.50	0.50	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	75	1249		382	1219		76	1553		178	1747	
v/s Ratio Prot		0.09			0.30			0.29			c0.53	
v/s Ratio Perm	0.01			c0.38			0.16			0.19		
v/c Ratio	0.03	0.23		1.03	0.82		0.32	0.57		0.37	1.04	
Uniform Delay, d1	20.4	22.1		31.8	28.9		14.6	17.2		15.1	24.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.1		55.1	4.6		10.6	1.5		5.8	34.3	
Delay (s)	20.6	22.2		86.9	33.5		25.2	18.7		21.0	59.1	
Level of Service	C	C		F	C		C	B		C	E	
Approach Delay (s/veh)		22.2			48.5			18.9			57.8	
Approach LOS		C			D			B			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	43.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	101.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

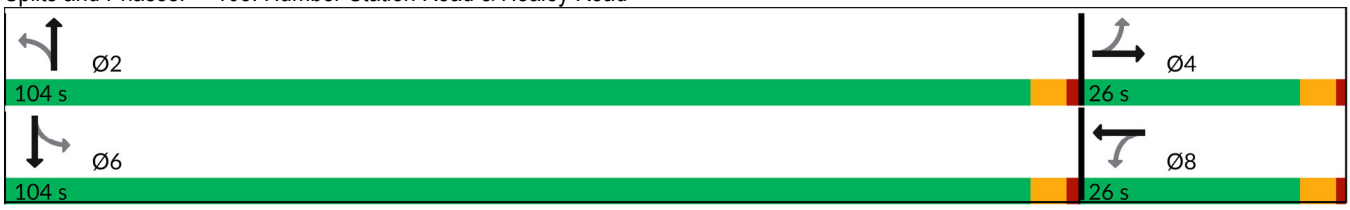


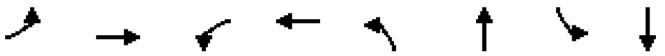
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	585	7	10	501	32	61	714	58	295	1932	813
Future Volume (vph)	22	585	7	10	501	32	61	714	58	295	1932	813
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.998			0.991			0.989			0.956	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3533	0	1641	3448	0	1805	3383	0	1770	3380	0
Flt Permitted	0.186			0.186			0.040			0.304		
Satd. Flow (perm)	353	3533	0	321	3448	0	76	3383	0	566	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			4			4			10	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		536.6			1380.2			839.8			680.2	
Travel Time (s)		32.2			82.8			43.2			35.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	10%	4%	0%	0%	6%	0%	2%	3%	0%
Adj. Flow (vph)	25	665	8	11	569	36	69	811	66	335	2195	924
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	673	0	11	605	0	69	877	0	335	3119	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	26.0	26.0		26.0	26.0		104.0	104.0		104.0	104.0	
Total Split (%)	20.0%	20.0%		20.0%	20.0%		80.0%	80.0%		80.0%	80.0%	
Maximum Green (s)	21.5	21.5		21.5	21.5		99.5	99.5		99.5	99.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	21.5	21.5		21.5	21.5		99.5	99.5		99.5	99.5	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.77	0.77		0.77	0.77	
v/c Ratio	0.43	1.15		0.21	1.06		1.19	0.34		0.77	1.20	
Control Delay (s/veh)	73.3	133.8		57.7	104.4		202.4	5.2		23.8	115.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	73.3	133.8		57.7	104.4		202.4	5.2		23.8	115.0	
LOS	E	F		E	F		F	A		C	F	
Approach Delay (s/veh)		131.6			103.5			19.6			106.1	
Approach LOS		F			F			B			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay (s/veh): 94.6		Intersection LOS: F	
Intersection Capacity Utilization 113.1%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 103: Humber Station Road & Healey Road



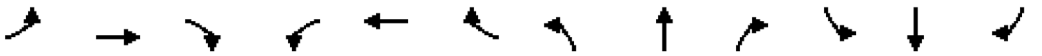


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	25	673	11	605	69	877	335	3119
v/c Ratio	0.43	1.15	0.21	1.06	1.19	0.34	0.77	1.20
Control Delay (s/veh)	73.3	133.8	57.7	104.4	202.4	5.2	23.8	115.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	73.3	133.8	57.7	104.4	202.4	5.2	23.8	115.0
Queue Length 50th (m)	6.1	~111.4	2.5	~91.8	~22.4	32.8	44.3	~532.8
Queue Length 95th (m)	#17.3	#146.2	8.6	#125.6	#37.6	39.2	#101.4	#548.0
Internal Link Dist (m)		512.6		1356.2		815.8		656.2
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	58	585	53	573	58	2590	433	2589
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	1.15	0.21	1.06	1.19	0.34	0.77	1.20

Intersection Summary

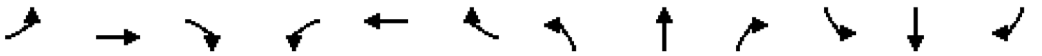
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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)	22	585	7	10	501	32	61	714	58	295	1932	813
Future Volume (vph)	22	585	7	10	501	32	61	714	58	295	1932	813
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	0.99		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)	1805	3534		1641	3448		1805	3382		1770	3378	
Flt Permitted	0.19	1.00		0.19	1.00		0.04	1.00		0.30	1.00	
Satd. Flow (perm)	353	3534		321	3448		76	3382		567	3378	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	25	665	8	11	569	36	69	811	66	335	2195	924
RTOR Reduction (vph)	0	1	0	0	3	0	0	1	0	0	2	0
Lane Group Flow (vph)	25	672	0	11	602	0	69	876	0	335	3117	0
Heavy Vehicles (%)	0%	2%	0%	10%	4%	0%	0%	6%	0%	2%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	21.5	21.5		21.5	21.5		99.5	99.5		99.5	99.5	
Effective Green, g (s)	21.5	21.5		21.5	21.5		99.5	99.5		99.5	99.5	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.77	0.77		0.77	0.77	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	58	584		53	570		58	2588		433	2585	
v/s Ratio Prot		c0.19			0.17			0.26			c0.92	
v/s Ratio Perm	0.07			0.03			0.90			0.59		
v/c Ratio	0.43	1.15		0.21	1.06		1.19	0.34		0.77	1.21	
Uniform Delay, d1	48.8	54.3		46.9	54.3		15.3	4.8		8.8	15.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.1	86.4		1.9	53.2		178.4	0.1		8.4	96.5	
Delay (s)	53.8	140.7		48.8	107.4		193.7	4.9		17.1	111.7	
Level of Service	D	F		D	F		F	A		B	F	
Approach Delay (s/veh)		137.5			106.4			18.7			102.5	
Approach LOS		F			F			B			F	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	93.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	113.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

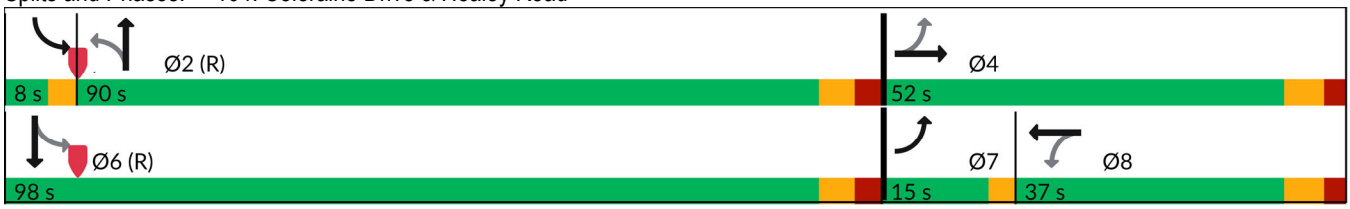


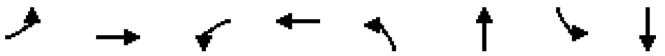
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	358	233	277	40	131	30	21	319	19	118	1816	341
Future Volume (vph)	358	233	277	40	131	30	21	319	19	118	1816	341
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	20.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.919			0.972			0.992			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	3238	0	1347	3215	0	1656	2714	0	1421	3215	0
Flt Permitted	0.539			0.416			0.044			0.513		
Satd. Flow (perm)	957	3238	0	590	3215	0	77	2714	0	767	3215	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			16			6			26	
Link Speed (k/h)		60			50			70			70	
Link Distance (m)		1380.2			427.4			630.5			589.7	
Travel Time (s)		82.8			30.8			32.4			30.3	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	7%	3%	2%	34%	3%	36%	9%	33%	14%	27%	11%	2%
Adj. Flow (vph)	393	256	304	44	144	33	23	351	21	130	1996	375
Shared Lane Traffic (%)												
Lane Group Flow (vph)	393	560	0	44	177	0	23	372	0	130	2371	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0		5.0	5.0	
Minimum Split (s)	15.0	37.0		37.0	37.0		37.0	37.0		8.0	37.0	
Total Split (s)	15.0	52.0		37.0	37.0		90.0	90.0		8.0	98.0	
Total Split (%)	10.0%	34.7%		24.7%	24.7%		60.0%	60.0%		5.3%	65.3%	
Maximum Green (s)	12.0	45.0		30.0	30.0		83.0	83.0		5.0	91.0	
Yellow Time (s)	3.0	4.6		4.6	4.6		4.2	4.2		3.0	4.2	
All-Red Time (s)	0.0	2.4		2.4	2.4		2.8	2.8		0.0	2.8	
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	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	
Walk Time (s)		12.0		12.0	12.0		12.0	12.0			12.0	
Flash Don't Walk (s)		18.0		18.0	18.0		18.0	18.0			18.0	
Pedestrian Calls (#/hr)		0		0	0		0	0			0	
Act Effct Green (s)	36.4	32.4		17.4	17.4		91.5	91.5		107.6	103.6	
Actuated g/C Ratio	0.24	0.22		0.12	0.12		0.61	0.61		0.72	0.69	
v/c Ratio	1.36	0.87dr		0.65	0.46		0.50	0.22		0.22	1.06	
Control Delay (s/veh)	221.4	62.7		101.1	58.9		61.0	14.2		8.3	62.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	221.4	62.7		101.1	58.9		61.0	14.2		8.3	62.3	
LOS	F	E		F	E		E	B		A	E	
Approach Delay (s/veh)		128.1			67.3			16.9			59.5	
Approach LOS		F			E			B			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.36			
Intersection Signal Delay (s/veh): 71.9		Intersection LOS: E	
Intersection Capacity Utilization 121.7%		ICU Level of Service H	
Analysis Period (min) 15			
dr Defacto Right Lane. Recode with 1 though lane as a right lane.			

Splits and Phases: 104: Coleraine Drive & Healey Road





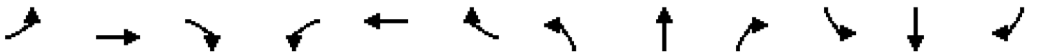
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	393	560	44	177	23	372	130	2371
v/c Ratio	1.36	0.87dr	0.65	0.46	0.50	0.22	0.22	1.06
Control Delay (s/veh)	221.4	62.7	101.1	58.9	61.0	14.2	8.3	62.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	221.4	62.7	101.1	58.9	61.0	14.2	8.3	62.3
Queue Length 50th (m)	~157.5	85.8	11.5	24.9	3.7	22.1	10.0	~405.1
Queue Length 95th (m)	#205.3	99.9	22.8	35.4	#21.6	34.5	20.4	#475.4
Internal Link Dist (m)		1356.2		403.4		606.5		565.7
Turn Bay Length (m)	30.0		20.0		60.0		55.0	
Base Capacity (vph)	290	979	118	655	46	1658	589	2228
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.36	0.57	0.37	0.27	0.50	0.22	0.22	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

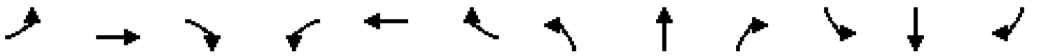


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	358	233	277	40	131	30	21	319	19	118	1816	341
Future Volume (vph)	358	233	277	40	131	30	21	319	19	118	1816	341
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.92		1.00	0.97		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1687	3237		1347	3215		1656	2713		1421	3216	
Flt Permitted	0.54	1.00		0.42	1.00		0.04	1.00		0.51	1.00	
Satd. Flow (perm)	956	3237		590	3215		76	2713		767	3216	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	393	256	304	44	144	33	23	351	21	130	1996	375
RTOR Reduction (vph)	0	9	0	0	14	0	0	2	0	0	8	0
Lane Group Flow (vph)	393	551	0	44	163	0	23	370	0	130	2363	0
Heavy Vehicles (%)	7%	3%	2%	34%	3%	36%	9%	33%	14%	27%	11%	2%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	32.4	32.4		17.4	17.4		91.5	91.5		103.6	103.6	
Effective Green, g (s)	32.4	32.4		17.4	17.4		91.5	91.5		103.6	103.6	
Actuated g/C Ratio	0.22	0.22		0.12	0.12		0.61	0.61		0.69	0.69	
Clearance Time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	264	699		68	372		46	1654		569	2221	
v/s Ratio Prot	c0.12	0.17			0.05			0.14		0.01	c0.73	
v/s Ratio Perm	c0.20			0.07			0.30			0.14		
v/c Ratio	1.49	0.87dr		0.65	0.44		0.50	0.22		0.23	1.06	
Uniform Delay, d1	57.3	55.6		63.4	61.7		16.4	13.2		7.9	23.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	239.0	5.9		19.2	0.8		34.0	0.3		0.2	38.8	
Delay (s)	296.3	61.4		82.6	62.6		50.4	13.5		8.1	62.0	
Level of Service	F	E		F	E		D	B		A	E	
Approach Delay (s/veh)		158.3			66.6			15.7			59.2	
Approach LOS		F			E			B			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	78.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	121.7%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

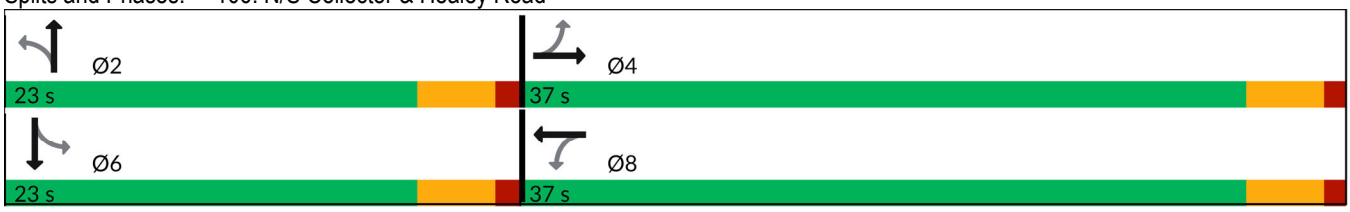


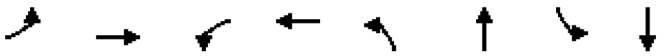
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	704	56	84	1271	3	33	120	66	8	139	15
Future Volume (vph)	14	704	56	84	1271	3	33	120	66	8	139	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989						0.947			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3500	0	1770	3539	0	1770	1764	0	1770	1837	0
Flt Permitted	0.147			0.287			0.651			0.628		
Satd. Flow (perm)	274	3500	0	535	3539	0	1213	1764	0	1170	1837	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			1			48			9	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		289.7			536.6			472.1			202.6	
Travel Time (s)		17.4			32.2			28.3			12.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	765	61	91	1382	3	36	130	72	9	151	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	15	826	0	91	1385	0	36	202	0	9	167	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
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)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	37.0	37.0		37.0	37.0		23.0	23.0		23.0	23.0	
Total Split (%)	61.7%	61.7%		61.7%	61.7%		38.3%	38.3%		38.3%	38.3%	
Maximum Green (s)	32.5	32.5		32.5	32.5		18.5	18.5		18.5	18.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	27.3	27.3		27.3	27.3		18.6	18.6		18.6	18.6	
Actuated g/C Ratio	0.50	0.50		0.50	0.50		0.34	0.34		0.34	0.34	
v/c Ratio	0.11	0.47		0.34	0.79		0.09	0.32		0.02	0.27	
Control Delay (s/veh)	9.1	9.6		12.3	15.1		15.2	13.3		14.6	15.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	9.1	9.6		12.3	15.1		15.2	13.3		14.6	15.4	
LOS	A	A		B	B		B	B		B	B	
Approach Delay (s/veh)		9.6			14.9			13.5			15.4	
Approach LOS		A			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 55			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay (s/veh): 13.2		Intersection LOS: B	
Intersection Capacity Utilization 68.9%		ICU Level of Service C	
Analysis Period (min) 15			

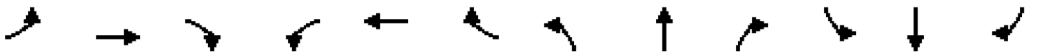
Splits and Phases: 106: N/S Collector & Healey Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	15	826	91	1385	36	202	9	167
v/c Ratio	0.11	0.47	0.34	0.79	0.09	0.32	0.02	0.27
Control Delay (s/veh)	9.1	9.6	12.3	15.1	15.2	13.3	14.6	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	9.1	9.6	12.3	15.1	15.2	13.3	14.6	15.4
Queue Length 50th (m)	0.8	26.1	5.2	56.7	2.6	11.8	0.6	12.1
Queue Length 95th (m)	3.5	37.7	14.2	79.2	8.6	28.1	3.4	27.0
Internal Link Dist (m)		265.7		512.6		448.1		178.6
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	163	2093	318	2108	411	629	396	628
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	0.09	0.39	0.29	0.66	0.09	0.32	0.02	0.27

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	704	56	84	1271	3	33	120	66	8	139	15
Future Volume (vph)	14	704	56	84	1271	3	33	120	66	8	139	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.95		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)	1770	3500		1770	3538		1770	1763		1770	1836	
Flt Permitted	0.15	1.00		0.29	1.00		0.65	1.00		0.63	1.00	
Satd. Flow (perm)	273	3500		534	3538		1214	1763		1170	1836	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	765	61	91	1382	3	36	130	72	9	151	16
RTOR Reduction (vph)	0	11	0	0	1	0	0	32	0	0	6	0
Lane Group Flow (vph)	15	815	0	91	1384	0	36	170	0	9	161	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	27.3	27.3		27.3	27.3		18.7	18.7		18.7	18.7	
Effective Green, g (s)	27.3	27.3		27.3	27.3		18.7	18.7		18.7	18.7	
Actuated g/C Ratio	0.50	0.50		0.50	0.50		0.34	0.34		0.34	0.34	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	135	1737		265	1756		412	599		397	624	
v/s Ratio Prot		0.23			c0.39			c0.10			0.09	
v/s Ratio Perm	0.05			0.17			0.03			0.01		
v/c Ratio	0.11	0.47		0.34	0.79		0.09	0.28		0.02	0.26	
Uniform Delay, d1	7.4	9.1		8.4	11.5		12.3	13.3		12.1	13.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.2		0.8	2.4		0.4	1.2		0.1	1.0	
Delay (s)	7.7	9.3		9.2	13.9		12.8	14.5		12.2	14.1	
Level of Service	A	A		A	B		B	B		B	B	
Approach Delay (s/veh)		9.3			13.6			14.2			14.0	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.9%	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)	0	0	0	23	0	53	0	166	27	63	216	0
Future Volume (vph)	0	0	0	23	0	53	0	166	27	63	216	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.906			0.981				
Flt Protected					0.985						0.989	
Satd. Flow (prot)	0	1863	0	0	1662	0	0	1827	0	0	1842	0
Flt Permitted					0.985						0.989	
Satd. Flow (perm)	0	1863	0	0	1662	0	0	1827	0	0	1842	0
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		282.8			530.8			846.0			370.2	
Travel Time (s)		20.4			38.2			50.8			22.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	25	0	58	0	180	29	68	235	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	83	0	0	209	0	0	303	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

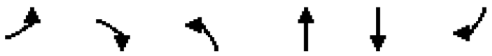
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	23	0	53	0	166	27	63	216	0
Future Volume (vph)	0	0	0	23	0	53	0	166	27	63	216	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	25	0	58	0	180	29	68	235	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	0	83	209	303
Volume Left (vph)	0	25	0	68
Volume Right (vph)	0	58	29	0
Hadj (s)	0.00	-0.33	-0.05	0.08
Departure Headway (s)	5.2	4.7	4.4	4.4
Degree Utilization, x	0.00	0.11	0.25	0.37
Capacity (veh/h)	625	686	793	790
Control Delay (s/veh)	8.2	8.3	8.9	10.0
Approach Delay (s/veh)	0.0	8.3	8.9	10.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	9.4			
Level of Service	A			
Intersection Capacity Utilization	39.8%	ICU Level of Service	A	
Analysis Period (min)	15			

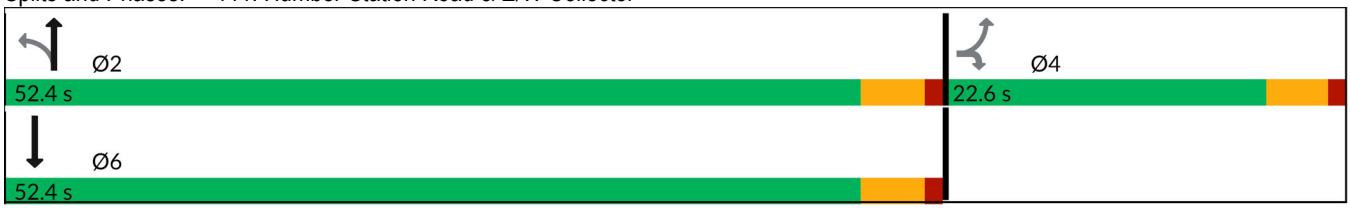


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	36	54	42	653	1863	34
Future Volume (vph)	36	54	42	653	1863	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.997	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3529	0
Flt Permitted	0.950		0.079			
Satd. Flow (perm)	1770	1583	147	3539	3529	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		14			5	
Link Speed (k/h)	50			70	70	
Link Distance (m)	530.8			670.0	839.8	
Travel Time (s)	38.2			34.5	43.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	59	46	710	2025	37
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	59	46	710	2062	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4	4	2			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	2	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	22.6	22.6	52.4	52.4	52.4	
Total Split (%)	30.1%	30.1%	69.9%	69.9%	69.9%	
Maximum Green (s)	18.1	18.1	47.9	47.9	47.9	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	Min	Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	7.8	7.8	51.8	51.8	51.8	
Actuated g/C Ratio	0.12	0.12	0.80	0.80	0.80	
v/c Ratio	0.18	0.29	0.39	0.25	0.73	
Control Delay (s/veh)	29.9	26.8	16.3	2.7	6.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	29.9	26.8	16.3	2.7	6.7	
LOS	C	C	B	A	A	
Approach Delay (s/veh)	28.1			3.5	6.7	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 64.4			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay (s/veh): 6.6		Intersection LOS: A	
Intersection Capacity Utilization 64.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 111: Humber Station Road & E/W Collector

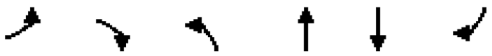




Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	39	59	46	710	2062
v/c Ratio	0.18	0.29	0.39	0.25	0.73
Control Delay (s/veh)	29.9	26.8	16.3	2.7	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	29.9	26.8	16.3	2.7	6.7
Queue Length 50th (m)	5.4	6.3	1.6	10.8	61.0
Queue Length 95th (m)	12.5	15.2	#17.4	19.1	106.7
Internal Link Dist (m)	506.8			646.0	815.8
Turn Bay Length (m)	50.0		50.0		
Base Capacity (vph)	526	480	118	2848	2841
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.12	0.39	0.25	0.73

Intersection Summary

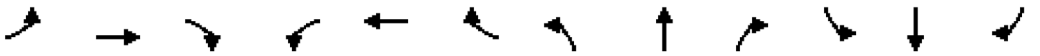
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	36	54	42	653	1863	34
Future Volume (vph)	36	54	42	653	1863	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	3539	3530	
Flt Permitted	0.95	1.00	0.08	1.00	1.00	
Satd. Flow (perm)	1770	1583	148	3539	3530	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	59	46	710	2025	37
RTOR Reduction (vph)	0	13	0	0	1	0
Lane Group Flow (vph)	39	46	46	710	2061	0
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4	4	2			
Actuated Green, G (s)	6.0	6.0	50.4	50.4	50.4	
Effective Green, g (s)	6.0	6.0	50.4	50.4	50.4	
Actuated g/C Ratio	0.09	0.09	0.77	0.77	0.77	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	162	145	114	2727	2720	
v/s Ratio Prot				0.20	c0.58	
v/s Ratio Perm	0.02	c0.03	0.31			
v/c Ratio	0.24	0.32	0.40	0.26	0.76	
Uniform Delay, d1	27.6	27.8	2.5	2.2	4.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	1.3	2.3	0.1	1.2	
Delay (s)	28.4	29.1	4.8	2.2	5.4	
Level of Service	C	C	A	A	A	
Approach Delay (s/veh)	28.8			2.4	5.4	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	5.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	65.4	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.2%	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)	275	37	45	184	31	92	10	660	222	111	910	55
Future Volume (vph)	275	37	45	184	31	92	10	660	222	111	910	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.917				0.850		0.962			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1708	0	1770	1863	1583	1770	3405	0	1770	3507	0
Flt Permitted	0.735			0.699			0.194			0.230		
Satd. Flow (perm)	1369	1708	0	1302	1863	1583	361	3405	0	428	3507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49				100		108			14	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		415.9			925.7			788.8			1501.3	
Travel Time (s)		25.0			55.5			40.6			77.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	299	40	49	200	34	100	11	717	241	121	989	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	299	89	0	200	34	100	11	958	0	121	1049	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	26.0	26.0		26.0	26.0	26.0	34.0	34.0		34.0	34.0	
Total Split (%)	43.3%	43.3%		43.3%	43.3%	43.3%	56.7%	56.7%		56.7%	56.7%	
Maximum Green (s)	21.5	21.5		21.5	21.5	21.5	29.5	29.5		29.5	29.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min	Min	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	15.0	15.0		15.0	15.0	15.0	21.1	21.1		21.1	21.1	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33	0.46	0.46		0.46	0.46	
v/c Ratio	0.67	0.15		0.47	0.06	0.17	0.07	0.59		0.62	0.65	
Control Delay (s/veh)	22.8	7.9		17.8	12.5	4.4	9.0	10.0		27.3	11.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	22.8	7.9		17.8	12.5	4.4	9.0	10.0		27.3	11.8	
LOS	C	A		B	B	A	A	A		C	B	
Approach Delay (s/veh)		19.4			13.2			9.9			13.4	
Approach LOS		B			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 45.8			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay (s/veh): 13.0		Intersection LOS: B	
Intersection Capacity Utilization 64.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 112: The Gore Road & George Bolton Parkway

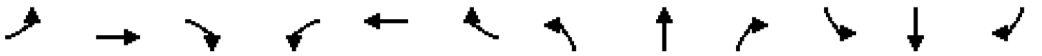




Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	299	89	200	34	100	11	958	121	1049
v/c Ratio	0.67	0.15	0.47	0.06	0.17	0.07	0.59	0.62	0.65
Control Delay (s/veh)	22.8	7.9	17.8	12.5	4.4	9.0	10.0	27.3	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.8	7.9	17.8	12.5	4.4	9.0	10.0	27.3	11.8
Queue Length 50th (m)	19.7	2.1	12.1	1.8	0.0	0.5	23.6	6.7	30.5
Queue Length 95th (m)	50.8	10.9	33.3	7.4	8.0	3.0	47.8	#32.1	59.2
Internal Link Dist (m)		391.9		901.7			764.8		1477.3
Turn Bay Length (m)	50.0		50.0			50.0		50.0	
Base Capacity (vph)	693	889	659	944	851	249	2389	296	2431
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.10	0.30	0.04	0.12	0.04	0.40	0.41	0.43

Intersection Summary

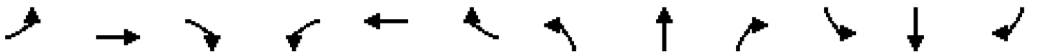
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	275	37	45	184	31	92	10	660	222	111	910	55
Future Volume (vph)	275	37	45	184	31	92	10	660	222	111	910	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.92		1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1709		1770	1863	1583	1770	3406		1770	3509	
Flt Permitted	0.73	1.00		0.70	1.00	1.00	0.19	1.00		0.23	1.00	
Satd. Flow (perm)	1369	1709		1303	1863	1583	361	3406		429	3509	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	299	40	49	200	34	100	11	717	241	121	989	60
RTOR Reduction (vph)	0	33	0	0	0	67	0	57	0	0	7	0
Lane Group Flow (vph)	299	56	0	200	34	33	11	901	0	121	1042	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	15.0	15.0		15.0	15.0	15.0	21.1	21.1		21.1	21.1	
Effective Green, g (s)	15.0	15.0		15.0	15.0	15.0	21.1	21.1		21.1	21.1	
Actuated g/C Ratio	0.33	0.33		0.33	0.33	0.33	0.47	0.47		0.47	0.47	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	455	568		433	619	526	168	1593		200	1641	
v/s Ratio Prot		0.03			0.02			0.26			c0.30	
v/s Ratio Perm	c0.22			0.15		0.02	0.03			0.28		
v/c Ratio	0.66	0.10		0.46	0.05	0.06	0.07	0.57		0.61	0.63	
Uniform Delay, d1	12.9	10.4		11.9	10.2	10.3	6.6	8.7		8.9	9.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.4	0.1		0.8	0.0	0.1	0.2	0.5		5.1	0.8	
Delay (s)	16.3	10.5		12.7	10.3	10.3	6.8	9.1		14.0	9.9	
Level of Service	B	B		B	B	B	A	A		B	A	
Approach Delay (s/veh)		14.9			11.7			9.1			10.3	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	45.1	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

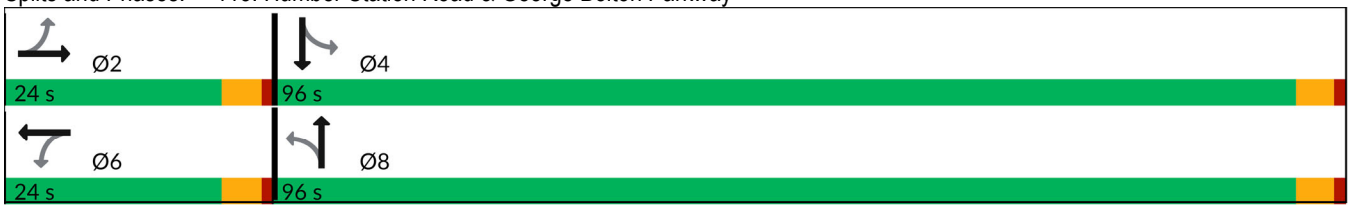


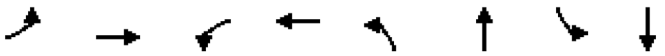
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	147	150	108	92	62	69	662	772	192	1703	92
Future Volume (vph)	69	147	150	108	92	62	69	662	772	192	1703	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.924			0.940			0.919			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3270	0	1770	3327	0	1770	3253	0	1770	3511	0
Flt Permitted	0.624			0.386			0.069			0.129		
Satd. Flow (perm)	1162	3270	0	719	3327	0	129	3253	0	240	3511	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		42			67			304			14	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		533.8			484.4			1231.2			670.0	
Travel Time (s)		32.0			29.1			63.3			34.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	160	163	117	100	67	75	720	839	209	1851	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	75	323	0	117	167	0	75	1559	0	209	1951	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
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)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	24.0	24.0		24.0	24.0		96.0	96.0		96.0	96.0	
Total Split (%)	20.0%	20.0%		20.0%	20.0%		80.0%	80.0%		80.0%	80.0%	
Maximum Green (s)	19.5	19.5		19.5	19.5		91.5	91.5		91.5	91.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	19.5	19.5		19.5	19.5		91.5	91.5		91.5	91.5	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.76	0.76		0.76	0.76	
v/c Ratio	0.40	0.57		1.01	0.28		0.77	0.61		1.14	0.73	
Control Delay (s/veh)	52.2	44.6		136.7	27.5		58.9	6.0		129.7	9.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	52.2	44.6		136.7	27.5		58.9	6.0		129.7	9.6	
LOS	D	D		F	C		E	A		F	A	
Approach Delay (s/veh)		46.0			72.5			8.4			21.2	
Approach LOS		D			E			A			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Natural Cycle: 120			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.14			
Intersection Signal Delay (s/veh): 22.0		Intersection LOS: C	
Intersection Capacity Utilization 84.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 113: Humber Station Road & George Bolton Parkway



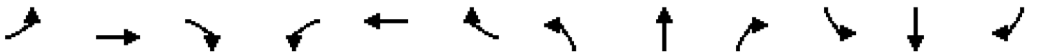


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	75	323	117	167	75	1559	209	1951
v/c Ratio	0.40	0.57	1.01	0.28	0.77	0.61	1.14	0.73
Control Delay (s/veh)	52.2	44.6	136.7	27.5	58.9	6.0	129.7	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	52.2	44.6	136.7	27.5	58.9	6.0	129.7	9.6
Queue Length 50th (m)	16.7	33.8	~29.2	11.3	8.9	58.8	~60.1	113.4
Queue Length 95th (m)	32.6	49.6	#68.8	21.8	#20.9	74.4	#63.9	137.8
Internal Link Dist (m)		509.8		460.4		1207.2		646.0
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	188	566	116	596	98	2552	183	2680
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	0.40	0.57	1.01	0.28	0.77	0.61	1.14	0.73

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

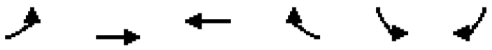
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	147	150	108	92	62	69	662	772	192	1703	92
Future Volume (vph)	69	147	150	108	92	62	69	662	772	192	1703	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.92		1.00	0.94		1.00	0.92		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)	1770	3271		1770	3326		1770	3254		1770	3512	
Flt Permitted	0.62	1.00		0.39	1.00		0.07	1.00		0.13	1.00	
Satd. Flow (perm)	1163	3271		718	3326		129	3254		240	3512	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	160	163	117	100	67	75	720	839	209	1851	100
RTOR Reduction (vph)	0	35	0	0	56	0	0	72	0	0	3	0
Lane Group Flow (vph)	75	288	0	117	111	0	75	1487	0	209	1948	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	19.5	19.5		19.5	19.5		91.5	91.5		91.5	91.5	
Effective Green, g (s)	19.5	19.5		19.5	19.5		91.5	91.5		91.5	91.5	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.76	0.76		0.76	0.76	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	188	531		116	540		98	2481		183	2677	
v/s Ratio Prot		0.09			0.03			0.46			0.55	
v/s Ratio Perm	0.06			c0.16			0.58			c0.87		
v/c Ratio	0.40	0.54		1.01	0.21		0.77	0.60		1.14	0.73	
Uniform Delay, d1	45.0	46.1		50.3	43.5		8.1	6.2		14.3	7.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	1.1		85.9	0.2		29.3	0.4		109.9	1.0	
Delay (s)	46.4	47.3		136.1	43.7		37.4	6.6		124.2	8.6	
Level of Service	D	D		F	D		D	A		F	A	
Approach Delay (s/veh)		47.1			81.8			8.0			19.8	
Approach LOS		D			F			A			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	84.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

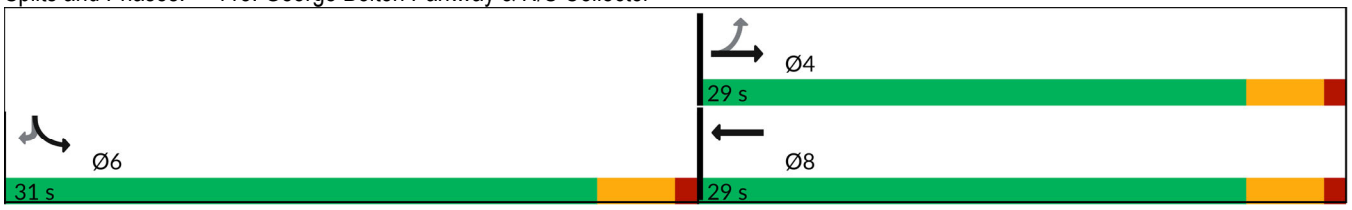


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	80	290	167	86	76	140
Future Volume (vph)	80	290	167	86	76	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0			0.0	50.0	0.0
Storage Lanes	1			0	1	1
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.949			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3359	0	1770	1583
Flt Permitted	0.690				0.950	
Satd. Flow (perm)	1285	3539	3359	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			93			152
Link Speed (k/h)		60	60		60	
Link Distance (m)		925.7	533.8		846.0	
Travel Time (s)		55.5	32.0		50.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	315	182	93	83	152
Shared Lane Traffic (%)						
Lane Group Flow (vph)	87	315	275	0	83	152
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4					6

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8		6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5
Total Split (s)	29.0	29.0	29.0		31.0	31.0
Total Split (%)	48.3%	48.3%	48.3%		51.7%	51.7%
Maximum Green (s)	24.5	24.5	24.5		26.5	26.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	None		Min	Min
Walk Time (s)	7.0	7.0	7.0		7.0	7.0
Flash Don't Walk (s)	11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0
Act Effct Green (s)	7.7	7.7	7.5		9.4	9.4
Actuated g/C Ratio	0.35	0.35	0.34		0.43	0.43
v/c Ratio	0.19	0.25	0.23		0.11	0.20
Control Delay (s/veh)	7.0	6.3	4.4		7.0	2.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay (s/veh)	7.0	6.3	4.4		7.0	2.5
LOS	A	A	A		A	A
Approach Delay (s/veh)		6.5	4.4		4.1	
Approach LOS		A	A		A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 21.9			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.25			
Intersection Signal Delay (s/veh): 5.2		Intersection LOS: A	
Intersection Capacity Utilization 27.3%		ICU Level of Service A	
Analysis Period (min) 15			

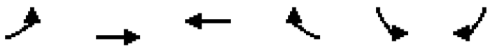
Splits and Phases: 115: George Bolton Parkway & N/S Collector





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	87	315	275	83	152
v/c Ratio	0.19	0.25	0.23	0.11	0.20
Control Delay (s/veh)	7.0	6.3	4.4	7.0	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	7.0	6.3	4.4	7.0	2.5
Queue Length 50th (m)	2.0	3.8	2.1	2.0	0.0
Queue Length 95th (m)	6.1	8.0	5.6	6.4	4.9
Internal Link Dist (m)		901.7	509.8	822.0	
Turn Bay Length (m)	50.0			50.0	
Base Capacity (vph)	1264	3481	3305	1767	1581
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.09	0.08	0.05	0.10

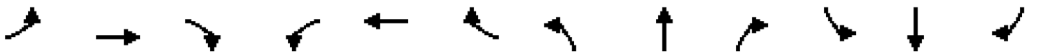
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	80	290	167	86	76	140
Future Volume (vph)	80	290	167	86	76	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.95		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3360		1770	1583
Flt Permitted	0.69	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1285	3539	3360		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	315	182	93	83	152
RTOR Reduction (vph)	0	0	69	0	0	98
Lane Group Flow (vph)	87	315	206	0	83	54
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4					6
Actuated Green, G (s)	5.8	5.8	5.8		8.1	8.1
Effective Green, g (s)	5.8	5.8	5.8		8.1	8.1
Actuated g/C Ratio	0.25	0.25	0.25		0.35	0.35
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	325	896	851		626	559
v/s Ratio Prot		c0.09	0.06		c0.05	
v/s Ratio Perm	0.07					0.03
v/c Ratio	0.27	0.35	0.24		0.13	0.10
Uniform Delay, d1	6.8	7.0	6.8		5.0	5.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.4	0.2	0.1		0.1	0.1
Delay (s)	7.3	7.2	6.9		5.1	5.0
Level of Service	A	A	A		A	A
Approach Delay (s/veh)		7.3	6.9		5.1	
Approach LOS		A	A		A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	22.9	Sum of lost time (s)	9.0
Intersection Capacity Utilization	27.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

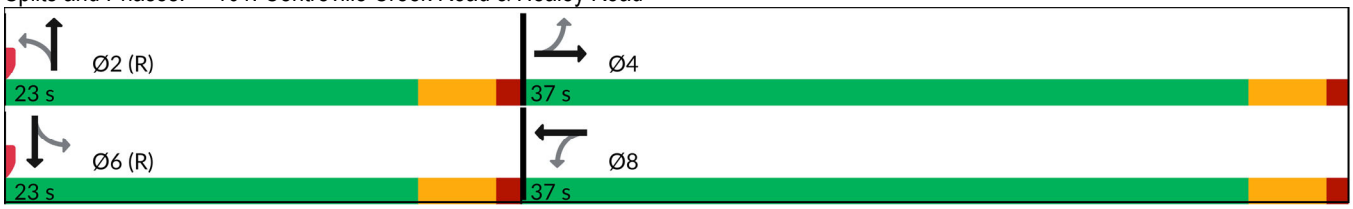


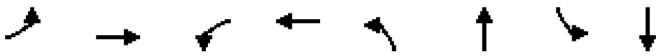
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	778	44	200	111	22	44	400	244	11	78	13
Future Volume (vph)	44	778	44	200	111	22	44	400	244	11	78	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.992			0.976			0.943			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3451	0	1805	3465	0	1719	3317	0	1805	3243	0
Flt Permitted	0.663			0.248			0.691			0.311		
Satd. Flow (perm)	1260	3451	0	471	3465	0	1250	3317	0	591	3243	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			23			146			14	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		295.9			1421.0			432.6			556.0	
Travel Time (s)		17.8			85.3			22.2			28.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	0%	0%	2%	0%	5%	3%	2%	0%	9%	8%
Adj. Flow (vph)	47	828	47	213	118	23	47	426	260	12	83	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	875	0	213	141	0	47	686	0	12	97	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	37.0	37.0		37.0	37.0		23.0	23.0		23.0	23.0	
Total Split (%)	61.7%	61.7%		61.7%	61.7%		38.3%	38.3%		38.3%	38.3%	
Maximum Green (s)	32.5	32.5		32.5	32.5		18.5	18.5		18.5	18.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	27.8	27.8		27.8	27.8		23.2	23.2		23.2	23.2	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.39	0.39		0.39	0.39	
v/c Ratio	0.08	0.54		0.98	0.09		0.10	0.50		0.05	0.08	
Control Delay (s/veh)	7.3	12.1		74.1	6.0		15.4	13.8		15.6	12.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	7.3	12.1		74.1	6.0		15.4	13.8		15.6	12.9	
LOS	A	B		E	A		B	B		B	B	
Approach Delay (s/veh)		11.8			47.0			13.9			13.2	
Approach LOS		B			D			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay (s/veh): 18.5		Intersection LOS: B	
Intersection Capacity Utilization 64.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 101: Centreville Creek Road & Healey Road

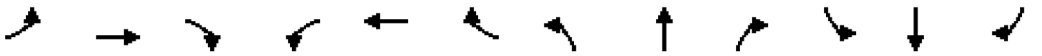




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	47	875	213	141	47	686	12	97
v/c Ratio	0.08	0.54	0.98	0.09	0.10	0.50	0.05	0.08
Control Delay (s/veh)	7.3	12.1	74.1	6.0	15.4	13.8	15.6	12.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	7.3	12.1	74.1	6.0	15.4	13.8	15.6	12.9
Queue Length 50th (m)	2.4	29.3	19.2	3.1	3.7	26.1	1.0	3.3
Queue Length 95th (m)	6.4	40.6	#57.7	6.4	10.4	42.3	4.3	7.8
Internal Link Dist (m)		271.9		1397.0		408.6		532.0
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	682	1876	255	1887	482	1369	228	1260
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.47	0.84	0.07	0.10	0.50	0.05	0.08

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)	44	778	44	200	111	22	44	400	244	11	78	13
Future Volume (vph)	44	778	44	200	111	22	44	400	244	11	78	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	0.94		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3450		1805	3464		1719	3318		1805	3245	
Flt Permitted	0.66	1.00		0.25	1.00		0.69	1.00		0.31	1.00	
Satd. Flow (perm)	1259	3450		471	3464		1250	3318		591	3245	
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)	47	828	47	213	118	23	47	426	260	12	83	14
RTOR Reduction (vph)	0	8	0	0	12	0	0	90	0	0	9	0
Lane Group Flow (vph)	47	867	0	213	129	0	47	596	0	12	88	0
Heavy Vehicles (%)	0%	4%	0%	0%	2%	0%	5%	3%	2%	0%	9%	8%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	27.8	27.8		27.8	27.8		23.2	23.2		23.2	23.2	
Effective Green, g (s)	27.8	27.8		27.8	27.8		23.2	23.2		23.2	23.2	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.39	0.39		0.39	0.39	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	583	1598		218	1604		483	1282		228	1254	
v/s Ratio Prot		0.25			0.04			c0.18			0.03	
v/s Ratio Perm	0.04			c0.45			0.04			0.02		
v/c Ratio	0.08	0.54		0.98	0.08		0.10	0.47		0.05	0.07	
Uniform Delay, d1	9.0	11.5		15.8	9.0		11.7	13.8		11.5	11.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.4		53.9	0.0		0.4	1.2		0.4	0.1	
Delay (s)	9.0	11.9		69.6	9.0		12.1	15.0		12.0	11.7	
Level of Service	A	B		E	A		B	B		B	B	
Approach Delay (s/veh)		11.8			45.5			14.8			11.7	
Approach LOS		B			D			B			B	

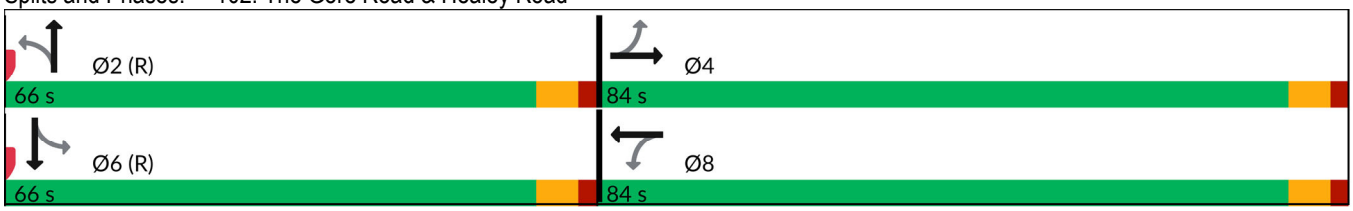
Intersection Summary			
HCM 2000 Control Delay (s/veh)	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

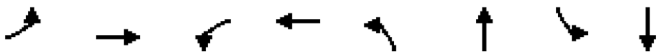
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	919	96	460	285	139	40	1822	513	54	610	2
Future Volume (vph)	35	919	96	460	285	139	40	1822	513	54	610	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.986			0.951			0.967				
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3495	0	1736	3334	0	1687	3283	0	1556	3283	0
Flt Permitted	0.463			0.173			0.304			0.067		
Satd. Flow (perm)	880	3495	0	316	3334	0	540	3283	0	110	3283	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			1			29				
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		1421.0			530.2			483.8			1079.4	
Travel Time (s)		85.3			31.8			24.9			55.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	10%	4%	1%	7%	7%	7%	4%	16%	10%	0%
Adj. Flow (vph)	37	978	102	489	303	148	43	1938	546	57	649	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	1080	0	489	451	0	43	2484	0	57	651	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.6	25.6		25.6	25.6		26.6	26.6		26.6	26.6	
Total Split (s)	84.0	84.0		84.0	84.0		66.0	66.0		66.0	66.0	
Total Split (%)	56.0%	56.0%		56.0%	56.0%		44.0%	44.0%		44.0%	44.0%	
Maximum Green (s)	77.4	77.4		77.4	77.4		59.4	59.4		59.4	59.4	
Yellow Time (s)	4.6	4.6		4.6	4.6		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	77.4	77.4		77.4	77.4		59.4	59.4		59.4	59.4	
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.40	0.40		0.40	0.40	
v/c Ratio	0.08	0.60		3.00	0.26		0.20	1.89		1.33	0.50	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay (s/veh)	19.1	26.8		933.6	20.8		33.0	429.0		284.9	35.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	19.1	26.8		933.6	20.8		33.0	429.0		284.9	35.8	
LOS	B	C		F	C		C	F		F	D	
Approach Delay (s/veh)		26.6			495.7			422.3			55.9	
Approach LOS		C			F			F			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Pretimed			
Maximum v/c Ratio: 3.00			
Intersection Signal Delay (s/veh): 302.8		Intersection LOS: F	
Intersection Capacity Utilization 137.2%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 102: The Gore Road & Healey Road



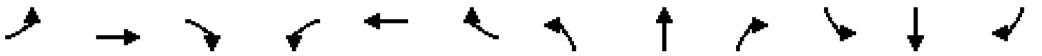


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	37	1080	489	451	43	2484	57	651
v/c Ratio	0.08	0.60	3.00	0.26	0.20	1.89	1.33	0.50
Control Delay (s/veh)	19.1	26.8	933.6	20.8	33.0	429.0	284.9	35.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.1	26.8	933.6	20.8	33.0	429.0	284.9	35.8
Queue Length 50th (m)	5.7	120.0	~212.0	40.3	8.5	~606.6	~21.3	76.8
Queue Length 95th (m)	12.5	142.4	#283.8	52.1	18.7	#644.6	#50.9	95.4
Internal Link Dist (m)		1397.0		506.2		459.8		1055.4
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	454	1808	163	1720	213	1317	43	1300
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	0.08	0.60	3.00	0.26	0.20	1.89	1.33	0.50

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)	35	919	96	460	285	139	40	1822	513	54	610	2
Future Volume (vph)	35	919	96	460	285	139	40	1822	513	54	610	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.95		1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3494		1736	3333		1687	3283		1556	3281	
Flt Permitted	0.46	1.00		0.17	1.00		0.30	1.00		0.07	1.00	
Satd. Flow (perm)	880	3494		315	3333		540	3283		110	3281	
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)	37	978	102	489	303	148	43	1938	546	57	649	2
RTOR Reduction (vph)	0	5	0	0	0	0	0	18	0	0	0	0
Lane Group Flow (vph)	37	1075	0	489	451	0	43	2466	0	57	651	0
Heavy Vehicles (%)	0%	1%	10%	4%	1%	7%	7%	7%	4%	16%	10%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	77.4	77.4		77.4	77.4		59.4	59.4		59.4	59.4	
Effective Green, g (s)	77.4	77.4		77.4	77.4		59.4	59.4		59.4	59.4	
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.40	0.40		0.40	0.40	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Grp Cap (vph)	454	1802		162	1719		213	1300		43	1299	
v/s Ratio Prot		0.31			0.14			c0.75			0.20	
v/s Ratio Perm	0.04			c1.55			0.08			0.52		
v/c Ratio	0.08	0.60		3.02	0.26		0.20	1.90		1.33	0.50	
Uniform Delay, d1	18.3	25.4		36.3	20.3		29.7	45.3		45.3	34.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	1.5		924.7	0.4		2.1	406.7		247.4	1.4	
Delay (s)	18.7	26.8		961.0	20.7		31.9	452.0		292.7	35.5	
Level of Service	B	C		F	C		C	F		F	D	
Approach Delay (s/veh)		26.6			509.8			444.8			56.2	
Approach LOS		C			F			F			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	316.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.53		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	137.2%	ICU Level of Service	H
Analysis Period (min)	15		

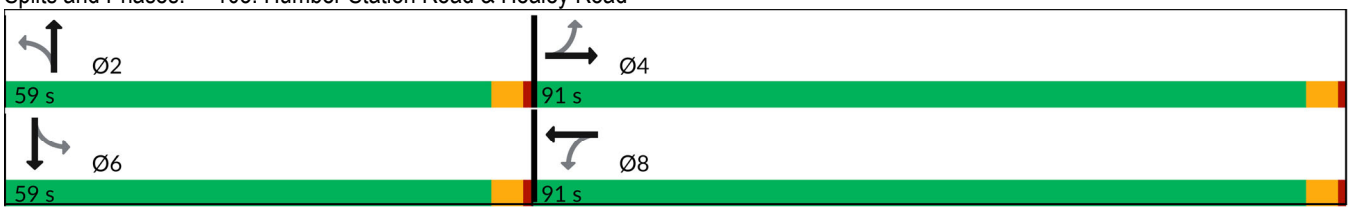
c Critical Lane Group

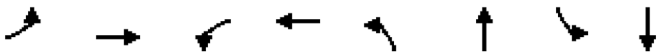
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	909	582	79	74	615	369	11	2082	8	31	713	60
Future Volume (vph)	909	582	79	74	615	369	11	2082	8	31	713	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.982			0.944			0.999			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1671	3545	0	1805	3382	0	1805	3467	0	1719	3471	0
Flt Permitted	0.210			0.341			0.193			0.073		
Satd. Flow (perm)	369	3545	0	648	3382	0	367	3467	0	132	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17									7	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		536.6			1380.2			839.8			680.2	
Travel Time (s)		32.2			82.8			43.2			35.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	0%	0%	0%	0%	2%	0%	4%	7%	5%	3%	0%
Adj. Flow (vph)	937	600	81	76	634	380	11	2146	8	32	735	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	937	681	0	76	1014	0	11	2154	0	32	797	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	91.0	91.0		91.0	91.0		59.0	59.0		59.0	59.0	
Total Split (%)	60.7%	60.7%		60.7%	60.7%		39.3%	39.3%		39.3%	39.3%	
Maximum Green (s)	86.5	86.5		86.5	86.5		54.5	54.5		54.5	54.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	86.5	86.5		86.5	86.5		54.5	54.5		54.5	54.5	
Actuated g/C Ratio	0.58	0.58		0.58	0.58		0.36	0.36		0.36	0.36	
v/c Ratio	4.42	0.33		0.20	0.52		0.08	1.71		0.68	0.63	
Control Delay (s/veh)	Error	16.7		17.0	20.4		33.7	354.2		104.4	41.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	Error	16.7		17.0	20.4		33.7	354.2		104.4	41.8	
LOS	F	B		B	C		C	F		F	D	
Approach Delay (s/veh)		911.6			20.2			352.5			44.2	
Approach LOS		F			C			F			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 4.42			
Intersection Signal Delay (s/veh): 402.8		Intersection LOS: F	
Intersection Capacity Utilization 148.2%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 103: Humber Station Road & Healey Road



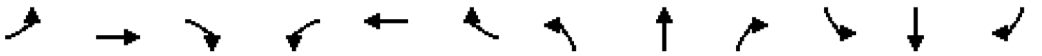


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	937	681	76	1014	11	2154	32	797
v/c Ratio	4.42	0.33	0.20	0.52	0.08	1.71	0.68	0.63
Control Delay (s/veh)	Error	16.7	17.0	20.4	33.7	354.2	104.4	41.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	Error	16.7	17.0	20.4	33.7	354.2	104.4	41.8
Queue Length 50th (m)	~461.1	55.1	11.0	97.4	2.3	~511.5	8.2	105.8
Queue Length 95th (m)	#543.0	68.1	21.0	116.3	7.5	#552.2	#29.2	128.9
Internal Link Dist (m)		512.6		1356.2		815.8		656.2
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	212	2051	373	1950	133	1259	47	1265
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	4.42	0.33	0.20	0.52	0.08	1.71	0.68	0.63

Intersection Summary

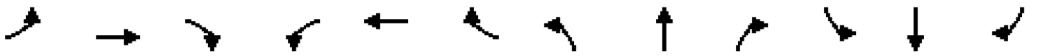
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	909	582	79	74	615	369	11	2082	8	31	713	60
Future Volume (vph)	909	582	79	74	615	369	11	2082	8	31	713	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.94		1.00	1.00		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)	1671	3546		1805	3382		1805	3469		1719	3472	
Flt Permitted	0.21	1.00		0.34	1.00		0.19	1.00		0.07	1.00	
Satd. Flow (perm)	369	3546		649	3382		366	3469		133	3472	
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)	937	600	81	76	634	380	11	2146	8	32	735	62
RTOR Reduction (vph)	0	7	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	937	674	0	76	1014	0	11	2154	0	32	793	0
Heavy Vehicles (%)	8%	0%	0%	0%	0%	2%	0%	4%	7%	5%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	86.5	86.5		86.5	86.5		54.5	54.5		54.5	54.5	
Effective Green, g (s)	86.5	86.5		86.5	86.5		54.5	54.5		54.5	54.5	
Actuated g/C Ratio	0.58	0.58		0.58	0.58		0.36	0.36		0.36	0.36	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	212	2044		374	1950		132	1260		48	1261	
v/s Ratio Prot		0.19			0.30			c0.62			0.23	
v/s Ratio Perm	c2.54			0.12			0.03			0.24		
v/c Ratio	4.42	0.33		0.20	0.52		0.08	1.71		0.67	0.63	
Uniform Delay, d1	31.8	16.6		15.2	19.2		31.4	47.8		40.1	39.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1549.8	0.1		0.3	0.3		0.3	322.7		29.8	1.0	
Delay (s)	1581.6	16.7		15.5	19.4		31.6	370.4		69.9	40.4	
Level of Service	F	B		B	B		C	F		E	D	
Approach Delay (s/veh)		922.9			19.2			368.7			41.5	
Approach LOS		F			B			F			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	411.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	3.36		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	148.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

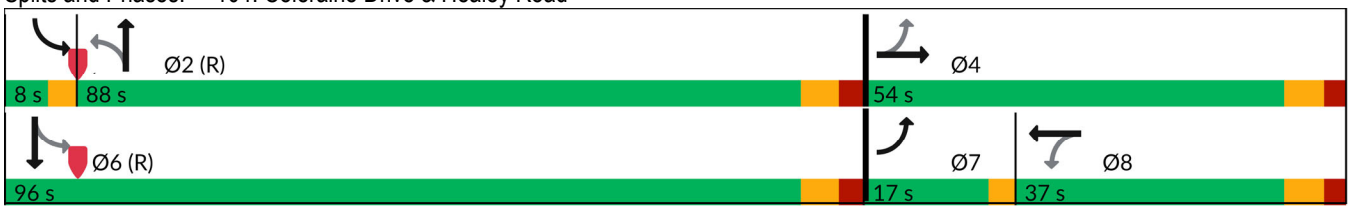


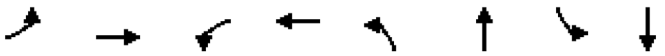
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	314	141	31	15	337	121	323	1979	93	76	334	383
Future Volume (vph)	314	141	31	15	337	121	323	1979	93	76	334	383
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	20.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00				1.00							
Frt		0.973			0.960			0.993			0.920	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3459	0	1492	3243	0	1787	3146	0	1597	2814	0
Flt Permitted	0.203			0.635			0.359			0.047		
Satd. Flow (perm)	382	3459	0	997	3243	0	675	3146	0	79	2814	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			30			5			342	
Link Speed (k/h)		60			50			70			70	
Link Distance (m)		1380.2			427.4			630.5			589.7	
Travel Time (s)		82.8			30.8			32.4			30.3	
Confl. Peds. (#/hr)	1					1						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	4%	21%	2%	19%	1%	14%	13%	13%	33%	5%
Adj. Flow (vph)	338	152	33	16	362	130	347	2128	100	82	359	412
Shared Lane Traffic (%)												
Lane Group Flow (vph)	338	185	0	16	492	0	347	2228	0	82	771	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	12.0	12.0		12.0	12.0		12.0	12.0		5.0	5.0	
Minimum Split (s)	15.0	37.0		37.0	37.0		37.0	37.0		8.0	37.0	
Total Split (s)	17.0	54.0		37.0	37.0		88.0	88.0		8.0	96.0	
Total Split (%)	11.3%	36.0%		24.7%	24.7%		58.7%	58.7%		5.3%	64.0%	
Maximum Green (s)	14.0	47.0		30.0	30.0		81.0	81.0		5.0	89.0	
Yellow Time (s)	3.0	4.6		4.6	4.6		4.2	4.2		3.0	4.2	
All-Red Time (s)	0.0	2.4		2.4	2.4		2.8	2.8		0.0	2.8	
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	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	
Walk Time (s)		12.0		12.0	12.0		12.0	12.0			12.0	
Flash Don't Walk (s)		18.0		18.0	18.0		18.0	18.0			18.0	
Pedestrian Calls (#/hr)		0		0	0		0	0			0	
Act Effct Green (s)	47.4	43.4		26.4	26.4		82.8	82.8		96.6	92.6	
Actuated g/C Ratio	0.32	0.29		0.18	0.18		0.55	0.55		0.64	0.62	
v/c Ratio	1.35	0.18		0.09	0.83		0.93	1.28		0.69	0.41	
Control Delay (s/veh)	214.1	35.7		51.2	68.0		65.0	161.7		50.6	8.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	214.1	35.7		51.2	68.0		65.0	161.7		50.6	8.5	
LOS	F	D		D	E		E	F		D	A	
Approach Delay (s/veh)		151.0			67.5			148.7			12.6	
Approach LOS		F			E			F			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.35			
Intersection Signal Delay (s/veh): 113.7		Intersection LOS: F	
Intersection Capacity Utilization 111.2%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 104: Coleraine Drive & Healey Road



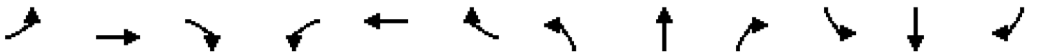


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	338	185	16	492	347	2228	82	771
v/c Ratio	1.35	0.18	0.09	0.83	0.93	1.28	0.69	0.41
Control Delay (s/veh)	214.1	35.7	51.2	68.0	65.0	161.7	50.6	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	214.1	35.7	51.2	68.0	65.0	161.7	50.6	8.5
Queue Length 50th (m)	~106.9	20.3	3.8	73.3	99.5	~443.6	9.4	28.2
Queue Length 95th (m)	#168.4	30.2	10.4	93.0	#171.1	#482.3	#41.0	41.7
Internal Link Dist (m)		1356.2		403.4		606.5		565.7
Turn Bay Length (m)	30.0		20.0		60.0		55.0	
Base Capacity (vph)	251	1096	199	672	372	1739	119	1867
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.35	0.17	0.08	0.73	0.93	1.28	0.69	0.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

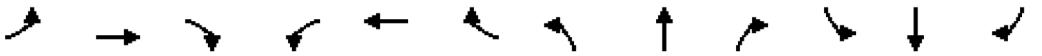
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	314	141	31	15	337	121	323	1979	93	76	334	383
Future Volume (vph)	314	141	31	15	337	121	323	1979	93	76	334	383
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.96		1.00	0.99		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	3460		1492	3244		1787	3147		1597	2813	
Flt Permitted	0.20	1.00		0.64	1.00		0.36	1.00		0.05	1.00	
Satd. Flow (perm)	382	3460		997	3244		676	3147		78	2813	
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)	338	152	33	16	362	130	347	2128	100	82	359	412
RTOR Reduction (vph)	0	13	0	0	25	0	0	2	0	0	131	0
Lane Group Flow (vph)	338	172	0	16	467	0	347	2226	0	82	640	0
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	1%	1%	4%	21%	2%	19%	1%	14%	13%	13%	33%	5%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	43.4	43.4		26.4	26.4		82.8	82.8		92.6	92.6	
Effective Green, g (s)	43.4	43.4		26.4	26.4		82.8	82.8		92.6	92.6	
Actuated g/C Ratio	0.29	0.29		0.18	0.18		0.55	0.55		0.62	0.62	
Clearance Time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	241	1001		175	570		373	1737		117	1736	
v/s Ratio Prot	c0.13	0.05			0.14			c0.71		c0.03	0.23	
v/s Ratio Perm	c0.27			0.02			0.51			0.40		
v/c Ratio	1.40	0.17		0.09	0.82		0.93	1.28		0.70	0.37	
Uniform Delay, d1	47.8	39.9		51.8	59.5		30.9	33.6		36.5	14.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	204.2	0.1		0.2	9.0		31.9	131.2		17.3	0.6	
Delay (s)	252.1	39.9		52.0	68.5		62.9	164.8		53.8	14.8	
Level of Service	F	D		D	E		E	F		D	B	
Approach Delay (s/veh)		177.0			68.0			151.0			18.6	
Approach LOS		F			E			F			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	119.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	111.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

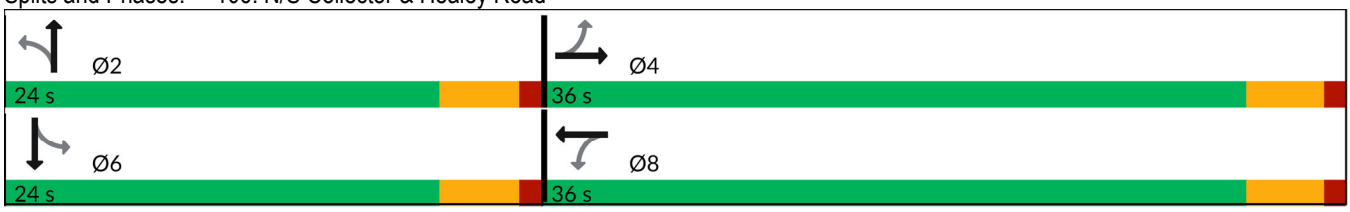


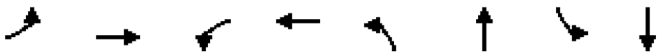
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	1374	56	50	840	6	33	73	45	9	62	11
Future Volume (vph)	56	1374	56	50	840	6	33	73	45	9	62	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.999			0.943			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3518	0	1770	3536	0	1770	1757	0	1770	1820	0
Flt Permitted	0.247			0.136			0.706			0.675		
Satd. Flow (perm)	460	3518	0	253	3536	0	1315	1757	0	1257	1820	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			2			23			12	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		289.7			536.6			472.1			202.6	
Travel Time (s)		17.4			32.2			28.3			12.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	1493	61	54	913	7	36	79	49	10	67	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	61	1554	0	54	920	0	36	128	0	10	79	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
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)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	36.0	36.0		36.0	36.0		24.0	24.0		24.0	24.0	
Total Split (%)	60.0%	60.0%		60.0%	60.0%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	31.5	31.5		31.5	31.5		19.5	19.5		19.5	19.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	29.5	29.5		29.5	29.5		19.6	19.6		19.6	19.6	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.34	0.34		0.34	0.34	
v/c Ratio	0.26	0.87		0.42	0.51		0.08	0.21		0.02	0.13	
Control Delay (s/veh)	11.5	19.1		21.1	10.6		14.8	13.4		14.1	13.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	11.5	19.1		21.1	10.6		14.8	13.4		14.1	13.2	
LOS	B	B		C	B		B	B		B	B	
Approach Delay (s/veh)		18.8			11.2			13.7			13.3	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 58.1			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay (s/veh): 15.7		Intersection LOS: B	
Intersection Capacity Utilization 62.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 106: N/S Collector & Healey Road

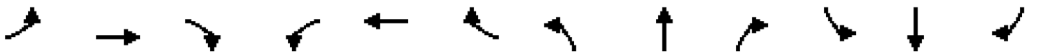




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	61	1554	54	920	36	128	10	79
v/c Ratio	0.26	0.87	0.42	0.51	0.08	0.21	0.02	0.13
Control Delay (s/veh)	11.5	19.1	21.1	10.6	14.8	13.4	14.1	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	11.5	19.1	21.1	10.6	14.8	13.4	14.1	13.2
Queue Length 50th (m)	3.5	72.2	3.4	32.4	2.8	8.5	0.8	5.3
Queue Length 95th (m)	10.5	101.2	#14.0	45.8	8.3	19.4	3.6	13.4
Internal Link Dist (m)		265.7		512.6		448.1		178.6
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	250	1918	137	1924	442	607	423	620
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	0.24	0.81	0.39	0.48	0.08	0.21	0.02	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)	56	1374	56	50	840	6	33	73	45	9	62	11
Future Volume (vph)	56	1374	56	50	840	6	33	73	45	9	62	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.94		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3518		1770	3535		1770	1756		1770	1820	
Flt Permitted	0.25	1.00		0.14	1.00		0.71	1.00		0.67	1.00	
Satd. Flow (perm)	460	3518		253	3535		1314	1756		1257	1820	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	1493	61	54	913	7	36	79	49	10	67	12
RTOR Reduction (vph)	0	5	0	0	1	0	0	15	0	0	8	0
Lane Group Flow (vph)	61	1549	0	54	919	0	36	113	0	10	71	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	29.5	29.5		29.5	29.5		19.6	19.6		19.6	19.6	
Effective Green, g (s)	29.5	29.5		29.5	29.5		19.6	19.6		19.6	19.6	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.34	0.34		0.34	0.34	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	233	1786		128	1794		443	592		424	613	
v/s Ratio Prot		c0.44			0.26			c0.06			0.04	
v/s Ratio Perm	0.13			0.21			0.03			0.01		
v/c Ratio	0.26	0.87		0.42	0.51		0.08	0.19		0.02	0.12	
Uniform Delay, d1	8.1	12.6		9.0	9.5		13.1	13.6		12.9	13.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	4.7		2.2	0.2		0.4	0.7		0.1	0.4	
Delay (s)	8.7	17.3		11.2	9.8		13.5	14.3		13.0	13.7	
Level of Service	A	B		B	A		B	B		B	B	
Approach Delay (s/veh)		17.0			9.8			14.2			13.6	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	58.1	Sum of lost time (s)	9.0
Intersection Capacity Utilization	62.5%	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)	0	0	0	23	0	53	0	98	27	63	105	0
Future Volume (vph)	0	0	0	23	0	53	0	98	27	63	105	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.906			0.971				
Flt Protected					0.985						0.982	
Satd. Flow (prot)	0	1863	0	0	1662	0	0	1809	0	0	1829	0
Flt Permitted					0.985						0.982	
Satd. Flow (perm)	0	1863	0	0	1662	0	0	1809	0	0	1829	0
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		282.8			530.8			846.0			370.2	
Travel Time (s)		20.4			38.2			50.8			22.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	25	0	58	0	107	29	68	114	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	83	0	0	136	0	0	182	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

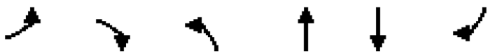
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	23	0	53	0	98	27	63	105	0
Future Volume (vph)	0	0	0	23	0	53	0	98	27	63	105	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	25	0	58	0	107	29	68	114	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	0	83	136	182
Volume Left (vph)	0	25	0	68
Volume Right (vph)	0	58	29	0
Hadj (s)	0.00	-0.33	-0.09	0.11
Departure Headway (s)	4.7	4.3	4.2	4.3
Degree Utilization, x	0.00	0.10	0.16	0.22
Capacity (veh/h)	720	776	829	800
Control Delay (s/veh)	7.7	7.7	8.0	8.6
Approach Delay (s/veh)	0.0	7.7	8.0	8.6
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.2			
Level of Service	A			
Intersection Capacity Utilization	30.3%	ICU Level of Service	A	
Analysis Period (min)	15			

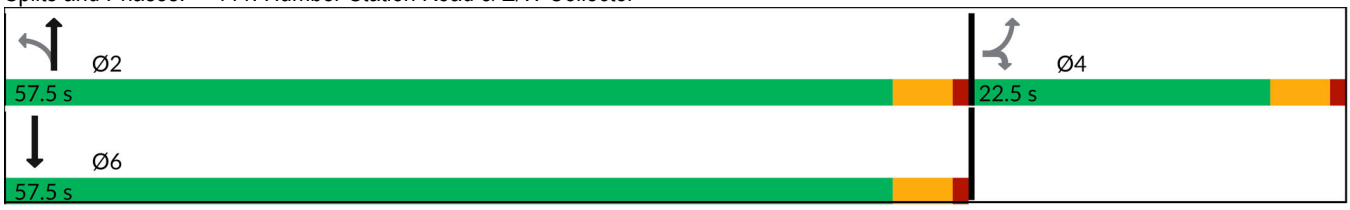


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	9	48	11	2054	789	31
Future Volume (vph)	9	48	11	2054	789	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3518	0
Flt Permitted	0.950		0.319			
Satd. Flow (perm)	1770	1583	594	3539	3518	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		52			10	
Link Speed (k/h)	50			70	70	
Link Distance (m)	530.8			670.0	839.8	
Travel Time (s)	38.2			34.5	43.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	52	12	2233	858	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	52	12	2233	892	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4	4	2			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	2	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	22.5	22.5	57.5	57.5	57.5	
Total Split (%)	28.1%	28.1%	71.9%	71.9%	71.9%	
Maximum Green (s)	18.0	18.0	53.0	53.0	53.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	Min	Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	6.7	6.7	60.1	60.1	60.1	
Actuated g/C Ratio	0.10	0.10	0.88	0.88	0.88	
v/c Ratio	0.06	0.26	0.02	0.72	0.29	
Control Delay (s/veh)	34.0	14.1	1.9	5.1	1.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	34.0	14.1	1.9	5.1	1.8	
LOS	C	B	A	A	A	
Approach Delay (s/veh)	17.3			5.1	1.8	
Approach LOS	B			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 68.2			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay (s/veh): 4.4		Intersection LOS: A	
Intersection Capacity Utilization 68.4%		ICU Level of Service C	
Analysis Period (min) 15			

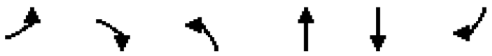
Splits and Phases: 111: Humber Station Road & E/W Collector





Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	10	52	12	2233	892
v/c Ratio	0.06	0.26	0.02	0.72	0.29
Control Delay (s/veh)	34.0	14.1	1.9	5.1	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	34.0	14.1	1.9	5.1	1.8
Queue Length 50th (m)	1.6	0.0	0.2	62.5	12.2
Queue Length 95th (m)	5.8	9.8	1.3	111.7	21.2
Internal Link Dist (m)	506.8			646.0	815.8
Turn Bay Length (m)	50.0		50.0		
Base Capacity (vph)	500	484	523	3118	3100
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	0.02	0.11	0.02	0.72	0.29

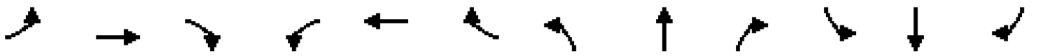
Intersection Summary



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	9	48	11	2054	789	31
Future Volume (vph)	9	48	11	2054	789	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	3539	3519	
Flt Permitted	0.95	1.00	0.32	1.00	1.00	
Satd. Flow (perm)	1770	1583	594	3539	3519	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	52	12	2233	858	34
RTOR Reduction (vph)	0	49	0	0	2	0
Lane Group Flow (vph)	10	3	12	2233	890	0
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4	4	2			
Actuated Green, G (s)	3.6	3.6	57.5	57.5	57.5	
Effective Green, g (s)	3.6	3.6	57.5	57.5	57.5	
Actuated g/C Ratio	0.05	0.05	0.82	0.82	0.82	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	90	81	487	2902	2886	
v/s Ratio Prot				c0.63	0.25	
v/s Ratio Perm	c0.01	0.00	0.02			
v/c Ratio	0.11	0.03	0.02	0.77	0.31	
Uniform Delay, d1	31.7	31.6	1.2	3.1	1.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	0.2	0.0	1.3	0.1	
Delay (s)	32.3	31.8	1.2	4.3	1.6	
Level of Service	C	C	A	A	A	
Approach Delay (s/veh)	31.8			4.3	1.6	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	4.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	70.1	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

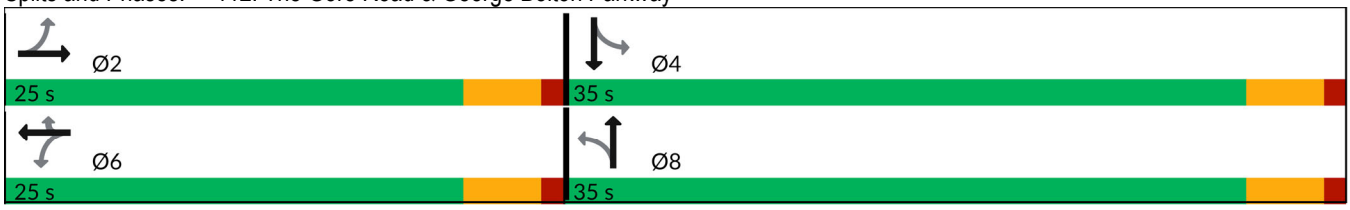


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	31	30	196	33	98	35	920	113	56	1030	165
Future Volume (vph)	175	31	30	196	33	98	35	920	113	56	1030	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.926				0.850		0.984			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1725	0	1770	1863	1583	1770	3483	0	1770	3465	0
Flt Permitted	0.734			0.713			0.178			0.184		
Satd. Flow (perm)	1367	1725	0	1328	1863	1583	332	3483	0	343	3465	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33				79		32			43	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		415.9			925.7			788.8			1501.3	
Travel Time (s)		25.0			55.5			40.6			77.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	190	34	33	213	36	107	38	1000	123	61	1120	179
Shared Lane Traffic (%)												
Lane Group Flow (vph)	190	67	0	213	36	107	38	1123	0	61	1299	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	25.0	25.0		25.0	25.0	25.0	35.0	35.0		35.0	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%	41.7%	58.3%	58.3%		58.3%	58.3%	
Maximum Green (s)	20.5	20.5		20.5	20.5	20.5	30.5	30.5		30.5	30.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min	Min	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	12.9	12.9		12.9	12.9	12.9	22.5	22.5		22.5	22.5	
Actuated g/C Ratio	0.29	0.29		0.29	0.29	0.29	0.50	0.50		0.50	0.50	
v/c Ratio	0.48	0.13		0.56	0.07	0.21	0.23	0.64		0.36	0.74	
Control Delay (s/veh)	19.2	9.1		21.2	13.4	7.0	11.7	10.4		15.1	12.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	19.2	9.1		21.2	13.4	7.0	11.7	10.4		15.1	12.1	
LOS	B	A		C	B	A	B	B		B	B	
Approach Delay (s/veh)		16.6			16.2			10.4			12.3	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 45			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay (s/veh): 12.4		Intersection LOS: B	
Intersection Capacity Utilization 66.7%		ICU Level of Service C	
Analysis Period (min) 15			

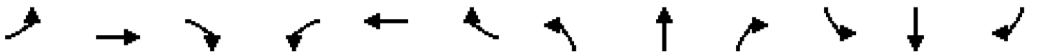
Splits and Phases: 112: The Gore Road & George Bolton Parkway





Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	190	67	213	36	107	38	1123	61	1299
v/c Ratio	0.48	0.13	0.56	0.07	0.21	0.23	0.64	0.36	0.74
Control Delay (s/veh)	19.2	9.1	21.2	13.4	7.0	11.7	10.4	15.1	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	19.2	9.1	21.2	13.4	7.0	11.7	10.4	15.1	12.1
Queue Length 50th (m)	12.6	2.0	14.5	2.1	1.6	1.5	29.2	2.6	36.3
Queue Length 95th (m)	32.0	9.6	36.3	7.9	11.0	8.0	61.5	13.0	76.7
Internal Link Dist (m)		391.9		901.7			764.8		1477.3
Turn Bay Length (m)	50.0		50.0			50.0		50.0	
Base Capacity (vph)	664	855	645	905	810	237	2500	245	2490
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.08	0.33	0.04	0.13	0.16	0.45	0.25	0.52

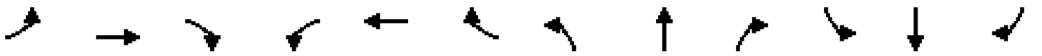
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	31	30	196	33	98	35	920	113	56	1030	165
Future Volume (vph)	175	31	30	196	33	98	35	920	113	56	1030	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1725		1770	1863	1583	1770	3481		1770	3466	
Flt Permitted	0.73	1.00		0.71	1.00	1.00	0.18	1.00		0.18	1.00	
Satd. Flow (perm)	1367	1725		1329	1863	1583	331	3481		342	3466	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	190	34	33	213	36	107	38	1000	123	61	1120	179
RTOR Reduction (vph)	0	23	0	0	0	56	0	16	0	0	21	0
Lane Group Flow (vph)	190	44	0	213	36	51	38	1107	0	61	1278	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	12.9	12.9		12.9	12.9	12.9	22.5	22.5		22.5	22.5	
Effective Green, g (s)	12.9	12.9		12.9	12.9	12.9	22.5	22.5		22.5	22.5	
Actuated g/C Ratio	0.29	0.29		0.29	0.29	0.29	0.51	0.51		0.51	0.51	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	397	501		386	541	459	167	1764		173	1756	
v/s Ratio Prot		0.03			0.02			0.32			c0.37	
v/s Ratio Perm	0.14			c0.16		0.03	0.11			0.18		
v/c Ratio	0.48	0.09		0.55	0.07	0.11	0.23	0.63		0.35	0.73	
Uniform Delay, d1	13.0	11.5		13.3	11.4	11.5	6.1	7.9		6.6	8.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.1		1.7	0.1	0.1	0.7	0.7		1.2	1.5	
Delay (s)	13.9	11.5		15.0	11.4	11.7	6.8	8.6		7.8	10.1	
Level of Service	B	B		B	B	B	A	A		A	B	
Approach Delay (s/veh)		13.3			13.6			8.6			10.0	
Approach LOS		B			B			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	44.4	Sum of lost time (s)	9.0
Intersection Capacity Utilization	66.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

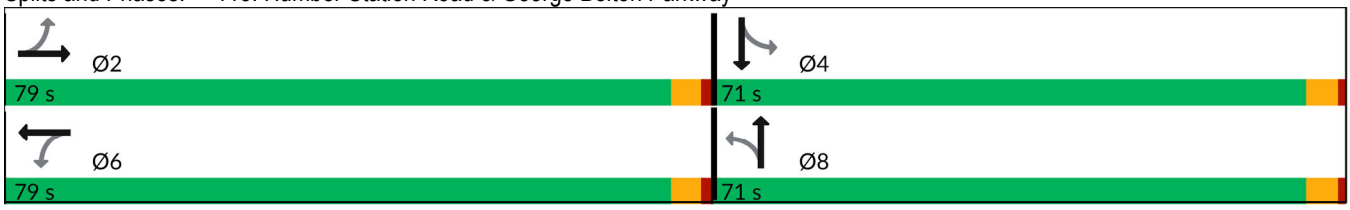


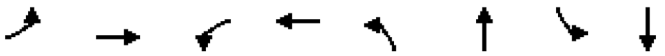
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	74	69	772	148	192	150	1807	108	62	768	69
Future Volume (vph)	92	74	69	772	148	192	150	1807	108	62	768	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.927			0.915			0.992			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3281	0	1770	3238	0	1770	3511	0	1770	3497	0
Flt Permitted	0.498			0.654			0.192			0.060		
Satd. Flow (perm)	928	3281	0	1218	3238	0	358	3511	0	112	3497	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		75			2			5			8	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		533.8			484.4			1231.2			670.0	
Travel Time (s)		32.0			29.1			63.3			34.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	80	75	839	161	209	163	1964	117	67	835	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	155	0	839	370	0	163	2081	0	67	910	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
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)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	79.0	79.0		79.0	79.0		71.0	71.0		71.0	71.0	
Total Split (%)	52.7%	52.7%		52.7%	52.7%		47.3%	47.3%		47.3%	47.3%	
Maximum Green (s)	74.5	74.5		74.5	74.5		66.5	66.5		66.5	66.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	74.5	74.5		74.5	74.5		66.5	66.5		66.5	66.5	
Actuated g/C Ratio	0.50	0.50		0.50	0.50		0.44	0.44		0.44	0.44	
v/c Ratio	0.22	0.09		1.39	0.23		1.03	1.33		1.37	0.59	
Control Delay (s/veh)	22.9	10.3		216.8	21.8		121.4	189.8		288.9	33.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	22.9	10.3		216.8	21.8		121.4	189.8		288.9	33.0	
LOS	C	B		F	C		F	F		F	C	
Approach Delay (s/veh)		15.2			157.1			184.8			50.5	
Approach LOS		B			F			F			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.39			
Intersection Signal Delay (s/veh): 140.4		Intersection LOS: F	
Intersection Capacity Utilization 119.6%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 113: Humber Station Road & George Bolton Parkway



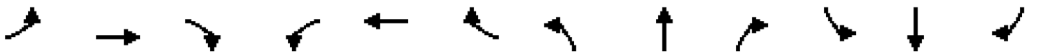


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	100	155	839	370	163	2081	67	910
v/c Ratio	0.22	0.09	1.39	0.23	1.03	1.33	1.37	0.59
Control Delay (s/veh)	22.9	10.3	216.8	21.8	121.4	189.8	288.9	33.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.9	10.3	216.8	21.8	121.4	189.8	288.9	33.0
Queue Length 50th (m)	17.2	6.6	~345.2	33.4	~53.8	~442.6	~27.1	109.5
Queue Length 95th (m)	30.3	13.1	#426.3	44.4	#102.7	#484.8	#46.4	131.5
Internal Link Dist (m)		509.8		460.4		1207.2		646.0
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	460	1667	604	1609	158	1559	49	1554
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	0.22	0.09	1.39	0.23	1.03	1.33	1.37	0.59

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

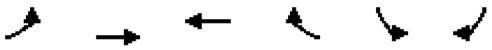
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	74	69	772	148	192	150	1807	108	62	768	69
Future Volume (vph)	92	74	69	772	148	192	150	1807	108	62	768	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.92		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3282		1770	3239		1770	3509		1770	3495	
Flt Permitted	0.50	1.00		0.65	1.00		0.19	1.00		0.06	1.00	
Satd. Flow (perm)	928	3282		1218	3239		358	3509		112	3495	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	80	75	839	161	209	163	1964	117	67	835	75
RTOR Reduction (vph)	0	38	0	0	1	0	0	3	0	0	4	0
Lane Group Flow (vph)	100	117	0	839	369	0	163	2078	0	67	906	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	74.5	74.5		74.5	74.5		66.5	66.5		66.5	66.5	
Effective Green, g (s)	74.5	74.5		74.5	74.5		66.5	66.5		66.5	66.5	
Actuated g/C Ratio	0.50	0.50		0.50	0.50		0.44	0.44		0.44	0.44	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	460	1630		604	1608		158	1555		49	1549	
v/s Ratio Prot		0.04			0.11			0.59			0.26	
v/s Ratio Perm	0.11			c0.69			0.46			c0.60		
v/c Ratio	0.22	0.07		1.39	0.23		1.03	1.34		1.37	0.58	
Uniform Delay, d1	21.3	19.7		37.8	21.4		41.8	41.8		41.8	31.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.0		185.1	0.1		80.2	155.9		254.2	0.6	
Delay (s)	21.5	19.7		222.9	21.5		121.9	197.6		296.0	31.9	
Level of Service	C	B		F	C		F	F		F	C	
Approach Delay (s/veh)		20.4			161.3			192.1			50.0	
Approach LOS		C			F			F			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	145.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	119.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

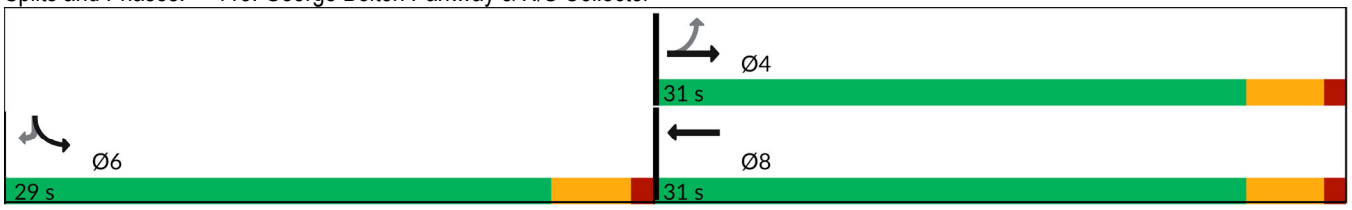


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	21	167	290	77	68	37
Future Volume (vph)	21	167	290	77	68	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0			0.0	50.0	0.0
Storage Lanes	1			0	1	1
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.968			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3426	0	1770	1583
Flt Permitted	0.533				0.950	
Satd. Flow (perm)	993	3539	3426	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			72			40
Link Speed (k/h)		60	60		60	
Link Distance (m)		925.7	533.8		846.0	
Travel Time (s)		55.5	32.0		50.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	182	315	84	74	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	23	182	399	0	74	40
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4					6

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8		6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5
Total Split (s)	31.0	31.0	31.0		29.0	29.0
Total Split (%)	51.7%	51.7%	51.7%		48.3%	48.3%
Maximum Green (s)	26.5	26.5	26.5		24.5	24.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	None		Min	Min
Walk Time (s)	7.0	7.0	7.0		7.0	7.0
Flash Don't Walk (s)	11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0
Act Effct Green (s)	7.5	7.5	7.5		6.5	6.5
Actuated g/C Ratio	0.32	0.32	0.32		0.28	0.28
v/c Ratio	0.07	0.16	0.34		0.15	0.08
Control Delay (s/veh)	6.1	6.0	5.7		7.3	3.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay (s/veh)	6.1	6.0	5.7		7.3	3.4
LOS	A	A	A		A	A
Approach Delay (s/veh)		6.0	5.7		5.9	
Approach LOS		A	A		A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 23.1			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.34			
Intersection Signal Delay (s/veh): 5.8		Intersection LOS: A	
Intersection Capacity Utilization 29.1%		ICU Level of Service A	
Analysis Period (min) 15			

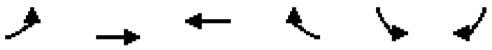
Splits and Phases: 115: George Bolton Parkway & N/S Collector





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	23	182	399	74	40
v/c Ratio	0.07	0.16	0.34	0.15	0.08
Control Delay (s/veh)	6.1	6.0	5.7	7.3	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.1	6.0	5.7	7.3	3.4
Queue Length 50th (m)	0.5	2.1	3.9	1.8	0.0
Queue Length 95th (m)	2.3	4.9	8.5	5.7	2.4
Internal Link Dist (m)		901.7	509.8	822.0	
Turn Bay Length (m)	50.0			50.0	
Base Capacity (vph)	993	3539	3426	1748	1564
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	0.02	0.05	0.12	0.04	0.03

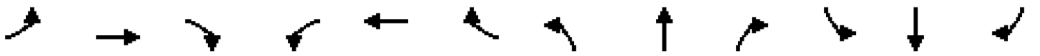
Intersection Summary



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	21	167	290	77	68	37
Future Volume (vph)	21	167	290	77	68	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.97		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3427		1770	1583
Flt Permitted	0.53	1.00	1.00		0.95	1.00
Satd. Flow (perm)	993	3539	3427		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	23	182	315	84	74	40
RTOR Reduction (vph)	0	0	49	0	0	29
Lane Group Flow (vph)	23	182	350	0	74	11
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4					6
Actuated Green, G (s)	7.5	7.5	7.5		6.5	6.5
Effective Green, g (s)	7.5	7.5	7.5		6.5	6.5
Actuated g/C Ratio	0.33	0.33	0.33		0.28	0.28
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	323	1154	1117		500	447
v/s Ratio Prot		0.05	c0.10		c0.04	
v/s Ratio Perm	0.02					0.01
v/c Ratio	0.07	0.16	0.31		0.15	0.03
Uniform Delay, d1	5.3	5.5	5.8		6.2	6.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	0.1	0.2		0.1	0.0
Delay (s)	5.4	5.6	6.0		6.3	6.0
Level of Service	A	A	A		A	A
Approach Delay (s/veh)		5.6	6.0		6.2	
Approach LOS		A	A		A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	23.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	29.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

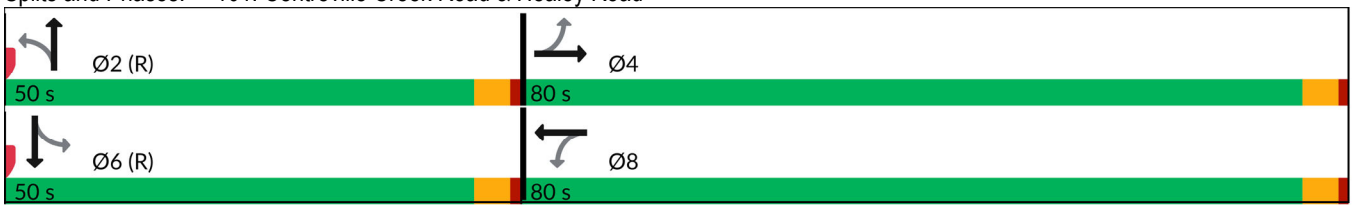


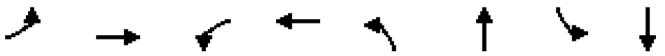
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	90	40	220	700	8	40	60	180	20	360	40
Future Volume (vph)	10	90	40	220	700	8	40	60	180	20	360	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.954			0.998			0.887			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	902	3287	0	1703	3426	0	1805	3163	0	1687	3432	0
Flt Permitted	0.164			0.659			0.473			0.586		
Satd. Flow (perm)	156	3287	0	1181	3426	0	899	3163	0	1041	3432	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45			1			202			10	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		295.9			1421.0			432.6			556.0	
Travel Time (s)		17.8			85.3			22.2			28.6	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	100%	2%	11%	6%	5%	20%	0%	5%	0%	7%	4%	0%
Adj. Flow (vph)	11	101	45	247	787	9	45	67	202	22	404	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	146	0	247	796	0	45	269	0	22	449	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	80.0	80.0		80.0	80.0		50.0	50.0		50.0	50.0	
Total Split (%)	61.5%	61.5%		61.5%	61.5%		38.5%	38.5%		38.5%	38.5%	
Maximum Green (s)	75.5	75.5		75.5	75.5		45.5	45.5		45.5	45.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	41.8	41.8		41.8	41.8		79.2	79.2		79.2	79.2	
Actuated g/C Ratio	0.32	0.32		0.32	0.32		0.61	0.61		0.61	0.61	
v/c Ratio	0.22	0.13		0.65	0.72		0.08	0.13		0.03	0.21	
Control Delay (s/veh)	40.4	20.0		13.8	11.7		13.4	3.9		13.1	12.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	40.4	20.0		13.8	11.7		13.4	3.9		13.1	12.5	
LOS	D	B		B	B		B	A		B	B	
Approach Delay (s/veh)		21.4			12.2			5.2			12.5	
Approach LOS		C			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 118 (91%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay (s/veh): 11.9		Intersection LOS: B	
Intersection Capacity Utilization 54.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 101: Centreville Creek Road & Healey Road

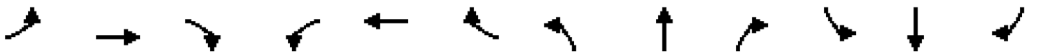




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	146	247	796	45	269	22	449
v/c Ratio	0.22	0.13	0.65	0.72	0.08	0.13	0.03	0.21
Control Delay (s/veh)	40.4	20.0	13.8	11.7	13.4	3.9	13.1	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	40.4	20.0	13.8	11.7	13.4	3.9	13.1	12.5
Queue Length 50th (m)	1.2	10.0	9.8	16.5	4.7	3.4	2.2	25.7
Queue Length 95th (m)	4.2	15.4	m6.5	m10.0	12.8	11.1	7.2	42.5
Internal Link Dist (m)		271.9		1397.0		408.6		532.0
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	90	1927	685	1990	547	2005	634	2094
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	0.12	0.08	0.36	0.40	0.08	0.13	0.03	0.21

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	90	40	220	700	8	40	60	180	20	360	40
Future Volume (vph)	10	90	40	220	700	8	40	60	180	20	360	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	1.00		1.00	0.89		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	903	3286		1703	3427		1805	3164		1687	3432	
Flt Permitted	0.16	1.00		0.66	1.00		0.47	1.00		0.59	1.00	
Satd. Flow (perm)	156	3286		1182	3427		898	3164		1041	3432	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	11	101	45	247	787	9	45	67	202	22	404	45
RTOR Reduction (vph)	0	31	0	0	1	0	0	79	0	0	4	0
Lane Group Flow (vph)	11	115	0	247	795	0	45	190	0	22	445	0
Heavy Vehicles (%)	100%	2%	11%	6%	5%	20%	0%	5%	0%	7%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	41.8	41.8		41.8	41.8		79.2	79.2		79.2	79.2	
Effective Green, g (s)	41.8	41.8		41.8	41.8		79.2	79.2		79.2	79.2	
Actuated g/C Ratio	0.32	0.32		0.32	0.32		0.61	0.61		0.61	0.61	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	50	1056		380	1101		547	1927		634	2090	
v/s Ratio Prot		0.04			c0.23			0.06			c0.13	
v/s Ratio Perm	0.07			0.21			0.05			0.02		
v/c Ratio	0.22	0.11		0.65	0.72		0.08	0.10		0.03	0.21	
Uniform Delay, d1	32.2	31.0		37.8	39.0		10.4	10.6		10.1	11.4	
Progression Factor	1.00	1.00		0.22	0.23		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.2	0.0		2.6	1.6		0.3	0.1		0.1	0.2	
Delay (s)	34.4	31.1		11.1	10.7		10.7	10.7		10.2	11.6	
Level of Service	C	C		B	B		B	B		B	B	
Approach Delay (s/veh)		31.3			10.8			10.7			11.6	
Approach LOS		C			B			B			B	

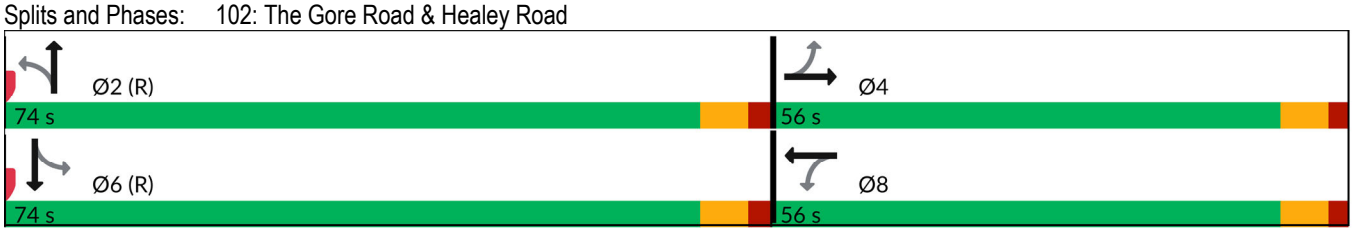
Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

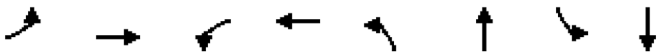
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	252	27	371	886	62	23	519	460	62	1700	16
Future Volume (vph)	2	252	27	371	886	62	23	519	460	62	1700	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor					1.00							
Frt		0.985			0.990			0.930			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1543	3433	0	1752	3349	0	1805	3083	0	1752	3469	0
Flt Permitted	0.128			0.558			0.059			0.190		
Satd. Flow (perm)	208	3433	0	1029	3349	0	112	3083	0	350	3469	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			6			256			1	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		1421.0			530.2			483.8			1079.4	
Travel Time (s)		85.3			31.8			24.9			55.5	
Confl. Peds. (#/hr)	1					1						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	17%	3%	9%	3%	4%	44%	0%	15%	2%	3%	4%	0%
Adj. Flow (vph)	2	268	29	395	943	66	24	552	489	66	1809	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	297	0	395	1009	0	24	1041	0	66	1826	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.6	25.6		25.6	25.6		26.6	26.6		26.6	26.6	
Total Split (s)	56.0	56.0		56.0	56.0		74.0	74.0		74.0	74.0	
Total Split (%)	43.1%	43.1%		43.1%	43.1%		56.9%	56.9%		56.9%	56.9%	
Maximum Green (s)	49.4	49.4		49.4	49.4		67.4	67.4		67.4	67.4	
Yellow Time (s)	4.6	4.6		4.6	4.6		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	49.4	49.4		49.4	49.4		67.4	67.4		67.4	67.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.52	0.52		0.52	0.52	
v/c Ratio	0.03	0.23		1.01	0.79		0.41	0.60		0.36	1.02	
Control Delay (s/veh)	26.5	24.5		72.4	26.7		44.3	22.1		25.9	56.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	26.5	24.5		72.4	26.7		44.3	22.1		25.9	56.3	
LOS	C	C		E	C		D	C		C	E	
Approach Delay (s/veh)		24.5			39.5			22.6			55.3	
Approach LOS		C			D			C			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 12 (9%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 100			
Control Type: Pretimed			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay (s/veh): 41.1		Intersection LOS: D	
Intersection Capacity Utilization 101.2%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 102: The Gore Road & Healey Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	2	297	395	1009	24	1041	66	1826
v/c Ratio	0.03	0.23	1.01	0.79	0.41	0.60	0.36	1.02
Control Delay (s/veh)	26.5	24.5	72.4	26.7	44.3	22.1	25.9	56.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.5	24.5	72.4	26.7	44.3	22.1	25.9	56.3
Queue Length 50th (m)	0.3	24.4	~109.3	30.5	5.1	107.5	10.1	~259.2
Queue Length 95th (m)	2.0	35.8	#176.5	132.4	m11.3	104.2	23.2	#312.5
Internal Link Dist (m)		1397.0		506.2		459.8		1055.4
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	79	1310	391	1276	58	1721	181	1799
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.23	1.01	0.79	0.41	0.60	0.36	1.02

Intersection Summary

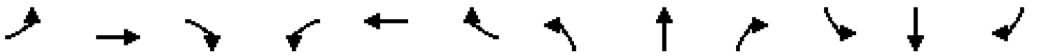
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	252	27	371	886	62	23	519	460	62	1700	16
Future Volume (vph)	2	252	27	371	886	62	23	519	460	62	1700	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.93		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1543	3434		1752	3350		1805	3082		1752	3468	
Flt Permitted	0.13	1.00		0.56	1.00		0.06	1.00		0.19	1.00	
Satd. Flow (perm)	208	3434		1030	3350		113	3082		351	3468	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	2	268	29	395	943	66	24	552	489	66	1809	17
RTOR Reduction (vph)	0	6	0	0	4	0	0	123	0	0	0	0
Lane Group Flow (vph)	2	291	0	395	1005	0	24	918	0	66	1826	0
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	17%	3%	9%	3%	4%	44%	0%	15%	2%	3%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	49.4	49.4		49.4	49.4		67.4	67.4		67.4	67.4	
Effective Green, g (s)	49.4	49.4		49.4	49.4		67.4	67.4		67.4	67.4	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.52	0.52		0.52	0.52	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Grp Cap (vph)	79	1304		391	1273		58	1597		181	1798	
v/s Ratio Prot		0.08			0.30			0.30			c0.53	
v/s Ratio Perm	0.01			c0.38			0.21			0.19		
v/c Ratio	0.03	0.22		1.01	0.79		0.41	0.57		0.36	1.02	
Uniform Delay, d1	25.2	27.3		40.3	35.7		19.2	21.5		18.6	31.3	
Progression Factor	0.99	0.91		0.65	0.63		1.02	1.29		1.00	1.00	
Incremental Delay, d2	0.6	0.4		44.0	4.2		18.6	1.4		5.6	25.1	
Delay (s)	25.5	25.1		70.2	26.5		38.2	29.0		24.2	56.4	
Level of Service	C	C		E	C		D	C		C	E	
Approach Delay (s/veh)		25.1			38.8			29.3			55.3	
Approach LOS		C			D			C			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	42.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	101.2%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



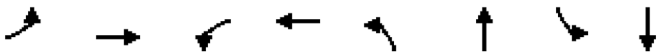
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	585	7	10	501	32	61	714	58	295	1932	813
Future Volume (vph)	22	585	7	10	501	32	61	714	58	295	1932	813
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.998			0.991			0.989			0.956	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3533	0	1641	3448	0	1805	3383	0	1770	3380	0
Flt Permitted	0.186			0.186			0.040			0.304		
Satd. Flow (perm)	353	3533	0	321	3448	0	76	3383	0	566	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			4			4			10	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		536.6			1380.2			839.8			680.2	
Travel Time (s)		32.2			82.8			43.2			35.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	10%	4%	0%	0%	6%	0%	2%	3%	0%
Adj. Flow (vph)	25	665	8	11	569	36	69	811	66	335	2195	924
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	673	0	11	605	0	69	877	0	335	3119	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	26.0	26.0		26.0	26.0		104.0	104.0		104.0	104.0	
Total Split (%)	20.0%	20.0%		20.0%	20.0%		80.0%	80.0%		80.0%	80.0%	
Maximum Green (s)	21.5	21.5		21.5	21.5		99.5	99.5		99.5	99.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	21.5	21.5		21.5	21.5		99.5	99.5		99.5	99.5	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.77	0.77		0.77	0.77	
v/c Ratio	0.43	1.15		0.21	1.06		1.19	0.34		0.77	1.20	
Control Delay (s/veh)	68.1	130.2		50.5	94.3		205.2	6.3		23.8	115.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	68.1	130.2		50.5	94.3		205.2	6.3		23.8	115.0	
LOS	E	F		D	F		F	A		C	F	
Approach Delay (s/veh)		128.0			93.5			20.8			106.1	
Approach LOS		F			F			C			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 84 (65%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.20			
Intersection Signal Delay (s/veh): 93.3		Intersection LOS: F	
Intersection Capacity Utilization 113.1%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 103: Humber Station Road & Healey Road





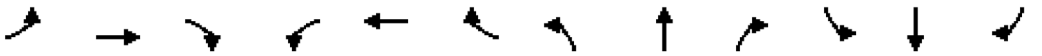
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	25	673	11	605	69	877	335	3119
v/c Ratio	0.43	1.15	0.21	1.06	1.19	0.34	0.77	1.20
Control Delay (s/veh)	68.1	130.2	50.5	94.3	205.2	6.3	23.8	115.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	68.1	130.2	50.5	94.3	205.2	6.3	23.8	115.0
Queue Length 50th (m)	4.3	~110.7	2.3	~92.2	~21.9	37.4	44.3	~532.8
Queue Length 95th (m)	#13.7	#138.5	m4.1	m#95.6	#52.4	56.4	#101.4	#548.0
Internal Link Dist (m)		512.6		1356.2		815.8		656.2
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	58	585	53	573	58	2590	433	2589
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	1.15	0.21	1.06	1.19	0.34	0.77	1.20

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

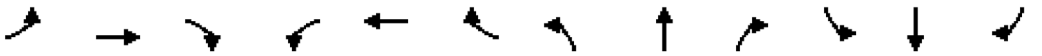
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	585	7	10	501	32	61	714	58	295	1932	813
Future Volume (vph)	22	585	7	10	501	32	61	714	58	295	1932	813
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	1.00		1.00	0.99		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)	1805	3534		1641	3448		1805	3382		1770	3378	
Flt Permitted	0.19	1.00		0.19	1.00		0.04	1.00		0.30	1.00	
Satd. Flow (perm)	353	3534		321	3448		76	3382		567	3378	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	25	665	8	11	569	36	69	811	66	335	2195	924
RTOR Reduction (vph)	0	1	0	0	3	0	0	1	0	0	2	0
Lane Group Flow (vph)	25	672	0	11	602	0	69	876	0	335	3117	0
Heavy Vehicles (%)	0%	2%	0%	10%	4%	0%	0%	6%	0%	2%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	21.5	21.5		21.5	21.5		99.5	99.5		99.5	99.5	
Effective Green, g (s)	21.5	21.5		21.5	21.5		99.5	99.5		99.5	99.5	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.77	0.77		0.77	0.77	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	58	584		53	570		58	2588		433	2585	
v/s Ratio Prot		c0.19			0.17			0.26			c0.92	
v/s Ratio Perm	0.07			0.03			0.90			0.59		
v/c Ratio	0.43	1.15		0.21	1.06		1.19	0.34		0.77	1.21	
Uniform Delay, d1	48.8	54.3		46.9	54.3		15.3	4.8		8.8	15.3	
Progression Factor	0.92	0.93		0.91	0.93		1.45	1.23		1.00	1.00	
Incremental Delay, d2	4.8	85.7		1.3	46.3		178.0	0.4		12.6	96.5	
Delay (s)	49.5	136.0		44.1	96.7		200.1	6.3		21.4	111.7	
Level of Service	D	F		D	F		F	A		C	F	
Approach Delay (s/veh)		132.9			95.8			20.4			103.0	
Approach LOS		F			F			C			F	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	92.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	113.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

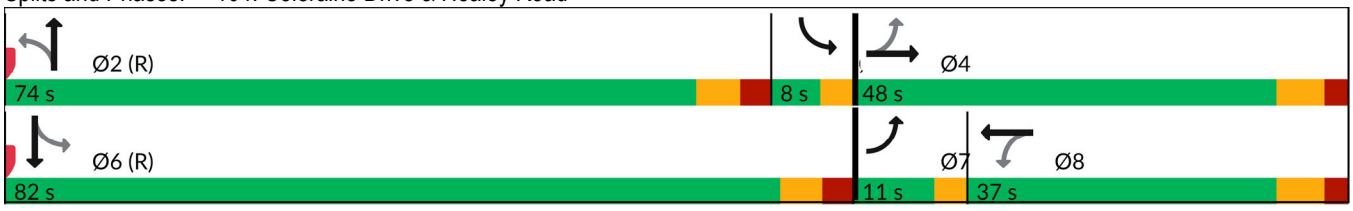


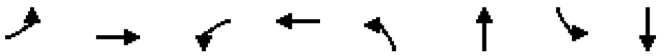
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	358	233	277	40	131	30	21	319	19	118	1816	341
Future Volume (vph)	358	233	277	40	131	30	21	319	19	118	1816	341
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	20.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.919			0.972			0.992			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	3238	0	1347	3215	0	1656	2714	0	1421	3215	0
Flt Permitted	0.547			0.395			0.050			0.531		
Satd. Flow (perm)	971	3238	0	560	3215	0	87	2714	0	794	3215	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			20			7			28	
Link Speed (k/h)		60			50			70			70	
Link Distance (m)		1380.2			427.4			630.5			589.7	
Travel Time (s)		82.8			30.8			32.4			30.3	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	7%	3%	2%	34%	3%	36%	9%	33%	14%	27%	11%	2%
Adj. Flow (vph)	393	256	304	44	144	33	23	351	21	130	1996	375
Shared Lane Traffic (%)												
Lane Group Flow (vph)	393	560	0	44	177	0	23	372	0	130	2371	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	12.0		12.0	12.0		12.0	12.0		5.0	12.0	
Minimum Split (s)	8.0	37.0		37.0	37.0		37.0	37.0		8.0	37.0	
Total Split (s)	11.0	48.0		37.0	37.0		74.0	74.0		8.0	82.0	
Total Split (%)	8.5%	36.9%		28.5%	28.5%		56.9%	56.9%		6.2%	63.1%	
Maximum Green (s)	8.0	41.0		30.0	30.0		67.0	67.0		5.0	75.0	
Yellow Time (s)	3.0	4.6		4.6	4.6		4.2	4.2		3.0	4.2	
All-Red Time (s)	0.0	2.4		2.4	2.4		2.8	2.8		0.0	2.8	
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	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lead/Lag	Lead			Lag	Lag		Lead	Lead		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	
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	
Walk Time (s)		12.0		12.0	12.0		12.0	12.0			12.0	
Flash Don't Walk (s)		18.0		18.0	18.0		18.0	18.0			18.0	
Pedestrian Calls (#/hr)		0		0	0		0	0			0	
Act Effct Green (s)	32.6	28.6		17.6	17.6		79.4	79.4		91.4	87.4	
Actuated g/C Ratio	0.25	0.22		0.14	0.14		0.61	0.61		0.70	0.67	
v/c Ratio	1.37	0.86dr		0.59	0.39		0.43	0.22		0.22	1.09	
Control Delay (s/veh)	196.6	26.5		81.3	46.9		47.2	12.2		8.9	72.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	196.6	26.5		81.3	46.9		47.2	12.2		8.9	72.1	
LOS	F	C		F	D		D	B		A	E	
Approach Delay (s/veh)		96.7			53.7			14.3			68.8	
Approach LOS		F			D			B			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 52 (40%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.37			
Intersection Signal Delay (s/veh): 69.2		Intersection LOS: E	
Intersection Capacity Utilization 121.7%		ICU Level of Service H	
Analysis Period (min) 15			
dr Defacto Right Lane. Recode with 1 though lane as a right lane.			

Splits and Phases: 104: Coleraine Drive & Healey Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	393	560	44	177	23	372	130	2371
v/c Ratio	1.37	0.86dr	0.59	0.39	0.43	0.22	0.22	1.09
Control Delay (s/veh)	196.6	26.5	81.3	46.9	47.2	12.2	8.9	72.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	196.6	26.5	81.3	46.9	47.2	12.2	8.9	72.1
Queue Length 50th (m)	~139.9	30.7	9.6	20.3	3.0	18.7	9.1	~360.0
Queue Length 95th (m)	m#128.8	m29.8	20.5	30.2	#18.7	29.8	18.6	#425.0
Internal Link Dist (m)		1356.2		403.4		606.5		565.7
Turn Bay Length (m)	30.0		20.0		60.0		55.0	
Base Capacity (vph)	287	1027	129	757	53	1660	582	2171
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.37	0.55	0.34	0.23	0.43	0.22	0.22	1.09

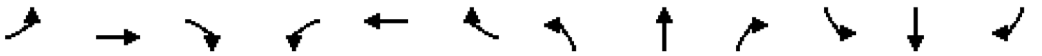
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

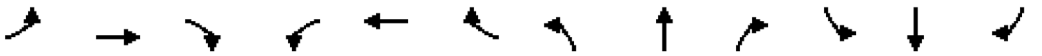


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	358	233	277	40	131	30	21	319	19	118	1816	341
Future Volume (vph)	358	233	277	40	131	30	21	319	19	118	1816	341
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.92		1.00	0.97		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1687	3237		1347	3215		1656	2713		1421	3216	
Flt Permitted	0.55	1.00		0.40	1.00		0.05	1.00		0.53	1.00	
Satd. Flow (perm)	971	3237		561	3215		88	2713		794	3216	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	393	256	304	44	144	33	23	351	21	130	1996	375
RTOR Reduction (vph)	0	7	0	0	17	0	0	3	0	0	9	0
Lane Group Flow (vph)	393	553	0	44	160	0	23	369	0	130	2362	0
Heavy Vehicles (%)	7%	3%	2%	34%	3%	36%	9%	33%	14%	27%	11%	2%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	28.6	28.6		17.6	17.6		79.4	79.4		91.4	87.4	
Effective Green, g (s)	28.6	28.6		17.6	17.6		79.4	79.4		91.4	87.4	
Actuated g/C Ratio	0.22	0.22		0.14	0.14		0.61	0.61		0.70	0.67	
Clearance Time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	257	712		75	435		53	1657		582	2162	
v/s Ratio Prot	c0.09	0.17			0.05			0.14		0.01	c0.73	
v/s Ratio Perm	c0.24			0.08			0.26			0.15		
v/c Ratio	1.53	0.86dr		0.59	0.37		0.43	0.22		0.22	1.09	
Uniform Delay, d1	49.8	47.7		52.8	51.1		13.4	11.4		6.9	21.3	
Progression Factor	0.49	0.52		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	243.3	1.4		11.2	0.5		23.8	0.3		0.2	49.8	
Delay (s)	267.9	26.4		64.0	51.7		37.2	11.7		7.0	71.1	
Level of Service	F	C		E	D		D	B		A	E	
Approach Delay (s/veh)		126.0			54.1			13.2			67.8	
Approach LOS		F			D			B			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	75.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	121.7%	ICU Level of Service	H
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

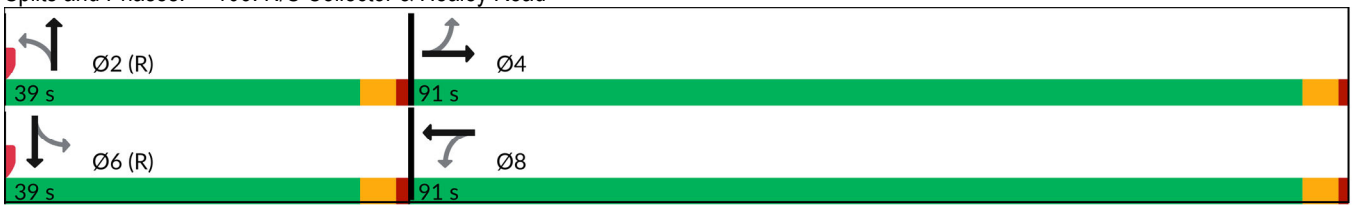


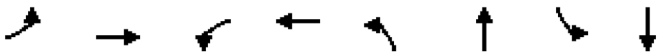
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	704	56	84	1271	3	33	120	66	8	139	15
Future Volume (vph)	14	704	56	84	1271	3	33	120	66	8	139	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989						0.947			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3500	0	1770	3539	0	1770	1764	0	1770	1837	0
Flt Permitted	0.091			0.268			0.607			0.565		
Satd. Flow (perm)	170	3500	0	499	3539	0	1131	1764	0	1052	1837	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13						21			4	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		289.7			536.6			472.1			202.6	
Travel Time (s)		17.4			32.2			28.3			12.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	765	61	91	1382	3	36	130	72	9	151	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	15	826	0	91	1385	0	36	202	0	9	167	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
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)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	91.0	91.0		91.0	91.0		39.0	39.0		39.0	39.0	
Total Split (%)	70.0%	70.0%		70.0%	70.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	86.5	86.5		86.5	86.5		34.5	34.5		34.5	34.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	69.3	69.3		69.3	69.3		51.7	51.7		51.7	51.7	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.40	0.40		0.40	0.40	
v/c Ratio	0.17	0.44		0.34	0.73		0.08	0.28		0.02	0.23	
Control Delay (s/veh)	13.4	11.1		16.5	24.6		29.5	27.4		29.5	28.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	13.4	11.1		16.5	24.6		29.5	27.4		29.5	28.9	
LOS	B	B		B	C		C	C		C	C	
Approach Delay (s/veh)		11.2			24.1			27.7			28.9	
Approach LOS		B			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 122 (94%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay (s/veh): 20.7		Intersection LOS: C	
Intersection Capacity Utilization 68.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 106: N/S Collector & Healey Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	15	826	91	1385	36	202	9	167
v/c Ratio	0.17	0.44	0.34	0.73	0.08	0.28	0.02	0.23
Control Delay (s/veh)	13.4	11.1	16.5	24.6	29.5	27.4	29.5	28.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.4	11.1	16.5	24.6	29.5	27.4	29.5	28.9
Queue Length 50th (m)	1.3	41.7	13.3	135.4	5.9	32.4	1.5	28.6
Queue Length 95th (m)	m3.3	53.2	m6.5	m63.4	15.9	60.5	6.2	53.4
Internal Link Dist (m)		265.7		512.6		448.1		178.6
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	113	2333	332	2354	449	714	418	733
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.35	0.27	0.59	0.08	0.28	0.02	0.23

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	704	56	84	1271	3	33	120	66	8	139	15
Future Volume (vph)	14	704	56	84	1271	3	33	120	66	8	139	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.95		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)	1770	3500		1770	3538		1770	1763		1770	1836	
Flt Permitted	0.09	1.00		0.27	1.00		0.61	1.00		0.57	1.00	
Satd. Flow (perm)	170	3500		499	3538		1131	1763		1053	1836	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	765	61	91	1382	3	36	130	72	9	151	16
RTOR Reduction (vph)	0	6	0	0	0	0	0	13	0	0	2	0
Lane Group Flow (vph)	15	820	0	91	1385	0	36	189	0	9	165	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	69.3	69.3		69.3	69.3		51.7	51.7		51.7	51.7	
Effective Green, g (s)	69.3	69.3		69.3	69.3		51.7	51.7		51.7	51.7	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.40	0.40		0.40	0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	90	1865		266	1886		449	701		418	730	
v/s Ratio Prot		0.23			c0.39			c0.11			0.09	
v/s Ratio Perm	0.09			0.18			0.03			0.01		
v/c Ratio	0.17	0.44		0.34	0.73		0.08	0.27		0.02	0.23	
Uniform Delay, d1	15.6	18.5		17.3	23.3		24.4	26.4		23.8	25.9	
Progression Factor	0.73	0.59		1.02	1.07		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.2		0.1	0.1		0.3	0.9		0.1	0.7	
Delay (s)	12.2	11.1		17.8	25.0		24.7	27.4		23.9	26.6	
Level of Service	B	B		B	C		C	C		C	C	
Approach Delay (s/veh)		11.1			24.6			27.0			26.5	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.9%	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)	0	0	0	23	0	53	0	166	27	63	216	0
Future Volume (vph)	0	0	0	23	0	53	0	166	27	63	216	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.906			0.981				
Flt Protected					0.985						0.989	
Satd. Flow (prot)	0	1863	0	0	1662	0	0	1827	0	0	1842	0
Flt Permitted					0.985						0.989	
Satd. Flow (perm)	0	1863	0	0	1662	0	0	1827	0	0	1842	0
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		282.8			530.8			327.7			370.2	
Travel Time (s)		20.4			38.2			19.7			22.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	25	0	58	0	180	29	68	235	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	83	0	0	209	0	0	303	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

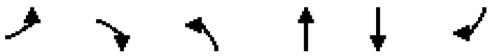
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	23	0	53	0	166	27	63	216	0
Future Volume (vph)	0	0	0	23	0	53	0	166	27	63	216	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	25	0	58	0	180	29	68	235	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	0	83	209	303
Volume Left (vph)	0	25	0	68
Volume Right (vph)	0	58	29	0
Hadj (s)	0.00	-0.33	-0.05	0.08
Departure Headway (s)	5.2	4.7	4.4	4.4
Degree Utilization, x	0.00	0.11	0.25	0.37
Capacity (veh/h)	625	686	793	790
Control Delay (s/veh)	8.2	8.3	8.9	10.0
Approach Delay (s/veh)	0.0	8.3	8.9	10.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	9.4			
Level of Service	A			
Intersection Capacity Utilization	39.8%	ICU Level of Service	A	
Analysis Period (min)	15			

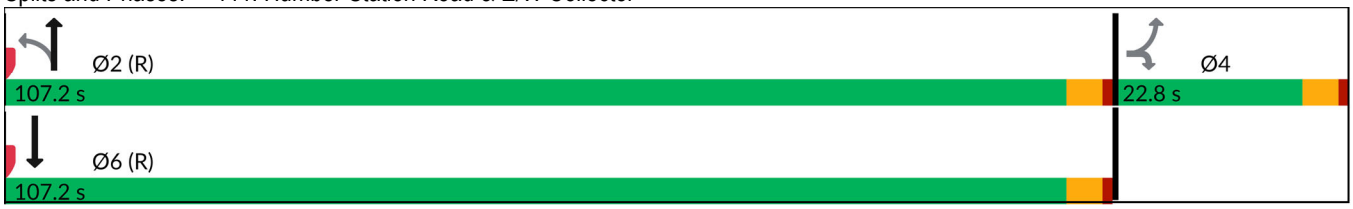


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	36	54	42	653	1863	34
Future Volume (vph)	36	54	42	653	1863	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.997	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3529	0
Flt Permitted	0.950		0.080			
Satd. Flow (perm)	1770	1583	149	3539	3529	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		34			5	
Link Speed (k/h)	50			70	70	
Link Distance (m)	530.8			351.5	839.8	
Travel Time (s)	38.2			18.1	43.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	59	46	710	2025	37
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	59	46	710	2062	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4	4	2			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	2	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	22.8	22.8	107.2	107.2	107.2	
Total Split (%)	17.5%	17.5%	82.5%	82.5%	82.5%	
Maximum Green (s)	18.3	18.3	102.7	102.7	102.7	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Min	C-Min	C-Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	8.4	8.4	115.5	115.5	115.5	
Actuated g/C Ratio	0.06	0.06	0.89	0.89	0.89	
v/c Ratio	0.34	0.44	0.35	0.23	0.66	
Control Delay (s/veh)	65.3	39.6	9.5	1.4	4.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	65.3	39.6	9.5	1.4	4.0	
LOS	E	D	A	A	A	
Approach Delay (s/veh)	49.8			1.9	4.0	
Approach LOS	D			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 120 (92%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay (s/veh): 5.0		Intersection LOS: A	
Intersection Capacity Utilization 64.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 111: Humber Station Road & E/W Collector

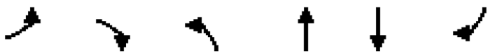




Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	39	59	46	710	2062
v/c Ratio	0.34	0.44	0.35	0.23	0.66
Control Delay (s/veh)	65.3	39.6	9.5	1.4	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	65.3	39.6	9.5	1.4	4.0
Queue Length 50th (m)	10.2	6.5	1.7	12.4	148.3
Queue Length 95th (m)	21.8	20.5	m3.8	12.5	m10.5
Internal Link Dist (m)	506.8			327.5	815.8
Turn Bay Length (m)	50.0		50.0		
Base Capacity (vph)	249	252	132	3143	3135
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	0.16	0.23	0.35	0.23	0.66

Intersection Summary

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	36	54	42	653	1863	34
Future Volume (vph)	36	54	42	653	1863	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	3539	3530	
Flt Permitted	0.95	1.00	0.08	1.00	1.00	
Satd. Flow (perm)	1770	1583	149	3539	3530	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	59	46	710	2025	37
RTOR Reduction (vph)	0	32	0	0	1	0
Lane Group Flow (vph)	39	27	46	710	2061	0
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4	4	2			
Actuated Green, G (s)	7.3	7.3	113.7	113.7	113.7	
Effective Green, g (s)	7.3	7.3	113.7	113.7	113.7	
Actuated g/C Ratio	0.06	0.06	0.87	0.87	0.87	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	99	88	130	3095	3087	
v/s Ratio Prot				0.20	c0.58	
v/s Ratio Perm	c0.02	0.02	0.31			
v/c Ratio	0.39	0.31	0.35	0.23	0.67	
Uniform Delay, d1	59.2	58.9	1.5	1.3	2.5	
Progression Factor	1.00	1.00	0.93	0.90	1.36	
Incremental Delay, d2	2.6	2.0	7.1	0.2	0.1	
Delay (s)	61.8	60.9	8.5	1.3	3.4	
Level of Service	E	E	A	A	A	
Approach Delay (s/veh)	61.2			1.8	3.4	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	4.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		

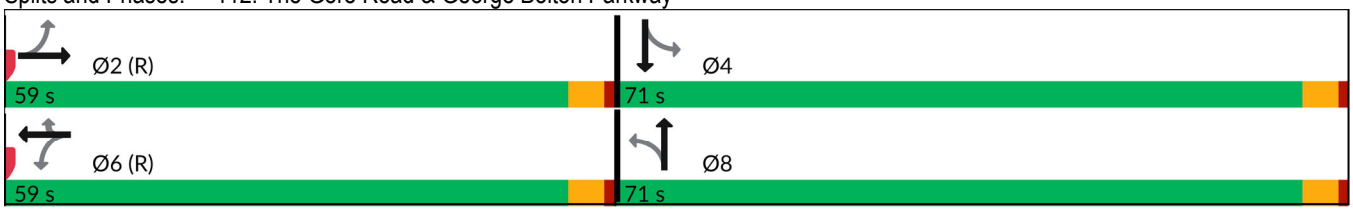
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	275	29	45	100	17	50	10	660	174	87	910	55
Future Volume (vph)	275	29	45	100	17	50	10	660	174	87	910	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.909				0.850		0.969			0.991	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1693	0	1770	1863	1583	1770	3430	0	1770	3507	0
Flt Permitted	0.746			0.704			0.098			0.156		
Satd. Flow (perm)	1390	1693	0	1311	1863	1583	183	3430	0	291	3507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49				54		37			7	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		415.9			925.7			788.8			1501.3	
Travel Time (s)		25.0			55.5			40.6			77.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	299	32	49	109	18	54	11	717	189	95	989	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	299	81	0	109	18	54	11	906	0	95	1049	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	59.0	59.0		59.0	59.0	59.0	71.0	71.0		71.0	71.0	
Total Split (%)	45.4%	45.4%		45.4%	45.4%	45.4%	54.6%	54.6%		54.6%	54.6%	
Maximum Green (s)	54.5	54.5		54.5	54.5	54.5	66.5	66.5		66.5	66.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min	C-Min	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	72.0	72.0		72.0	72.0	72.0	49.0	49.0		49.0	49.0	
Actuated g/C Ratio	0.55	0.55		0.55	0.55	0.55	0.38	0.38		0.38	0.38	
v/c Ratio	0.39	0.08		0.15	0.02	0.06	0.16	0.69		0.87	0.79	
Control Delay (s/veh)	20.0	8.0		20.3	20.0	8.0	29.7	34.9		36.1	22.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	20.0	8.0		20.3	20.0	8.0	29.7	34.9		36.1	22.4	
LOS	C	A		C	B	A	C	C		D	C	
Approach Delay (s/veh)		17.5			16.6			34.8			23.5	
Approach LOS		B			B			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 110 (85%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay (s/veh): 26.1		Intersection LOS: C	
Intersection Capacity Utilization 64.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 112: The Gore Road & George Bolton Parkway

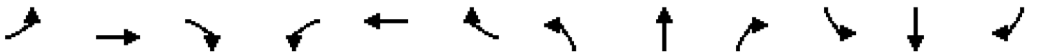




Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	299	81	109	18	54	11	906	95	1049
v/c Ratio	0.39	0.08	0.15	0.02	0.06	0.16	0.69	0.87	0.79
Control Delay (s/veh)	20.0	8.0	20.3	20.0	8.0	29.7	34.9	36.1	22.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	20.0	8.0	20.3	20.0	8.0	29.7	34.9	36.1	22.4
Queue Length 50th (m)	43.3	3.7	15.2	2.3	1.1	2.0	102.9	19.1	100.8
Queue Length 95th (m)	79.0	13.8	m31.1	m4.7	m6.1	6.3	108.2	m23.9	m123.6
Internal Link Dist (m)		391.9		901.7			764.8		1477.3
Turn Bay Length (m)	50.0		50.0			50.0		50.0	
Base Capacity (vph)	769	959	725	1031	900	93	1772	148	1797
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.08	0.15	0.02	0.06	0.12	0.51	0.64	0.58

Intersection Summary

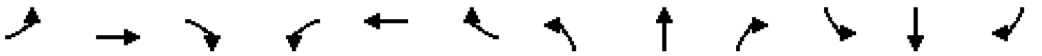
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	275	29	45	100	17	50	10	660	174	87	910	55
Future Volume (vph)	275	29	45	100	17	50	10	660	174	87	910	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.91		1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1694		1770	1863	1583	1770	3428		1770	3509	
Flt Permitted	0.75	1.00		0.70	1.00	1.00	0.10	1.00		0.16	1.00	
Satd. Flow (perm)	1389	1694		1312	1863	1583	183	3428		291	3509	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	299	32	49	109	18	54	11	717	189	95	989	60
RTOR Reduction (vph)	0	22	0	0	0	24	0	23	0	0	4	0
Lane Group Flow (vph)	299	59	0	109	18	30	11	883	0	95	1045	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	72.0	72.0		72.0	72.0	72.0	49.0	49.0		49.0	49.0	
Effective Green, g (s)	72.0	72.0		72.0	72.0	72.0	49.0	49.0		49.0	49.0	
Actuated g/C Ratio	0.55	0.55		0.55	0.55	0.55	0.38	0.38		0.38	0.38	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	769	938		726	1031	876	68	1292		109	1322	
v/s Ratio Prot		0.03			0.01			0.26			0.30	
v/s Ratio Perm	c0.22			0.08		0.02	0.06			c0.33		
v/c Ratio	0.39	0.06		0.15	0.02	0.03	0.16	0.68		0.87	0.79	
Uniform Delay, d1	16.5	13.4		14.1	13.1	13.2	26.9	34.0		37.6	35.9	
Progression Factor	1.00	1.00		1.23	1.24	1.72	1.00	1.00		0.68	0.62	
Incremental Delay, d2	1.5	0.1		0.3	0.0	0.1	1.1	1.5		7.1	0.3	
Delay (s)	18.0	13.5		17.7	16.3	22.7	28.0	35.5		32.8	22.7	
Level of Service	B	B		B	B	C	C	D		C	C	
Approach Delay (s/veh)		17.0			19.1			35.4			23.6	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	26.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

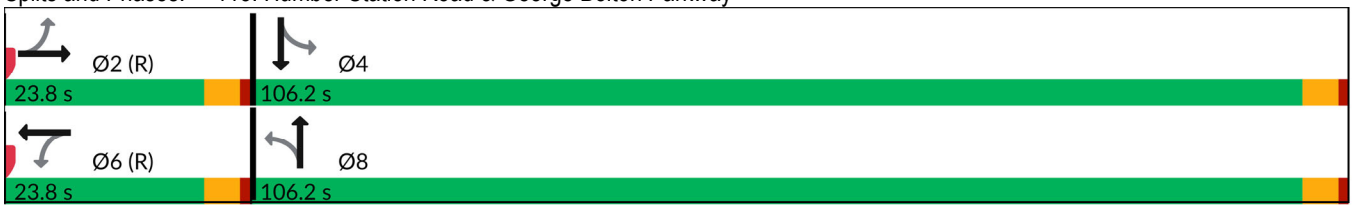


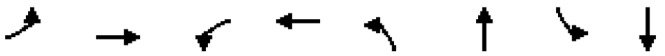
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	71	150	108	6	62	69	602	772	192	1703	92
Future Volume (vph)	69	71	150	108	6	62	69	602	772	192	1703	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.898			0.864			0.916			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3178	0	1770	3058	0	1770	3242	0	1770	3511	0
Flt Permitted	0.706			0.476			0.075			0.146		
Satd. Flow (perm)	1315	3178	0	887	3058	0	140	3242	0	272	3511	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45			67			560			14	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		533.8			484.4			1231.2			318.5	
Travel Time (s)		32.0			29.1			63.3			16.4	
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)	75	77	163	117	7	67	75	654	839	209	1851	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	75	240	0	117	74	0	75	1493	0	209	1951	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
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)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	23.8	23.8		23.8	23.8		106.2	106.2		106.2	106.2	
Total Split (%)	18.3%	18.3%		18.3%	18.3%		81.7%	81.7%		81.7%	81.7%	
Maximum Green (s)	19.3	19.3		19.3	19.3		101.7	101.7		101.7	101.7	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	18.6	18.6		18.6	18.6		102.4	102.4		102.4	102.4	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.79	0.79		0.79	0.79	
v/c Ratio	0.40	0.49		0.93	0.15		0.68	0.56		0.98	0.70	
Control Delay (s/veh)	36.4	27.1		117.5	14.0		42.1	3.8		57.7	1.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.1	
Total Delay (s/veh)	36.4	27.1		117.5	14.0		42.1	3.8		57.7	2.0	
LOS	D	C		F	B		D	A		E	A	
Approach Delay (s/veh)		29.3			77.4			5.6			7.4	
Approach LOS		C			E			A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 2 (2%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay (s/veh): 11.5		Intersection LOS: B	
Intersection Capacity Utilization 82.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 113: Humber Station Road & George Bolton Parkway



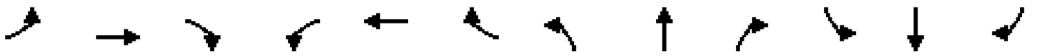


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	75	240	117	74	75	1493	209	1951
v/c Ratio	0.40	0.49	0.93	0.15	0.68	0.56	0.98	0.70
Control Delay (s/veh)	36.4	27.1	117.5	14.0	42.1	3.8	57.7	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay (s/veh)	36.4	27.1	117.5	14.0	42.1	3.8	57.7	2.0
Queue Length 50th (m)	19.9	29.1	31.1	0.8	7.9	37.6	30.5	7.6
Queue Length 95th (m)	m32.1	37.5	#68.9	8.2	#44.6	49.0	m#91.9	9.8
Internal Link Dist (m)		509.8		460.4		1207.2		294.5
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	195	510	131	511	110	2673	214	2768
Starvation Cap Reductn	0	0	0	0	0	0	0	89
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	0.38	0.47	0.89	0.14	0.68	0.56	0.98	0.73

Intersection Summary

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

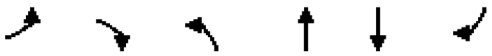
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	71	150	108	6	62	69	602	772	192	1703	92
Future Volume (vph)	69	71	150	108	6	62	69	602	772	192	1703	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.90		1.00	0.86		1.00	0.92		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)	1770	3179		1770	3059		1770	3241		1770	3512	
Flt Permitted	0.71	1.00		0.48	1.00		0.07	1.00		0.15	1.00	
Satd. Flow (perm)	1316	3179		887	3059		140	3241		272	3512	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	77	163	117	7	67	75	654	839	209	1851	100
RTOR Reduction (vph)	0	39	0	0	57	0	0	119	0	0	3	0
Lane Group Flow (vph)	75	201	0	117	17	0	75	1374	0	209	1948	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	18.6	18.6		18.6	18.6		102.4	102.4		102.4	102.4	
Effective Green, g (s)	18.6	18.6		18.6	18.6		102.4	102.4		102.4	102.4	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.79	0.79		0.79	0.79	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	188	454		126	437		110	2552		214	2766	
v/s Ratio Prot		0.06			0.01			0.42			0.55	
v/s Ratio Perm	0.06			c0.13			0.54			c0.77		
v/c Ratio	0.40	0.44		0.93	0.04		0.68	0.54		0.98	0.70	
Uniform Delay, d1	50.6	51.0		55.0	48.0		6.3	5.1		12.7	6.6	
Progression Factor	0.61	0.58		1.00	1.00		1.00	1.00		0.55	0.13	
Incremental Delay, d2	5.5	2.7		62.8	0.2		16.0	0.2		42.9	0.5	
Delay (s)	36.1	32.4		117.9	48.2		22.3	5.3		49.9	1.4	
Level of Service	D	C		F	D		C	A		D	A	
Approach Delay (s/veh)		33.3			90.9			6.1			6.1	
Approach LOS		C			F			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

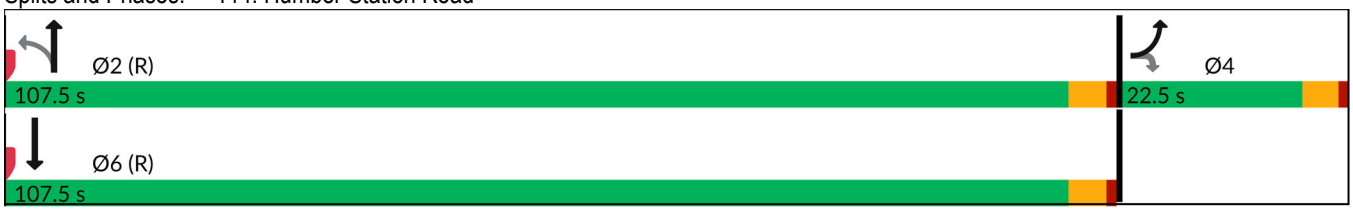


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	140	76	80	653	1911	86
Future Volume (vph)	140	76	80	653	1911	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3518	0
Flt Permitted	0.950		0.056			
Satd. Flow (perm)	1770	1583	104	3539	3518	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		32			12	
Link Speed (k/h)	50			70	70	
Link Distance (m)	420.4			318.5	351.5	
Travel Time (s)	30.3			16.4	18.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	83	87	710	2077	93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	83	87	710	2170	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	2	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	22.5	22.5	107.5	107.5	107.5	
Total Split (%)	17.3%	17.3%	82.7%	82.7%	82.7%	
Maximum Green (s)	18.0	18.0	103.0	103.0	103.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Max	C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	15.3	15.3	105.7	105.7	105.7	
Actuated g/C Ratio	0.12	0.12	0.81	0.81	0.81	
v/c Ratio	0.73	0.39	1.04	0.25	0.76	
Control Delay (s/veh)	75.0	38.1	123.5	2.8	3.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	75.0	38.1	123.5	2.8	3.7	
LOS	E	D	F	A	A	
Approach Delay (s/veh)	62.0			16.0	3.7	
Approach LOS	E			B	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 8 (6%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay (s/veh): 11.0		Intersection LOS: B	
Intersection Capacity Utilization 79.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 114: Humber Station Road



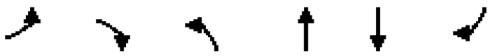


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	152	83	87	710	2170
v/c Ratio	0.73	0.39	1.04	0.25	0.76
Control Delay (s/veh)	75.0	38.1	123.5	2.8	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	75.0	38.1	123.5	2.8	3.7
Queue Length 50th (m)	39.4	12.5	~25.2	17.6	30.0
Queue Length 95th (m)	62.7	28.9	#60.7	22.4	23.3
Internal Link Dist (m)	396.4			294.5	327.5
Turn Bay Length (m)	50.0		50.0		
Base Capacity (vph)	245	246	84	2876	2861
Starvation Cap Reductn	0	0	0	0	2
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.62	0.34	1.04	0.25	0.76

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

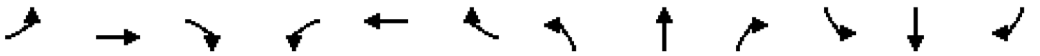
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	140	76	80	653	1911	86
Future Volume (vph)	140	76	80	653	1911	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	3539	3516	
Flt Permitted	0.95	1.00	0.06	1.00	1.00	
Satd. Flow (perm)	1770	1583	104	3539	3516	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	83	87	710	2077	93
RTOR Reduction (vph)	0	28	0	0	2	0
Lane Group Flow (vph)	152	55	87	710	2168	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	15.3	15.3	105.7	105.7	105.7	
Effective Green, g (s)	15.3	15.3	105.7	105.7	105.7	
Actuated g/C Ratio	0.12	0.12	0.81	0.81	0.81	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	208	186	84	2877	2858	
v/s Ratio Prot	c0.09			0.20	0.62	
v/s Ratio Perm		0.03	c0.83			
v/c Ratio	0.73	0.29	1.04	0.25	0.76	
Uniform Delay, d1	55.4	52.4	12.1	2.8	5.9	
Progression Factor	1.00	1.00	1.02	0.86	0.33	
Incremental Delay, d2	12.4	0.9	101.8	0.2	1.5	
Delay (s)	67.8	53.3	114.3	2.6	3.5	
Level of Service	E	D	F	A	A	
Approach Delay (s/veh)	62.7			14.8	3.5	
Approach LOS	E			B	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

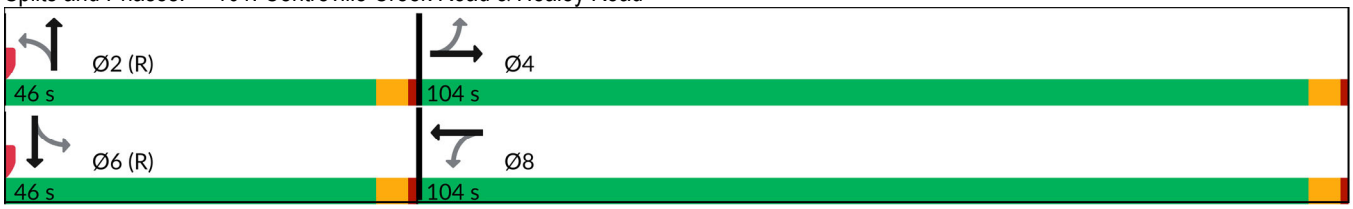


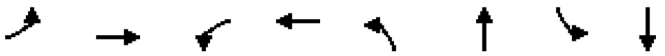
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	778	44	200	111	22	44	400	244	11	78	13
Future Volume (vph)	44	778	44	200	111	22	44	400	244	11	78	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.992			0.976			0.943			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3451	0	1805	3465	0	1719	3317	0	1805	3243	0
Flt Permitted	0.663			0.238			0.691			0.286		
Satd. Flow (perm)	1260	3451	0	452	3465	0	1250	3317	0	543	3243	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			23			85			13	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		295.9			1421.0			432.6			556.0	
Travel Time (s)		17.8			85.3			22.2			28.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	0%	0%	2%	0%	5%	3%	2%	0%	9%	8%
Adj. Flow (vph)	47	828	47	213	118	23	47	426	260	12	83	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	875	0	213	141	0	47	686	0	12	97	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	104.0	104.0		104.0	104.0		46.0	46.0		46.0	46.0	
Total Split (%)	69.3%	69.3%		69.3%	69.3%		30.7%	30.7%		30.7%	30.7%	
Maximum Green (s)	99.5	99.5		99.5	99.5		41.5	41.5		41.5	41.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	77.3	77.3		77.3	77.3		63.7	63.7		63.7	63.7	
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.42	0.42		0.42	0.42	
v/c Ratio	0.07	0.49		0.92	0.08		0.09	0.47		0.05	0.07	
Control Delay (s/veh)	13.4	23.9		67.0	7.5		35.8	32.5		38.4	28.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	13.4	23.9		67.0	7.5		35.8	32.5		38.4	28.9	
LOS	B	C		E	A		D	C		D	C	
Approach Delay (s/veh)		23.3			43.3			32.7			29.9	
Approach LOS		C			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 70 (47%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay (s/veh): 30.3		Intersection LOS: C	
Intersection Capacity Utilization 64.1%		ICU Level of Service C	
Analysis Period (min) 15			

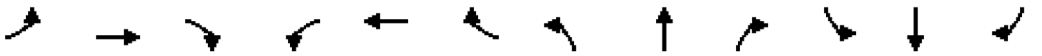
Splits and Phases: 101: Centreville Creek Road & Healey Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	47	875	213	141	47	686	12	97
v/c Ratio	0.07	0.49	0.92	0.08	0.09	0.47	0.05	0.07
Control Delay (s/veh)	13.4	23.9	67.0	7.5	35.8	32.5	38.4	28.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.4	23.9	67.0	7.5	35.8	32.5	38.4	28.9
Queue Length 50th (m)	7.0	86.1	48.2	1.4	8.8	71.3	2.2	8.0
Queue Length 95th (m)	9.8	71.5	94.0	1.3	22.1	112.1	8.8	17.4
Internal Link Dist (m)		271.9		1397.0		408.6		532.0
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	835	2291	299	2306	530	1457	230	1384
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.38	0.71	0.06	0.09	0.47	0.05	0.07

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	778	44	200	111	22	44	400	244	11	78	13
Future Volume (vph)	44	778	44	200	111	22	44	400	244	11	78	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	0.94		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3450		1805	3464		1719	3318		1805	3245	
Flt Permitted	0.66	1.00		0.24	1.00		0.69	1.00		0.29	1.00	
Satd. Flow (perm)	1259	3450		453	3464		1250	3318		543	3245	
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)	47	828	47	213	118	23	47	426	260	12	83	14
RTOR Reduction (vph)	0	4	0	0	11	0	0	49	0	0	7	0
Lane Group Flow (vph)	47	871	0	213	130	0	47	637	0	12	90	0
Heavy Vehicles (%)	0%	4%	0%	0%	2%	0%	5%	3%	2%	0%	9%	8%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	77.3	77.3		77.3	77.3		63.7	63.7		63.7	63.7	
Effective Green, g (s)	77.3	77.3		77.3	77.3		63.7	63.7		63.7	63.7	
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.42	0.42		0.42	0.42	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	648	1777		233	1785		530	1409		230	1378	
v/s Ratio Prot		0.25			0.04			c0.19			0.03	
v/s Ratio Perm	0.04			c0.47			0.04			0.02		
v/c Ratio	0.07	0.49		0.91	0.07		0.09	0.45		0.05	0.06	
Uniform Delay, d1	18.3	23.6		33.3	18.3		25.8	30.7		25.4	25.5	
Progression Factor	1.00	1.00		0.87	0.58		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.2		35.8	0.0		0.3	1.0		0.4	0.1	
Delay (s)	18.3	23.8		64.7	10.7		26.1	31.8		25.8	25.6	
Level of Service	B	C		E	B		C	C		C	C	
Approach Delay (s/veh)		23.5			43.2			31.4			25.6	
Approach LOS		C			D			C			C	

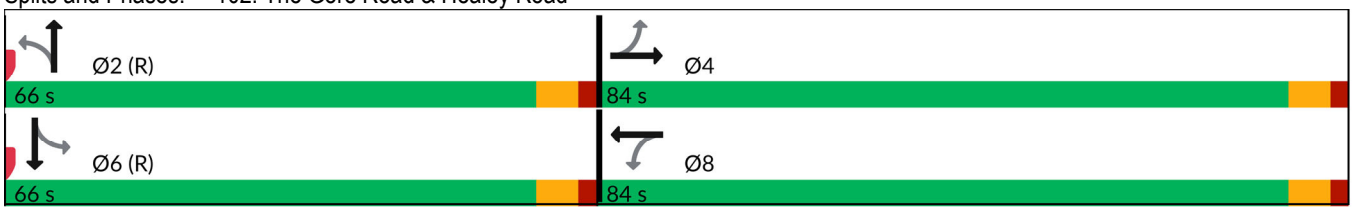
Intersection Summary			
HCM 2000 Control Delay (s/veh)	29.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

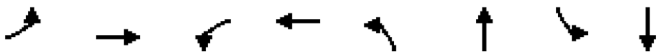
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	919	96	460	285	139	40	1822	513	54	610	2
Future Volume (vph)	35	919	96	460	285	139	40	1822	513	54	610	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.986			0.951			0.967				
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3495	0	1736	3334	0	1687	3283	0	1556	3283	0
Flt Permitted	0.463			0.173			0.304			0.067		
Satd. Flow (perm)	880	3495	0	316	3334	0	540	3283	0	110	3283	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			1			29				
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		1421.0			530.2			483.8			1079.4	
Travel Time (s)		85.3			31.8			24.9			55.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	10%	4%	1%	7%	7%	7%	4%	16%	10%	0%
Adj. Flow (vph)	37	978	102	489	303	148	43	1938	546	57	649	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	1080	0	489	451	0	43	2484	0	57	651	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.6	25.6		25.6	25.6		26.6	26.6		26.6	26.6	
Total Split (s)	84.0	84.0		84.0	84.0		66.0	66.0		66.0	66.0	
Total Split (%)	56.0%	56.0%		56.0%	56.0%		44.0%	44.0%		44.0%	44.0%	
Maximum Green (s)	77.4	77.4		77.4	77.4		59.4	59.4		59.4	59.4	
Yellow Time (s)	4.6	4.6		4.6	4.6		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	77.4	77.4		77.4	77.4		59.4	59.4		59.4	59.4	
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.40	0.40		0.40	0.40	
v/c Ratio	0.08	0.60		3.00	0.26		0.20	1.89		1.33	0.50	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay (s/veh)	14.6	16.9		932.8	14.6		28.0	426.3		284.9	35.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	14.6	16.9		932.8	14.6		28.0	426.3		284.9	35.8	
LOS	B	B		F	B		C	F		F	D	
Approach Delay (s/veh)		16.8			492.3			419.5			55.9	
Approach LOS		B			F			F			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 120 (80%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Pretimed			
Maximum v/c Ratio: 3.00			
Intersection Signal Delay (s/veh): 298.8		Intersection LOS: F	
Intersection Capacity Utilization 137.2%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 102: The Gore Road & Healey Road





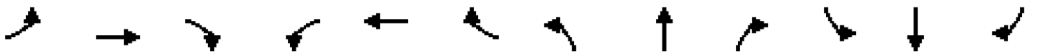
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	37	1080	489	451	43	2484	57	651
v/c Ratio	0.08	0.60	3.00	0.26	0.20	1.89	1.33	0.50
Control Delay (s/veh)	14.6	16.9	932.8	14.6	28.0	426.3	284.9	35.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	14.6	16.9	932.8	14.6	28.0	426.3	284.9	35.8
Queue Length 50th (m)	3.7	60.3	~259.0	43.1	6.2	~608.1	~21.3	76.8
Queue Length 95th (m)	10.0	109.5	#332.1	58.7	m14.4	#640.4	#50.9	95.4
Internal Link Dist (m)		1397.0		506.2		459.8		1055.4
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	454	1808	163	1720	213	1317	43	1300
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	0.08	0.60	3.00	0.26	0.20	1.89	1.33	0.50

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

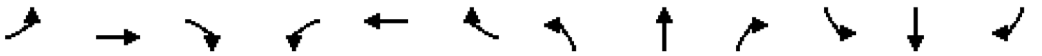
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	919	96	460	285	139	40	1822	513	54	610	2
Future Volume (vph)	35	919	96	460	285	139	40	1822	513	54	610	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.95		1.00	0.97		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3494		1736	3333		1687	3283		1556	3281	
Flt Permitted	0.46	1.00		0.17	1.00		0.30	1.00		0.07	1.00	
Satd. Flow (perm)	880	3494		315	3333		540	3283		110	3281	
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)	37	978	102	489	303	148	43	1938	546	57	649	2
RTOR Reduction (vph)	0	5	0	0	0	0	0	18	0	0	0	0
Lane Group Flow (vph)	37	1075	0	489	451	0	43	2466	0	57	651	0
Heavy Vehicles (%)	0%	1%	10%	4%	1%	7%	7%	7%	4%	16%	10%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	77.4	77.4		77.4	77.4		59.4	59.4		59.4	59.4	
Effective Green, g (s)	77.4	77.4		77.4	77.4		59.4	59.4		59.4	59.4	
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.40	0.40		0.40	0.40	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Grp Cap (vph)	454	1802		162	1719		213	1300		43	1299	
v/s Ratio Prot		0.31			0.14			c0.75			0.20	
v/s Ratio Perm	0.04			c1.55			0.08			0.52		
v/c Ratio	0.08	0.60		3.02	0.26		0.20	1.90		1.33	0.50	
Uniform Delay, d1	18.3	25.4		36.3	20.3		29.7	45.3		45.3	34.1	
Progression Factor	0.76	0.61		0.95	0.70		0.84	0.78		1.00	1.00	
Incremental Delay, d2	0.3	1.4		924.0	0.4		2.1	406.6		247.4	1.4	
Delay (s)	14.3	16.9		958.5	14.6		27.0	442.0		292.7	35.5	
Level of Service	B	B		F	B		C	F		F	D	
Approach Delay (s/veh)		16.8			505.6			435.0			56.2	
Approach LOS		B			F			F			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	308.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.53		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	137.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

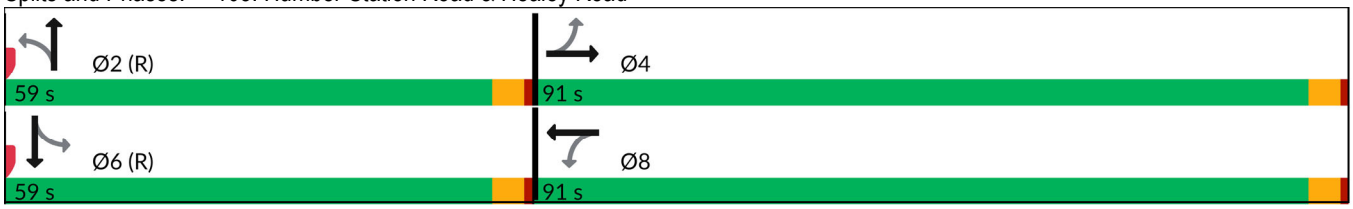


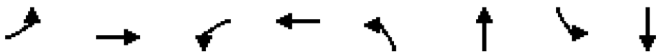
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	909	582	79	74	615	369	11	2082	8	31	713	60
Future Volume (vph)	909	582	79	74	615	369	11	2082	8	31	713	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.982			0.944			0.999			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1671	3545	0	1805	3382	0	1805	3467	0	1719	3471	0
Flt Permitted	0.210			0.341			0.193			0.073		
Satd. Flow (perm)	369	3545	0	648	3382	0	367	3467	0	132	3471	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17									7	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		536.6			1380.2			839.8			680.2	
Travel Time (s)		32.2			82.8			43.2			35.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	0%	0%	0%	0%	2%	0%	4%	7%	5%	3%	0%
Adj. Flow (vph)	937	600	81	76	634	380	11	2146	8	32	735	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	937	681	0	76	1014	0	11	2154	0	32	797	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	91.0	91.0		91.0	91.0		59.0	59.0		59.0	59.0	
Total Split (%)	60.7%	60.7%		60.7%	60.7%		39.3%	39.3%		39.3%	39.3%	
Maximum Green (s)	86.5	86.5		86.5	86.5		54.5	54.5		54.5	54.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	86.5	86.5		86.5	86.5		54.5	54.5		54.5	54.5	
Actuated g/C Ratio	0.58	0.58		0.58	0.58		0.36	0.36		0.36	0.36	
v/c Ratio	4.42	0.33		0.20	0.52		0.08	1.71		0.68	0.63	
Control Delay (s/veh)	Error	6.1		16.4	19.5		19.6	347.6		104.4	41.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	Error	6.1		16.4	19.5		19.6	347.6		104.4	41.8	
LOS	F	A		B	B		B	F		F	D	
Approach Delay (s/veh)		905.6			19.2			345.9			44.2	
Approach LOS		F			B			F			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 18 (12%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 4.42			
Intersection Signal Delay (s/veh): 398.4		Intersection LOS: F	
Intersection Capacity Utilization 148.2%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 103: Humber Station Road & Healey Road





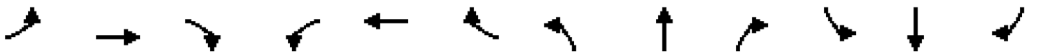
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	937	681	76	1014	11	2154	32	797
v/c Ratio	4.42	0.33	0.20	0.52	0.08	1.71	0.68	0.63
Control Delay (s/veh)	Error	6.1	16.4	19.5	19.6	347.6	104.4	41.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	Error	6.1	16.4	19.5	19.6	347.6	104.4	41.8
Queue Length 50th (m)	~503.8	32.7	10.3	90.0	1.7	~525.6	8.2	105.8
Queue Length 95th (m)	#576.7	36.9	m17.6	m119.8	m2.5	#553.0	#29.2	128.9
Internal Link Dist (m)		512.6		1356.2		815.8		656.2
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	212	2051	373	1950	133	1259	47	1265
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	4.42	0.33	0.20	0.52	0.08	1.71	0.68	0.63

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

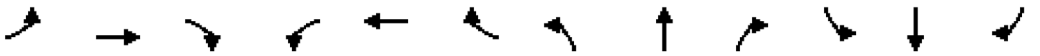
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	909	582	79	74	615	369	11	2082	8	31	713	60
Future Volume (vph)	909	582	79	74	615	369	11	2082	8	31	713	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.94		1.00	1.00		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)	1671	3546		1805	3382		1805	3469		1719	3472	
Flt Permitted	0.21	1.00		0.34	1.00		0.19	1.00		0.07	1.00	
Satd. Flow (perm)	369	3546		649	3382		366	3469		133	3472	
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)	937	600	81	76	634	380	11	2146	8	32	735	62
RTOR Reduction (vph)	0	7	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	937	674	0	76	1014	0	11	2154	0	32	793	0
Heavy Vehicles (%)	8%	0%	0%	0%	0%	2%	0%	4%	7%	5%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	86.5	86.5		86.5	86.5		54.5	54.5		54.5	54.5	
Effective Green, g (s)	86.5	86.5		86.5	86.5		54.5	54.5		54.5	54.5	
Actuated g/C Ratio	0.58	0.58		0.58	0.58		0.36	0.36		0.36	0.36	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	212	2044		374	1950		132	1260		48	1261	
v/s Ratio Prot		0.19			0.30			c0.62			0.23	
v/s Ratio Perm	c2.54			0.12			0.03			0.24		
v/c Ratio	4.42	0.33		0.20	0.52		0.08	1.71		0.67	0.63	
Uniform Delay, d1	31.8	16.6		15.2	19.2		31.4	47.8		40.1	39.4	
Progression Factor	0.50	0.35		0.98	0.96		0.58	0.65		1.00	1.00	
Incremental Delay, d2	1548.1	0.1		0.2	0.2		0.9	321.7		54.9	2.4	
Delay (s)	1563.9	5.9		15.1	18.7		19.0	353.0		95.0	41.8	
Level of Service	F	A		B	B		B	F		F	D	
Approach Delay (s/veh)		908.2			18.5			351.3			43.8	
Approach LOS		F			B			F			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	401.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	3.36		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	148.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

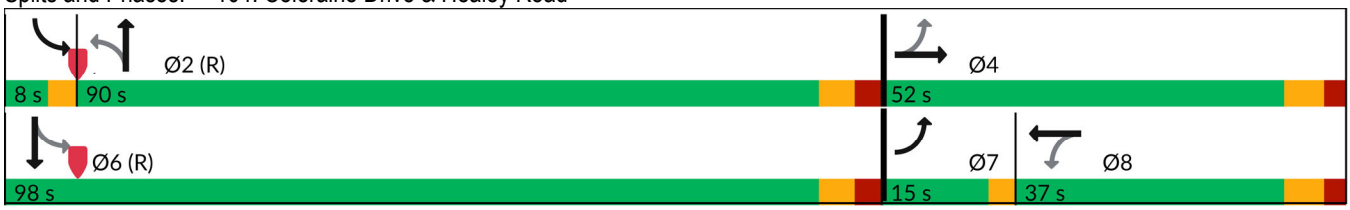


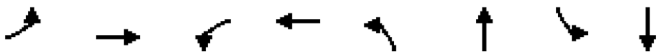
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	314	141	31	15	337	121	323	1979	93	76	334	383
Future Volume (vph)	314	141	31	15	337	121	323	1979	93	76	334	383
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	20.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00				1.00							
Frt		0.973			0.960			0.993			0.920	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3459	0	1492	3243	0	1787	3146	0	1597	2814	0
Flt Permitted	0.203			0.635			0.359			0.046		
Satd. Flow (perm)	382	3459	0	997	3243	0	675	3146	0	77	2814	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			30			5			354	
Link Speed (k/h)		60			50			70			70	
Link Distance (m)		1380.2			427.4			630.5			589.7	
Travel Time (s)		82.8			30.8			32.4			30.3	
Confl. Peds. (#/hr)	1					1						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	4%	21%	2%	19%	1%	14%	13%	13%	33%	5%
Adj. Flow (vph)	338	152	33	16	362	130	347	2128	100	82	359	412
Shared Lane Traffic (%)												
Lane Group Flow (vph)	338	185	0	16	492	0	347	2228	0	82	771	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	12.0		12.0	12.0		12.0	12.0		5.0	12.0	
Minimum Split (s)	8.0	37.0		37.0	37.0		37.0	37.0		8.0	37.0	
Total Split (s)	15.0	52.0		37.0	37.0		90.0	90.0		8.0	98.0	
Total Split (%)	10.0%	34.7%		24.7%	24.7%		60.0%	60.0%		5.3%	65.3%	
Maximum Green (s)	12.0	45.0		30.0	30.0		83.0	83.0		5.0	91.0	
Yellow Time (s)	3.0	4.6		4.6	4.6		4.2	4.2		3.0	4.2	
All-Red Time (s)	0.0	2.4		2.4	2.4		2.8	2.8		0.0	2.8	
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	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	
Walk Time (s)		12.0		12.0	12.0		12.0	12.0			12.0	
Flash Don't Walk (s)		18.0		18.0	18.0		18.0	18.0			18.0	
Pedestrian Calls (#/hr)		0		0	0		0	0			0	
Act Effct Green (s)	45.4	41.4		26.4	26.4		84.8	84.8		98.6	94.6	
Actuated g/C Ratio	0.30	0.28		0.18	0.18		0.57	0.57		0.66	0.63	
v/c Ratio	1.48	0.19		0.09	0.83		0.91	1.25		0.69	0.40	
Control Delay (s/veh)	263.3	20.7		51.2	68.0		59.4	148.2		51.0	7.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	263.3	20.7		51.2	68.0		59.4	148.2		51.0	7.7	
LOS	F	C		D	E		E	F		D	A	
Approach Delay (s/veh)		177.5			67.5			136.2			11.9	
Approach LOS		F			E			F			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 104 (69%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.48			
Intersection Signal Delay (s/veh): 109.4		Intersection LOS: F	
Intersection Capacity Utilization 111.2%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 104: Coleraine Drive & Healey Road





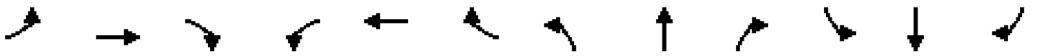
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	338	185	16	492	347	2228	82	771
v/c Ratio	1.48	0.19	0.09	0.83	0.91	1.25	0.69	0.40
Control Delay (s/veh)	263.3	20.7	51.2	68.0	59.4	148.2	51.0	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	263.3	20.7	51.2	68.0	59.4	148.2	51.0	7.7
Queue Length 50th (m)	~114.0	16.5	3.8	73.3	96.4	~436.7	9.4	26.1
Queue Length 95th (m)	m#172.9	m25.8	10.4	93.0	#168.2	#475.4	#41.1	39.0
Internal Link Dist (m)		1356.2		403.4		606.5		565.7
Turn Bay Length (m)	30.0		20.0		60.0		55.0	
Base Capacity (vph)	228	1050	199	672	381	1781	119	1905
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.48	0.18	0.08	0.73	0.91	1.25	0.69	0.40

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

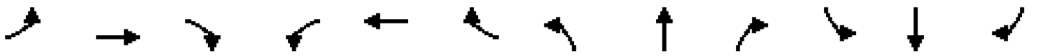
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	314	141	31	15	337	121	323	1979	93	76	334	383
Future Volume (vph)	314	141	31	15	337	121	323	1979	93	76	334	383
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.96		1.00	0.99		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	3460		1492	3244		1787	3147		1597	2813	
Flt Permitted	0.20	1.00		0.64	1.00		0.36	1.00		0.05	1.00	
Satd. Flow (perm)	382	3460		997	3244		676	3147		77	2813	
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)	338	152	33	16	362	130	347	2128	100	82	359	412
RTOR Reduction (vph)	0	13	0	0	25	0	0	2	0	0	131	0
Lane Group Flow (vph)	338	172	0	16	467	0	347	2226	0	82	640	0
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	1%	1%	4%	21%	2%	19%	1%	14%	13%	13%	33%	5%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	41.4	41.4		26.4	26.4		84.8	84.8		94.6	94.6	
Effective Green, g (s)	41.4	41.4		26.4	26.4		84.8	84.8		94.6	94.6	
Actuated g/C Ratio	0.28	0.28		0.18	0.18		0.57	0.57		0.63	0.63	
Clearance Time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	217	954		175	570		382	1779		117	1774	
v/s Ratio Prot	c0.12	0.05			0.14			c0.71		c0.03	0.23	
v/s Ratio Perm	c0.30			0.02			0.51			0.41		
v/c Ratio	1.56	0.18		0.09	0.82		0.91	1.25		0.70	0.36	
Uniform Delay, d1	49.5	41.4		51.8	59.5		29.1	32.6		37.6	13.2	
Progression Factor	0.54	0.55		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	271.2	0.1		0.2	9.0		27.9	117.9		17.3	0.6	
Delay (s)	298.1	23.0		52.0	68.5		57.0	150.5		54.9	13.8	
Level of Service	F	C		D	E		E	F		D	B	
Approach Delay (s/veh)		200.8			68.0			137.9			17.8	
Approach LOS		F			E			F			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	114.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.34		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	111.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

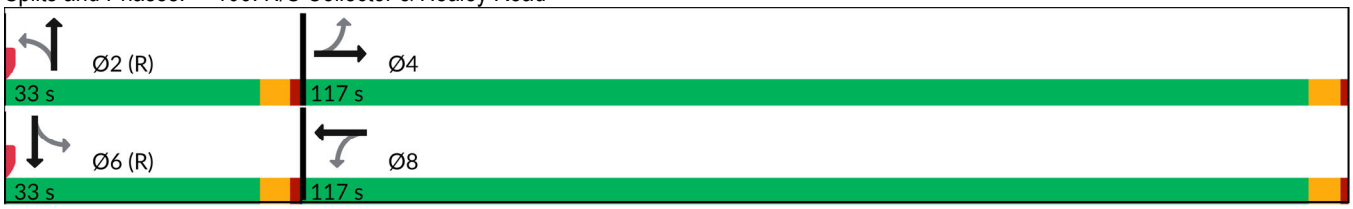


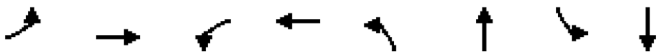
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	1374	56	50	840	6	33	73	45	9	62	11
Future Volume (vph)	56	1374	56	50	840	6	33	73	45	9	62	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.999			0.943			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3518	0	1770	3536	0	1770	1757	0	1770	1820	0
Flt Permitted	0.276			0.114			0.690			0.593		
Satd. Flow (perm)	514	3518	0	212	3536	0	1285	1757	0	1105	1820	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			1			18			5	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		289.7			536.6			472.1			202.6	
Travel Time (s)		17.4			32.2			28.3			12.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	1493	61	54	913	7	36	79	49	10	67	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	61	1554	0	54	920	0	36	128	0	10	79	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
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)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	117.0	117.0		117.0	117.0		33.0	33.0		33.0	33.0	
Total Split (%)	78.0%	78.0%		78.0%	78.0%		22.0%	22.0%		22.0%	22.0%	
Maximum Green (s)	112.5	112.5		112.5	112.5		28.5	28.5		28.5	28.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	105.8	105.8		105.8	105.8		35.2	35.2		35.2	35.2	
Actuated g/C Ratio	0.71	0.71		0.71	0.71		0.23	0.23		0.23	0.23	
v/c Ratio	0.17	0.63		0.36	0.37		0.12	0.30		0.04	0.18	
Control Delay (s/veh)	3.4	7.9		11.8	9.6		52.2	46.1		50.4	48.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	3.4	7.9		11.8	9.6		52.2	46.1		50.4	48.5	
LOS	A	A		B	A		D	D		D	D	
Approach Delay (s/veh)		7.7			9.7			47.5			48.7	
Approach LOS		A			A			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay (s/veh): 12.0		Intersection LOS: B	
Intersection Capacity Utilization 62.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 106: N/S Collector & Healey Road

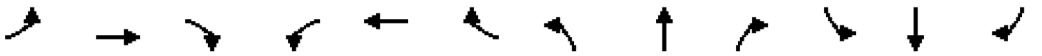




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	61	1554	54	920	36	128	10	79
v/c Ratio	0.17	0.63	0.36	0.37	0.12	0.30	0.04	0.18
Control Delay (s/veh)	3.4	7.9	11.8	9.6	52.2	46.1	50.4	48.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	3.4	7.9	11.8	9.6	52.2	46.1	50.4	48.5
Queue Length 50th (m)	2.4	50.6	4.1	37.3	9.4	29.9	2.6	19.6
Queue Length 95th (m)	m3.3	m41.0	m10.2	39.4	20.6	51.1	8.4	36.0
Internal Link Dist (m)		265.7		512.6		448.1		178.6
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	385	2640	159	2652	301	425	258	430
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.59	0.34	0.35	0.12	0.30	0.04	0.18

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	1374	56	50	840	6	33	73	45	9	62	11
Future Volume (vph)	56	1374	56	50	840	6	33	73	45	9	62	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.94		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3518		1770	3535		1770	1756		1770	1820	
Flt Permitted	0.28	1.00		0.11	1.00		0.69	1.00		0.59	1.00	
Satd. Flow (perm)	514	3518		212	3535		1286	1756		1104	1820	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	1493	61	54	913	7	36	79	49	10	67	12
RTOR Reduction (vph)	0	2	0	0	0	0	0	14	0	0	4	0
Lane Group Flow (vph)	61	1552	0	54	920	0	36	114	0	10	75	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	105.8	105.8		105.8	105.8		35.2	35.2		35.2	35.2	
Effective Green, g (s)	105.8	105.8		105.8	105.8		35.2	35.2		35.2	35.2	
Actuated g/C Ratio	0.71	0.71		0.71	0.71		0.23	0.23		0.23	0.23	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	362	2481		149	2493		301	412		259	427	
v/s Ratio Prot		c0.44			0.26			c0.07			0.04	
v/s Ratio Perm	0.12			0.25			0.03			0.01		
v/c Ratio	0.17	0.63		0.36	0.37		0.12	0.28		0.04	0.18	
Uniform Delay, d1	7.4	11.7		8.7	8.8		45.2	47.0		44.3	45.8	
Progression Factor	0.55	0.66		0.71	1.04		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.0		1.4	0.1		0.8	1.7		0.3	0.9	
Delay (s)	4.1	7.8		7.6	9.3		46.0	48.7		44.6	46.7	
Level of Service	A	A		A	A		D	D		D	D	
Approach Delay (s/veh)		7.6			9.2			48.1			46.5	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	62.5%	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)	0	0	0	23	0	53	0	98	27	63	105	0
Future Volume (vph)	0	0	0	23	0	53	0	98	27	63	105	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.906			0.971				
Flt Protected					0.985						0.982	
Satd. Flow (prot)	0	1863	0	0	1662	0	0	1809	0	0	1829	0
Flt Permitted					0.985						0.982	
Satd. Flow (perm)	0	1863	0	0	1662	0	0	1809	0	0	1829	0
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		282.8			530.8			313.3			370.2	
Travel Time (s)		20.4			38.2			18.8			22.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	25	0	58	0	107	29	68	114	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	83	0	0	136	0	0	182	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

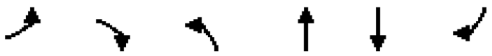
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	23	0	53	0	98	27	63	105	0
Future Volume (vph)	0	0	0	23	0	53	0	98	27	63	105	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	25	0	58	0	107	29	68	114	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	0	83	136	182
Volume Left (vph)	0	25	0	68
Volume Right (vph)	0	58	29	0
Hadj (s)	0.00	-0.33	-0.09	0.11
Departure Headway (s)	4.7	4.3	4.2	4.3
Degree Utilization, x	0.00	0.10	0.16	0.22
Capacity (veh/h)	720	776	829	800
Control Delay (s/veh)	7.7	7.7	8.0	8.6
Approach Delay (s/veh)	0.0	7.7	8.0	8.6
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.2			
Level of Service	A			
Intersection Capacity Utilization	30.3%	ICU Level of Service	A	
Analysis Period (min)	15			

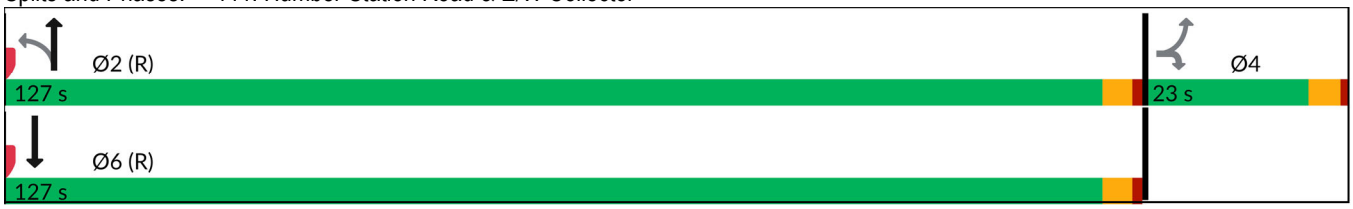


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	9	48	11	2054	789	31
Future Volume (vph)	9	48	11	2054	789	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3518	0
Flt Permitted	0.950		0.317			
Satd. Flow (perm)	1770	1583	590	3539	3518	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		52			10	
Link Speed (k/h)	50			70	70	
Link Distance (m)	530.8			346.8	839.8	
Travel Time (s)	38.2			17.8	43.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	52	12	2233	858	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	52	12	2233	892	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4	4	2			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	2	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	23.0	23.0	127.0	127.0	127.0	
Total Split (%)	15.3%	15.3%	84.7%	84.7%	84.7%	
Maximum Green (s)	18.5	18.5	122.5	122.5	122.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Min	C-Min	C-Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	6.9	6.9	137.0	137.0	137.0	
Actuated g/C Ratio	0.05	0.05	0.91	0.91	0.91	
v/c Ratio	0.12	0.43	0.02	0.69	0.28	
Control Delay (s/veh)	70.9	27.2	0.5	1.5	1.3	
Queue Delay	0.0	0.0	0.0	0.1	0.0	
Total Delay (s/veh)	70.9	27.2	0.5	1.6	1.3	
LOS	E	C	A	A	A	
Approach Delay (s/veh)	34.2			1.6	1.3	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 126 (84%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay (s/veh): 2.1		Intersection LOS: A	
Intersection Capacity Utilization 68.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 111: Humber Station Road & E/W Collector

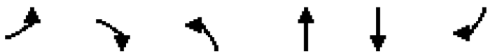




Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	10	52	12	2233	892
v/c Ratio	0.12	0.43	0.02	0.69	0.28
Control Delay (s/veh)	70.9	27.2	0.5	1.5	1.3
Queue Delay	0.0	0.0	0.0	0.1	0.0
Total Delay (s/veh)	70.9	27.2	0.5	1.6	1.3
Queue Length 50th (m)	3.1	0.0	0.2	25.5	1.7
Queue Length 95th (m)	9.6	14.3	m0.1	21.7	35.4
Internal Link Dist (m)	506.8			322.8	815.8
Turn Bay Length (m)	50.0		50.0		
Base Capacity (vph)	218	240	538	3232	3214
Starvation Cap Reductn	0	0	0	96	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.05	0.22	0.02	0.71	0.28

Intersection Summary

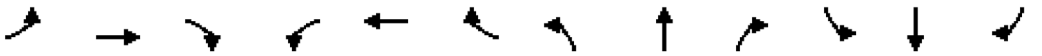
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	9	48	11	2054	789	31
Future Volume (vph)	9	48	11	2054	789	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	3539	3519	
Flt Permitted	0.95	1.00	0.32	1.00	1.00	
Satd. Flow (perm)	1770	1583	591	3539	3519	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	52	12	2233	858	34
RTOR Reduction (vph)	0	50	0	0	1	0
Lane Group Flow (vph)	10	2	12	2233	891	0
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4	4	2			
Actuated Green, G (s)	5.8	5.8	135.2	135.2	135.2	
Effective Green, g (s)	5.8	5.8	135.2	135.2	135.2	
Actuated g/C Ratio	0.04	0.04	0.90	0.90	0.90	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	68	61	532	3189	3171	
v/s Ratio Prot				c0.63	0.25	
v/s Ratio Perm	c0.01	0.00	0.02			
v/c Ratio	0.15	0.03	0.02	0.70	0.28	
Uniform Delay, d1	69.7	69.4	0.7	2.0	1.0	
Progression Factor	1.00	1.00	0.48	0.30	1.11	
Incremental Delay, d2	1.0	0.2	0.1	0.9	0.2	
Delay (s)	70.7	69.6	0.4	1.5	1.3	
Level of Service	E	E	A	A	A	
Approach Delay (s/veh)	69.8			1.5	1.3	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	2.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

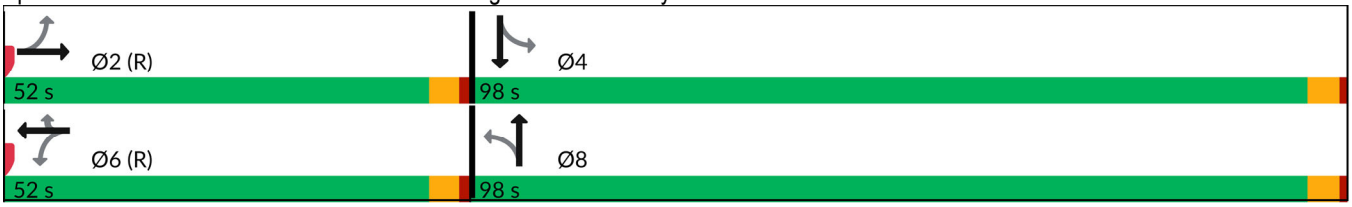


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	17	30	174	29	87	35	920	100	50	1030	165
Future Volume (vph)	175	17	30	174	29	87	35	920	100	50	1030	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.903				0.850		0.985			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1682	0	1770	1863	1583	1770	3486	0	1770	3465	0
Flt Permitted	0.736			0.724			0.087			0.142		
Satd. Flow (perm)	1371	1682	0	1349	1863	1583	162	3486	0	265	3465	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33				95		15			23	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		415.9			925.7			788.8			1501.3	
Travel Time (s)		25.0			55.5			40.6			77.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	190	18	33	189	32	95	38	1000	109	54	1120	179
Shared Lane Traffic (%)												
Lane Group Flow (vph)	190	51	0	189	32	95	38	1109	0	54	1299	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	52.0	52.0		52.0	52.0	52.0	98.0	98.0		98.0	98.0	
Total Split (%)	34.7%	34.7%		34.7%	34.7%	34.7%	65.3%	65.3%		65.3%	65.3%	
Maximum Green (s)	47.5	47.5		47.5	47.5	47.5	93.5	93.5		93.5	93.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min	C-Min	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	68.3	68.3		68.3	68.3	68.3	72.7	72.7		72.7	72.7	
Actuated g/C Ratio	0.46	0.46		0.46	0.46	0.46	0.48	0.48		0.48	0.48	
v/c Ratio	0.30	0.07		0.31	0.04	0.12	0.49	0.65		0.42	0.77	
Control Delay (s/veh)	29.9	13.0		34.9	33.7	11.2	46.4	30.1		17.0	20.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	29.9	13.0		34.9	33.7	11.2	46.4	30.1		17.0	20.3	
LOS	C	B		C	C	B	D	C		B	C	
Approach Delay (s/veh)		26.3			27.6			30.6			20.2	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 10 (7%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay (s/veh): 25.4		Intersection LOS: C	
Intersection Capacity Utilization 65.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 112: The Gore Road & George Bolton Parkway

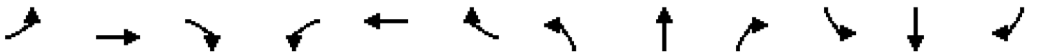




Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	190	51	189	32	95	38	1109	54	1299
v/c Ratio	0.30	0.07	0.31	0.04	0.12	0.49	0.65	0.42	0.77
Control Delay (s/veh)	29.9	13.0	34.9	33.7	11.2	46.4	30.1	17.0	20.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	29.9	13.0	34.9	33.7	11.2	46.4	30.1	17.0	20.3
Queue Length 50th (m)	36.8	3.1	37.6	6.1	4.6	7.8	132.3	7.8	115.1
Queue Length 95th (m)	65.5	13.1	m42.5	m8.5	m6.0	20.0	129.5	m10.0	m79.5
Internal Link Dist (m)		391.9		901.7			764.8		1477.3
Turn Bay Length (m)	50.0		50.0			50.0		50.0	
Base Capacity (vph)	623	783	614	848	772	100	2178	165	2168
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.07	0.31	0.04	0.12	0.38	0.51	0.33	0.60

Intersection Summary

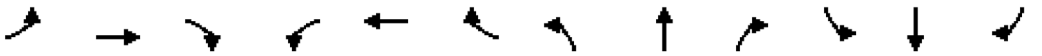
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	17	30	174	29	87	35	920	100	50	1030	165
Future Volume (vph)	175	17	30	174	29	87	35	920	100	50	1030	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.90		1.00	1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1682		1770	1863	1583	1770	3487		1770	3466	
Flt Permitted	0.74	1.00		0.72	1.00	1.00	0.09	1.00		0.14	1.00	
Satd. Flow (perm)	1372	1682		1348	1863	1583	163	3487		264	3466	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	190	18	33	189	32	95	38	1000	109	54	1120	179
RTOR Reduction (vph)	0	18	0	0	0	52	0	8	0	0	12	0
Lane Group Flow (vph)	190	33	0	189	32	43	38	1101	0	54	1287	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	68.3	68.3		68.3	68.3	68.3	72.7	72.7		72.7	72.7	
Effective Green, g (s)	68.3	68.3		68.3	68.3	68.3	72.7	72.7		72.7	72.7	
Actuated g/C Ratio	0.46	0.46		0.46	0.46	0.46	0.48	0.48		0.48	0.48	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	624	765		613	848	720	79	1690		127	1679	
v/s Ratio Prot		0.02			0.02			0.32			c0.37	
v/s Ratio Perm	0.14			c0.14		0.03	0.23			0.20		
v/c Ratio	0.30	0.04		0.31	0.04	0.06	0.48	0.65		0.43	0.77	
Uniform Delay, d1	25.8	22.7		25.9	22.6	22.9	26.0	29.1		25.1	31.7	
Progression Factor	1.00	1.00		1.18	1.26	2.07	1.00	1.00		0.67	0.66	
Incremental Delay, d2	1.3	0.1		1.0	0.1	0.1	4.6	0.9		0.2	0.2	
Delay (s)	27.1	22.8		31.6	28.7	47.4	30.5	30.0		17.0	21.0	
Level of Service	C	C		C	C	D	C	C		B	C	
Approach Delay (s/veh)		26.2			36.1			30.0			20.8	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

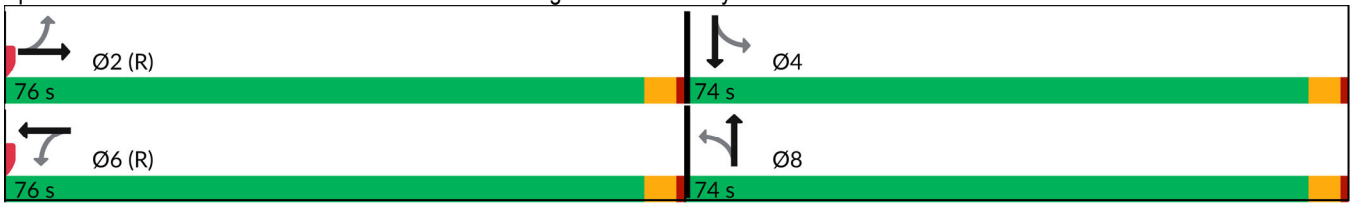


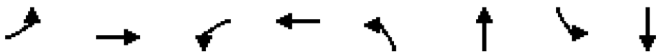
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	6	69	772	71	192	150	1791	108	62	768	69
Future Volume (vph)	92	6	69	772	71	192	150	1791	108	62	768	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.863			0.890			0.991			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3054	0	1770	3150	0	1770	3507	0	1770	3497	0
Flt Permitted	0.555			0.701			0.202			0.058		
Satd. Flow (perm)	1034	3054	0	1306	3150	0	376	3507	0	108	3497	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		75			3			5			8	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		533.8			484.4			1231.2			323.2	
Travel Time (s)		32.0			29.1			63.3			16.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	7	75	839	77	209	163	1947	117	67	835	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	82	0	839	286	0	163	2064	0	67	910	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
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)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	76.0	76.0		76.0	76.0		74.0	74.0		74.0	74.0	
Total Split (%)	50.7%	50.7%		50.7%	50.7%		49.3%	49.3%		49.3%	49.3%	
Maximum Green (s)	71.5	71.5		71.5	71.5		69.5	69.5		69.5	69.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	71.5	71.5		71.5	71.5		69.5	69.5		69.5	69.5	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.46	0.46		0.46	0.46	
v/c Ratio	0.20	0.05		1.35	0.19		0.94	1.27		1.34	0.56	
Control Delay (s/veh)	7.8	1.1		200.5	22.8		92.9	160.8		276.2	23.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	7.8	1.1		200.5	22.8		92.9	160.8		276.2	23.9	
LOS	A	A		F	C		F	F		F	C	
Approach Delay (s/veh)		4.7			155.3			155.8			41.2	
Approach LOS		A			F			F			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 128 (85%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.35			
Intersection Signal Delay (s/veh): 124.8		Intersection LOS: F	
Intersection Capacity Utilization 119.0%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 113: Humber Station Road & George Bolton Parkway





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	100	82	839	286	163	2064	67	910
v/c Ratio	0.20	0.05	1.35	0.19	0.94	1.27	1.34	0.56
Control Delay (s/veh)	7.8	1.1	200.5	22.8	92.9	160.8	276.2	23.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	7.8	1.1	200.5	22.8	92.9	160.8	276.2	23.9
Queue Length 50th (m)	8.9	1.4	~339.6	26.1	47.3	~424.8	~26.0	53.2
Queue Length 95th (m)	8.3	0.2	#420.6	36.0	#97.8	#467.1	#59.7	97.1
Internal Link Dist (m)		509.8		460.4		1207.2		299.2
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	492	1494	622	1503	174	1627	50	1624
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	0.20	0.05	1.35	0.19	0.94	1.27	1.34	0.56

Intersection Summary

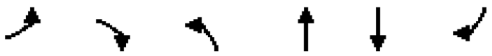
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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)	92	6	69	772	71	192	150	1791	108	62	768	69
Future Volume (vph)	92	6	69	772	71	192	150	1791	108	62	768	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.86		1.00	0.89		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3054		1770	3151		1770	3509		1770	3495	
Flt Permitted	0.56	1.00		0.70	1.00		0.20	1.00		0.06	1.00	
Satd. Flow (perm)	1034	3054		1306	3151		376	3509		107	3495	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	7	75	839	77	209	163	1947	117	67	835	75
RTOR Reduction (vph)	0	39	0	0	2	0	0	3	0	0	4	0
Lane Group Flow (vph)	100	43	0	839	284	0	163	2061	0	67	906	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	71.5	71.5		71.5	71.5		69.5	69.5		69.5	69.5	
Effective Green, g (s)	71.5	71.5		71.5	71.5		69.5	69.5		69.5	69.5	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.46	0.46		0.46	0.46	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	492	1455		622	1501		174	1625		49	1619	
v/s Ratio Prot		0.01			0.09			0.59			0.26	
v/s Ratio Perm	0.10			c0.64			0.43			c0.62		
v/c Ratio	0.20	0.03		1.35	0.19		0.94	1.27		1.37	0.56	
Uniform Delay, d1	22.7	20.8		39.3	22.6		38.2	40.3		40.3	29.2	
Progression Factor	0.30	0.19		1.00	1.00		1.00	1.00		1.08	0.78	
Incremental Delay, d2	0.9	0.0		167.5	0.3		49.6	125.9		251.8	0.4	
Delay (s)	7.6	4.1		206.7	22.9		87.8	166.1		295.2	23.0	
Level of Service	A	A		F	C		F	F		F	C	
Approach Delay (s/veh)		6.0			160.0			160.4			41.7	
Approach LOS		A			F			F			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	128.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.35		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	119.0%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

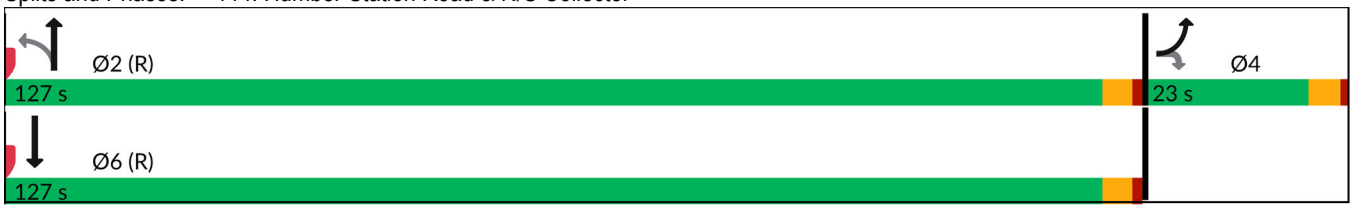


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	37	68	21	2054	831	77
Future Volume (vph)	37	68	21	2054	831	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.987	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3493	0
Flt Permitted	0.950		0.284			
Satd. Flow (perm)	1770	1583	529	3539	3493	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		74			25	
Link Speed (k/h)	50			70	70	
Link Distance (m)	393.2			323.2	346.8	
Travel Time (s)	28.3			16.6	17.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	40	74	23	2233	903	84
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	74	23	2233	987	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	2	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	23.0	23.0	127.0	127.0	127.0	
Total Split (%)	15.3%	15.3%	84.7%	84.7%	84.7%	
Maximum Green (s)	18.5	18.5	122.5	122.5	122.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Max	C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	8.8	8.8	132.2	132.2	132.2	
Actuated g/C Ratio	0.06	0.06	0.88	0.88	0.88	
v/c Ratio	0.39	0.46	0.05	0.72	0.32	
Control Delay (s/veh)	77.9	22.6	0.2	6.6	0.5	
Queue Delay	0.0	0.0	0.0	0.9	0.0	
Total Delay (s/veh)	77.9	22.6	0.2	7.6	0.5	
LOS	E	C	A	A	A	
Approach Delay (s/veh)	42.0			7.5	0.5	
Approach LOS	D			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 48 (32%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay (s/veh): 6.6		Intersection LOS: A	
Intersection Capacity Utilization 68.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 114: Humber Station Road & N/S Collector

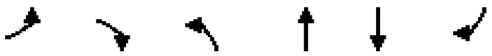




Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	40	74	23	2233	987
v/c Ratio	0.39	0.46	0.05	0.72	0.32
Control Delay (s/veh)	77.9	22.6	0.2	6.6	0.5
Queue Delay	0.0	0.0	0.0	0.9	0.0
Total Delay (s/veh)	77.9	22.6	0.2	7.6	0.5
Queue Length 50th (m)	12.2	0.0	0.1	78.4	3.6
Queue Length 95th (m)	25.0	16.6	m0.1	m5.9	4.4
Internal Link Dist (m)	369.2			299.2	322.8
Turn Bay Length (m)	50.0		50.0		
Base Capacity (vph)	218	260	466	3119	3081
Starvation Cap Reductn	0	0	0	553	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.28	0.05	0.87	0.32

Intersection Summary

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	37	68	21	2054	831	77
Future Volume (vph)	37	68	21	2054	831	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	3539	3494	
Flt Permitted	0.95	1.00	0.28	1.00	1.00	
Satd. Flow (perm)	1770	1583	530	3539	3494	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	40	74	23	2233	903	84
RTOR Reduction (vph)	0	70	0	0	3	0
Lane Group Flow (vph)	40	4	23	2233	984	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	8.8	8.8	132.2	132.2	132.2	
Effective Green, g (s)	8.8	8.8	132.2	132.2	132.2	
Actuated g/C Ratio	0.06	0.06	0.88	0.88	0.88	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	103	92	467	3119	3079	
v/s Ratio Prot	c0.02			c0.63	0.28	
v/s Ratio Perm		0.00	0.04			
v/c Ratio	0.39	0.05	0.05	0.72	0.32	
Uniform Delay, d1	68.0	66.6	1.1	2.9	1.5	
Progression Factor	1.00	1.00	0.15	2.03	0.18	
Incremental Delay, d2	2.4	0.2	0.0	0.1	0.3	
Delay (s)	70.4	66.9	0.2	5.9	0.5	
Level of Service	E	E	A	A	A	
Approach Delay (s/veh)	68.1			5.9	0.5	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	6.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Appendix E

ITE Trip Generation Reports

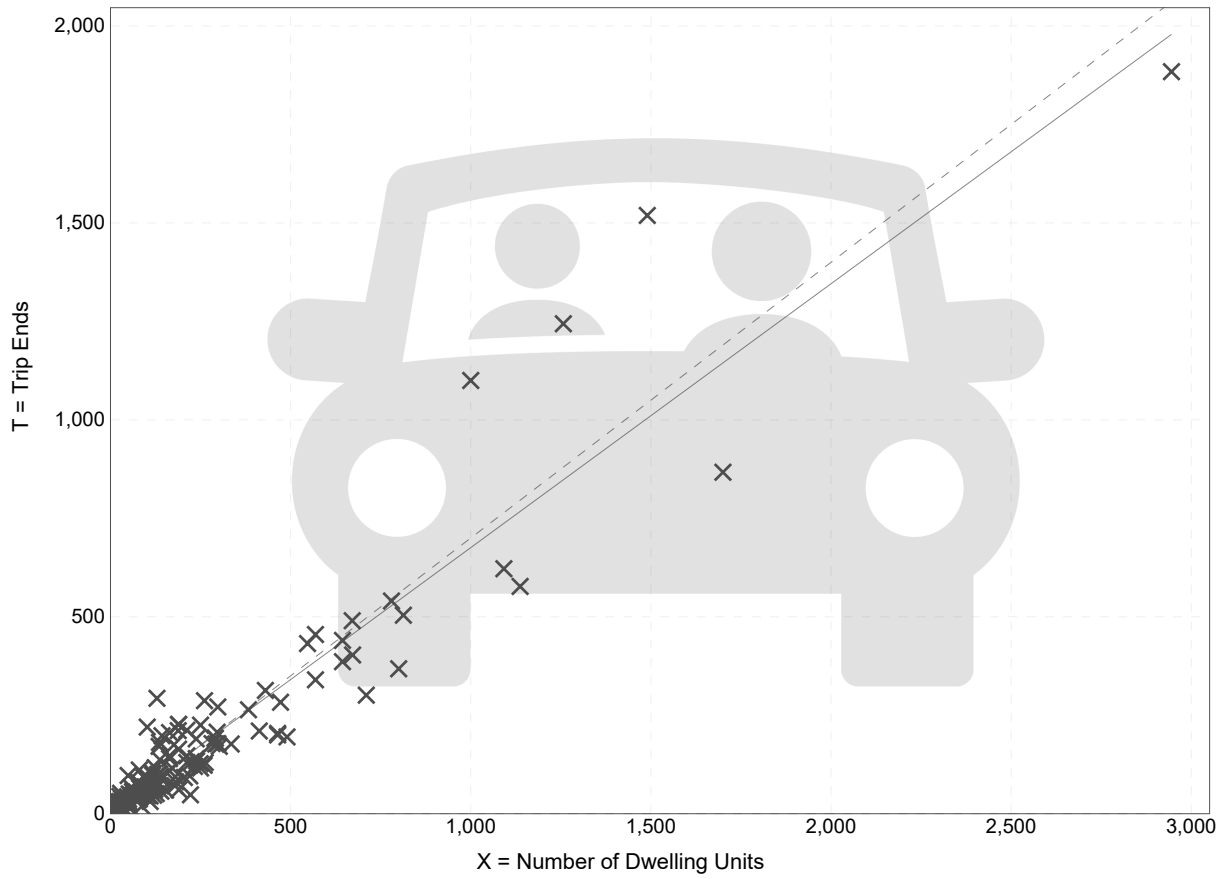
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 153
Avg. Num. of Dwelling Units: 239
Directional Distribution: 27% entering, 73% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.22 - 2.27	0.26

Data Plot and Equation



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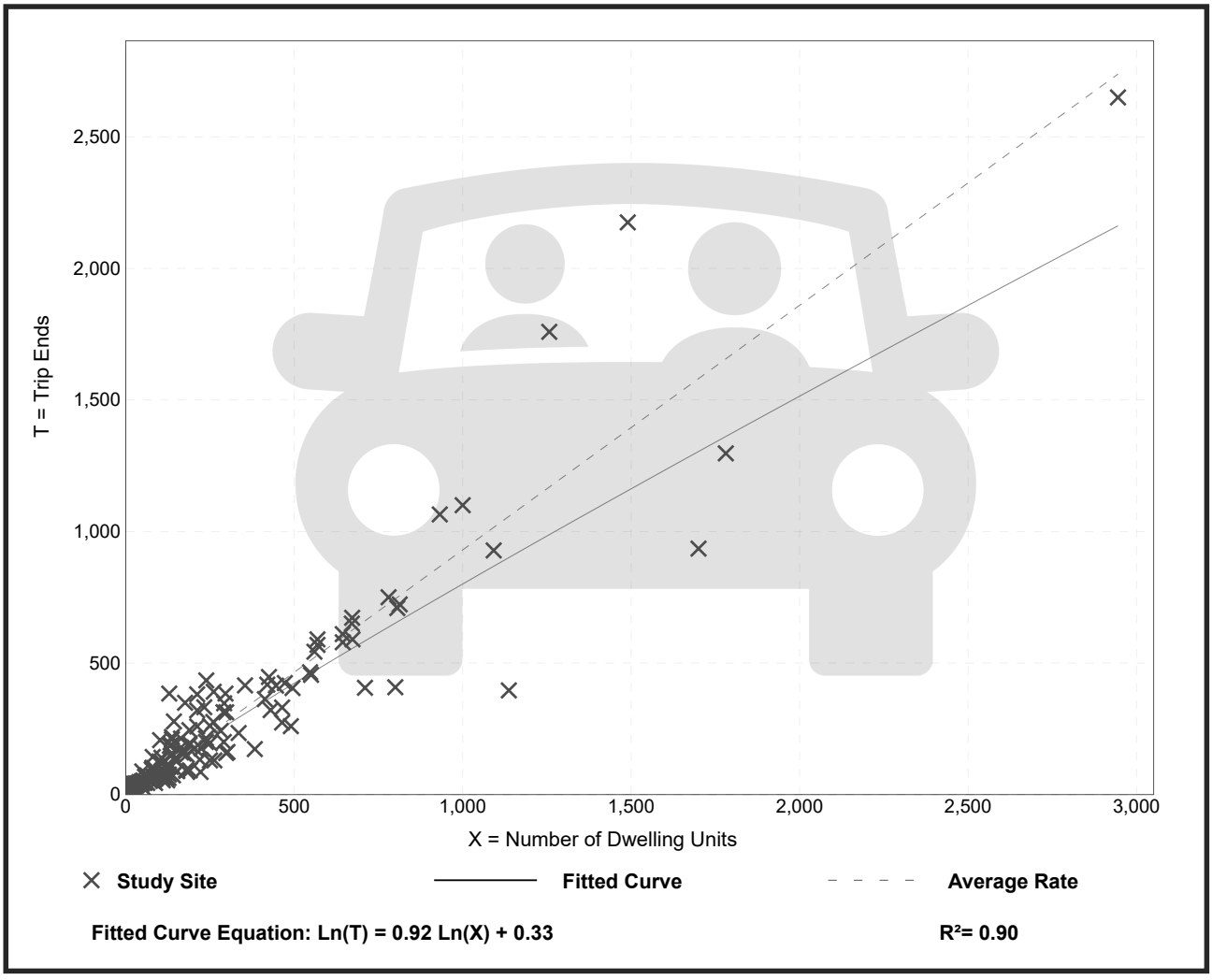
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 166
Avg. Num. of Dwelling Units: 266
Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.93	0.35 - 2.98	0.33

Data Plot and Equation



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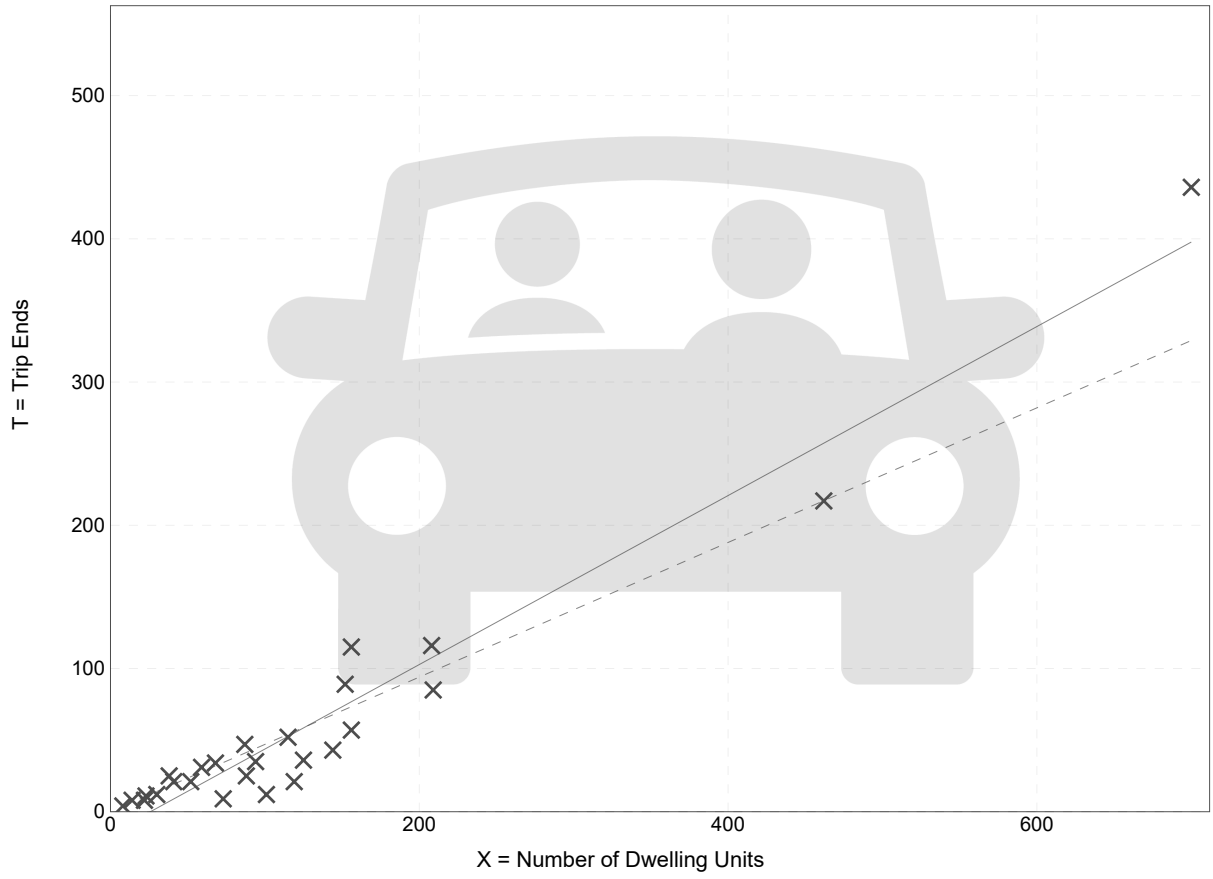
Single-Family Attached Housing
(215)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	26
Avg. Num. of Dwelling Units:	129
Directional Distribution:	25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.47	0.12 - 0.74	0.16

Data Plot and Equation



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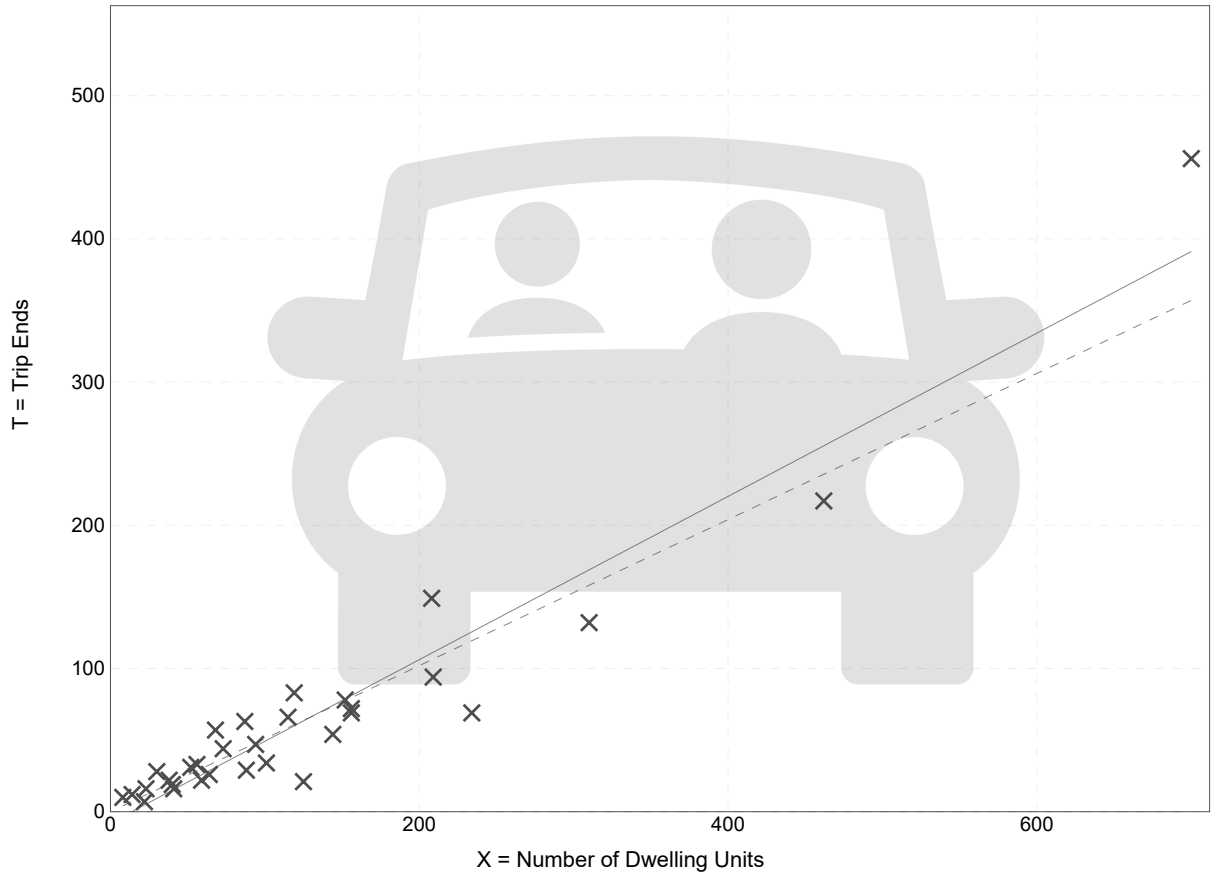
Single-Family Attached Housing
(215)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	31
Avg. Num. of Dwelling Units:	131
Directional Distribution:	57% entering, 43% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.17 - 1.25	0.16

Data Plot and Equation



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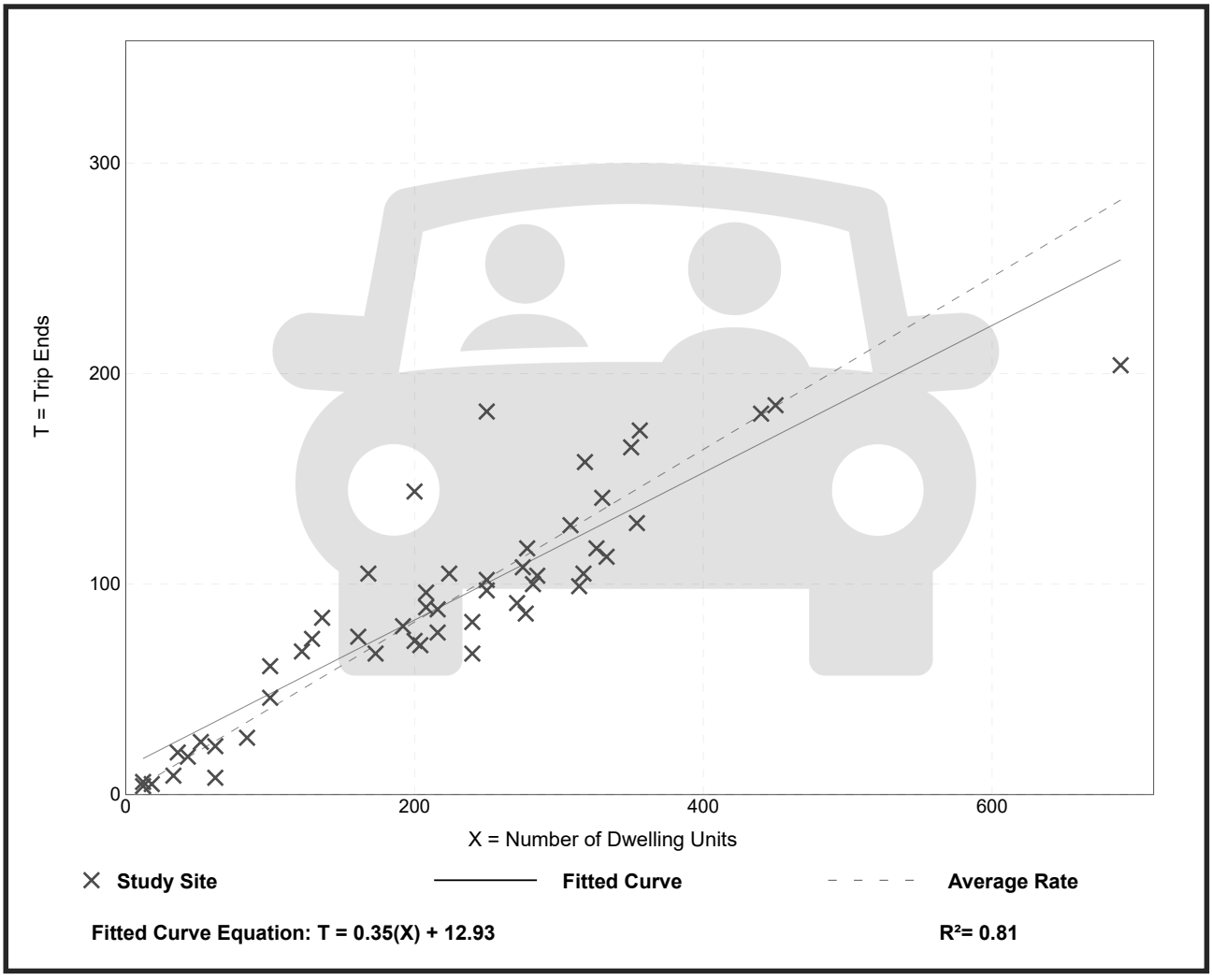
Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs:	**Dwelling Units**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	51
Avg. Num. of Dwelling Units:	219
Directional Distribution:	24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.41	0.13 - 0.73	0.10

Data Plot and Equation



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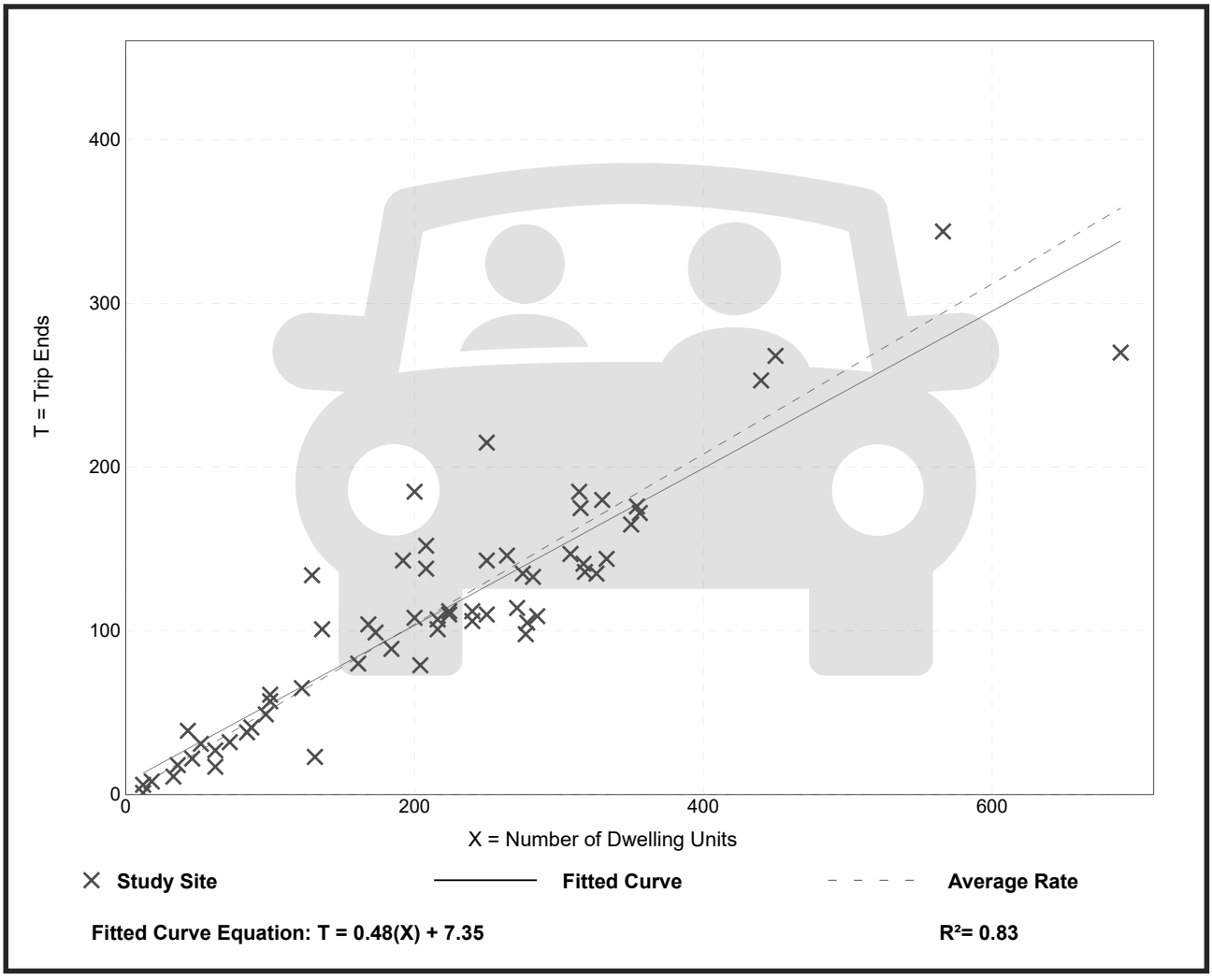
Multifamily Housing (Low-Rise)
Not Close to Rail Transit (220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 61
Avg. Num. of Dwelling Units: 215
Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.52	0.08 - 1.04	0.13

Data Plot and Equation



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Appendix F

Synchro Reports – Total Traffic



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	402	23	48	354	15	5	28	31	21	94	6
Future Volume (vph)	4	402	23	48	354	15	5	28	31	21	94	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.995			0.934			0.993	
Flt Protected					0.994			0.996			0.991	
Satd. Flow (prot)	0	1826	0	0	1779	0	0	1730	0	0	1792	0
Flt Permitted					0.994			0.996			0.991	
Satd. Flow (perm)	0	1826	0	0	1779	0	0	1730	0	0	1792	0
Link Speed (k/h)		60			60			80			80	
Link Distance (m)		295.9			1293.6			432.6			556.0	
Travel Time (s)		17.8			77.6			19.5			25.0	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	100%	2%	11%	6%	5%	20%	0%	5%	0%	7%	4%	0%
Adj. Flow (vph)	4	452	26	54	398	17	6	31	35	24	106	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	482	0	0	469	0	0	72	0	0	137	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 66.3%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	4	402	23	48	354	15	5	28	31	21	94	6
Future Volume (vph)	4	402	23	48	354	15	5	28	31	21	94	6
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	4	452	26	54	398	17	6	31	35	24	106	7

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	482	469	72	137
Volume Left (vph)	4	54	6	24
Volume Right (vph)	26	17	35	7
Hadj (s)	0.03	0.10	-0.24	0.08
Departure Headway (s)	5.4	5.4	6.6	6.6
Degree Utilization, x	0.72	0.71	0.13	0.25
Capacity (veh/h)	482	469	460	473
Control Delay (s/veh)	20.8	20.6	10.5	11.9
Approach Delay (s/veh)	20.8	20.6	10.5	11.9
Approach LOS	C	C	B	B

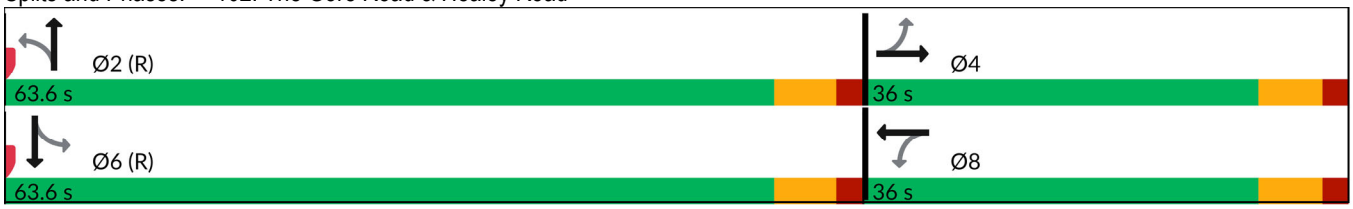
Intersection Summary				
Delay	19.0			
Level of Service	C			
Intersection Capacity Utilization	66.3%	ICU Level of Service	C	
Analysis Period (min)	15			

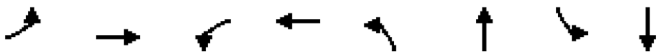
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	460	22	128	275	41	45	187	163	15	632	126
Future Volume (vph)	9	460	22	128	275	41	45	187	163	15	632	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00				1.00							
Frt		0.993			0.980			0.930			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1543	3471	0	1752	3233	0	1805	3081	0	1752	3406	0
Flt Permitted	0.529			0.372			0.307			0.531		
Satd. Flow (perm)	858	3471	0	686	3233	0	583	3081	0	980	3406	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			17			122			39	
Link Speed (k/h)		60			60			80			80	
Link Distance (m)		127.3			530.2			483.8			177.3	
Travel Time (s)		7.6			31.8			21.8			8.0	
Confl. Peds. (#/hr)	1					1						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	17%	3%	9%	3%	4%	44%	0%	15%	2%	3%	4%	0%
Adj. Flow (vph)	10	489	23	136	293	44	48	199	173	16	672	134
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	512	0	136	337	0	48	372	0	16	806	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.6	25.6		25.6	25.6		26.6	26.6		26.6	26.6	
Total Split (s)	36.0	36.0		36.0	36.0		63.6	63.6		63.6	63.6	
Total Split (%)	36.1%	36.1%		36.1%	36.1%		63.9%	63.9%		63.9%	63.9%	
Maximum Green (s)	29.4	29.4		29.4	29.4		57.0	57.0		57.0	57.0	
Yellow Time (s)	4.6	4.6		4.6	4.6		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	29.4	29.4		29.4	29.4		57.0	57.0		57.0	57.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.57	0.57		0.57	0.57	
v/c Ratio	0.04	0.50		0.67	0.35		0.14	0.20		0.03	0.41	
Control Delay (s/veh)	25.8	30.7		49.6	27.4		11.4	7.1		9.5	12.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	25.8	30.7		49.6	27.4		11.4	7.1		9.5	12.0	
LOS	C	C		D	C		B	A		A	B	
Approach Delay (s/veh)		30.6			33.8			7.5			12.0	
Approach LOS		C			C			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 99.6			
Actuated Cycle Length: 99.6			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay (s/veh): 20.1		Intersection LOS: C	
Intersection Capacity Utilization 72.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 102: The Gore Road & Healey Road

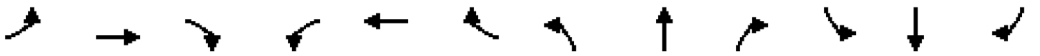




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	10	512	136	337	48	372	16	806
v/c Ratio	0.04	0.50	0.67	0.35	0.14	0.20	0.03	0.41
Control Delay (s/veh)	25.8	30.7	49.6	27.4	11.4	7.1	9.5	12.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.8	30.7	49.6	27.4	11.4	7.1	9.5	12.0
Queue Length 50th (m)	1.3	44.0	23.9	26.2	4.3	10.8	1.3	41.9
Queue Length 95th (m)	5.1	60.1	#52.3	38.6	10.4	17.6	4.2	55.0
Internal Link Dist (m)		103.3		506.2		459.8		153.3
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	253	1028	202	966	333	1815	560	1965
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.50	0.67	0.35	0.14	0.20	0.03	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)	9	460	22	128	275	41	45	187	163	15	632	126
Future Volume (vph)	9	460	22	128	275	41	45	187	163	15	632	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.93		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1541	3472		1752	3235		1805	3082		1752	3406	
Flt Permitted	0.53	1.00		0.37	1.00		0.31	1.00		0.53	1.00	
Satd. Flow (perm)	858	3472		687	3235		584	3082		979	3406	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	10	489	23	136	293	44	48	199	173	16	672	134
RTOR Reduction (vph)	0	4	0	0	12	0	0	52	0	0	17	0
Lane Group Flow (vph)	10	508	0	136	325	0	48	320	0	16	789	0
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	17%	3%	9%	3%	4%	44%	0%	15%	2%	3%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	29.4	29.4		29.4	29.4		57.0	57.0		57.0	57.0	
Effective Green, g (s)	29.4	29.4		29.4	29.4		57.0	57.0		57.0	57.0	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.57	0.57		0.57	0.57	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Grp Cap (vph)	253	1024		202	954		334	1763		560	1949	
v/s Ratio Prot		0.15			0.10			0.10			c0.23	
v/s Ratio Perm	0.01			c0.20			0.08			0.02		
v/c Ratio	0.04	0.50		0.67	0.34		0.14	0.18		0.03	0.40	
Uniform Delay, d1	25.0	29.0		30.9	27.5		9.9	10.2		9.3	11.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	1.7		16.5	1.0		0.9	0.2		0.1	0.6	
Delay (s)	25.3	30.7		47.4	28.5		10.8	10.4		9.4	12.5	
Level of Service	C	C		D	C		B	B		A	B	
Approach Delay (s/veh)		30.6			33.9			10.4			12.4	
Approach LOS		C			C			B			B	

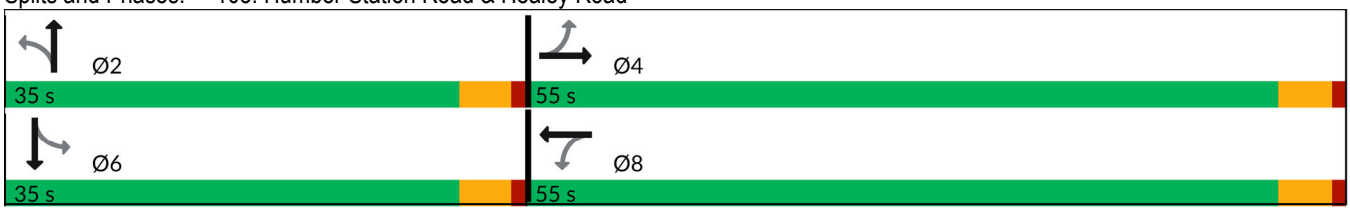
Intersection Summary			
HCM 2000 Control Delay (s/veh)	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	99.6	Sum of lost time (s)	13.2
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

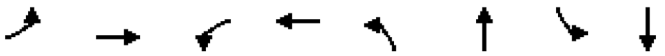
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	665	36	34	364	12	23	28	40	86	101	19
Future Volume (vph)	15	665	36	34	364	12	23	28	40	86	101	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.992			0.995			0.912			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3514	0	1641	3458	0	1805	3212	0	1770	3437	0
Flt Permitted	0.503			0.333			0.665			0.704		
Satd. Flow (perm)	956	3514	0	575	3458	0	1264	3212	0	1311	3437	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			6			45			22	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		826.3			1380.2			3025.5			680.2	
Travel Time (s)		49.6			82.8			181.5			40.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	10%	4%	0%	0%	6%	0%	2%	3%	0%
Adj. Flow (vph)	17	756	41	39	414	14	26	32	45	98	115	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	797	0	39	428	0	26	77	0	98	137	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	55.0	55.0		55.0	55.0		35.0	35.0		35.0	35.0	
Total Split (%)	61.1%	61.1%		61.1%	61.1%		38.9%	38.9%		38.9%	38.9%	
Maximum Green (s)	50.5	50.5		50.5	50.5		30.5	30.5		30.5	30.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	14.4	14.4		14.4	14.4		8.2	8.2		8.2	8.2	
Actuated g/C Ratio	0.45	0.45		0.45	0.45		0.26	0.26		0.26	0.26	
v/c Ratio	0.04	0.50		0.15	0.27		0.08	0.09		0.29	0.15	
Control Delay (s/veh)	5.4	7.4		7.0	6.0		10.9	6.3		13.1	9.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	5.4	7.4		7.0	6.0		10.9	6.3		13.1	9.2	
LOS	A	A		A	A		B	A		B	A	
Approach Delay (s/veh)		7.4			6.1			7.4			10.8	
Approach LOS		A			A			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 31.8			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay (s/veh): 7.5		Intersection LOS: A	
Intersection Capacity Utilization 46.4%		ICU Level of Service A	
Analysis Period (min) 15			

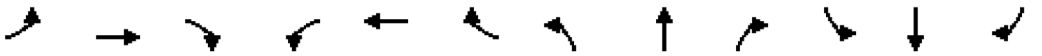
Splits and Phases: 103: Humber Station Road & Healey Road





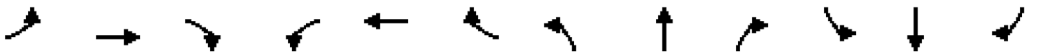
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	17	797	39	428	26	77	98	137
v/c Ratio	0.04	0.50	0.15	0.27	0.08	0.09	0.29	0.15
Control Delay (s/veh)	5.4	7.4	7.0	6.0	10.9	6.3	13.1	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	5.4	7.4	7.0	6.0	10.9	6.3	13.1	9.2
Queue Length 50th (m)	0.4	13.0	1.0	6.1	1.0	0.6	3.9	2.3
Queue Length 95th (m)	2.5	26.0	4.6	13.3	5.2	3.9	13.7	7.5
Internal Link Dist (m)		802.3		1356.2		3001.5		656.2
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	956	3514	575	3458	1167	2971	1211	3177
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	0.02	0.23	0.07	0.12	0.02	0.03	0.08	0.04

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	665	36	34	364	12	23	28	40	86	101	19
Future Volume (vph)	15	665	36	34	364	12	23	28	40	86	101	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	1.00		1.00	0.91		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3515		1641	3458		1805	3213		1770	3437	
Flt Permitted	0.50	1.00		0.33	1.00		0.67	1.00		0.70	1.00	
Satd. Flow (perm)	955	3515		575	3458		1264	3213		1312	3437	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	17	756	41	39	414	14	26	32	45	98	115	22
RTOR Reduction (vph)	0	5	0	0	3	0	0	33	0	0	16	0
Lane Group Flow (vph)	17	792	0	39	425	0	26	44	0	98	121	0
Heavy Vehicles (%)	0%	2%	0%	10%	4%	0%	0%	6%	0%	2%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	14.4	14.4		14.4	14.4		8.2	8.2		8.2	8.2	
Effective Green, g (s)	14.4	14.4		14.4	14.4		8.2	8.2		8.2	8.2	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.26	0.26		0.26	0.26	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	435	1601		262	1575		328	833		340	891	
v/s Ratio Prot		c0.23			0.12			0.01			0.04	
v/s Ratio Perm	0.02			0.07			0.02			c0.07		
v/c Ratio	0.04	0.49		0.15	0.27		0.08	0.05		0.29	0.14	
Uniform Delay, d1	4.8	6.0		5.0	5.3		8.8	8.8		9.4	9.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.2		0.3	0.1		0.1	0.0		0.5	0.1	
Delay (s)	4.8	6.3		5.3	5.4		8.9	8.8		9.8	9.0	
Level of Service	A	A		A	A		A	A		A	A	
Approach Delay (s/veh)		6.3			5.4			8.8			9.4	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	31.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

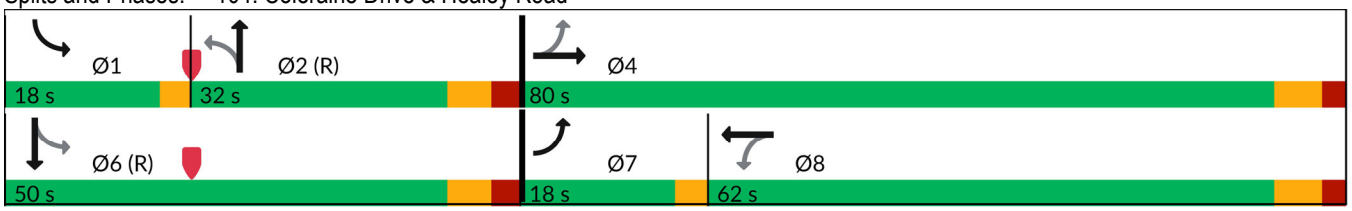


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	370	164	41	148	19	128	543	155	29	163	62
Future Volume (vph)	132	370	164	41	148	19	128	543	155	29	163	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	20.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.954			0.983			0.967			0.959	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	3354	0	1347	3324	0	1656	2711	0	1421	3190	0
Flt Permitted	0.539			0.431			0.599			0.307		
Satd. Flow (perm)	957	3354	0	611	3324	0	1044	2711	0	459	3190	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		88			13			25			45	
Link Speed (k/h)		60			50			70			70	
Link Distance (m)		1380.2			427.4			630.5			589.7	
Travel Time (s)		82.8			30.8			32.4			30.3	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	7%	3%	2%	34%	3%	36%	9%	33%	14%	27%	11%	2%
Adj. Flow (vph)	145	407	180	45	163	21	141	597	170	32	179	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	145	587	0	45	184	0	141	767	0	32	247	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	12.0		12.0	12.0		12.0	12.0		5.0	12.0	
Minimum Split (s)	8.0	37.0		37.0	37.0		37.0	37.0		8.0	37.0	
Total Split (s)	18.0	80.0		62.0	62.0		32.0	32.0		18.0	50.0	
Total Split (%)	13.8%	61.5%		47.7%	47.7%		24.6%	24.6%		13.8%	38.5%	
Maximum Green (s)	15.0	73.0		55.0	55.0		25.0	25.0		15.0	43.0	
Yellow Time (s)	3.0	4.6		4.6	4.6		4.2	4.2		3.0	4.2	
All-Red Time (s)	0.0	2.4		2.4	2.4		2.8	2.8		0.0	2.8	
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	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	
Walk Time (s)		12.0		12.0	12.0		12.0	12.0			12.0	
Flash Don't Walk (s)		18.0		18.0	18.0		18.0	18.0			18.0	
Pedestrian Calls (#/hr)		0		0	0		0	0			0	
Act Effct Green (s)	37.2	33.2		16.7	16.7		76.7	76.7		86.8	82.8	
Actuated g/C Ratio	0.29	0.26		0.13	0.13		0.59	0.59		0.67	0.64	
v/c Ratio	0.42	0.64		0.58	0.42		0.23	0.48		0.09	0.12	
Control Delay (s/veh)	38.5	38.8		80.0	50.3		16.8	18.0		9.8	8.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	38.5	38.8		80.0	50.3		16.8	18.0		9.8	8.6	
LOS	D	D		E	D		B	B		A	A	
Approach Delay (s/veh)		38.7			56.1			17.8			8.7	
Approach LOS		D			E			B			A	

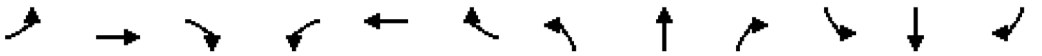
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 92 (71%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay (s/veh): 27.8		Intersection LOS: C	
Intersection Capacity Utilization 70.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 104: Coleraine Drive & Healey Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	145	587	45	184	141	767	32	247
v/c Ratio	0.42	0.64	0.58	0.42	0.23	0.48	0.09	0.12
Control Delay (s/veh)	38.5	38.8	80.0	50.3	16.8	18.0	9.8	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.5	38.8	80.0	50.3	16.8	18.0	9.8	8.6
Queue Length 50th (m)	29.8	62.8	10.0	22.6	17.5	51.8	2.4	9.8
Queue Length 95th (m)	42.8	74.0	20.5	32.0	37.1	82.3	7.1	18.8
Internal Link Dist (m)		1356.2		403.4		606.5		565.7
Turn Bay Length (m)	30.0		20.0		60.0		55.0	
Base Capacity (vph)	357	1921	258	1413	615	1609	417	2048
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	0.31	0.17	0.13	0.23	0.48	0.08	0.12

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	370	164	41	148	19	128	543	155	29	163	62
Future Volume (vph)	132	370	164	41	148	19	128	543	155	29	163	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.95		1.00	0.98		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1687	3354		1347	3323		1656	2710		1421	3189	
Flt Permitted	0.54	1.00		0.43	1.00		0.60	1.00		0.31	1.00	
Satd. Flow (perm)	957	3354		610	3323		1043	2710		459	3189	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	145	407	180	45	163	21	141	597	170	32	179	68
RTOR Reduction (vph)	0	66	0	0	11	0	0	10	0	0	16	0
Lane Group Flow (vph)	145	521	0	45	173	0	141	757	0	32	231	0
Heavy Vehicles (%)	7%	3%	2%	34%	3%	36%	9%	33%	14%	27%	11%	2%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	33.2	33.2		16.7	16.7		75.5	75.5		82.8	82.8	
Effective Green, g (s)	33.2	33.2		16.7	16.7		75.5	75.5		82.8	82.8	
Actuated g/C Ratio	0.26	0.26		0.13	0.13		0.58	0.58		0.64	0.64	
Clearance Time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	320	856		78	426		605	1573		324	2031	
v/s Ratio Prot	0.05	c0.16			0.05			c0.28		0.00	c0.07	
v/s Ratio Perm	0.07			0.07			0.14			0.06		
v/c Ratio	0.45	0.61		0.58	0.41		0.23	0.48		0.10	0.11	
Uniform Delay, d1	39.5	42.7		53.3	52.1		13.2	15.9		9.3	9.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	1.2		9.9	0.6		0.9	1.1		0.1	0.1	
Delay (s)	40.5	43.9		63.3	52.7		14.1	16.9		9.5	9.4	
Level of Service	D	D		E	D		B	B		A	A	
Approach Delay (s/veh)		43.2			54.8			16.5			9.4	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	606	32	18	341	103	39
Future Volume (vph)	606	32	18	341	103	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	0.0		20.0	0.0
Storage Lanes		0	0		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.992					0.850
Flt Protected				0.997	0.950	
Satd. Flow (prot)	3511	0	0	3529	1770	1583
Flt Permitted				0.997	0.950	
Satd. Flow (perm)	3511	0	0	3529	1770	1583
Link Speed (k/h)	60			60	50	
Link Distance (m)	530.2			826.3	475.3	
Travel Time (s)	31.8			49.6	34.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	659	35	20	371	112	42
Shared Lane Traffic (%)						
Lane Group Flow (vph)	694	0	0	391	112	42
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	606	32	18	341	103	39
Future Volume (Veh/h)	606	32	18	341	103	39
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	659	35	20	371	112	42
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			694		902	347
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			694		902	347
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		59	94
cM capacity (veh/h)			897		271	649

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	439	255	144	247	112	42
Volume Left	0	0	20	0	112	0
Volume Right	0	35	0	0	0	42
cSH	1700	1700	897	1700	271	649
Volume to Capacity	0.26	0.15	0.02	0.15	0.41	0.06
Queue Length 95th (m)	0.0	0.0	0.5	0.0	15.4	1.7
Control Delay (s/veh)	0.0	0.0	1.5	0.0	27.3	10.9
Lane LOS			A		D	B
Approach Delay (s/veh)	0.0		0.5		22.8	
Approach LOS					C	

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	35.2%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	89	98	297	32	28	782
Future Volume (vph)	89	98	297	32	28	782
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0	0.0		0.0	0.0	
Storage Lanes	1	1		0	0	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt		0.850	0.985			
Flt Protected	0.950					0.998
Satd. Flow (prot)	1770	1583	3486	0	0	3532
Flt Permitted	0.950					0.998
Satd. Flow (perm)	1770	1583	3486	0	0	3532
Link Speed (k/h)	50		80			80
Link Distance (m)	539.3		2418.6			483.8
Travel Time (s)	38.8		108.8			21.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	107	323	35	30	850
Shared Lane Traffic (%)						
Lane Group Flow (vph)	97	107	358	0	0	880
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 46.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	89	98	297	32	28	782
Future Volume (Veh/h)	89	98	297	32	28	782
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)	97	107	323	35	30	850
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	826	179			358	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	826	179			358	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	68	87			97	
cM capacity (veh/h)	303	833			1197	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	97	107	215	143	313	567
Volume Left	97	0	0	0	30	0
Volume Right	0	107	0	35	0	0
cSH	303	833	1700	1700	1197	1700
Volume to Capacity	0.32	0.13	0.13	0.08	0.03	0.33
Queue Length 95th (m)	10.8	3.5	0.0	0.0	0.6	0.0
Control Delay (s/veh)	22.4	10.0	0.0	0.0	1.0	0.0
Lane LOS	C	A			A	
Approach Delay (s/veh)	15.9		0.0		0.4	
Approach LOS	C					

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	12	18	0	37	28	56	28	0	8	8	28
Future Volume (vph)	37	12	18	0	37	28	56	28	0	8	8	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.963			0.942						0.916	
Flt Protected		0.973						0.968			0.991	
Satd. Flow (prot)	0	1745	0	0	1755	0	0	1803	0	0	1691	0
Flt Permitted		0.973						0.968			0.991	
Satd. Flow (perm)	0	1745	0	0	1755	0	0	1803	0	0	1691	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		539.3			260.9			329.2			475.3	
Travel Time (s)		38.8			18.8			23.7			34.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	40	13	20	0	40	30	61	30	0	9	9	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	73	0	0	70	0	0	91	0	0	48	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	37	12	18	0	37	28	56	28	0	8	8	28
Future Volume (vph)	37	12	18	0	37	28	56	28	0	8	8	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	40	13	20	0	40	30	61	30	0	9	9	30

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	73	70	91	48
Volume Left (vph)	40	0	61	9
Volume Right (vph)	20	30	0	30
Hadj (s)	-0.02	-0.22	0.17	-0.30
Departure Headway (s)	4.3	4.1	4.4	4.0
Degree Utilization, x	0.09	0.08	0.11	0.05
Capacity (veh/h)	811	849	780	858
Control Delay (s/veh)	7.7	7.4	8.0	7.2
Approach Delay (s/veh)	7.7	7.4	8.0	7.2
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.6			
Level of Service	A			
Intersection Capacity Utilization	28.4%	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)	17	294	11	33	525	27	28	99	70	11	57	14
Future Volume (vph)	17	294	11	33	525	27	28	99	70	11	57	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.994			0.952			0.977	
Flt Protected		0.997			0.997			0.993			0.993	
Satd. Flow (prot)	0	1818	0	0	1850	0	0	1745	0	0	1713	0
Flt Permitted		0.997			0.997			0.993			0.993	
Satd. Flow (perm)	0	1818	0	0	1850	0	0	1745	0	0	1713	0
Link Speed (k/h)		60			60			80			80	
Link Distance (m)		295.9			1293.6			432.6			556.0	
Travel Time (s)		17.8			77.6			19.5			25.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	0%	0%	2%	0%	5%	3%	2%	0%	9%	8%
Adj. Flow (vph)	18	313	12	35	559	29	30	105	74	12	61	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	343	0	0	623	0	0	209	0	0	88	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 61.8%		ICU Level of Service B	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	294	11	33	525	27	28	99	70	11	57	14
Future Volume (vph)	17	294	11	33	525	27	28	99	70	11	57	14
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	18	313	12	35	559	29	30	105	74	12	61	15

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	343	623	209	88
Volume Left (vph)	18	35	30	12
Volume Right (vph)	12	29	74	15
Hadj (s)	0.05	0.01	-0.13	0.05
Departure Headway (s)	6.1	5.6	6.8	7.4
Degree Utilization, x	0.58	0.98	0.39	0.18
Capacity (veh/h)	571	629	503	448
Control Delay (s/veh)	17.3	53.2	14.1	12.0
Approach Delay (s/veh)	17.3	53.2	14.1	12.0
Approach LOS	C	F	B	B

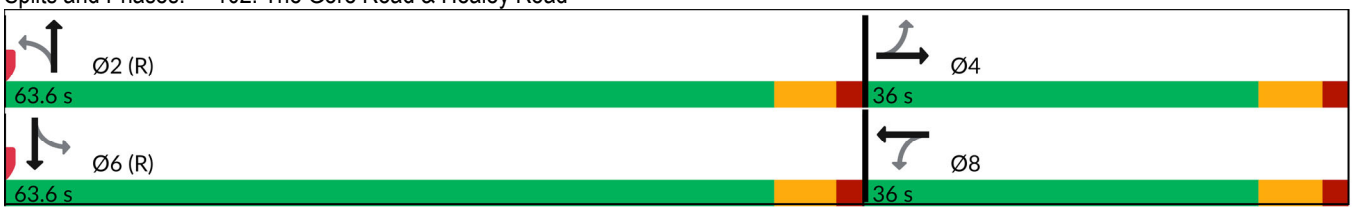
Intersection Summary				
Delay	34.1			
Level of Service	D			
Intersection Capacity Utilization	61.8%	ICU Level of Service	B	
Analysis Period (min)	15			

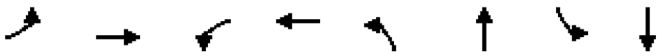
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	367	29	192	592	86	45	454	178	51	250	13
Future Volume (vph)	20	367	29	192	592	86	45	454	178	51	250	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.989			0.981			0.958			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3512	0	1736	3480	0	1687	3258	0	1556	3270	0
Flt Permitted	0.222			0.450			0.580			0.370		
Satd. Flow (perm)	422	3512	0	822	3480	0	1030	3258	0	606	3270	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			16			97			9	
Link Speed (k/h)		60			60			80			80	
Link Distance (m)		127.3			530.2			483.8			177.3	
Travel Time (s)		7.6			31.8			21.8			8.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	10%	4%	1%	7%	7%	7%	4%	16%	10%	0%
Adj. Flow (vph)	21	390	31	204	630	91	48	483	189	54	266	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	421	0	204	721	0	48	672	0	54	280	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.6	25.6		25.6	25.6		26.6	26.6		26.6	26.6	
Total Split (s)	36.0	36.0		36.0	36.0		63.6	63.6		63.6	63.6	
Total Split (%)	36.1%	36.1%		36.1%	36.1%		63.9%	63.9%		63.9%	63.9%	
Maximum Green (s)	29.4	29.4		29.4	29.4		57.0	57.0		57.0	57.0	
Yellow Time (s)	4.6	4.6		4.6	4.6		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	29.4	29.4		29.4	29.4		57.0	57.0		57.0	57.0	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.57	0.57		0.57	0.57	
v/c Ratio	0.17	0.40		0.84	0.69		0.08	0.35		0.16	0.15	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay (s/veh)	30.4	28.9		63.7	34.6		10.1	10.2		11.5	9.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	30.4	28.9		63.7	34.6		10.1	10.2		11.5	9.9	
LOS	C	C		E	C		B	B		B	A	
Approach Delay (s/veh)		29.0			41.0			10.2			10.1	
Approach LOS		C			D			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 99.6			
Actuated Cycle Length: 99.6			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay (s/veh): 25.4		Intersection LOS: C	
Intersection Capacity Utilization 72.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 102: The Gore Road & Healey Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	21	421	204	721	48	672	54	280
v/c Ratio	0.17	0.40	0.84	0.69	0.08	0.35	0.16	0.15
Control Delay (s/veh)	30.4	28.9	63.7	34.6	10.1	10.2	11.5	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	30.4	28.9	63.7	34.6	10.1	10.2	11.5	9.9
Queue Length 50th (m)	3.2	35.0	38.0	66.4	4.0	29.2	4.5	12.1
Queue Length 95th (m)	9.8	49.2	#79.2	87.4	9.2	40.3	10.6	18.2
Internal Link Dist (m)		103.3		506.2		459.8		153.3
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	124	1042	242	1038	589	1906	346	1875
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	0.17	0.40	0.84	0.69	0.08	0.35	0.16	0.15

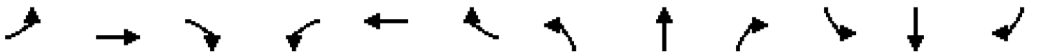
Intersection Summary

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)	20	367	29	192	592	86	45	454	178	51	250	13
Future Volume (vph)	20	367	29	192	592	86	45	454	178	51	250	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	0.96		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)	1805	3512		1736	3480		1687	3257		1556	3272	
Flt Permitted	0.22	1.00		0.45	1.00		0.58	1.00		0.37	1.00	
Satd. Flow (perm)	421	3512		822	3480		1030	3257		605	3272	
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)	21	390	31	204	630	91	48	483	189	54	266	14
RTOR Reduction (vph)	0	6	0	0	11	0	0	41	0	0	4	0
Lane Group Flow (vph)	21	415	0	204	710	0	48	631	0	54	276	0
Heavy Vehicles (%)	0%	1%	10%	4%	1%	7%	7%	7%	4%	16%	10%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	29.4	29.4		29.4	29.4		57.0	57.0		57.0	57.0	
Effective Green, g (s)	29.4	29.4		29.4	29.4		57.0	57.0		57.0	57.0	
Actuated g/C Ratio	0.30	0.30		0.30	0.30		0.57	0.57		0.57	0.57	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Grp Cap (vph)	124	1036		242	1027		589	1863		346	1872	
v/s Ratio Prot		0.12			0.20			c0.19			0.08	
v/s Ratio Perm	0.05			c0.25			0.05			0.09		
v/c Ratio	0.17	0.40		0.84	0.69		0.08	0.34		0.16	0.15	
Uniform Delay, d1	26.0	28.1		32.9	31.1		9.6	11.3		10.0	10.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.9	1.2		28.5	3.8		0.3	0.5		1.0	0.2	
Delay (s)	29.0	29.2		61.4	34.9		9.8	11.8		11.0	10.1	
Level of Service	C	C		E	C		A	B		B	B	
Approach Delay (s/veh)		29.2			40.7			11.7			10.3	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	99.6	Sum of lost time (s)	13.2
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

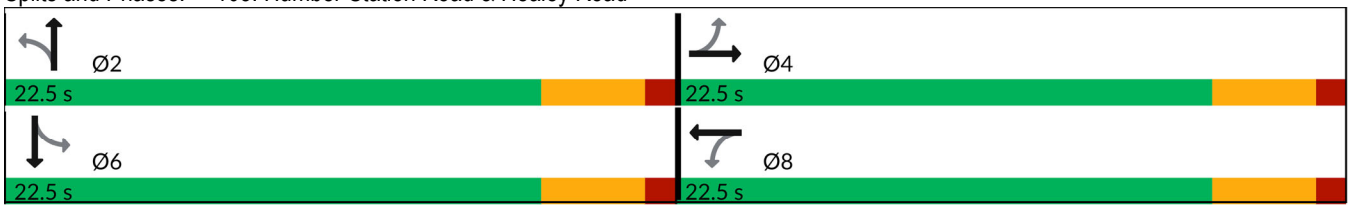


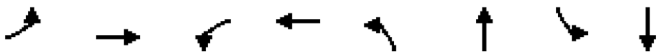
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	497	19	48	851	80	34	110	62	49	55	19
Future Volume (vph)	24	497	19	48	851	80	34	110	62	49	55	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.994			0.987			0.946			0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1671	3588	0	1805	3557	0	1805	3250	0	1719	3394	0
Flt Permitted	0.272			0.454			0.704			0.640		
Satd. Flow (perm)	479	3588	0	863	3557	0	1338	3250	0	1158	3394	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			26			64			20	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		826.3			1380.2			3025.5			680.2	
Travel Time (s)		49.6			82.8			181.5			40.8	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	0%	0%	0%	0%	2%	0%	4%	7%	5%	3%	0%
Adj. Flow (vph)	25	512	20	49	877	82	35	113	64	51	57	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	532	0	49	959	0	35	177	0	51	77	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	
Maximum Green (s)	18.0	18.0		18.0	18.0		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	14.7	14.7		14.7	14.7		7.0	7.0		7.0	7.0	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.23	0.23		0.23	0.23	
v/c Ratio	0.11	0.31		0.12	0.56		0.12	0.22		0.19	0.10	
Control Delay (s/veh)	6.0	5.5		5.5	7.2		11.5	8.1		12.7	8.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	6.0	5.5		5.5	7.2		11.5	8.1		12.7	8.7	
LOS	A	A		A	A		B	A		B	A	
Approach Delay (s/veh)		5.5			7.1			8.6			10.3	
Approach LOS		A			A			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 45			
Actuated Cycle Length: 30.9			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay (s/veh): 7.0		Intersection LOS: A	
Intersection Capacity Utilization 54.4%		ICU Level of Service A	
Analysis Period (min) 15			

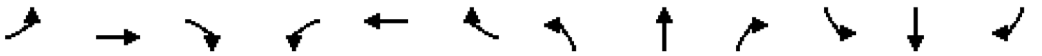
Splits and Phases: 103: Humber Station Road & Healey Road





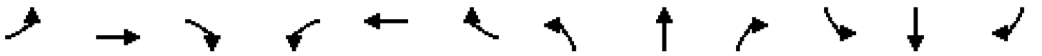
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	25	532	49	959	35	177	51	77
v/c Ratio	0.11	0.31	0.12	0.56	0.12	0.22	0.19	0.10
Control Delay (s/veh)	6.0	5.5	5.5	7.2	11.5	8.1	12.7	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	6.0	5.5	5.5	7.2	11.5	8.1	12.7	8.7
Queue Length 50th (m)	0.6	7.0	1.2	14.5	1.5	2.5	2.2	1.2
Queue Length 95th (m)	3.1	14.6	4.7	28.6	5.8	7.5	7.6	4.4
Internal Link Dist (m)		802.3		1356.2		3001.5		656.2
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	285	2142	514	2129	797	1962	689	2030
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	0.09	0.25	0.10	0.45	0.04	0.09	0.07	0.04

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	497	19	48	851	80	34	110	62	49	55	19
Future Volume (vph)	24	497	19	48	851	80	34	110	62	49	55	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.95		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)	1671	3590		1805	3558		1805	3249		1719	3394	
Flt Permitted	0.27	1.00		0.45	1.00		0.70	1.00		0.64	1.00	
Satd. Flow (perm)	479	3590		863	3558		1338	3249		1158	3394	
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)	25	512	20	49	877	82	35	113	64	51	57	20
RTOR Reduction (vph)	0	5	0	0	14	0	0	49	0	0	15	0
Lane Group Flow (vph)	25	527	0	49	945	0	35	128	0	51	62	0
Heavy Vehicles (%)	8%	0%	0%	0%	0%	2%	0%	4%	7%	5%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	14.7	14.7		14.7	14.7		7.0	7.0		7.0	7.0	
Effective Green, g (s)	14.7	14.7		14.7	14.7		7.0	7.0		7.0	7.0	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.23	0.23		0.23	0.23	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	229	1718		413	1703		305	740		264	773	
v/s Ratio Prot		0.15			c0.27			0.04			0.02	
v/s Ratio Perm	0.05			0.06			0.03			c0.04		
v/c Ratio	0.11	0.31		0.12	0.56		0.11	0.17		0.19	0.08	
Uniform Delay, d1	4.4	4.9		4.4	5.7		9.4	9.5		9.6	9.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.1		0.1	0.4		0.2	0.1		0.4	0.0	
Delay (s)	4.6	5.0		4.5	6.1		9.6	9.6		9.9	9.4	
Level of Service	A	A		A	A		A	A		A	A	
Approach Delay (s/veh)		5.0			6.0			9.6			9.6	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	6.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	30.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

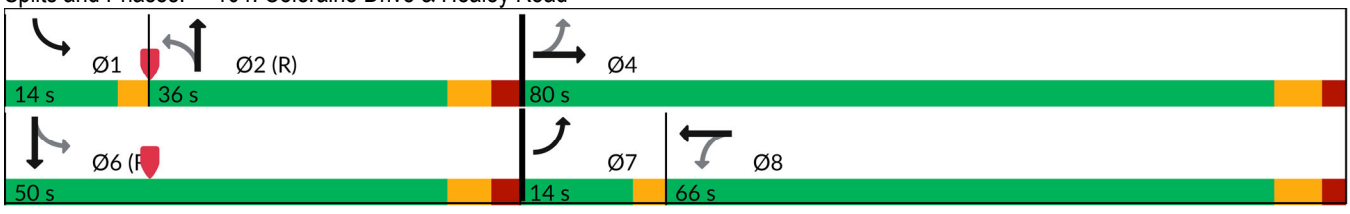


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	163	270	77	54	573	78	127	274	119	143	459	117
Future Volume (vph)	163	270	77	54	573	78	127	274	119	143	459	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	20.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00				1.00							
Frt		0.967			0.982			0.955			0.970	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3434	0	1492	3402	0	1787	3032	0	1597	2751	0
Flt Permitted	0.175			0.530			0.417			0.441		
Satd. Flow (perm)	329	3434	0	832	3402	0	784	3032	0	742	2751	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			15			48			26	
Link Speed (k/h)		60			50			70			70	
Link Distance (m)		1380.2			427.4			630.5			589.7	
Travel Time (s)		82.8			30.8			32.4			30.3	
Confl. Peds. (#/hr)	1					1						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	4%	21%	2%	19%	1%	14%	13%	13%	33%	5%
Adj. Flow (vph)	175	290	83	58	616	84	137	295	128	154	494	126
Shared Lane Traffic (%)												
Lane Group Flow (vph)	175	373	0	58	700	0	137	423	0	154	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)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	12.0		12.0	12.0		12.0	12.0		5.0	12.0	
Minimum Split (s)	8.0	37.0		37.0	37.0		37.0	37.0		8.0	37.0	
Total Split (s)	14.0	80.0		66.0	66.0		36.0	36.0		14.0	50.0	
Total Split (%)	10.8%	61.5%		50.8%	50.8%		27.7%	27.7%		10.8%	38.5%	
Maximum Green (s)	11.0	73.0		59.0	59.0		29.0	29.0		11.0	43.0	
Yellow Time (s)	3.0	4.6		4.6	4.6		4.2	4.2		3.0	4.2	
All-Red Time (s)	0.0	2.4		2.4	2.4		2.8	2.8		0.0	2.8	
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	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	
Walk Time (s)		12.0		12.0	12.0		12.0	12.0			12.0	
Flash Don't Walk (s)		18.0		18.0	18.0		18.0	18.0			18.0	
Pedestrian Calls (#/hr)		0		0	0		0	0			0	
Act Effct Green (s)	52.6	48.6		34.6	34.6		52.3	52.3		71.4	67.4	
Actuated g/C Ratio	0.40	0.37		0.27	0.27		0.40	0.40		0.55	0.52	
v/c Ratio	0.68	0.28		0.26	0.76		0.43	0.34		0.32	0.43	
Control Delay (s/veh)	38.6	24.5		38.8	48.3		37.1	26.4		17.9	20.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	38.6	24.5		38.8	48.3		37.1	26.4		17.9	20.6	
LOS	D	C		D	D		D	C		B	C	
Approach Delay (s/veh)		29.0			47.6			29.0			20.1	
Approach LOS		C			D			C			C	

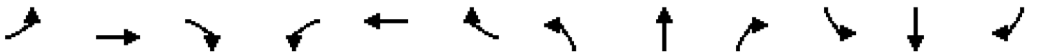
Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 92 (71%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay (s/veh): 31.7		Intersection LOS: C	
Intersection Capacity Utilization 74.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 104: Coleraine Drive & Healey Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	175	373	58	700	137	423	154	620
v/c Ratio	0.68	0.28	0.26	0.76	0.43	0.34	0.32	0.43
Control Delay (s/veh)	38.6	24.5	38.8	48.3	37.1	26.4	17.9	20.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.6	24.5	38.8	48.3	37.1	26.4	17.9	20.6
Queue Length 50th (m)	30.8	31.9	11.3	89.5	26.2	33.6	18.8	43.1
Queue Length 95th (m)	42.7	39.6	21.2	102.2	55.5	55.6	35.2	64.6
Internal Link Dist (m)		1356.2		403.4		606.5		565.7
Turn Bay Length (m)	30.0		20.0		60.0		55.0	
Base Capacity (vph)	256	1948	377	1552	315	1248	492	1437
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.19	0.15	0.45	0.43	0.34	0.31	0.43

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	163	270	77	54	573	78	127	274	119	143	459	117
Future Volume (vph)	163	270	77	54	573	78	127	274	119	143	459	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.95		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	3432		1492	3402		1787	3031		1597	2749	
Flt Permitted	0.17	1.00		0.53	1.00		0.42	1.00		0.44	1.00	
Satd. Flow (perm)	329	3432		832	3402		784	3031		742	2749	
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)	175	290	83	58	616	84	137	295	128	154	494	126
RTOR Reduction (vph)	0	29	0	0	11	0	0	29	0	0	13	0
Lane Group Flow (vph)	175	344	0	58	689	0	137	394	0	154	607	0
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	1%	1%	4%	21%	2%	19%	1%	14%	13%	13%	33%	5%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	48.6	48.6		34.6	34.6		52.3	52.3		67.4	67.4	
Effective Green, g (s)	48.6	48.6		34.6	34.6		52.3	52.3		67.4	67.4	
Actuated g/C Ratio	0.37	0.37		0.27	0.27		0.40	0.40		0.52	0.52	
Clearance Time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	246	1283		221	905		315	1219		464	1425	
v/s Ratio Prot	c0.06	0.10			0.20			0.13		0.03	c0.22	
v/s Ratio Perm	c0.21			0.07			0.17			0.14		
v/c Ratio	0.71	0.27		0.26	0.76		0.43	0.32		0.33	0.43	
Uniform Delay, d1	30.4	28.3		37.6	43.9		28.1	26.7		16.9	19.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.3	0.1		0.6	3.8		4.3	0.7		0.4	0.9	
Delay (s)	39.7	28.4		38.3	47.7		32.5	27.4		17.3	20.3	
Level of Service	D	C		D	D		C	C		B	C	
Approach Delay (s/veh)		32.0			47.0			28.6			19.7	
Approach LOS		C			D			C			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	497	99	33	807	63	23
Future Volume (vph)	497	99	33	807	63	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	0.0		20.0	0.0
Storage Lanes		0	0		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.975					0.850
Flt Protected				0.998	0.950	
Satd. Flow (prot)	3451	0	0	3532	1770	1583
Flt Permitted				0.998	0.950	
Satd. Flow (perm)	3451	0	0	3532	1770	1583
Link Speed (k/h)	60			60	50	
Link Distance (m)	530.2			826.3	475.3	
Travel Time (s)	31.8			49.6	34.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	540	108	36	877	68	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	648	0	0	913	68	25
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	497	99	33	807	63	23
Future Volume (Veh/h)	497	99	33	807	63	23
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	540	108	36	877	68	25
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			648		1105	324
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			648		1105	324
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		66	96
cM capacity (veh/h)			934		197	672

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	360	288	328	585	68	25
Volume Left	0	0	36	0	68	0
Volume Right	0	108	0	0	0	25
cSH	1700	1700	934	1700	197	672
Volume to Capacity	0.21	0.17	0.04	0.34	0.34	0.04
Queue Length 95th (m)	0.0	0.0	1.0	0.0	11.6	0.9
Control Delay (s/veh)	0.0	0.0	1.4	0.0	32.6	10.6
Lane LOS			A		D	B
Approach Delay (s/veh)	0.0		0.5		26.7	
Approach LOS					D	

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	51	64	613	100	65	471
Future Volume (vph)	51	64	613	100	65	471
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	20.0	0.0		0.0	0.0	
Storage Lanes	1	1		0	0	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95
Frt		0.850	0.979			
Flt Protected	0.950					0.994
Satd. Flow (prot)	1770	1583	3465	0	0	3518
Flt Permitted	0.950					0.994
Satd. Flow (perm)	1770	1583	3465	0	0	3518
Link Speed (k/h)	50		80			80
Link Distance (m)	539.3		2418.6			483.8
Travel Time (s)	38.8		108.8			21.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	70	666	109	71	512
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	70	775	0	0	583
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 48.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	51	64	613	100	65	471
Future Volume (Veh/h)	51	64	613	100	65	471
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)	55	70	666	109	71	512
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1119	388			775	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1119	388			775	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	70	89			92	
cM capacity (veh/h)	184	611			837	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	55	70	444	331	242	341
Volume Left	55	0	0	0	71	0
Volume Right	0	70	0	109	0	0
cSH	184	611	1700	1700	837	1700
Volume to Capacity	0.30	0.11	0.26	0.19	0.08	0.20
Queue Length 95th (m)	9.5	3.1	0.0	0.0	2.2	0.0
Control Delay (s/veh)	32.7	11.7	0.0	0.0	3.5	0.0
Lane LOS	D	B			A	
Approach Delay (s/veh)	20.9		0.0		1.4	
Approach LOS	C					

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	48.4%	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)	42	33	50	0	23	17	35	17	0	20	20	17
Future Volume (vph)	42	33	50	0	23	17	35	17	0	20	20	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.946			0.943						0.961	
Flt Protected		0.983						0.967			0.983	
Satd. Flow (prot)	0	1732	0	0	1757	0	0	1801	0	0	1760	0
Flt Permitted		0.983						0.967			0.983	
Satd. Flow (perm)	0	1732	0	0	1757	0	0	1801	0	0	1760	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		539.3			260.9			329.2			475.3	
Travel Time (s)		38.8			18.8			23.7			34.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	36	54	0	25	18	38	18	0	22	22	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	136	0	0	43	0	0	56	0	0	62	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control		Stop			Stop			Stop			Stop	

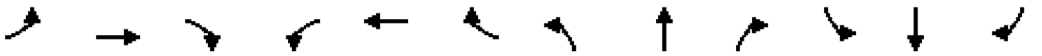
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	42	33	50	0	23	17	35	17	0	20	20	17
Future Volume (vph)	42	33	50	0	23	17	35	17	0	20	20	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	46	36	54	0	25	18	38	18	0	22	22	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	136	43	56	62
Volume Left (vph)	46	0	38	22
Volume Right (vph)	54	18	0	18
Hadj (s)	-0.14	-0.22	0.17	-0.07
Departure Headway (s)	4.1	4.1	4.5	4.3
Degree Utilization, x	0.15	0.05	0.07	0.07
Capacity (veh/h)	855	844	756	802
Control Delay (s/veh)	7.8	7.3	7.9	7.6
Approach Delay (s/veh)	7.8	7.3	7.9	7.6
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.7			
Level of Service	A			
Intersection Capacity Utilization	25.6%	ICU Level of Service	A	
Analysis Period (min)	15			



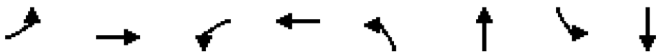
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	96	40	228	749	16	40	60	183	23	360	40
Future Volume (vph)	10	96	40	228	749	16	40	60	183	23	360	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.956			0.997			0.887			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3357	0	1805	3530	0	1719	3132	0	1805	3265	0
Flt Permitted	0.155			0.660			0.488			0.592		
Satd. Flow (perm)	294	3357	0	1254	3530	0	883	3132	0	1125	3265	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			3			195			11	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		295.9			1421.0			432.6			556.0	
Travel Time (s)		17.8			85.3			22.2			28.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	0%	0%	2%	0%	5%	3%	2%	0%	9%	8%
Adj. Flow (vph)	11	102	43	243	797	17	43	64	195	24	383	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	145	0	243	814	0	43	259	0	24	426	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	72.0	72.0		72.0	72.0		48.0	48.0		48.0	48.0	
Total Split (%)	60.0%	60.0%		60.0%	60.0%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	67.5	67.5		67.5	67.5		43.5	43.5		43.5	43.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	38.3	38.3		38.3	38.3		72.7	72.7		72.7	72.7	
Actuated g/C Ratio	0.32	0.32		0.32	0.32		0.61	0.61		0.61	0.61	
v/c Ratio	0.12	0.13		0.61	0.72		0.08	0.13		0.04	0.22	
Control Delay (s/veh)	28.7	18.9		10.8	10.2		12.6	3.6		12.0	11.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	28.7	18.9		10.8	10.2		12.6	3.6		12.0	11.7	
LOS	C	B		B	B		B	A		B	B	
Approach Delay (s/veh)		19.6			10.3			4.9			11.8	
Approach LOS		B			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 2 (2%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay (s/veh): 10.6		Intersection LOS: B	
Intersection Capacity Utilization 55.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 101: Centreville Creek Road & Healey Road

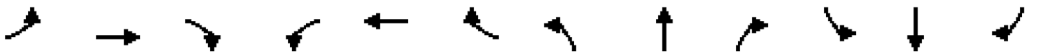




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	145	243	814	43	259	24	426
v/c Ratio	0.12	0.13	0.61	0.72	0.08	0.13	0.04	0.22
Control Delay (s/veh)	28.7	18.9	10.8	10.2	12.6	3.6	12.0	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.7	18.9	10.8	10.2	12.6	3.6	12.0	11.7
Queue Length 50th (m)	1.9	9.1	13.3	31.1	4.1	3.1	2.3	22.1
Queue Length 95th (m)	6.2	14.8	m14.8	m27.7	11.4	10.4	7.3	37.0
Internal Link Dist (m)		271.9		1397.0		408.6		532.0
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	165	1907	705	1986	534	1973	681	1981
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.08	0.34	0.41	0.08	0.13	0.04	0.22

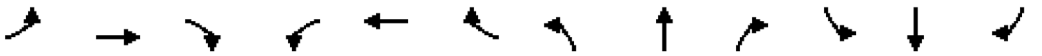
Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	96	40	228	749	16	40	60	183	23	360	40
Future Volume (vph)	10	96	40	228	749	16	40	60	183	23	360	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	1.00		1.00	0.89		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3355		1805	3530		1719	3132		1805	3265	
Flt Permitted	0.16	1.00		0.66	1.00		0.49	1.00		0.59	1.00	
Satd. Flow (perm)	295	3355		1254	3530		883	3132		1124	3265	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	11	102	43	243	797	17	43	64	195	24	383	43
RTOR Reduction (vph)	0	29	0	0	2	0	0	77	0	0	4	0
Lane Group Flow (vph)	11	116	0	243	812	0	43	182	0	24	422	0
Heavy Vehicles (%)	0%	4%	0%	0%	2%	0%	5%	3%	2%	0%	9%	8%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	38.3	38.3		38.3	38.3		72.7	72.7		72.7	72.7	
Effective Green, g (s)	38.3	38.3		38.3	38.3		72.7	72.7		72.7	72.7	
Actuated g/C Ratio	0.32	0.32		0.32	0.32		0.61	0.61		0.61	0.61	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	94	1070		400	1126		534	1897		680	1978	
v/s Ratio Prot		0.03			c0.23			0.06			c0.13	
v/s Ratio Perm	0.04			0.19			0.05			0.02		
v/c Ratio	0.12	0.11		0.61	0.72		0.08	0.10		0.04	0.21	
Uniform Delay, d1	28.9	28.8		34.5	36.1		9.8	9.9		9.5	10.7	
Progression Factor	1.00	1.00		0.20	0.22		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.0		1.6	1.4		0.3	0.1		0.1	0.2	
Delay (s)	29.4	28.9		8.5	9.4		10.1	10.0		9.6	11.0	
Level of Service	C	C		A	A		B	A		A	B	
Approach Delay (s/veh)		28.9			9.2			10.0			10.9	
Approach LOS		C			A			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

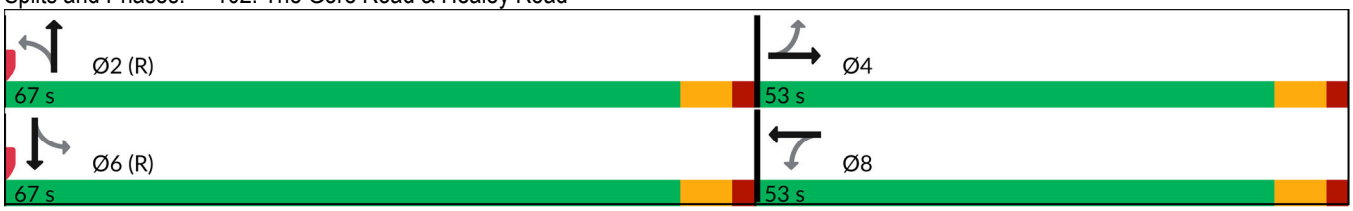


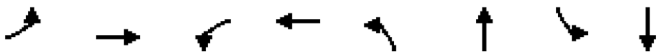
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	260	31	419	925	72	49	526	504	66	1702	16
Future Volume (vph)	2	260	31	419	925	72	49	526	504	66	1702	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.984			0.989			0.927			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3484	0	1736	3520	0	1687	3171	0	1556	3281	0
Flt Permitted	0.116			0.554			0.066			0.168		
Satd. Flow (perm)	220	3484	0	1012	3520	0	117	3171	0	275	3281	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			8			289			1	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		1421.0			530.2			483.8			1079.4	
Travel Time (s)		85.3			31.8			24.9			55.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	10%	4%	1%	7%	7%	7%	4%	16%	10%	0%
Adj. Flow (vph)	2	277	33	446	984	77	52	560	536	70	1811	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	310	0	446	1061	0	52	1096	0	70	1828	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane					Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.6	25.6		25.6	25.6		26.6	26.6		26.6	26.6	
Total Split (s)	53.0	53.0		53.0	53.0		67.0	67.0		67.0	67.0	
Total Split (%)	44.2%	44.2%		44.2%	44.2%		55.8%	55.8%		55.8%	55.8%	
Maximum Green (s)	46.4	46.4		46.4	46.4		60.4	60.4		60.4	60.4	
Yellow Time (s)	4.6	4.6		4.6	4.6		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	46.4	46.4		46.4	46.4		60.4	60.4		60.4	60.4	
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.50	0.50		0.50	0.50	
v/c Ratio	0.02	0.23		1.14	0.78		0.90	0.63		0.51	1.11	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay (s/veh)	31.0	29.5		107.4	17.3		119.7	13.7		35.8	87.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	31.0	29.5		107.4	17.3		119.7	13.7		35.8	87.2	
LOS	C	C		F	B		F	B		D	F	
Approach Delay (s/veh)		29.5			44.0			18.5			85.3	
Approach LOS		C			D			B			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 12 (10%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 100			
Control Type: Pretimed			
Maximum v/c Ratio: 1.14			
Intersection Signal Delay (s/veh): 53.2		Intersection LOS: D	
Intersection Capacity Utilization 105.9%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 102: The Gore Road & Healey Road



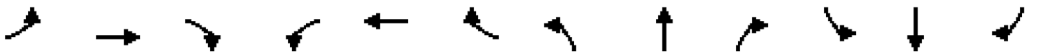


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	2	310	446	1061	52	1096	70	1828
v/c Ratio	0.02	0.23	1.14	0.78	0.90	0.63	0.51	1.11
Control Delay (s/veh)	31.0	29.5	107.4	17.3	119.7	13.7	35.8	87.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	31.0	29.5	107.4	17.3	119.7	13.7	35.8	87.2
Queue Length 50th (m)	0.4	30.1	~127.9	67.2	10.0	75.6	10.4	~260.8
Queue Length 95th (m)	2.6	43.1	#193.4	109.8	#37.8	73.4	27.7	#304.1
Internal Link Dist (m)		1397.0		506.2		459.8		1055.4
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	85	1352	391	1365	58	1739	138	1651
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	0.02	0.23	1.14	0.78	0.90	0.63	0.51	1.11

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

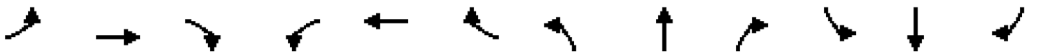
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	260	31	419	925	72	49	526	504	66	1702	16
Future Volume (vph)	2	260	31	419	925	72	49	526	504	66	1702	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.99		1.00	0.93		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3484		1736	3520		1687	3170		1556	3280	
Flt Permitted	0.12	1.00		0.55	1.00		0.07	1.00		0.17	1.00	
Satd. Flow (perm)	220	3484		1013	3520		118	3170		275	3280	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	2	277	33	446	984	77	52	560	536	70	1811	17
RTOR Reduction (vph)	0	5	0	0	5	0	0	144	0	0	0	0
Lane Group Flow (vph)	2	305	0	446	1056	0	52	952	0	70	1828	0
Heavy Vehicles (%)	0%	1%	10%	4%	1%	7%	7%	7%	4%	16%	10%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	46.4	46.4		46.4	46.4		60.4	60.4		60.4	60.4	
Effective Green, g (s)	46.4	46.4		46.4	46.4		60.4	60.4		60.4	60.4	
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.50	0.50		0.50	0.50	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Grp Cap (vph)	85	1347		391	1361		59	1595		138	1650	
v/s Ratio Prot		0.09			0.30			0.30			c0.56	
v/s Ratio Perm	0.01			c0.44			0.44			0.25		
v/c Ratio	0.02	0.23		1.14	0.78		0.88	0.60		0.51	1.11	
Uniform Delay, d1	22.8	24.7		36.8	32.2		26.6	21.2		19.9	29.8	
Progression Factor	1.30	1.20		0.47	0.42		0.92	0.78		1.00	1.00	
Incremental Delay, d2	0.5	0.4		86.2	3.7		82.5	1.5		12.7	57.8	
Delay (s)	30.0	30.1		103.6	17.2		106.9	18.1		32.6	87.6	
Level of Service	C	C		F	B		F	B		C	F	
Approach Delay (s/veh)		30.1			42.8			22.2			85.6	
Approach LOS		C			D			C			F	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	53.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	105.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group



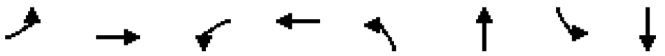
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	635	22	14	521	32	65	717	66	295	1933	815
Future Volume (vph)	27	635	22	14	521	32	65	717	66	295	1933	815
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.995			0.991			0.987			0.956	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1671	3592	0	1805	3573	0	1805	3418	0	1719	3380	0
Flt Permitted	0.205			0.205			0.044			0.331		
Satd. Flow (perm)	361	3592	0	390	3573	0	84	3418	0	599	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			4			4			12	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		536.6			1380.2			839.8			680.2	
Travel Time (s)		32.2			82.8			43.2			35.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	0%	0%	0%	0%	2%	0%	4%	7%	5%	3%	0%
Adj. Flow (vph)	28	655	23	14	537	33	67	739	68	304	1993	840
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	678	0	14	570	0	67	807	0	304	2833	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	24.0	24.0		24.0	24.0		96.0	96.0		96.0	96.0	
Total Split (%)	20.0%	20.0%		20.0%	20.0%		80.0%	80.0%		80.0%	80.0%	
Maximum Green (s)	19.5	19.5		19.5	19.5		91.5	91.5		91.5	91.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	19.5	19.5		19.5	19.5		91.5	91.5		91.5	91.5	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.76	0.76		0.76	0.76	
v/c Ratio	0.48	1.16		0.22	0.98		1.05	0.31		0.67	1.10	
Control Delay (s/veh)	64.3	123.2		42.9	61.9		152.1	3.8		15.7	67.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	64.3	123.2		42.9	61.9		152.1	3.8		15.7	67.6	
LOS	E	F		D	E		F	A		B	E	
Approach Delay (s/veh)		120.9			61.4			15.1			62.6	
Approach LOS		F			E			B			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.16			
Intersection Signal Delay (s/veh): 62.4		Intersection LOS: E	
Intersection Capacity Utilization 117.4%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 103: Humber Station Road & Healey Road





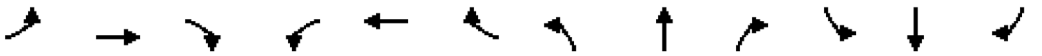
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	28	678	14	570	67	807	304	2833
v/c Ratio	0.48	1.16	0.22	0.98	1.05	0.31	0.67	1.10
Control Delay (s/veh)	64.3	123.2	42.9	61.9	152.1	3.8	15.7	67.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	64.3	123.2	42.9	61.9	152.1	3.8	15.7	67.6
Queue Length 50th (m)	5.0	~102.7	3.0	73.7	~18.1	21.4	30.2	~414.1
Queue Length 95th (m)	#19.1	#142.8	m4.3	m65.5	#46.2	26.3	66.2	#454.7
Internal Link Dist (m)		512.6		1356.2		815.8		656.2
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	58	585	63	583	64	2607	456	2580
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	0.48	1.16	0.22	0.98	1.05	0.31	0.67	1.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

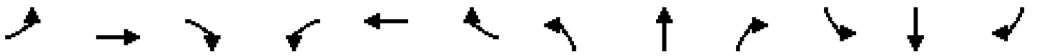
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	635	22	14	521	32	65	717	66	295	1933	815
Future Volume (vph)	27	635	22	14	521	32	65	717	66	295	1933	815
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		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)	1671	3592		1805	3575		1805	3419		1719	3378	
Flt Permitted	0.21	1.00		0.21	1.00		0.04	1.00		0.33	1.00	
Satd. Flow (perm)	361	3592		390	3575		83	3419		598	3378	
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)	28	655	23	14	537	33	67	739	68	304	1993	840
RTOR Reduction (vph)	0	2	0	0	3	0	0	1	0	0	3	0
Lane Group Flow (vph)	28	676	0	14	567	0	67	806	0	304	2830	0
Heavy Vehicles (%)	8%	0%	0%	0%	0%	2%	0%	4%	7%	5%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	19.5	19.5		19.5	19.5		91.5	91.5		91.5	91.5	
Effective Green, g (s)	19.5	19.5		19.5	19.5		91.5	91.5		91.5	91.5	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.76	0.76		0.76	0.76	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	58	583		63	580		63	2606		455	2575	
v/s Ratio Prot		c0.19			0.16			0.24			c0.84	
v/s Ratio Perm	0.08			0.04			0.81			0.51		
v/c Ratio	0.48	1.16		0.22	0.98		1.06	0.31		0.67	1.10	
Uniform Delay, d1	45.7	50.3		43.7	50.0		14.3	4.4		6.9	14.3	
Progression Factor	0.81	0.73		0.88	0.89		1.30	0.77		1.00	1.00	
Incremental Delay, d2	5.9	89.1		0.6	16.5		131.4	0.3		7.6	51.3	
Delay (s)	42.6	125.6		39.2	60.9		150.0	3.7		14.5	65.6	
Level of Service	D	F		D	E		F	A		B	E	
Approach Delay (s/veh)		122.4			60.4			14.9			60.6	
Approach LOS		F			E			B			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	61.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	117.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

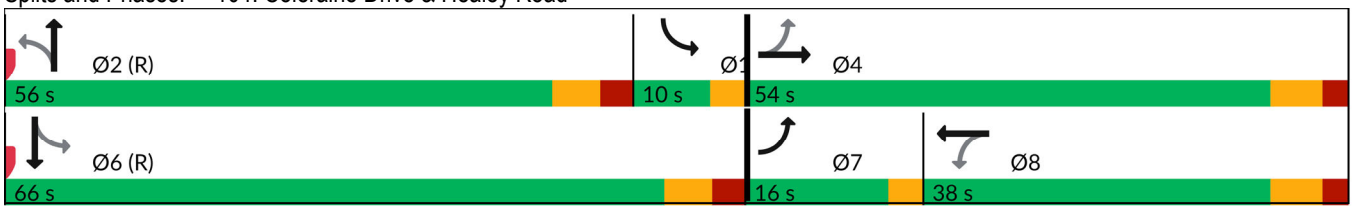


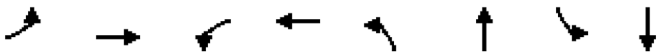
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	375	266	285	40	142	30	28	319	19	118	1816	347
Future Volume (vph)	375	266	285	40	142	30	28	319	19	118	1816	347
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	20.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00				1.00							
Frt		0.922			0.974			0.992			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3246	0	1492	3343	0	1787	3143	0	1597	2742	0
Flt Permitted	0.529			0.428			0.061			0.535		
Satd. Flow (perm)	994	3246	0	672	3343	0	115	3143	0	900	2742	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			20			6			26	
Link Speed (k/h)		60			50			70			70	
Link Distance (m)		1380.2			427.4			630.5			589.7	
Travel Time (s)		82.8			30.8			32.4			30.3	
Confl. Peds. (#/hr)	1					1						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	4%	21%	2%	19%	1%	14%	13%	13%	33%	5%
Adj. Flow (vph)	403	286	306	43	153	32	30	343	20	127	1953	373
Shared Lane Traffic (%)												
Lane Group Flow (vph)	403	592	0	43	185	0	30	363	0	127	2326	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	12.0		12.0	12.0		12.0	12.0		5.0	12.0	
Minimum Split (s)	15.0	37.0		37.0	37.0		37.0	37.0		8.0	37.0	
Total Split (s)	16.0	54.0		38.0	38.0		56.0	56.0		10.0	66.0	
Total Split (%)	13.3%	45.0%		31.7%	31.7%		46.7%	46.7%		8.3%	55.0%	
Maximum Green (s)	13.0	47.0		31.0	31.0		49.0	49.0		7.0	59.0	
Yellow Time (s)	3.0	4.6		4.6	4.6		4.2	4.2		3.0	4.2	
All-Red Time (s)	0.0	2.4		2.4	2.4		2.8	2.8		0.0	2.8	
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	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lead/Lag	Lead			Lag	Lag		Lead	Lead		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	
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	
Walk Time (s)		12.0		12.0	12.0		12.0	12.0			12.0	
Flash Don't Walk (s)		18.0		18.0	18.0		18.0	18.0			18.0	
Pedestrian Calls (#/hr)		0		0	0		0	0			0	
Act Effct Green (s)	34.9	30.9		14.9	14.9		65.1	65.1		79.1	75.1	
Actuated g/C Ratio	0.29	0.26		0.12	0.12		0.54	0.54		0.66	0.63	
v/c Ratio	1.07	0.71		0.52	0.43		0.48	0.21		0.20	1.35	
Control Delay (s/veh)	71.2	20.2		70.0	45.5		50.5	14.9		9.8	184.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	71.2	20.2		70.0	45.5		50.5	14.9		9.8	184.4	
LOS	E	C		E	D		D	B		A	F	
Approach Delay (s/veh)		40.9			50.2			17.6			175.4	
Approach LOS		D			D			B			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 106 (88%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.35			
Intersection Signal Delay (s/veh): 120.2		Intersection LOS: F	
Intersection Capacity Utilization 123.4%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 104: Coleraine Drive & Healey Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	403	592	43	185	30	363	127	2326
v/c Ratio	1.07	0.71	0.52	0.43	0.48	0.21	0.20	1.35
Control Delay (s/veh)	71.2	20.2	70.0	45.5	50.5	14.9	9.8	184.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	71.2	20.2	70.0	45.5	50.5	14.9	9.8	184.4
Queue Length 50th (m)	~49.2	29.5	9.4	20.3	4.2	20.7	9.6	~335.9
Queue Length 95th (m)	m34.2	m26.4	20.0	30.0	#22.0	34.0	20.4	#395.5
Internal Link Dist (m)		1356.2		403.4		606.5		565.7
Turn Bay Length (m)	30.0		20.0		60.0		55.0	
Base Capacity (vph)	375	1273	173	878	62	1707	633	1725
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.07	0.47	0.25	0.21	0.48	0.21	0.20	1.35

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	375	266	285	40	142	30	28	319	19	118	1816	347
Future Volume (vph)	375	266	285	40	142	30	28	319	19	118	1816	347
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.97		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1786	3247		1492	3343		1787	3142		1597	2742	
Flt Permitted	0.53	1.00		0.43	1.00		0.06	1.00		0.54	1.00	
Satd. Flow (perm)	994	3247		673	3343		116	3142		900	2742	
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)	403	286	306	43	153	32	30	343	20	127	1953	373
RTOR Reduction (vph)	0	3	0	0	18	0	0	3	0	0	10	0
Lane Group Flow (vph)	403	589	0	43	167	0	30	360	0	127	2316	0
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	1%	1%	4%	21%	2%	19%	1%	14%	13%	13%	33%	5%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	30.9	30.9		14.9	14.9		65.1	65.1		79.1	75.1	
Effective Green, g (s)	30.9	30.9		14.9	14.9		65.1	65.1		79.1	75.1	
Actuated g/C Ratio	0.26	0.26		0.12	0.12		0.54	0.54		0.66	0.63	
Clearance Time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	341	836		83	415		62	1704		633	1716	
v/s Ratio Prot	c0.13	0.18			0.05			0.11		0.01	c0.84	
v/s Ratio Perm	c0.18			0.06			0.26			0.12		
v/c Ratio	1.18	0.70		0.52	0.40		0.48	0.21		0.20	1.35	
Uniform Delay, d1	42.9	40.4		49.2	48.5		17.0	14.2		8.1	22.5	
Progression Factor	0.49	0.47		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	91.4	0.9		5.4	0.6		24.6	0.3		0.2	161.4	
Delay (s)	112.5	19.7		54.6	49.1		41.6	14.5		8.3	183.8	
Level of Service	F	B		D	D		D	B		A	F	
Approach Delay (s/veh)		57.3			50.1			16.5			174.7	
Approach LOS		E			D			B			F	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	123.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	123.4%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	809	21	13	1355	61	36
Future Volume (vph)	809	21	13	1355	61	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		15.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.996					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3525	0	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3525	0	1770	3539	1770	1583
Link Speed (k/h)	60			60	50	
Link Distance (m)	530.2			289.7	475.3	
Travel Time (s)	31.8			17.4	34.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	879	23	14	1473	66	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	902	0	14	1473	66	39
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane	Yes					
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control	Free			Free	Stop	

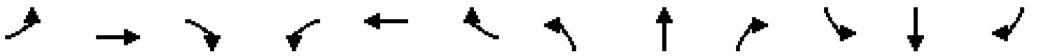
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	809	21	13	1355	61	36
Future Volume (Veh/h)	809	21	13	1355	61	36
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	879	23	14	1473	66	39
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			None		
Median storage veh)	2					
Upstream signal (m)				290		
pX, platoon unblocked					0.68	
vC, conflicting volume			902		1655	451
vC1, stage 1 conf vol					891	
vC2, stage 2 conf vol					765	
vCu, unblocked vol			902		1018	451
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		80	93
cM capacity (veh/h)			749		333	556

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	586	316	14	737	737	66	39
Volume Left	0	0	14	0	0	66	0
Volume Right	0	23	0	0	0	0	39
cSH	1700	1700	749	1700	1700	333	556
Volume to Capacity	0.34	0.19	0.02	0.43	0.43	0.20	0.07
Queue Length 95th (m)	0.0	0.0	0.5	0.0	0.0	5.8	1.8
Control Delay (s/veh)	0.0	0.0	9.9	0.0	0.0	18.5	12.0
Lane LOS			A			C	B
Approach Delay (s/veh)	0.0		0.1			16.1	
Approach LOS						C	

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		

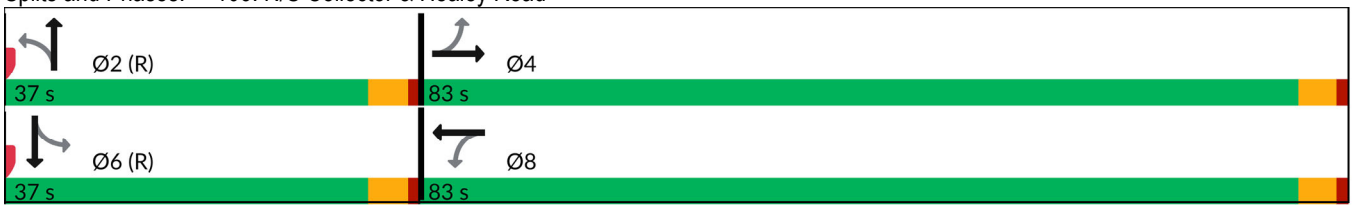


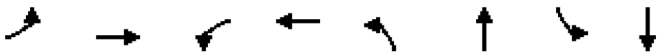
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	764	62	88	1293	3	58	123	76	8	140	17
Future Volume (vph)	19	764	62	88	1293	3	58	123	76	8	140	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989						0.943			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3500	0	1770	3539	0	1770	1757	0	1770	1833	0
Flt Permitted	0.089			0.243			0.605			0.547		
Satd. Flow (perm)	166	3500	0	453	3539	0	1127	1757	0	1019	1833	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14						25			5	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		289.7			536.6			472.1			202.6	
Travel Time (s)		17.4			32.2			28.3			12.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	830	67	96	1405	3	63	134	83	9	152	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	897	0	96	1408	0	63	217	0	9	170	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
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)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	83.0	83.0		83.0	83.0		37.0	37.0		37.0	37.0	
Total Split (%)	69.2%	69.2%		69.2%	69.2%		30.8%	30.8%		30.8%	30.8%	
Maximum Green (s)	78.5	78.5		78.5	78.5		32.5	32.5		32.5	32.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	64.6	64.6		64.6	64.6		46.4	46.4		46.4	46.4	
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.39	0.39		0.39	0.39	
v/c Ratio	0.24	0.47		0.40	0.74		0.14	0.31		0.02	0.24	
Control Delay (s/veh)	16.2	13.8		16.5	22.7		28.7	26.3		28.3	27.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	16.2	13.8		16.5	22.7		28.7	26.3		28.3	27.7	
LOS	B	B		B	C		C	C		C	C	
Approach Delay (s/veh)		13.9			22.3			26.9			27.7	
Approach LOS		B			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 108 (90%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay (s/veh): 20.4		Intersection LOS: C	
Intersection Capacity Utilization 70.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 106: N/S Collector & Healey Road

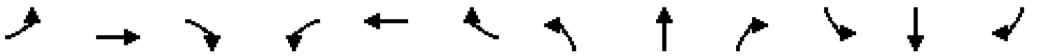




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	21	897	96	1408	63	217	9	170
v/c Ratio	0.24	0.47	0.40	0.74	0.14	0.31	0.02	0.24
Control Delay (s/veh)	16.2	13.8	16.5	22.7	28.7	26.3	28.3	27.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	16.2	13.8	16.5	22.7	28.7	26.3	28.3	27.7
Queue Length 50th (m)	2.6	62.5	15.6	148.8	10.0	32.5	1.4	27.2
Queue Length 95th (m)	m4.5	58.8	m13.2	m119.8	23.7	60.9	5.7	51.0
Internal Link Dist (m)		265.7		512.6		448.1		178.6
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	108	2294	296	2315	435	694	393	711
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	0.39	0.32	0.61	0.14	0.31	0.02	0.24

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	764	62	88	1293	3	58	123	76	8	140	17
Future Volume (vph)	19	764	62	88	1293	3	58	123	76	8	140	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.94		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3500		1770	3538		1770	1756		1770	1833	
Flt Permitted	0.09	1.00		0.24	1.00		0.61	1.00		0.55	1.00	
Satd. Flow (perm)	166	3500		452	3538		1127	1756		1020	1833	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	830	67	96	1405	3	63	134	83	9	152	18
RTOR Reduction (vph)	0	6	0	0	0	0	0	15	0	0	3	0
Lane Group Flow (vph)	21	891	0	96	1408	0	63	202	0	9	167	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	64.6	64.6		64.6	64.6		46.4	46.4		46.4	46.4	
Effective Green, g (s)	64.6	64.6		64.6	64.6		46.4	46.4		46.4	46.4	
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.39	0.39		0.39	0.39	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	89	1884		243	1904		435	678		394	708	
v/s Ratio Prot		0.25			c0.40			c0.11			0.09	
v/s Ratio Perm	0.13			0.21			0.06			0.01		
v/c Ratio	0.24	0.47		0.40	0.74		0.14	0.30		0.02	0.24	
Uniform Delay, d1	14.6	17.2		16.2	21.2		23.9	25.5		22.8	24.8	
Progression Factor	0.81	0.80		1.08	1.08		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	0.2		0.1	0.1		0.7	1.1		0.1	0.8	
Delay (s)	13.1	13.9		17.6	23.2		24.6	26.6		22.9	25.6	
Level of Service	B	B		B	C		C	C		C	C	
Approach Delay (s/veh)		13.8			22.8			26.2			25.5	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	20.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	69	62	1017	24	17	2135
Future Volume (vph)	69	62	1017	24	17	2135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0	0.0		0.0	50.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.997			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3529	0	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3529	0	1770	3539
Link Speed (k/h)	50		70			70
Link Distance (m)	539.3		1501.3			483.8
Travel Time (s)	38.8		77.2			24.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	67	1105	26	18	2321
Shared Lane Traffic (%)						
Lane Group Flow (vph)	75	67	1131	0	18	2321
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 69.5%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	69	62	1017	24	17	2135
Future Volume (Veh/h)	69	62	1017	24	17	2135
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)	75	67	1105	26	18	2321
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			None
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	2315	566			1131	
vC1, stage 1 conf vol	1118					
vC2, stage 2 conf vol	1197					
vCu, unblocked vol	2315	566			1131	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	58	86			97	
cM capacity (veh/h)	177	468			613	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	75	67	737	394	18	1161	1161
Volume Left	75	0	0	0	18	0	0
Volume Right	0	67	0	26	0	0	0
cSH	177	468	1700	1700	613	1700	1700
Volume to Capacity	0.42	0.14	0.43	0.23	0.03	0.68	0.68
Queue Length 95th (m)	15.3	4.0	0.0	0.0	0.7	0.0	0.0
Control Delay (s/veh)	39.5	14.0	0.0	0.0	11.0	0.0	0.0
Lane LOS	E	B			B		
Approach Delay (s/veh)	27.5		0.0		0.1		
Approach LOS	D						

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	8	12	5	26	19	39	19	1	5	5	20
Future Volume (vph)	16	8	12	5	26	19	39	19	1	5	5	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.955			0.947			0.998			0.907	
Flt Protected		0.979			0.995			0.968			0.992	
Satd. Flow (prot)	0	1742	0	0	1755	0	0	1800	0	0	1676	0
Flt Permitted		0.979			0.995			0.968			0.992	
Satd. Flow (perm)	0	1742	0	0	1755	0	0	1800	0	0	1676	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		539.3			284.2			367.8			475.3	
Travel Time (s)		38.8			20.5			26.5			34.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	9	13	5	28	21	42	21	1	5	5	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	54	0	0	64	0	0	32	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control		Stop			Stop			Stop			Stop	

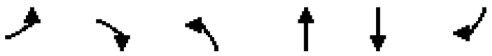
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	16	8	12	5	26	19	39	19	1	5	5	20
Future Volume (vph)	16	8	12	5	26	19	39	19	1	5	5	20
Peak Hour Factor	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)	17	9	13	5	28	21	42	21	1	5	5	22

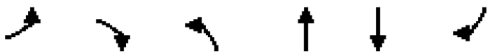
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	39	54	64	32
Volume Left (vph)	17	5	42	5
Volume Right (vph)	13	21	1	22
Hadj (s)	-0.08	-0.18	0.16	-0.35
Departure Headway (s)	4.1	4.0	4.3	3.8
Degree Utilization, x	0.04	0.06	0.08	0.03
Capacity (veh/h)	855	881	813	914
Control Delay (s/veh)	7.3	7.2	7.6	6.9
Approach Delay (s/veh)	7.3	7.2	7.6	6.9
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.3			
Level of Service	A			
Intersection Capacity Utilization	22.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	38	27	11	219	279	11
Future Volume (vph)	38	27	11	219	279	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0	0.0	0.0			0.0
Storage Lanes	1	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.995	
Flt Protected	0.950			0.998		
Satd. Flow (prot)	1770	1583	0	1859	1853	0
Flt Permitted	0.950			0.998		
Satd. Flow (perm)	1770	1583	0	1859	1853	0
Link Speed (k/h)	50			60	60	
Link Distance (m)	284.2			370.2	472.1	
Travel Time (s)	20.5			22.2	28.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	29	12	238	303	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	29	0	250	315	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	27	11	219	279	11
Future Volume (Veh/h)	38	27	11	219	279	11
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)	41	29	12	238	303	12
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	571	309	315			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	571	309	315			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	96	99			
cM capacity (veh/h)	478	731	1245			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	41	29	250	315
Volume Left	41	0	12	0
Volume Right	0	29	0	12
cSH	478	731	1245	1700
Volume to Capacity	0.09	0.04	0.00*	0.19
Queue Length 95th (m)	2.2	1.0	0.2	0.0
Control Delay (s/veh)	13.2	10.1	0.5	0.0
Lane LOS	B	B	A	
Approach Delay (s/veh)	12.0		0.5	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	30.5%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	11	25	23	5	64	4	166	27	90	216	0
Future Volume (vph)	0	11	25	23	5	64	4	166	27	90	216	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.907			0.905			0.982				
Flt Protected					0.988			0.999			0.985	
Satd. Flow (prot)	0	1690	0	0	1666	0	0	1827	0	0	1835	0
Flt Permitted					0.988			0.999			0.985	
Satd. Flow (perm)	0	1690	0	0	1666	0	0	1827	0	0	1835	0
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		282.8			530.8			846.0			370.2	
Travel Time (s)		20.4			38.2			50.8			22.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	12	27	25	5	70	4	180	29	98	235	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	100	0	0	213	0	0	333	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

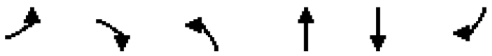
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	11	25	23	5	64	4	166	27	90	216	0
Future Volume (vph)	0	11	25	23	5	64	4	166	27	90	216	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	12	27	25	5	70	4	180	29	98	235	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	39	100	213	333
Volume Left (vph)	0	25	4	98
Volume Right (vph)	27	70	29	0
Hadj (s)	-0.38	-0.34	-0.04	0.09
Departure Headway (s)	4.9	4.9	4.6	4.6
Degree Utilization, x	0.05	0.14	0.27	0.43
Capacity (veh/h)	636	656	748	754
Control Delay (s/veh)	8.2	8.7	9.3	11.0
Approach Delay (s/veh)	8.2	8.7	9.3	11.0
Approach LOS	A	A	A	B

Intersection Summary				
Delay	10.0			
Level of Service	A			
Intersection Capacity Utilization	49.1%	ICU Level of Service	A	
Analysis Period (min)	15			

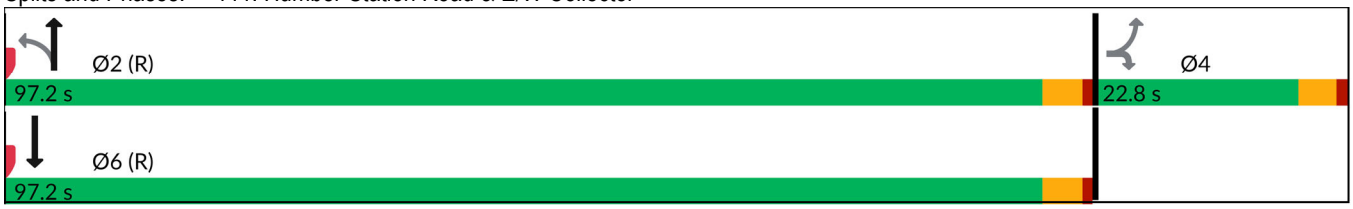


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	47	81	53	657	1878	39
Future Volume (vph)	47	81	53	657	1878	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.997	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3529	0
Flt Permitted	0.950		0.072			
Satd. Flow (perm)	1770	1583	134	3539	3529	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		31			5	
Link Speed (k/h)	50			70	70	
Link Distance (m)	530.8			670.0	839.8	
Travel Time (s)	38.2			34.5	43.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	88	58	714	2041	42
Shared Lane Traffic (%)						
Lane Group Flow (vph)	51	88	58	714	2083	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4	4	2			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	2	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	22.8	22.8	97.2	97.2	97.2	
Total Split (%)	19.0%	19.0%	81.0%	81.0%	81.0%	
Maximum Green (s)	18.3	18.3	92.7	92.7	92.7	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Min	C-Min	C-Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	9.9	9.9	101.1	101.1	101.1	
Actuated g/C Ratio	0.08	0.08	0.84	0.84	0.84	
v/c Ratio	0.35	0.55	0.52	0.24	0.70	
Control Delay (s/veh)	57.1	47.5	22.2	2.4	2.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	57.1	47.5	22.2	2.4	2.8	
LOS	E	D	C	A	A	
Approach Delay (s/veh)	51.0			3.9	2.8	
Approach LOS	D			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 42 (35%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay (s/veh): 5.3		Intersection LOS: A	
Intersection Capacity Utilization 65.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 111: Humber Station Road & E/W Collector

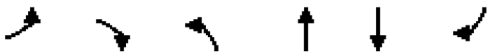




Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	51	88	58	714	2083
v/c Ratio	0.35	0.55	0.52	0.24	0.70
Control Delay (s/veh)	57.1	47.5	22.2	2.4	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	57.1	47.5	22.2	2.4	2.8
Queue Length 50th (m)	12.1	13.6	2.6	6.3	102.5
Queue Length 95th (m)	24.1	29.9	m14.2	28.7	m3.5
Internal Link Dist (m)	506.8			646.0	815.8
Turn Bay Length (m)	50.0		50.0		
Base Capacity (vph)	269	267	112	2981	2973
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	0.19	0.33	0.52	0.24	0.70

Intersection Summary

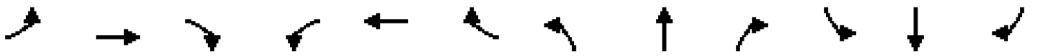
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	47	81	53	657	1878	39
Future Volume (vph)	47	81	53	657	1878	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	3539	3529	
Flt Permitted	0.95	1.00	0.07	1.00	1.00	
Satd. Flow (perm)	1770	1583	134	3539	3529	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	88	58	714	2041	42
RTOR Reduction (vph)	0	28	0	0	1	0
Lane Group Flow (vph)	51	60	58	714	2082	0
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4	4	2			
Actuated Green, G (s)	9.9	9.9	101.1	101.1	101.1	
Effective Green, g (s)	9.9	9.9	101.1	101.1	101.1	
Actuated g/C Ratio	0.08	0.08	0.84	0.84	0.84	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	146	130	112	2981	2973	
v/s Ratio Prot				0.20	c0.59	
v/s Ratio Perm	0.03	c0.04	0.43			
v/c Ratio	0.35	0.46	0.52	0.24	0.70	
Uniform Delay, d1	52.0	52.5	2.6	1.9	3.6	
Progression Factor	1.00	1.00	1.31	1.09	0.64	
Incremental Delay, d2	1.4	2.5	13.4	0.2	0.1	
Delay (s)	53.5	55.0	16.8	2.2	2.5	
Level of Service	D	E	B	A	A	
Approach Delay (s/veh)	54.5			3.3	2.5	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	5.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

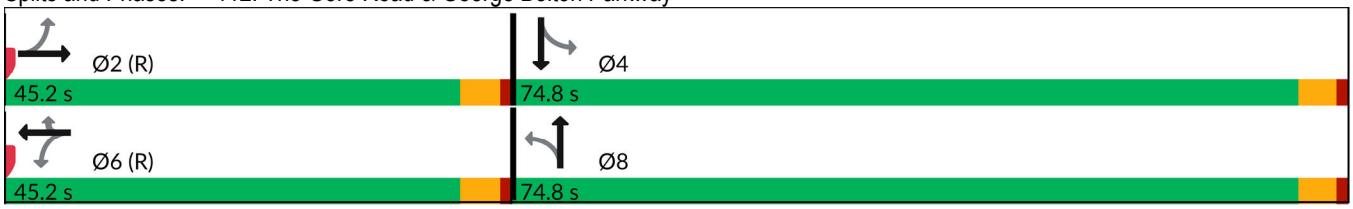


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	275	37	45	194	31	97	10	667	226	131	933	55
Future Volume (vph)	275	37	45	194	31	97	10	667	226	131	933	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.917				0.850		0.962			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1708	0	1770	1863	1583	1770	3405	0	1770	3511	0
Flt Permitted	0.735			0.699			0.136			0.174		
Satd. Flow (perm)	1369	1708	0	1302	1863	1583	253	3405	0	324	3511	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49				105		67			9	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		415.9			925.7			788.8			1501.3	
Travel Time (s)		25.0			55.5			40.6			77.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	299	40	49	211	34	105	11	725	246	142	1014	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	299	89	0	211	34	105	11	971	0	142	1074	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	45.2	45.2		45.2	45.2	45.2	74.8	74.8		74.8	74.8	
Total Split (%)	37.7%	37.7%		37.7%	37.7%	37.7%	62.3%	62.3%		62.3%	62.3%	
Maximum Green (s)	40.7	40.7		40.7	40.7	40.7	70.3	70.3		70.3	70.3	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min	C-Min	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	57.7	57.7		57.7	57.7	57.7	53.3	53.3		53.3	53.3	
Actuated g/C Ratio	0.48	0.48		0.48	0.48	0.48	0.44	0.44		0.44	0.44	
v/c Ratio	0.45	0.11		0.34	0.04	0.13	0.10	0.63		0.99	0.69	
Control Delay (s/veh)	27.2	12.1		23.4	20.4	5.9	16.1	24.8		51.2	21.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	27.2	12.1		23.4	20.4	5.9	16.1	24.8		51.2	21.2	
LOS	C	B		C	C	A	B	C		D	C	
Approach Delay (s/veh)		23.7			17.9			24.7			24.7	
Approach LOS		C			B			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 114 (95%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay (s/veh): 23.8		Intersection LOS: C	
Intersection Capacity Utilization 66.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 112: The Gore Road & George Bolton Parkway

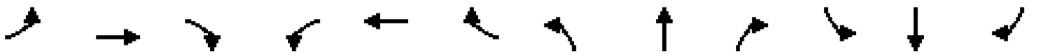




Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	299	89	211	34	105	11	971	142	1074
v/c Ratio	0.45	0.11	0.34	0.04	0.13	0.10	0.63	0.99	0.69
Control Delay (s/veh)	27.2	12.1	23.4	20.4	5.9	16.1	24.8	51.2	21.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.2	12.1	23.4	20.4	5.9	16.1	24.8	51.2	21.2
Queue Length 50th (m)	46.4	5.0	18.6	2.7	0.0	1.6	90.2	~37.2	109.2
Queue Length 95th (m)	94.9	18.7	73.1	16.2	19.3	4.2	79.0	m30.3	m106.1
Internal Link Dist (m)		391.9		901.7			764.8		1477.3
Turn Bay Length (m)	50.0		50.0			50.0		50.0	
Base Capacity (vph)	658	847	626	896	816	148	2024	189	2062
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.11	0.34	0.04	0.13	0.07	0.48	0.75	0.52

Intersection Summary

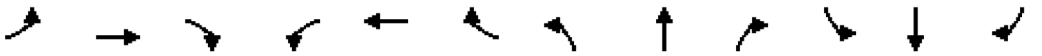
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	275	37	45	194	31	97	10	667	226	131	933	55
Future Volume (vph)	275	37	45	194	31	97	10	667	226	131	933	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.92		1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1709		1770	1863	1583	1770	3405		1770	3510	
Flt Permitted	0.73	1.00		0.70	1.00	1.00	0.14	1.00		0.17	1.00	
Satd. Flow (perm)	1369	1709		1303	1863	1583	254	3405		323	3510	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	299	40	49	211	34	105	11	725	246	142	1014	60
RTOR Reduction (vph)	0	25	0	0	0	55	0	37	0	0	5	0
Lane Group Flow (vph)	299	64	0	211	34	50	11	934	0	142	1069	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	57.7	57.7		57.7	57.7	57.7	53.3	53.3		53.3	53.3	
Effective Green, g (s)	57.7	57.7		57.7	57.7	57.7	53.3	53.3		53.3	53.3	
Actuated g/C Ratio	0.48	0.48		0.48	0.48	0.48	0.44	0.44		0.44	0.44	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	658	821		626	895	761	112	1512		143	1559	
v/s Ratio Prot		0.04			0.02			0.27			0.30	
v/s Ratio Perm	c0.22			0.16		0.03	0.04			c0.44		
v/c Ratio	0.45	0.08		0.34	0.04	0.07	0.10	0.62		0.99	0.69	
Uniform Delay, d1	20.7	16.8		19.3	16.5	16.7	19.4	25.5		33.2	26.7	
Progression Factor	1.00	1.00		0.94	0.92	1.11	1.00	1.00		0.95	0.82	
Incremental Delay, d2	2.3	0.2		1.4	0.1	0.2	0.4	0.8		20.8	0.1	
Delay (s)	23.0	17.0		19.5	15.2	18.8	19.8	26.3		52.4	22.0	
Level of Service	C	B		B	B	B	B	C		D	C	
Approach Delay (s/veh)		21.6			18.9			26.2			25.5	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	66.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



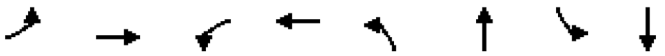
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	170	162	108	96	64	74	675	772	202	1735	92
Future Volume (vph)	69	170	162	108	96	64	74	675	772	202	1735	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.927			0.940			0.920			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3281	0	1770	3327	0	1770	3256	0	1770	3511	0
Flt Permitted	0.616			0.347			0.063			0.124		
Satd. Flow (perm)	1147	3281	0	646	3327	0	117	3256	0	231	3511	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37			70			266			13	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		533.8			484.4			1231.2			670.0	
Travel Time (s)		32.0			29.1			63.3			34.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	185	176	117	104	70	80	734	839	220	1886	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	75	361	0	117	174	0	80	1573	0	220	1986	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
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)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	25.0	25.0		25.0	25.0		95.0	95.0		95.0	95.0	
Total Split (%)	20.8%	20.8%		20.8%	20.8%		79.2%	79.2%		79.2%	79.2%	
Maximum Green (s)	20.5	20.5		20.5	20.5		90.5	90.5		90.5	90.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	20.5	20.5		20.5	20.5		90.5	90.5		90.5	90.5	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.75	0.75		0.75	0.75	
v/c Ratio	0.38	0.61		1.06	0.28		0.91	0.62		1.26	0.75	
Control Delay (s/veh)	20.3	15.5		152.1	26.9		94.0	6.7		166.0	4.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	20.3	15.5		152.1	26.9		94.0	6.7		166.0	4.0	
LOS	C	B		F	C		F	A		F	A	
Approach Delay (s/veh)		16.3			77.3			10.9			20.2	
Approach LOS		B			E			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 54 (45%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.26			
Intersection Signal Delay (s/veh): 20.1		Intersection LOS: C	
Intersection Capacity Utilization 85.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 113: Humber Station Road & George Bolton Parkway





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	75	361	117	174	80	1573	220	1986
v/c Ratio	0.38	0.61	1.06	0.28	0.91	0.62	1.26	0.75
Control Delay (s/veh)	20.3	15.5	152.1	26.9	94.0	6.7	166.0	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	20.3	15.5	152.1	26.9	94.0	6.7	166.0	4.0
Queue Length 50th (m)	3.5	4.6	~31.6	11.6	13.1	65.5	~38.1	108.2
Queue Length 95th (m)	9.0	12.1	#70.5	22.3	#29.8	82.2	m#73.5	17.1
Internal Link Dist (m)		509.8		460.4		1207.2		646.0
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	195	591	110	626	88	2520	174	2651
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	0.38	0.61	1.06	0.28	0.91	0.62	1.26	0.75

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

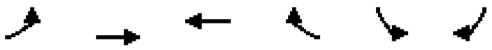
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	170	162	108	96	64	74	675	772	202	1735	92
Future Volume (vph)	69	170	162	108	96	64	74	675	772	202	1735	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.94		1.00	0.92		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)	1770	3280		1770	3326		1770	3256		1770	3512	
Flt Permitted	0.62	1.00		0.35	1.00		0.06	1.00		0.12	1.00	
Satd. Flow (perm)	1147	3280		646	3326		117	3256		232	3512	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	185	176	117	104	70	80	734	839	220	1886	100
RTOR Reduction (vph)	0	31	0	0	58	0	0	65	0	0	3	0
Lane Group Flow (vph)	75	330	0	117	116	0	80	1508	0	220	1983	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	20.5	20.5		20.5	20.5		90.5	90.5		90.5	90.5	
Effective Green, g (s)	20.5	20.5		20.5	20.5		90.5	90.5		90.5	90.5	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.75	0.75		0.75	0.75	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	195	560		110	568		88	2455		174	2648	
v/s Ratio Prot		0.10			0.03			0.46			0.56	
v/s Ratio Perm	0.07			c0.18			0.68			c0.95		
v/c Ratio	0.38	0.59		1.06	0.20		0.91	0.61		1.26	0.75	
Uniform Delay, d1	44.2	45.9		49.8	42.7		11.5	6.8		14.8	8.3	
Progression Factor	0.33	0.26		1.00	1.00		1.00	1.00		0.65	0.29	
Incremental Delay, d2	5.6	4.5		104.0	0.8		65.8	0.5		148.4	0.9	
Delay (s)	20.0	16.5		153.7	43.6		77.4	7.2		158.0	3.3	
Level of Service	B	B		F	D		E	A		F	A	
Approach Delay (s/veh)		17.1			87.8			10.6			18.8	
Approach LOS		B			F			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	20.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	85.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

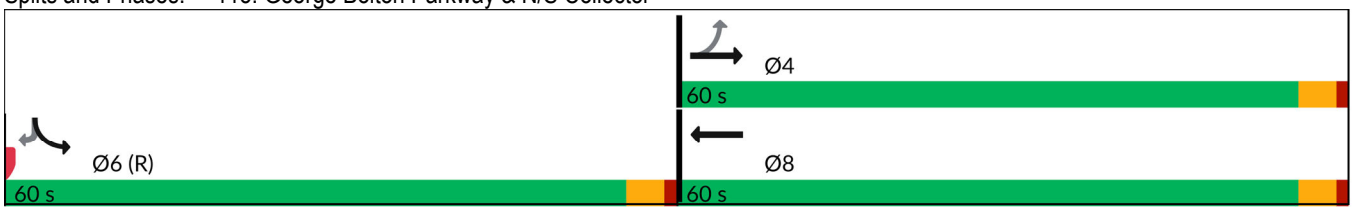


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	84	310	172	90	91	150
Future Volume (vph)	84	310	172	90	91	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0			0.0	50.0	0.0
Storage Lanes	1			0	1	1
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.948			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3355	0	1770	1583
Flt Permitted	0.419				0.950	
Satd. Flow (perm)	780	3539	3355	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			98			163
Link Speed (k/h)		60	60		60	
Link Distance (m)		925.7	533.8		846.0	
Travel Time (s)		55.5	32.0		50.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	337	187	98	99	163
Shared Lane Traffic (%)						
Lane Group Flow (vph)	91	337	285	0	99	163
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4					6

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8		6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5
Total Split (s)	60.0	60.0	60.0		60.0	60.0
Total Split (%)	50.0%	50.0%	50.0%		50.0%	50.0%
Maximum Green (s)	55.5	55.5	55.5		55.5	55.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	None		C-Min	C-Min
Walk Time (s)	7.0	7.0	7.0		7.0	7.0
Flash Don't Walk (s)	11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0
Act Effct Green (s)	17.6	17.6	17.6		93.4	93.4
Actuated g/C Ratio	0.15	0.15	0.15		0.78	0.78
v/c Ratio	0.80	0.65	0.50		0.07	0.13
Control Delay (s/veh)	83.5	51.0	32.8		3.8	0.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay (s/veh)	83.5	51.0	32.8		3.8	0.9
LOS	F	D	C		A	A
Approach Delay (s/veh)		57.9	32.8		2.0	
Approach LOS		E	C		A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 8 (7%), Referenced to phase 2: and 6:SBL, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay (s/veh): 35.5		Intersection LOS: D	
Intersection Capacity Utilization 28.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 115: George Bolton Parkway & N/S Collector

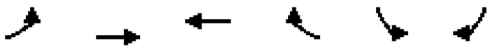




Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	91	337	285	99	163
v/c Ratio	0.80	0.65	0.50	0.07	0.13
Control Delay (s/veh)	83.5	51.0	32.8	3.8	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	83.5	51.0	32.8	3.8	0.9
Queue Length 50th (m)	24.0	46.3	21.4	4.7	0.0
Queue Length 95th (m)	m35.1	52.5	m31.6	11.3	5.5
Internal Link Dist (m)		901.7	509.8	822.0	
Turn Bay Length (m)	50.0			50.0	
Base Capacity (vph)	360	1636	1604	1377	1268
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	0.25	0.21	0.18	0.07	0.13

Intersection Summary

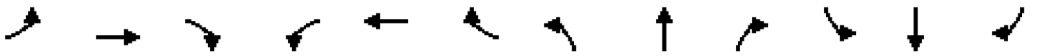
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	84	310	172	90	91	150
Future Volume (vph)	84	310	172	90	91	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.95		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3357		1770	1583
Flt Permitted	0.42	1.00	1.00		0.95	1.00
Satd. Flow (perm)	781	3539	3357		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	337	187	98	99	163
RTOR Reduction (vph)	0	0	84	0	0	36
Lane Group Flow (vph)	91	337	201	0	99	127
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4					6
Actuated Green, G (s)	17.6	17.6	17.6		93.4	93.4
Effective Green, g (s)	17.6	17.6	17.6		93.4	93.4
Actuated g/C Ratio	0.15	0.15	0.15		0.78	0.78
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	114	519	492		1377	1232
v/s Ratio Prot		0.10	0.06		0.06	
v/s Ratio Perm	c0.12					c0.08
v/c Ratio	0.80	0.65	0.41		0.07	0.10
Uniform Delay, d1	49.5	48.3	46.5		3.1	3.2
Progression Factor	0.92	0.96	1.02		1.00	1.00
Incremental Delay, d2	27.4	2.4	0.4		0.1	0.2
Delay (s)	73.0	48.6	47.9		3.2	3.4
Level of Service	E	D	D		A	A
Approach Delay (s/veh)		53.8	47.9		3.3	
Approach LOS		D	D		A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	38.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	28.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

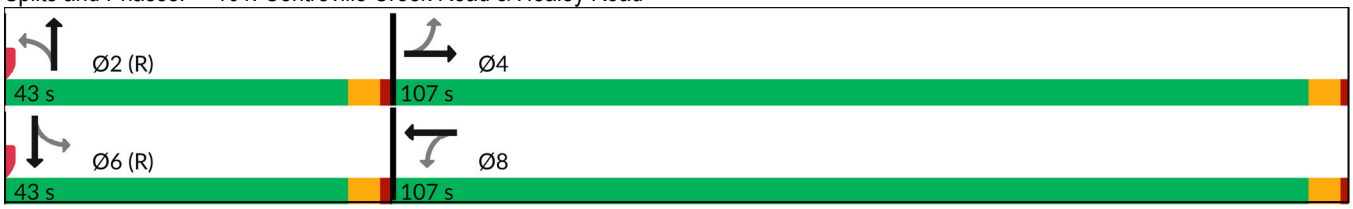


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	793	44	205	147	27	44	400	251	18	78	13
Future Volume (vph)	44	793	44	205	147	27	44	400	251	18	78	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.992			0.977			0.942			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	902	3495	0	1703	3287	0	1805	3299	0	1687	3414	0
Flt Permitted	0.629			0.241			0.687			0.214		
Satd. Flow (perm)	598	3495	0	432	3287	0	1305	3299	0	380	3414	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			30			88			12	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		295.9			1421.0			432.6			556.0	
Travel Time (s)		17.8			85.3			22.2			28.6	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	100%	2%	11%	6%	5%	20%	0%	5%	0%	7%	4%	0%
Adj. Flow (vph)	49	891	49	230	165	30	49	449	282	20	88	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	940	0	230	195	0	49	731	0	20	103	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	107.0	107.0		107.0	107.0		43.0	43.0		43.0	43.0	
Total Split (%)	71.3%	71.3%		71.3%	71.3%		28.7%	28.7%		28.7%	28.7%	
Maximum Green (s)	102.5	102.5		102.5	102.5		38.5	38.5		38.5	38.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	89.2	89.2		89.2	89.2		51.8	51.8		51.8	51.8	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.35	0.35		0.35	0.35	
v/c Ratio	0.14	0.45		0.89	0.10		0.11	0.61		0.15	0.09	
Control Delay (s/veh)	10.8	17.2		56.5	4.7		41.9	41.6		47.1	34.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	10.8	17.2		56.5	4.7		41.9	41.6		47.1	34.8	
LOS	B	B		E	A		D	D		D	C	
Approach Delay (s/veh)		16.9			32.7			41.6			36.8	
Approach LOS		B			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 82 (55%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay (s/veh): 29.2		Intersection LOS: C	
Intersection Capacity Utilization 65.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 101: Centreville Creek Road & Healey Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	49	940	230	195	49	731	20	103
v/c Ratio	0.14	0.45	0.89	0.10	0.11	0.61	0.15	0.09
Control Delay (s/veh)	10.8	17.2	56.5	4.7	41.9	41.6	47.1	34.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	10.8	17.2	56.5	4.7	41.9	41.6	47.1	34.8
Queue Length 50th (m)	2.8	61.3	51.7	0.8	11.9	98.9	4.8	11.3
Queue Length 95th (m)	5.7	72.2	#92.2	1.8	23.5	121.9	13.1	19.4
Internal Link Dist (m)		271.9		1397.0		408.6		532.0
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	408	2390	295	2255	450	1196	131	1186
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	0.12	0.39	0.78	0.09	0.11	0.61	0.15	0.09

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)	44	793	44	205	147	27	44	400	251	18	78	13
Future Volume (vph)	44	793	44	205	147	27	44	400	251	18	78	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	0.94		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	903	3495		1703	3287		1805	3300		1687	3414	
Flt Permitted	0.63	1.00		0.24	1.00		0.69	1.00		0.21	1.00	
Satd. Flow (perm)	598	3495		432	3287		1305	3300		379	3414	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	49	891	49	230	165	30	49	449	282	20	88	15
RTOR Reduction (vph)	0	3	0	0	12	0	0	58	0	0	8	0
Lane Group Flow (vph)	49	937	0	230	183	0	49	673	0	20	95	0
Heavy Vehicles (%)	100%	2%	11%	6%	5%	20%	0%	5%	0%	7%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	89.2	89.2		89.2	89.2		51.8	51.8		51.8	51.8	
Effective Green, g (s)	89.2	89.2		89.2	89.2		51.8	51.8		51.8	51.8	
Actuated g/C Ratio	0.59	0.59		0.59	0.59		0.35	0.35		0.35	0.35	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	355	2078		256	1954		450	1139		130	1178	
v/s Ratio Prot		0.27			0.06			c0.20			0.03	
v/s Ratio Perm	0.08			c0.53			0.04			0.05		
v/c Ratio	0.14	0.45		0.90	0.09		0.11	0.59		0.15	0.08	
Uniform Delay, d1	13.4	16.8		26.5	13.0		33.4	40.4		33.9	33.1	
Progression Factor	1.00	1.00		0.89	0.48		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.2		30.0	0.0		0.5	2.3		2.5	0.1	
Delay (s)	13.6	17.0		53.6	6.3		33.9	42.6		36.4	33.2	
Level of Service	B	B		D	A		C	D		D	C	
Approach Delay (s/veh)		16.8			31.9			42.1			33.7	
Approach LOS		B			C			D			C	

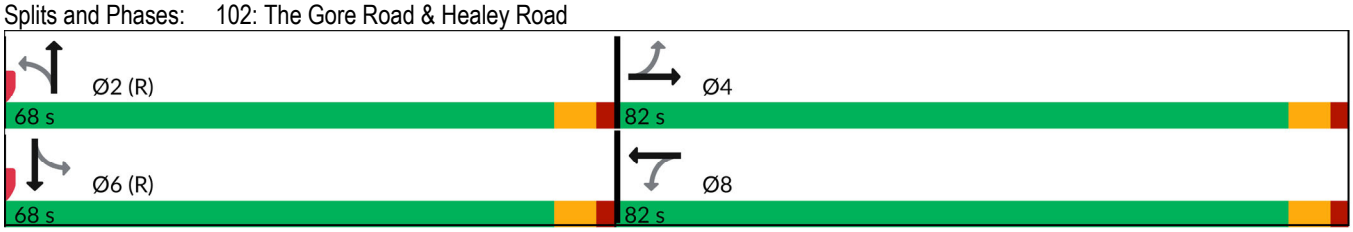
Intersection Summary			
HCM 2000 Control Delay (s/veh)	29.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

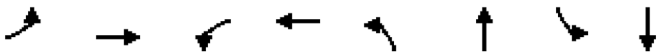
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	936	108	508	313	145	58	1826	576	63	616	2
Future Volume (vph)	35	936	108	508	313	145	58	1826	576	63	616	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00				1.00							
Frt		0.984			0.953			0.964				
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1543	3428	0	1752	2936	0	1805	3110	0	1752	3472	0
Flt Permitted	0.438			0.157			0.307			0.065		
Satd. Flow (perm)	711	3428	0	290	2936	0	583	3110	0	120	3472	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			1			34				
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		1421.0			530.2			483.8			1079.4	
Travel Time (s)		85.3			31.8			24.9			55.5	
Confl. Peds. (#/hr)	1					1						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	17%	3%	9%	3%	4%	44%	0%	15%	2%	3%	4%	0%
Adj. Flow (vph)	37	996	115	540	333	154	62	1943	613	67	655	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	1111	0	540	487	0	62	2556	0	67	657	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane					Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.6	25.6		25.6	25.6		26.6	26.6		26.6	26.6	
Total Split (s)	82.0	82.0		82.0	82.0		68.0	68.0		68.0	68.0	
Total Split (%)	54.7%	54.7%		54.7%	54.7%		45.3%	45.3%		45.3%	45.3%	
Maximum Green (s)	75.4	75.4		75.4	75.4		61.4	61.4		61.4	61.4	
Yellow Time (s)	4.6	4.6		4.6	4.6		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	75.4	75.4		75.4	75.4		61.4	61.4		61.4	61.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.50	0.50		0.50	0.50		0.41	0.41		0.41	0.41	
v/c Ratio	0.10	0.64		3.72	0.33		0.26	1.98		1.37	0.46	
Control Delay (s/veh)	16.0	20.4		Error	13.9		28.2	466.6		290.2	33.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	16.0	20.4		Error	13.9		28.2	466.6		290.2	33.6	
LOS	B	C		F	B		C	F		F	C	
Approach Delay (s/veh)		20.2			667.0			456.2			57.4	
Approach LOS		C			F			F			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 120 (80%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Pretimed			
Maximum v/c Ratio: 3.72			
Intersection Signal Delay (s/veh): 352.4		Intersection LOS: F	
Intersection Capacity Utilization 142.8%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 102: The Gore Road & Healey Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	37	1111	540	487	62	2556	67	657
v/c Ratio	0.10	0.64	3.72	0.33	0.26	1.98	1.37	0.46
Control Delay (s/veh)	16.0	20.4	Error	13.9	28.2	466.6	290.2	33.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	16.0	20.4	Error	13.9	28.2	466.6	290.2	33.6
Queue Length 50th (m)	4.6	93.4	~301.2	44.3	9.4	~612.8	~27.2	76.8
Queue Length 95th (m)	m8.9	105.1	#374.9	52.0	m20.2	#648.8	#46.6	95.1
Internal Link Dist (m)		1397.0		506.2		459.8		1055.4
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	357	1729	145	1476	238	1293	49	1421
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.64	3.72	0.33	0.26	1.98	1.37	0.46

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	936	108	508	313	145	58	1826	576	63	616	2
Future Volume (vph)	35	936	108	508	313	145	58	1826	576	63	616	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.95		1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1541	3430		1752	2935		1805	3111		1752	3470	
Flt Permitted	0.44	1.00		0.16	1.00		0.31	1.00		0.07	1.00	
Satd. Flow (perm)	711	3430		289	2935		584	3111		120	3470	
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)	37	996	115	540	333	154	62	1943	613	67	655	2
RTOR Reduction (vph)	0	6	0	0	0	0	0	20	0	0	0	0
Lane Group Flow (vph)	37	1105	0	540	487	0	62	2536	0	67	657	0
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	17%	3%	9%	3%	4%	44%	0%	15%	2%	3%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	75.4	75.4		75.4	75.4		61.4	61.4		61.4	61.4	
Effective Green, g (s)	75.4	75.4		75.4	75.4		61.4	61.4		61.4	61.4	
Actuated g/C Ratio	0.50	0.50		0.50	0.50		0.41	0.41		0.41	0.41	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Grp Cap (vph)	357	1724		145	1475		239	1273		49	1420	
v/s Ratio Prot		0.32			0.17			c0.82			0.19	
v/s Ratio Perm	0.05			c1.87			0.11			0.56		
v/c Ratio	0.10	0.64		3.72	0.33		0.26	1.99		1.37	0.46	
Uniform Delay, d1	19.6	27.4		37.3	22.2		29.3	44.3		44.3	32.3	
Progression Factor	0.77	0.68		0.82	0.60		0.84	0.84		1.00	1.00	
Incremental Delay, d2	0.5	1.7		1241.9	0.6		2.6	449.2		254.2	1.1	
Delay (s)	15.6	20.4		1272.4	13.9		27.2	486.3		298.5	33.4	
Level of Service	B	C		F	B		C	F		F	C	
Approach Delay (s/veh)		20.2			675.6			475.5			57.9	
Approach LOS		C			F			F			E	

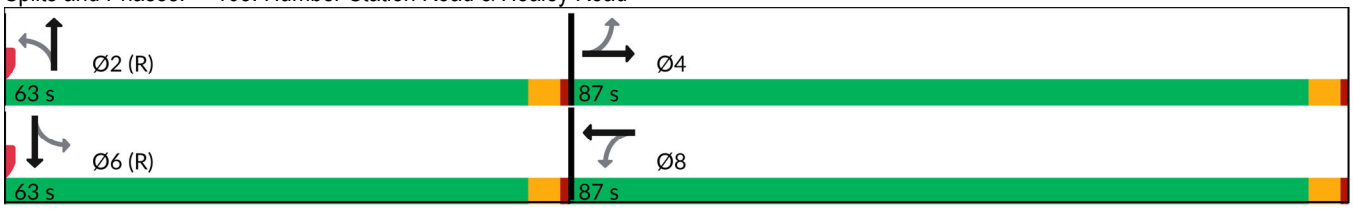
Intersection Summary			
HCM 2000 Control Delay (s/veh)	363.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.94		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	142.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

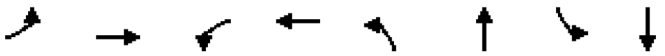
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	913	613	85	83	651	369	25	2083	12	31	715	65
Future Volume (vph)	913	613	85	83	651	369	25	2083	12	31	715	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.982			0.946			0.999			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3484	0	1641	3330	0	1805	3403	0	1770	3468	0
Flt Permitted	0.155			0.284			0.170			0.068		
Satd. Flow (perm)	294	3484	0	491	3330	0	323	3403	0	127	3468	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16									7	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		536.6			1380.2			839.8			680.2	
Travel Time (s)		32.2			82.8			43.2			35.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	10%	4%	0%	0%	6%	0%	2%	3%	0%
Adj. Flow (vph)	1038	697	97	94	740	419	28	2367	14	35	813	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1038	794	0	94	1159	0	28	2381	0	35	887	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	87.0	87.0		87.0	87.0		63.0	63.0		63.0	63.0	
Total Split (%)	58.0%	58.0%		58.0%	58.0%		42.0%	42.0%		42.0%	42.0%	
Maximum Green (s)	82.5	82.5		82.5	82.5		58.5	58.5		58.5	58.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	82.5	82.5		82.5	82.5		58.5	58.5		58.5	58.5	
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.39	0.39		0.39	0.39	
v/c Ratio	6.45	0.41		0.35	0.63		0.22	1.79		0.71	0.65	
Control Delay (s/veh)	Error	10.3		15.2	16.3		23.8	382.9		106.6	39.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	Error	10.3		15.2	16.3		23.8	382.9		106.6	39.9	
LOS	F	B		B	B		C	F		F	D	
Approach Delay (s/veh)		1404.5			16.2			378.8			42.5	
Approach LOS		F			B			F			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 18 (12%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 6.45			
Intersection Signal Delay (s/veh): 552.5		Intersection LOS: F	
Intersection Capacity Utilization 149.6%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 103: Humber Station Road & Healey Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	1038	794	94	1159	28	2381	35	887
v/c Ratio	6.45	0.41	0.35	0.63	0.22	1.79	0.71	0.65
Control Delay (s/veh)	Error	10.3	15.2	16.3	23.8	382.9	106.6	39.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	Error	10.3	15.2	16.3	23.8	382.9	106.6	39.9
Queue Length 50th (m)	~612.7	51.2	11.9	96.9	3.7	~570.6	9.1	116.6
Queue Length 95th (m)	#672.8	67.6	m16.7	m103.0	m6.8	#592.5	#31.0	136.1
Internal Link Dist (m)		512.6		1356.2		815.8		656.2
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	161	1923	270	1831	125	1327	49	1356
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	6.45	0.41	0.35	0.63	0.22	1.79	0.71	0.65

Intersection Summary

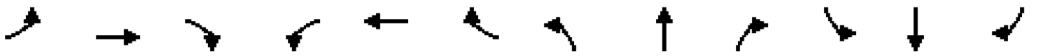
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	913	613	85	83	651	369	25	2083	12	31	715	65
Future Volume (vph)	913	613	85	83	651	369	25	2083	12	31	715	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.95		1.00	1.00		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)	1805	3483		1641	3329		1805	3404		1770	3469	
Flt Permitted	0.16	1.00		0.28	1.00		0.17	1.00		0.07	1.00	
Satd. Flow (perm)	295	3483		490	3329		322	3404		127	3469	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	1038	697	97	94	740	419	28	2367	14	35	813	74
RTOR Reduction (vph)	0	7	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	1038	787	0	94	1159	0	28	2381	0	35	883	0
Heavy Vehicles (%)	0%	2%	0%	10%	4%	0%	0%	6%	0%	2%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	82.5	82.5		82.5	82.5		58.5	58.5		58.5	58.5	
Effective Green, g (s)	82.5	82.5		82.5	82.5		58.5	58.5		58.5	58.5	
Actuated g/C Ratio	0.55	0.55		0.55	0.55		0.39	0.39		0.39	0.39	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	162	1915		269	1830		125	1327		49	1352	
v/s Ratio Prot		0.23			0.35			c0.70			0.25	
v/s Ratio Perm	c3.52			0.19			0.09			0.27		
v/c Ratio	6.41	0.41		0.35	0.63		0.22	1.79		0.71	0.65	
Uniform Delay, d1	33.8	19.6		18.8	23.3		30.6	45.8		38.7	37.4	
Progression Factor	0.60	0.50		0.65	0.65		0.64	0.59		1.00	1.00	
Incremental Delay, d2	2444.7	0.1		0.5	0.5		3.0	359.7		62.0	2.5	
Delay (s)	2465.1	10.0		12.7	15.5		22.6	386.9		100.7	39.9	
Level of Service	F	A		B	B		C	F		F	D	
Approach Delay (s/veh)		1401.0			15.3			382.7			42.2	
Approach LOS		F			B			F			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	552.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	4.49		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	149.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

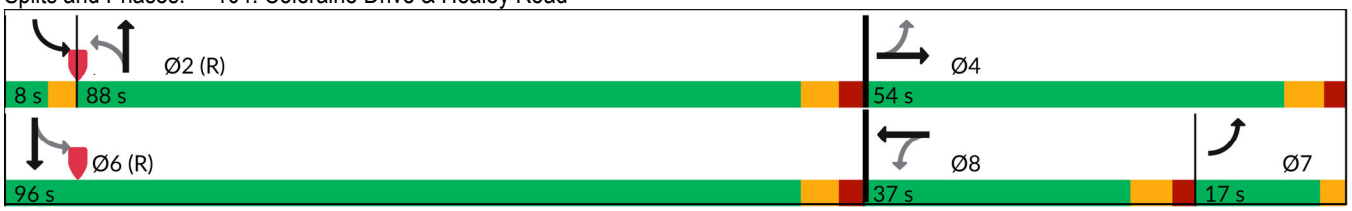


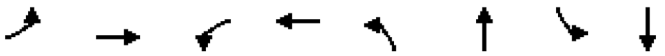
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	324	161	36	15	352	121	346	1979	93	76	334	390
Future Volume (vph)	324	161	36	15	352	121	346	1979	93	76	334	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	20.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.972			0.962			0.993			0.919	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	3413	0	1347	3116	0	1656	2713	0	1421	3125	0
Flt Permitted	0.262			0.616			0.336			0.048		
Satd. Flow (perm)	465	3413	0	873	3116	0	586	2713	0	72	3125	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			28			5			335	
Link Speed (k/h)		60			50			70			70	
Link Distance (m)		1380.2			427.4			630.5			589.7	
Travel Time (s)		82.8			30.8			32.4			30.3	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	7%	3%	2%	34%	3%	36%	9%	33%	14%	27%	11%	2%
Adj. Flow (vph)	356	177	40	16	387	133	380	2175	102	84	367	429
Shared Lane Traffic (%)												
Lane Group Flow (vph)	356	217	0	16	520	0	380	2277	0	84	796	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	12.0		12.0	12.0		12.0	12.0		5.0	12.0	
Minimum Split (s)	15.0	37.0		37.0	37.0		37.0	37.0		8.0	37.0	
Total Split (s)	17.0	54.0		37.0	37.0		88.0	88.0		8.0	96.0	
Total Split (%)	11.3%	36.0%		24.7%	24.7%		58.7%	58.7%		5.3%	64.0%	
Maximum Green (s)	14.0	47.0		30.0	30.0		81.0	81.0		5.0	89.0	
Yellow Time (s)	3.0	4.6		4.6	4.6		4.2	4.2		3.0	4.2	
All-Red Time (s)	0.0	2.4		2.4	2.4		2.8	2.8		0.0	2.8	
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	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lead/Lag	Lag			Lead	Lead		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	
Walk Time (s)		12.0		12.0	12.0		12.0	12.0			12.0	
Flash Don't Walk (s)		18.0		18.0	18.0		18.0	18.0			18.0	
Pedestrian Calls (#/hr)		0		0	0		0	0			0	
Act Effct Green (s)	51.0	47.0		27.7	27.7		81.0	81.0		93.0	89.0	
Actuated g/C Ratio	0.34	0.31		0.18	0.18		0.54	0.54		0.62	0.59	
v/c Ratio	1.23	0.20		0.10	0.87		1.20	1.55		0.94	0.40	
Control Delay (s/veh)	165.3	18.8		51.1	71.6		149.6	279.9		107.4	9.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	165.3	18.8		51.1	71.6		149.6	279.9		107.4	9.3	
LOS	F	B		D	E		F	F		F	A	
Approach Delay (s/veh)		109.8			71.0			261.2			18.7	
Approach LOS		F			E			F			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 114 (76%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.55			
Intersection Signal Delay (s/veh): 174.7		Intersection LOS: F	
Intersection Capacity Utilization 111.8%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 104: Coleraine Drive & Healey Road





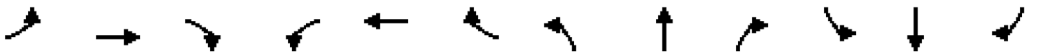
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	356	217	16	520	380	2277	84	796
v/c Ratio	1.23	0.20	0.10	0.87	1.20	1.55	0.94	0.40
Control Delay (s/veh)	165.3	18.8	51.1	71.6	149.6	279.9	107.4	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	165.3	18.8	51.1	71.6	149.6	279.9	107.4	9.3
Queue Length 50th (m)	~127.7	19.4	3.5	77.5	~138.3	~454.0	11.1	34.8
Queue Length 95th (m)	m#204.0	m29.8	9.8	99.8	#202.5	#489.2	#43.6	47.7
Internal Link Dist (m)		1356.2		403.4		606.5		565.7
Turn Bay Length (m)	30.0		20.0		60.0		55.0	
Base Capacity (vph)	290	1082	174	645	316	1467	89	1990
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.23	0.20	0.09	0.81	1.20	1.55	0.94	0.40

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	324	161	36	15	352	121	346	1979	93	76	334	390
Future Volume (vph)	324	161	36	15	352	121	346	1979	93	76	334	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.96		1.00	0.99		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1687	3414		1347	3115		1656	2713		1421	3126	
Flt Permitted	0.26	1.00		0.62	1.00		0.34	1.00		0.05	1.00	
Satd. Flow (perm)	465	3414		873	3115		585	2713		71	3126	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	356	177	40	16	387	133	380	2175	102	84	367	429
RTOR Reduction (vph)	0	13	0	0	23	0	0	2	0	0	136	0
Lane Group Flow (vph)	356	204	0	16	497	0	380	2275	0	84	660	0
Heavy Vehicles (%)	7%	3%	2%	34%	3%	36%	9%	33%	14%	27%	11%	2%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	51.0	47.0		27.7	27.7		81.0	81.0		89.0	89.0	
Effective Green, g (s)	51.0	47.0		27.7	27.7		81.0	81.0		89.0	89.0	
Actuated g/C Ratio	0.34	0.31		0.18	0.18		0.54	0.54		0.59	0.59	
Clearance Time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	290	1069		161	575		315	1465		87	1854	
v/s Ratio Prot	c0.13	0.06			0.16			c0.84		c0.03	0.21	
v/s Ratio Perm	c0.28			0.02			0.65			0.54		
v/c Ratio	1.23	0.19		0.10	0.86		1.21	1.55		0.97	0.36	
Uniform Delay, d1	55.1	37.6		50.8	59.3		34.5	34.5		41.3	15.7	
Progression Factor	0.77	0.54		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	126.9	0.1		0.3	12.8		118.9	252.1		84.3	0.5	
Delay (s)	169.5	20.2		51.1	72.2		153.4	286.6		125.6	16.3	
Level of Service	F	C		D	E		F	F		F	B	
Approach Delay (s/veh)		113.0			71.5			267.6			26.7	
Approach LOS		F			E			F			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	180.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.47		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	111.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1516	59	32	924	42	21
Future Volume (vph)	1516	59	32	924	42	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		15.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.994					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3518	0	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3518	0	1770	3539	1770	1583
Link Speed (k/h)	60			60	50	
Link Distance (m)	530.2			289.7	475.3	
Travel Time (s)	31.8			17.4	34.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1648	64	35	1004	46	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1712	0	35	1004	46	23
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane	Yes					
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control	Free			Free	Stop	

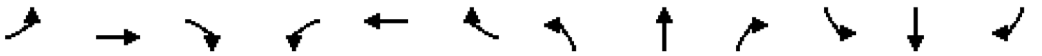
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1516	59	32	924	42	21
Future Volume (Veh/h)	1516	59	32	924	42	21
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1648	64	35	1004	46	23
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			None		
Median storage veh)	2					
Upstream signal (m)				290		
pX, platoon unblocked					0.90	
vC, conflicting volume			1712		2252	856
vC1, stage 1 conf vol					1680	
vC2, stage 2 conf vol					572	
vCu, unblocked vol			1712		2165	856
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			90		65	92
cM capacity (veh/h)			367		130	301

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	1099	613	35	502	502	46	23
Volume Left	0	0	35	0	0	46	0
Volume Right	0	64	0	0	0	0	23
cSH	1700	1700	367	1700	1700	130	301
Volume to Capacity	0.65	0.36	0.10	0.30	0.30	0.35	0.08
Queue Length 95th (m)	0.0	0.0	2.5	0.0	0.0	11.5	2.0
Control Delay (s/veh)	0.0	0.0	15.9	0.0	0.0	46.9	17.9
Lane LOS			C			E	C
Approach Delay (s/veh)	0.0		0.5			37.3	
Approach LOS						E	

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		



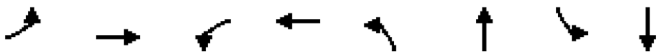
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	1409	68	54	891	6	49	74	51	9	64	16
Future Volume (vph)	60	1409	68	54	891	6	49	74	51	9	64	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.999			0.939			0.971	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3514	0	1770	3536	0	1770	1749	0	1770	1809	0
Flt Permitted	0.260			0.108			0.671			0.572		
Satd. Flow (perm)	484	3514	0	201	3536	0	1250	1749	0	1065	1809	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			1			20			7	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		289.7			536.6			472.1			202.6	
Travel Time (s)		17.4			32.2			28.3			12.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	1532	74	59	968	7	53	80	55	10	70	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	1606	0	59	975	0	53	135	0	10	87	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
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)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	118.0	118.0		118.0	118.0		32.0	32.0		32.0	32.0	
Total Split (%)	78.7%	78.7%		78.7%	78.7%		21.3%	21.3%		21.3%	21.3%	
Maximum Green (s)	113.5	113.5		113.5	113.5		27.5	27.5		27.5	27.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	107.5	107.5		107.5	107.5		33.5	33.5		33.5	33.5	
Actuated g/C Ratio	0.72	0.72		0.72	0.72		0.22	0.22		0.22	0.22	
v/c Ratio	0.19	0.64		0.41	0.38		0.19	0.33		0.04	0.21	
Control Delay (s/veh)	3.3	7.8		17.1	12.2		54.0	47.1		51.4	48.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	3.3	7.8		17.1	12.2		54.0	47.1		51.4	48.8	
LOS	A	A		B	B		D	D		D	D	
Approach Delay (s/veh)		7.7			12.5			49.1			49.1	
Approach LOS		A			B			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay (s/veh): 13.3		Intersection LOS: B	
Intersection Capacity Utilization 65.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 106: N/S Collector & Healey Road

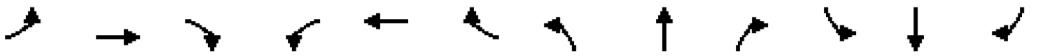




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	65	1606	59	975	53	135	10	87
v/c Ratio	0.19	0.64	0.41	0.38	0.19	0.33	0.04	0.21
Control Delay (s/veh)	3.3	7.8	17.1	12.2	54.0	47.1	51.4	48.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	3.3	7.8	17.1	12.2	54.0	47.1	51.4	48.8
Queue Length 50th (m)	2.5	51.5	7.0	59.9	14.2	31.7	2.6	21.5
Queue Length 95th (m)	m3.1	m39.9	m13.9	75.4	28.2	53.8	8.5	38.7
Internal Link Dist (m)		265.7		512.6		448.1		178.6
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	366	2661	152	2675	279	405	238	409
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	0.18	0.60	0.39	0.36	0.19	0.33	0.04	0.21

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	1409	68	54	891	6	49	74	51	9	64	16
Future Volume (vph)	60	1409	68	54	891	6	49	74	51	9	64	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.94		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)	1770	3515		1770	3535		1770	1749		1770	1808	
Flt Permitted	0.26	1.00		0.11	1.00		0.67	1.00		0.57	1.00	
Satd. Flow (perm)	484	3515		201	3535		1250	1749		1065	1808	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	1532	74	59	968	7	53	80	55	10	70	17
RTOR Reduction (vph)	0	3	0	0	0	0	0	16	0	0	5	0
Lane Group Flow (vph)	65	1603	0	59	975	0	53	119	0	10	82	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	107.5	107.5		107.5	107.5		33.5	33.5		33.5	33.5	
Effective Green, g (s)	107.5	107.5		107.5	107.5		33.5	33.5		33.5	33.5	
Actuated g/C Ratio	0.72	0.72		0.72	0.72		0.22	0.22		0.22	0.22	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	346	2519		144	2533		279	390		237	403	
v/s Ratio Prot		c0.46			0.28			c0.07			0.05	
v/s Ratio Perm	0.13			0.29			0.04			0.01		
v/c Ratio	0.19	0.64		0.41	0.38		0.19	0.31		0.04	0.20	
Uniform Delay, d1	7.0	11.1		8.5	8.3		47.2	48.6		45.7	47.4	
Progression Factor	0.55	0.70		1.22	1.42		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.0		1.7	0.1		1.5	2.0		0.3	1.1	
Delay (s)	3.8	7.8		12.1	11.9		48.8	50.6		46.0	48.5	
Level of Service	A	A		B	B		D	D		D	D	
Approach Delay (s/veh)		7.6			11.9			50.1			48.3	
Approach LOS		A			B			D			D	

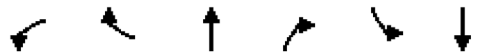
Intersection Summary			
HCM 2000 Control Delay (s/veh)	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	40	40	2420	78	42	1190
Future Volume (vph)	40	40	2420	78	42	1190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0	0.0		15.0	50.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.995			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3522	0	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3522	0	1770	3539
Link Speed (k/h)	50		70			70
Link Distance (m)	539.3		1501.3			483.8
Travel Time (s)	38.8		77.2			24.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	43	2630	85	46	1293
Shared Lane Traffic (%)						
Lane Group Flow (vph)	43	43	2715	0	46	1293
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 79.4%		ICU Level of Service D	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	40	40	2420	78	42	1190
Future Volume (Veh/h)	40	40	2420	78	42	1190
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)	43	43	2630	85	46	1293
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			None
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	3411	1358			2715	
vC1, stage 1 conf vol	2673					
vC2, stage 2 conf vol	739					
vCu, unblocked vol	3411	1358			2715	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	69			69	
cM capacity (veh/h)	36	139			147	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	43	43	1753	962	46	647	647
Volume Left	43	0	0	0	46	0	0
Volume Right	0	43	0	85	0	0	0
cSH	36	139	1700	1700	147	1700	1700
Volume to Capacity	1.18	0.31	1.03	0.57	0.31	0.38	0.38
Queue Length 95th (m)	35.6	9.8	0.0	0.0	9.9	0.0	0.0
Control Delay (s/veh)	376.2	42.2	0.0	0.0	40.2	0.0	0.0
Lane LOS	F	E			E		
Approach Delay (s/veh)	209.2		0.0		1.4		
Approach LOS	F						

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	24	36	2	16	13	24	13	3	14	14	12
Future Volume (vph)	24	24	36	2	16	13	24	13	3	14	14	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.942			0.943			0.991			0.959	
Flt Protected		0.986			0.997			0.971			0.983	
Satd. Flow (prot)	0	1730	0	0	1751	0	0	1792	0	0	1756	0
Flt Permitted		0.986			0.997			0.971			0.983	
Satd. Flow (perm)	0	1730	0	0	1751	0	0	1792	0	0	1756	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		539.3			284.2			367.8			475.3	
Travel Time (s)		38.8			20.5			26.5			34.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	26	39	2	17	14	26	14	3	15	15	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	91	0	0	33	0	0	43	0	0	43	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control		Stop			Stop			Stop			Stop	

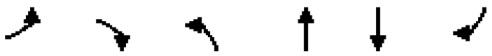
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	24	24	36	2	16	13	24	13	3	14	14	12
Future Volume (vph)	24	24	36	2	16	13	24	13	3	14	14	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	26	26	39	2	17	14	26	14	3	15	15	13

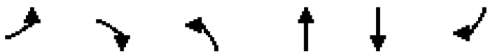
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	91	33	43	43
Volume Left (vph)	26	2	26	15
Volume Right (vph)	39	14	3	13
Hadj (s)	-0.17	-0.21	0.11	-0.08
Departure Headway (s)	4.0	4.0	4.3	4.1
Degree Utilization, x	0.10	0.04	0.05	0.05
Capacity (veh/h)	885	879	801	842
Control Delay (s/veh)	7.4	7.1	7.5	7.3
Approach Delay (s/veh)	7.4	7.1	7.5	7.3
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.4			
Level of Service	A			
Intersection Capacity Utilization	21.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	23	21	35	151	168	18
Future Volume (vph)	23	21	35	151	168	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0	0.0	0.0			0.0
Storage Lanes	1	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.987	
Flt Protected	0.950			0.991		
Satd. Flow (prot)	1770	1583	0	1846	1839	0
Flt Permitted	0.950			0.991		
Satd. Flow (perm)	1770	1583	0	1846	1839	0
Link Speed (k/h)	50			60	60	
Link Distance (m)	284.2			370.2	472.1	
Travel Time (s)	20.5			22.2	28.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	23	38	164	183	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	25	23	0	202	203	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	23	21	35	151	168	18
Future Volume (Veh/h)	23	21	35	151	168	18
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	23	38	164	183	20
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	433	193	203			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	433	193	203			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	97	97			
cM capacity (veh/h)	564	849	1369			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	25	23	202	203
Volume Left	25	0	38	0
Volume Right	0	23	0	20
cSH	564	849	1369	1700
Volume to Capacity	0.04	0.03	0.03	0.12
Queue Length 95th (m)	1.1	0.7	0.7	0.0
Control Delay (s/veh)	11.7	9.4	1.6	0.0
Lane LOS	B	A	A	
Approach Delay (s/veh)	10.6		1.6	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	33.1%	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	5	9	23	11	88	9	98	27	84	105	0
Future Volume (vph)	0	5	9	23	11	88	9	98	27	84	105	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.910			0.903			0.973				
Flt Protected					0.991			0.997			0.978	
Satd. Flow (prot)	0	1695	0	0	1667	0	0	1807	0	0	1822	0
Flt Permitted					0.991			0.997			0.978	
Satd. Flow (perm)	0	1695	0	0	1667	0	0	1807	0	0	1822	0
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		282.8			530.8			846.0			370.2	
Travel Time (s)		20.4			38.2			50.8			22.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	5	10	25	12	96	10	107	29	91	114	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	0	133	0	0	146	0	0	205	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

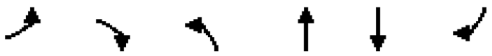
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 41.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	5	9	23	11	88	9	98	27	84	105	0
Future Volume (vph)	0	5	9	23	11	88	9	98	27	84	105	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	5	10	25	12	96	10	107	29	91	114	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	15	133	146	205
Volume Left (vph)	0	25	10	91
Volume Right (vph)	10	96	29	0
Hadj (s)	-0.37	-0.36	-0.07	0.12
Departure Headway (s)	4.5	4.4	4.4	4.5
Degree Utilization, x	0.02	0.16	0.18	0.26
Capacity (veh/h)	718	759	779	760
Control Delay (s/veh)	7.6	8.2	8.4	9.1
Approach Delay (s/veh)	7.6	8.2	8.4	9.1
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.6			
Level of Service	A			
Intersection Capacity Utilization	41.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	14	69	46	2068	795	42
Future Volume (vph)	14	69	46	2068	795	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.992	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3511	0
Flt Permitted	0.950		0.310			
Satd. Flow (perm)	1770	1583	577	3539	3511	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		75			14	
Link Speed (k/h)	50			70	70	
Link Distance (m)	530.8			670.0	839.8	
Travel Time (s)	38.2			34.5	43.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	75	50	2248	864	46
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	75	50	2248	910	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4	4	2			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	2	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	23.0	23.0	127.0	127.0	127.0	
Total Split (%)	15.3%	15.3%	84.7%	84.7%	84.7%	
Maximum Green (s)	18.5	18.5	122.5	122.5	122.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Min	C-Min	C-Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	7.3	7.3	133.7	133.7	133.7	
Actuated g/C Ratio	0.05	0.05	0.89	0.89	0.89	
v/c Ratio	0.18	0.51	0.10	0.71	0.29	
Control Delay (s/veh)	72.0	25.6	0.2	7.1	3.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	72.0	25.6	0.2	7.1	3.3	
LOS	E	C	A	A	A	
Approach Delay (s/veh)	33.3			7.0	3.3	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 146 (97%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay (s/veh): 6.7		Intersection LOS: A	
Intersection Capacity Utilization 68.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 111: Humber Station Road & E/W Collector

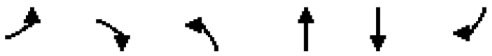




Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	15	75	50	2248	910
v/c Ratio	0.18	0.51	0.10	0.71	0.29
Control Delay (s/veh)	72.0	25.6	0.2	7.1	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	72.0	25.6	0.2	7.1	3.3
Queue Length 50th (m)	4.6	0.0	0.1	76.3	2.5
Queue Length 95th (m)	12.3	17.1	m0.4	m8.8	95.4
Internal Link Dist (m)	506.8			646.0	815.8
Turn Bay Length (m)	50.0		50.0		
Base Capacity (vph)	218	260	514	3154	3131
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.29	0.10	0.71	0.29

Intersection Summary

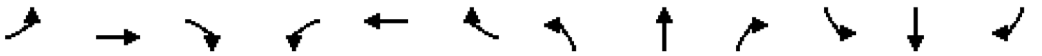
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	14	69	46	2068	795	42
Future Volume (vph)	14	69	46	2068	795	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	3539	3512	
Flt Permitted	0.95	1.00	0.31	1.00	1.00	
Satd. Flow (perm)	1770	1583	578	3539	3512	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	75	50	2248	864	46
RTOR Reduction (vph)	0	71	0	0	2	0
Lane Group Flow (vph)	15	4	50	2248	908	0
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4	4	2			
Actuated Green, G (s)	7.3	7.3	133.7	133.7	133.7	
Effective Green, g (s)	7.3	7.3	133.7	133.7	133.7	
Actuated g/C Ratio	0.05	0.05	0.89	0.89	0.89	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	86	77	515	3154	3130	
v/s Ratio Prot				c0.64	0.26	
v/s Ratio Perm	c0.01	0.00	0.09			
v/c Ratio	0.17	0.05	0.10	0.71	0.29	
Uniform Delay, d1	68.5	68.0	1.0	2.4	1.2	
Progression Factor	1.00	1.00	0.16	2.59	2.49	
Incremental Delay, d2	1.0	0.3	0.0	0.1	0.2	
Delay (s)	69.4	68.3	0.2	6.4	3.2	
Level of Service	E	E	A	A	A	
Approach Delay (s/veh)	68.5			6.3	3.2	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	7.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

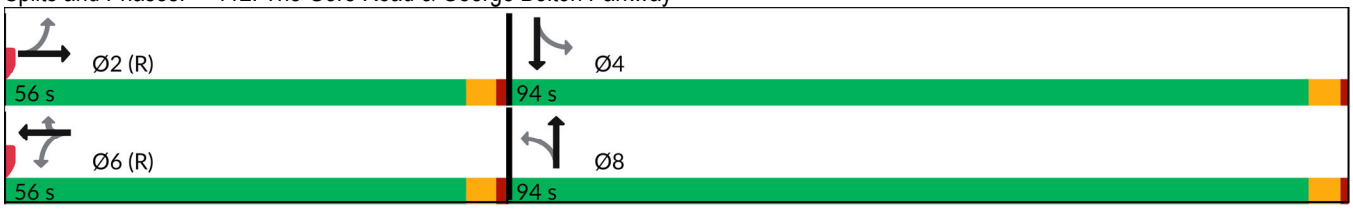


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	31	30	199	33	116	35	941	122	64	1037	165
Future Volume (vph)	175	31	30	199	33	116	35	941	122	64	1037	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.926				0.850		0.983			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1725	0	1770	1863	1583	1770	3479	0	1770	3465	0
Flt Permitted	0.734			0.713			0.082			0.124		
Satd. Flow (perm)	1367	1725	0	1328	1863	1583	153	3479	0	231	3465	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33				113		17			21	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		415.9			925.7			788.8			1501.3	
Travel Time (s)		25.0			55.5			40.6			77.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	190	34	33	216	36	126	38	1023	133	70	1127	179
Shared Lane Traffic (%)												
Lane Group Flow (vph)	190	67	0	216	36	126	38	1156	0	70	1306	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	56.0	56.0		56.0	56.0	56.0	94.0	94.0		94.0	94.0	
Total Split (%)	37.3%	37.3%		37.3%	37.3%	37.3%	62.7%	62.7%		62.7%	62.7%	
Maximum Green (s)	51.5	51.5		51.5	51.5	51.5	89.5	89.5		89.5	89.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min	C-Min	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	69.4	69.4		69.4	69.4	69.4	71.6	71.6		71.6	71.6	
Actuated g/C Ratio	0.46	0.46		0.46	0.46	0.46	0.48	0.48		0.48	0.48	
v/c Ratio	0.30	0.08		0.35	0.04	0.16	0.52	0.69		0.64	0.78	
Control Delay (s/veh)	28.9	14.9		38.1	31.3	22.4	52.9	31.9		23.5	24.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	28.9	14.9		38.1	31.3	22.4	52.9	31.9		23.5	24.4	
LOS	C	B		D	C	C	D	C		C	C	
Approach Delay (s/veh)		25.3			32.2			32.6			24.3	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay (s/veh): 28.4		Intersection LOS: C	
Intersection Capacity Utilization 67.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 112: The Gore Road & George Bolton Parkway

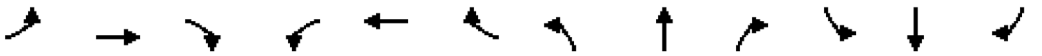




Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	190	67	216	36	126	38	1156	70	1306
v/c Ratio	0.30	0.08	0.35	0.04	0.16	0.52	0.69	0.64	0.78
Control Delay (s/veh)	28.9	14.9	38.1	31.3	22.4	52.9	31.9	23.5	24.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.9	14.9	38.1	31.3	22.4	52.9	31.9	23.5	24.4
Queue Length 50th (m)	36.4	5.7	66.3	10.7	28.8	8.0	142.4	11.1	117.1
Queue Length 95th (m)	64.0	17.4	95.9	23.3	47.7	22.0	142.4	m13.6	m79.1
Internal Link Dist (m)		391.9		901.7			764.8		1477.3
Turn Bay Length (m)	50.0		50.0			50.0		50.0	
Base Capacity (vph)	632	815	614	861	793	91	2082	137	2075
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.08	0.35	0.04	0.16	0.42	0.56	0.51	0.63

Intersection Summary

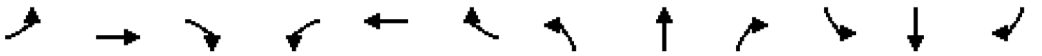
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	31	30	199	33	116	35	941	122	64	1037	165
Future Volume (vph)	175	31	30	199	33	116	35	941	122	64	1037	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1725		1770	1863	1583	1770	3478		1770	3466	
Flt Permitted	0.73	1.00		0.71	1.00	1.00	0.08	1.00		0.12	1.00	
Satd. Flow (perm)	1367	1725		1329	1863	1583	152	3478		230	3466	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	190	34	33	216	36	126	38	1023	133	70	1127	179
RTOR Reduction (vph)	0	18	0	0	0	61	0	9	0	0	11	0
Lane Group Flow (vph)	190	49	0	216	36	65	38	1147	0	70	1295	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	69.4	69.4		69.4	69.4	69.4	71.6	71.6		71.6	71.6	
Effective Green, g (s)	69.4	69.4		69.4	69.4	69.4	71.6	71.6		71.6	71.6	
Actuated g/C Ratio	0.46	0.46		0.46	0.46	0.46	0.48	0.48		0.48	0.48	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	632	798		614	861	732	72	1660		109	1654	
v/s Ratio Prot		0.03			0.02			0.33			c0.37	
v/s Ratio Perm	0.14			c0.16		0.04	0.25			0.30		
v/c Ratio	0.30	0.06		0.35	0.04	0.09	0.53	0.69		0.64	0.78	
Uniform Delay, d1	25.2	22.3		25.9	22.1	22.6	27.4	30.6		29.5	32.7	
Progression Factor	1.00	1.00		1.29	1.22	3.61	1.00	1.00		0.69	0.76	
Incremental Delay, d2	1.2	0.1		1.6	0.1	0.2	6.8	1.3		1.2	0.2	
Delay (s)	26.4	22.4		34.8	26.9	81.7	34.2	31.8		21.6	25.1	
Level of Service	C	C		C	C	F	C	C		C	C	
Approach Delay (s/veh)		25.3			49.7			31.9			24.9	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



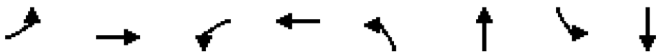
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	81	76	772	169	201	160	1847	108	65	792	69
Future Volume (vph)	92	81	76	772	169	201	160	1847	108	65	792	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.927			0.919			0.992			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3281	0	1770	3253	0	1770	3511	0	1770	3497	0
Flt Permitted	0.474			0.644			0.189			0.058		
Satd. Flow (perm)	883	3281	0	1200	3253	0	352	3511	0	108	3497	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		83			2			5			8	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		533.8			484.4			1231.2			670.0	
Travel Time (s)		32.0			29.1			63.3			34.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	88	83	839	184	218	174	2008	117	71	861	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	171	0	839	402	0	174	2125	0	71	936	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
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)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	77.0	77.0		77.0	77.0		73.0	73.0		73.0	73.0	
Total Split (%)	51.3%	51.3%		51.3%	51.3%		48.7%	48.7%		48.7%	48.7%	
Maximum Green (s)	72.5	72.5		72.5	72.5		68.5	68.5		68.5	68.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	72.5	72.5		72.5	72.5		68.5	68.5		68.5	68.5	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.46	0.46		0.46	0.46	
v/c Ratio	0.23	0.11		1.45	0.26		1.09	1.32		1.45	0.58	
Control Delay (s/veh)	12.6	2.6		241.9	23.3		135.4	184.1		314.5	22.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	12.6	2.6		241.9	23.3		135.4	184.1		314.5	22.5	
LOS	B	A		F	C		F	F		F	C	
Approach Delay (s/veh)		6.3			171.1			180.5			43.1	
Approach LOS		A			F			F			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 142 (95%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.45			
Intersection Signal Delay (s/veh): 139.5		Intersection LOS: F	
Intersection Capacity Utilization 121.1%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 113: Humber Station Road & George Bolton Parkway



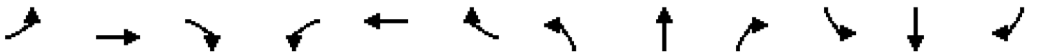


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	100	171	839	402	174	2125	71	936
v/c Ratio	0.23	0.11	1.45	0.26	1.09	1.32	1.45	0.58
Control Delay (s/veh)	12.6	2.6	241.9	23.3	135.4	184.1	314.5	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.6	2.6	241.9	23.3	135.4	184.1	314.5	22.5
Queue Length 50th (m)	6.7	0.0	~353.3	37.8	~60.3	~449.5	~30.1	48.4
Queue Length 95th (m)	13.8	0.0	#434.3	49.6	#110.4	#491.1	#62.1	104.2
Internal Link Dist (m)		509.8		460.4		1207.2		646.0
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	426	1628	580	1573	160	1606	49	1601
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	0.23	0.11	1.45	0.26	1.09	1.32	1.45	0.58

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

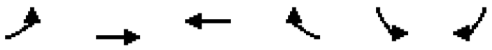
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	81	76	772	169	201	160	1847	108	65	792	69
Future Volume (vph)	92	81	76	772	169	201	160	1847	108	65	792	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.92		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3282		1770	3251		1770	3510		1770	3497	
Flt Permitted	0.47	1.00		0.64	1.00		0.19	1.00		0.06	1.00	
Satd. Flow (perm)	883	3282		1199	3251		351	3510		109	3497	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	100	88	83	839	184	218	174	2008	117	71	861	75
RTOR Reduction (vph)	0	43	0	0	1	0	0	3	0	0	4	0
Lane Group Flow (vph)	100	128	0	839	401	0	174	2122	0	71	932	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	72.5	72.5		72.5	72.5		68.5	68.5		68.5	68.5	
Effective Green, g (s)	72.5	72.5		72.5	72.5		68.5	68.5		68.5	68.5	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.46	0.46		0.46	0.46	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	426	1586		579	1571		160	1602		49	1596	
v/s Ratio Prot		0.04			0.12			0.60			0.27	
v/s Ratio Perm	0.11			c0.70			0.50			c0.65		
v/c Ratio	0.23	0.08		1.45	0.26		1.09	1.32		1.45	0.58	
Uniform Delay, d1	22.6	20.8		38.7	22.8		40.8	40.8		40.8	30.2	
Progression Factor	0.49	0.23		1.00	1.00		1.00	1.00		0.84	0.69	
Incremental Delay, d2	1.3	0.1		211.7	0.4		96.5	150.6		284.3	0.5	
Delay (s)	12.3	4.8		250.4	23.2		137.2	191.3		318.7	21.5	
Level of Service	B	A		F	C		F	F		F	C	
Approach Delay (s/veh)		7.6			176.8			187.2			42.4	
Approach LOS		A			F			F			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	144.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.44		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	121.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

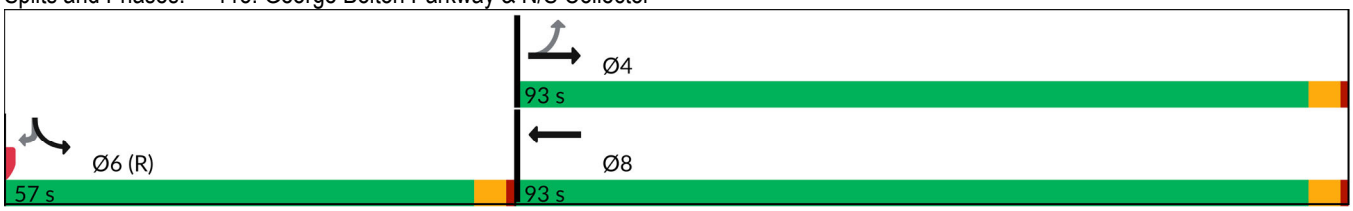


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	30	175	308	90	74	40
Future Volume (vph)	30	175	308	90	74	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0			0.0	50.0	0.0
Storage Lanes	1			0	1	1
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.966			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3419	0	1770	1583
Flt Permitted	0.207				0.950	
Satd. Flow (perm)	386	3539	3419	0	1770	1583
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			44			43
Link Speed (k/h)		60	60		60	
Link Distance (m)		925.7	533.8		846.0	
Travel Time (s)		55.5	32.0		50.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	190	335	98	80	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	33	190	433	0	80	43
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (m)	2.0	10.0	10.0		2.0	2.0
Trailing Detector (m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	0.6		2.0	2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4					6

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8		6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5
Total Split (s)	93.0	93.0	93.0		57.0	57.0
Total Split (%)	62.0%	62.0%	62.0%		38.0%	38.0%
Maximum Green (s)	88.5	88.5	88.5		52.5	52.5
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	None		C-Min	C-Min
Walk Time (s)	7.0	7.0	7.0		7.0	7.0
Flash Don't Walk (s)	11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0
Act Effct Green (s)	23.6	23.6	23.6		117.4	117.4
Actuated g/C Ratio	0.16	0.16	0.16		0.78	0.78
v/c Ratio	0.55	0.34	0.75		0.06	0.03
Control Delay (s/veh)	84.7	56.7	42.2		4.4	1.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay (s/veh)	84.7	56.7	42.2		4.4	1.4
LOS	F	E	D		A	A
Approach Delay (s/veh)		60.8	42.2		3.3	
Approach LOS		E	D		A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 0 (0%), Referenced to phase 2: and 6:SBL, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay (s/veh): 41.4		Intersection LOS: D	
Intersection Capacity Utilization 31.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 115: George Bolton Parkway & N/S Collector

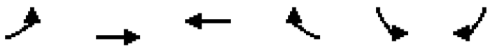




Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	33	190	433	80	43
v/c Ratio	0.55	0.34	0.75	0.06	0.03
Control Delay (s/veh)	84.7	56.7	42.2	4.4	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	84.7	56.7	42.2	4.4	1.4
Queue Length 50th (m)	10.7	32.4	49.7	4.9	0.0
Queue Length 95th (m)	m20.2	42.4	m55.6	10.8	3.2
Internal Link Dist (m)		901.7	509.8	822.0	
Turn Bay Length (m)	50.0			50.0	
Base Capacity (vph)	227	2088	2035	1385	1248
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.15	0.09	0.21	0.06	0.03

Intersection Summary

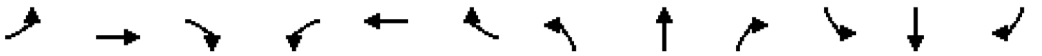
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	30	175	308	90	74	40
Future Volume (vph)	30	175	308	90	74	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	4.5
Lane Util. Factor	1.00	0.95	0.95		1.00	1.00
Frt	1.00	1.00	0.97		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	3539	3419		1770	1583
Flt Permitted	0.21	1.00	1.00		0.95	1.00
Satd. Flow (perm)	386	3539	3419		1770	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	190	335	98	80	43
RTOR Reduction (vph)	0	0	37	0	0	9
Lane Group Flow (vph)	33	190	396	0	80	34
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4					6
Actuated Green, G (s)	23.6	23.6	23.6		117.4	117.4
Effective Green, g (s)	23.6	23.6	23.6		117.4	117.4
Actuated g/C Ratio	0.16	0.16	0.16		0.78	0.78
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	60	556	537		1385	1238
v/s Ratio Prot		0.05	c0.12		c0.05	
v/s Ratio Perm	0.09					0.02
v/c Ratio	0.55	0.34	0.74		0.06	0.03
Uniform Delay, d1	58.3	56.3	60.2		3.7	3.6
Progression Factor	0.96	1.00	0.66		1.00	1.00
Incremental Delay, d2	9.4	0.3	4.0		0.1	0.0
Delay (s)	65.6	56.4	43.7		3.8	3.7
Level of Service	E	E	D		A	A
Approach Delay (s/veh)		57.8	43.7		3.7	
Approach LOS		E	D		A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	41.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	31.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

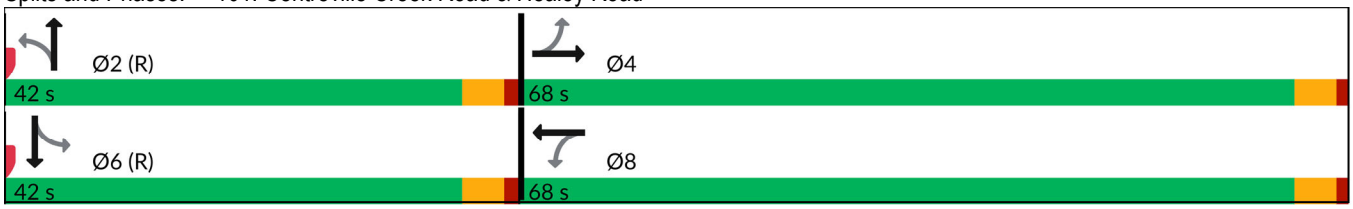


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	96	40	228	749	16	40	60	183	23	360	40
Future Volume (vph)	10	96	40	228	749	16	40	60	183	23	360	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.956			0.997			0.887			0.985	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	902	3298	0	1703	3418	0	1805	3163	0	1687	3432	0
Flt Permitted	0.165			0.655			0.471			0.584		
Satd. Flow (perm)	157	3298	0	1174	3418	0	895	3163	0	1037	3432	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45			3			206			12	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		295.9			1421.0			432.6			556.0	
Travel Time (s)		17.8			85.3			22.2			28.6	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	100%	2%	11%	6%	5%	20%	0%	5%	0%	7%	4%	0%
Adj. Flow (vph)	11	108	45	256	842	18	45	67	206	26	404	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	153	0	256	860	0	45	273	0	26	449	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	68.0	68.0		68.0	68.0		42.0	42.0		42.0	42.0	
Total Split (%)	61.8%	61.8%		61.8%	61.8%		38.2%	38.2%		38.2%	38.2%	
Maximum Green (s)	63.5	63.5		63.5	63.5		37.5	37.5		37.5	37.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	38.9	38.9		38.9	38.9		62.1	62.1		62.1	62.1	
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.56	0.56		0.56	0.56	
v/c Ratio	0.20	0.13		0.62	0.71		0.09	0.15		0.04	0.23	
Control Delay (s/veh)	30.9	15.4		12.4	11.3		14.2	4.1		13.7	13.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	30.9	15.4		12.4	11.3		14.2	4.1		13.7	13.2	
LOS	C	B		B	B		B	A		B	B	
Approach Delay (s/veh)		16.5			11.5			5.6			13.2	
Approach LOS		B			B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 14 (13%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay (s/veh): 11.4		Intersection LOS: B	
Intersection Capacity Utilization 55.8%		ICU Level of Service B	
Analysis Period (min) 15			

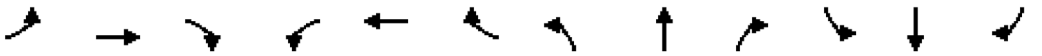
Splits and Phases: 101: Centreville Creek Road & Healey Road



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	153	256	860	45	273	26	449
v/c Ratio	0.20	0.13	0.62	0.71	0.09	0.15	0.04	0.23
Control Delay (s/veh)	30.9	15.4	12.4	11.3	14.2	4.1	13.7	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	30.9	15.4	12.4	11.3	14.2	4.1	13.7	13.2
Queue Length 50th (m)	1.0	8.4	9.1	16.0	4.4	3.3	2.4	24.2
Queue Length 95th (m)	3.3	13.1	m7.3	m11.8	12.4	11.0	7.9	40.4
Internal Link Dist (m)		271.9		1397.0		408.6		532.0
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	90	1922	677	1974	505	1875	585	1942
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	0.12	0.08	0.38	0.44	0.09	0.15	0.04	0.23

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	96	40	228	749	16	40	60	183	23	360	40
Future Volume (vph)	10	96	40	228	749	16	40	60	183	23	360	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	1.00		1.00	0.89		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	903	3297		1703	3417		1805	3163		1687	3432	
Flt Permitted	0.17	1.00		0.65	1.00		0.47	1.00		0.58	1.00	
Satd. Flow (perm)	157	3297		1174	3417		894	3163		1037	3432	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	11	108	45	256	842	18	45	67	206	26	404	45
RTOR Reduction (vph)	0	29	0	0	2	0	0	90	0	0	5	0
Lane Group Flow (vph)	11	124	0	256	858	0	45	183	0	26	444	0
Heavy Vehicles (%)	100%	2%	11%	6%	5%	20%	0%	5%	0%	7%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	38.9	38.9		38.9	38.9		62.1	62.1		62.1	62.1	
Effective Green, g (s)	38.9	38.9		38.9	38.9		62.1	62.1		62.1	62.1	
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.56	0.56		0.56	0.56	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	55	1165		415	1208		504	1785		585	1937	
v/s Ratio Prot		0.04			c0.25			0.06			c0.13	
v/s Ratio Perm	0.07			0.22			0.05			0.03		
v/c Ratio	0.20	0.11		0.62	0.71		0.09	0.10		0.04	0.23	
Uniform Delay, d1	24.7	23.9		29.4	30.7		11.0	11.1		10.7	12.0	
Progression Factor	1.00	1.00		0.28	0.30		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.8	0.0		1.8	1.3		0.3	0.1		0.1	0.3	
Delay (s)	26.5	23.9		10.0	10.5		11.3	11.2		10.8	12.3	
Level of Service	C	C		B	B		B	B		B	B	
Approach Delay (s/veh)		24.1			10.4			11.2			12.2	
Approach LOS		C			B			B			B	

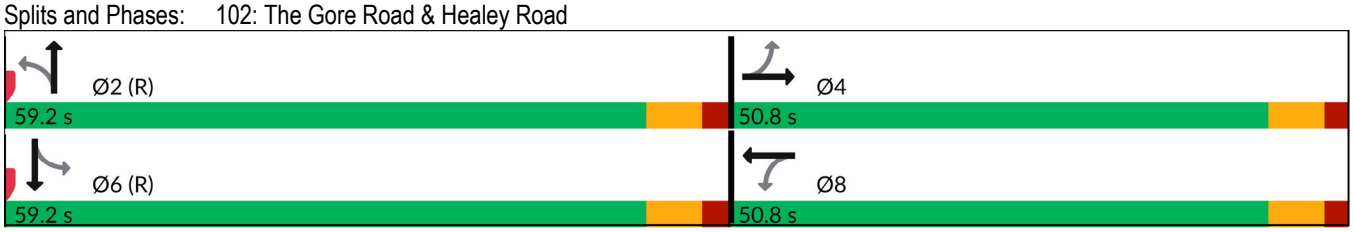
Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

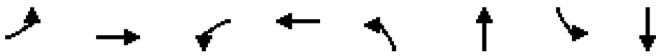
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	260	31	419	925	72	49	526	504	66	1702	16
Future Volume (vph)	2	260	31	419	925	72	49	526	504	66	1702	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor					1.00							
Frt		0.984			0.989			0.927			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1543	3428	0	1752	3336	0	1805	3080	0	1752	3469	0
Flt Permitted	0.129			0.563			0.076			0.159		
Satd. Flow (perm)	209	3428	0	1039	3336	0	144	3080	0	293	3469	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			9			300			1	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		1421.0			530.2			483.8			1079.4	
Travel Time (s)		85.3			31.8			24.9			55.5	
Confl. Peds. (#/hr)	1					1						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	17%	3%	9%	3%	4%	44%	0%	15%	2%	3%	4%	0%
Adj. Flow (vph)	2	277	33	446	984	77	52	560	536	70	1811	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	310	0	446	1061	0	52	1096	0	70	1828	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane					Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.6	25.6		25.6	25.6		26.6	26.6		26.6	26.6	
Total Split (s)	50.8	50.8		50.8	50.8		59.2	59.2		59.2	59.2	
Total Split (%)	46.2%	46.2%		46.2%	46.2%		53.8%	53.8%		53.8%	53.8%	
Maximum Green (s)	44.2	44.2		44.2	44.2		52.6	52.6		52.6	52.6	
Yellow Time (s)	4.6	4.6		4.6	4.6		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	44.2	44.2		44.2	44.2		52.6	52.6		52.6	52.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.48	0.48		0.48	0.48	
v/c Ratio	0.02	0.22		1.07	0.79		0.76	0.67		0.50	1.10	
Control Delay (s/veh)	23.5	23.3		77.1	14.4		80.2	11.7		35.0	84.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	23.5	23.3		77.1	14.4		80.2	11.7		35.0	84.3	
LOS	C	C		E	B		F	B		C	F	
Approach Delay (s/veh)		23.3			33.0			14.8			82.5	
Approach LOS		C			C			B			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 20 (18%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 100			
Control Type: Pretimed			
Maximum v/c Ratio: 1.10			
Intersection Signal Delay (s/veh): 47.4		Intersection LOS: D	
Intersection Capacity Utilization 105.9%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 102: The Gore Road & Healey Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	2	310	446	1061	52	1096	70	1828
v/c Ratio	0.02	0.22	1.07	0.79	0.76	0.67	0.50	1.10
Control Delay (s/veh)	23.5	23.3	77.1	14.4	80.2	11.7	35.0	84.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	23.5	23.3	77.1	14.4	80.2	11.7	35.0	84.3
Queue Length 50th (m)	0.3	26.8	~107.7	24.4	9.9	72.7	10.4	~244.0
Queue Length 95th (m)	m1.5	28.5	#169.9	59.7	m#34.3	48.1	27.9	#288.4
Internal Link Dist (m)		1397.0		506.2		459.8		1055.4
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	83	1381	417	1345	68	1629	140	1659
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	0.02	0.22	1.07	0.79	0.76	0.67	0.50	1.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	260	31	419	925	72	49	526	504	66	1702	16
Future Volume (vph)	2	260	31	419	925	72	49	526	504	66	1702	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.93		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1543	3428		1752	3337		1805	3079		1752	3468	
Flt Permitted	0.13	1.00		0.56	1.00		0.08	1.00		0.16	1.00	
Satd. Flow (perm)	210	3428		1039	3337		144	3079		293	3468	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	2	277	33	446	984	77	52	560	536	70	1811	17
RTOR Reduction (vph)	0	4	0	0	5	0	0	157	0	0	1	0
Lane Group Flow (vph)	2	306	0	446	1056	0	52	939	0	70	1827	0
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	17%	3%	9%	3%	4%	44%	0%	15%	2%	3%	4%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	44.2	44.2		44.2	44.2		52.6	52.6		52.6	52.6	
Effective Green, g (s)	44.2	44.2		44.2	44.2		52.6	52.6		52.6	52.6	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.48	0.48		0.48	0.48	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Grp Cap (vph)	84	1377		417	1340		68	1472		140	1658	
v/s Ratio Prot		0.09			0.32			0.31			c0.53	
v/s Ratio Perm	0.01			c0.43			0.36			0.24		
v/c Ratio	0.02	0.22		1.07	0.79		0.76	0.64		0.50	1.10	
Uniform Delay, d1	19.9	21.6		32.9	28.8		23.6	21.6		19.7	28.7	
Progression Factor	1.11	1.07		0.37	0.36		0.79	0.62		1.00	1.00	
Incremental Delay, d2	0.5	0.4		60.1	4.0		53.3	2.0		12.2	55.7	
Delay (s)	22.5	23.5		72.1	14.4		72.0	15.2		31.9	84.4	
Level of Service	C	C		E	B		E	B		C	F	
Approach Delay (s/veh)		23.5			31.5			17.8			82.4	
Approach LOS		C			C			B			F	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	47.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	105.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

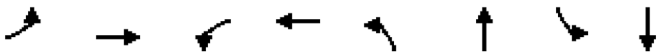
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	635	22	14	521	32	65	717	66	295	1933	815
Future Volume (vph)	27	635	22	14	521	32	65	717	66	295	1933	815
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.995			0.991			0.987			0.956	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3524	0	1641	3448	0	1805	3377	0	1770	3380	0
Flt Permitted	0.205			0.205			0.049			0.298		
Satd. Flow (perm)	390	3524	0	354	3448	0	93	3377	0	555	3380	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			5			4			11	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		536.6			1380.2			839.8			680.2	
Travel Time (s)		32.2			82.8			43.2			35.0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	0%	10%	4%	0%	0%	6%	0%	2%	3%	0%
Adj. Flow (vph)	31	722	25	16	592	36	74	815	75	335	2197	926
Shared Lane Traffic (%)												
Lane Group Flow (vph)	31	747	0	16	628	0	74	890	0	335	3123	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	24.0	24.0		24.0	24.0		86.0	86.0		86.0	86.0	
Total Split (%)	21.8%	21.8%		21.8%	21.8%		78.2%	78.2%		78.2%	78.2%	
Maximum Green (s)	19.5	19.5		19.5	19.5		81.5	81.5		81.5	81.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	19.5	19.5		19.5	19.5		81.5	81.5		81.5	81.5	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.74	0.74		0.74	0.74	
v/c Ratio	0.45	1.19		0.26	1.02		1.09	0.36		0.82	1.25	
Control Delay (s/veh)	62.7	142.6		46.1	76.7		160.0	5.0		28.4	132.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	62.7	142.6		46.1	76.7		160.0	5.0		28.4	132.7	
LOS	E	F		D	E		F	A		C	F	
Approach Delay (s/veh)		139.4			75.9			16.9			122.6	
Approach LOS		F			E			B			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 46 (42%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.25			
Intersection Signal Delay (s/veh): 102.3		Intersection LOS: F	
Intersection Capacity Utilization 117.4%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 103: Humber Station Road & Healey Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	31	747	16	628	74	890	335	3123
v/c Ratio	0.45	1.19	0.26	1.02	1.09	0.36	0.82	1.25
Control Delay (s/veh)	62.7	142.6	46.1	76.7	160.0	5.0	28.4	132.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	62.7	142.6	46.1	76.7	160.0	5.0	28.4	132.7
Queue Length 50th (m)	7.1	~109.9	2.9	~77.6	~18.7	36.1	42.0	~460.1
Queue Length 95th (m)	#19.3	#143.6	m5.2	m#77.5	#47.2	37.7	#112.3	#482.0
Internal Link Dist (m)		512.6		1356.2		815.8		656.2
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	69	627	62	615	68	2503	411	2507
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	0.45	1.19	0.26	1.02	1.09	0.36	0.82	1.25

Intersection Summary

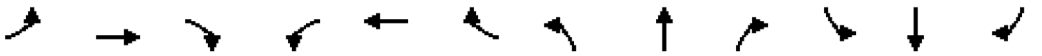
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	635	22	14	521	32	65	717	66	295	1933	815
Future Volume (vph)	27	635	22	14	521	32	65	717	66	295	1933	815
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		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)	1805	3524		1641	3449		1805	3379		1770	3378	
Flt Permitted	0.21	1.00		0.21	1.00		0.05	1.00		0.30	1.00	
Satd. Flow (perm)	390	3524		354	3449		93	3379		555	3378	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	31	722	25	16	592	36	74	815	75	335	2197	926
RTOR Reduction (vph)	0	2	0	0	4	0	0	1	0	0	3	0
Lane Group Flow (vph)	31	745	0	16	624	0	74	889	0	335	3120	0
Heavy Vehicles (%)	0%	2%	0%	10%	4%	0%	0%	6%	0%	2%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	19.5	19.5		19.5	19.5		81.5	81.5		81.5	81.5	
Effective Green, g (s)	19.5	19.5		19.5	19.5		81.5	81.5		81.5	81.5	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.74	0.74		0.74	0.74	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	69	624		62	611		68	2503		411	2502	
v/s Ratio Prot		c0.21			0.18			0.26			c0.92	
v/s Ratio Perm	0.08			0.05			0.79			0.60		
v/c Ratio	0.45	1.19		0.26	1.02		1.09	0.36		0.82	1.25	
Uniform Delay, d1	40.5	45.3		39.0	45.3		14.2	5.0		9.3	14.2	
Progression Factor	1.02	1.07		0.97	0.94		1.16	0.92		1.00	1.00	
Incremental Delay, d2	4.3	101.3		1.4	34.1		135.0	0.4		16.2	114.7	
Delay (s)	45.6	149.8		39.3	76.9		151.4	5.0		25.5	128.9	
Level of Service	D	F		D	E		F	A		C	F	
Approach Delay (s/veh)		145.6			75.9			16.3			118.9	
Approach LOS		F			E			B			F	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	100.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.24		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	117.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

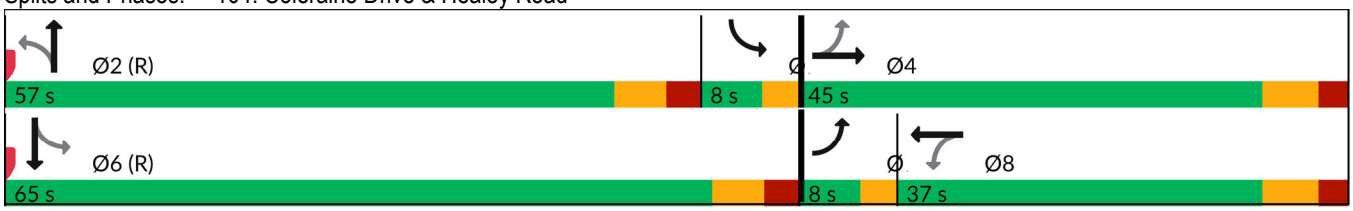


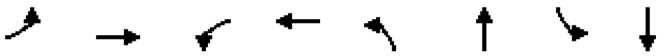
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	375	266	285	40	142	30	28	319	19	118	1816	347
Future Volume (vph)	375	266	285	40	142	30	28	319	19	118	1816	347
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	20.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.922			0.974			0.992			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	3248	0	1347	3233	0	1656	2714	0	1421	3216	0
Flt Permitted	0.545			0.357			0.065			0.531		
Satd. Flow (perm)	968	3248	0	506	3233	0	113	2714	0	794	3216	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			22			7			30	
Link Speed (k/h)		60			50			70			70	
Link Distance (m)		1380.2			427.4			630.5			589.7	
Travel Time (s)		82.8			30.8			32.4			30.3	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	7%	3%	2%	34%	3%	36%	9%	33%	14%	27%	11%	2%
Adj. Flow (vph)	412	292	313	44	156	33	31	351	21	130	1996	381
Shared Lane Traffic (%)												
Lane Group Flow (vph)	412	605	0	44	189	0	31	372	0	130	2377	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	12.0		12.0	12.0		12.0	12.0		5.0	12.0	
Minimum Split (s)	8.0	37.0		37.0	37.0		37.0	37.0		8.0	37.0	
Total Split (s)	8.0	45.0		37.0	37.0		57.0	57.0		8.0	65.0	
Total Split (%)	7.3%	40.9%		33.6%	33.6%		51.8%	51.8%		7.3%	59.1%	
Maximum Green (s)	5.0	38.0		30.0	30.0		50.0	50.0		5.0	58.0	
Yellow Time (s)	3.0	4.6		4.6	4.6		4.2	4.2		3.0	4.2	
All-Red Time (s)	0.0	2.4		2.4	2.4		2.8	2.8		0.0	2.8	
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	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lead/Lag	Lead			Lag	Lag		Lead	Lead		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	
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	
Walk Time (s)		12.0		12.0	12.0		12.0	12.0			12.0	
Flash Don't Walk (s)		18.0		18.0	18.0		18.0	18.0			18.0	
Pedestrian Calls (#/hr)		0		0	0		0	0			0	
Act Effct Green (s)	30.6	26.6		18.6	18.6		61.4	61.4		73.4	69.4	
Actuated g/C Ratio	0.28	0.24		0.17	0.17		0.56	0.56		0.67	0.63	
v/c Ratio	1.36	0.76		0.52	0.33		0.50	0.25		0.23	1.17	
Control Delay (s/veh)	188.5	21.4		61.3	35.9		50.5	13.5		9.7	102.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	188.5	21.4		61.3	35.9		50.5	13.5		9.7	102.7	
LOS	F	C		E	D		D	B		A	F	
Approach Delay (s/veh)		89.1			40.7			16.4			97.8	
Approach LOS		F			D			B			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 32 (29%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.36			
Intersection Signal Delay (s/veh): 84.6		Intersection LOS: F	
Intersection Capacity Utilization 122.9%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 104: Coleraine Drive & Healey Road





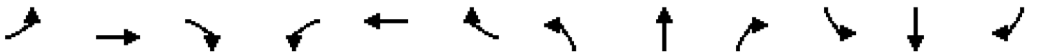
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	412	605	44	189	31	372	130	2377
v/c Ratio	1.36	0.76	0.52	0.33	0.50	0.25	0.23	1.17
Control Delay (s/veh)	188.5	21.4	61.3	35.9	50.5	13.5	9.7	102.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	188.5	21.4	61.3	35.9	50.5	13.5	9.7	102.7
Queue Length 50th (m)	~122.1	28.3	7.8	17.3	3.9	18.0	8.6	~320.8
Queue Length 95th (m)	m#42.9	m25.6	17.5	26.1	#21.2	29.6	18.3	#385.8
Internal Link Dist (m)		1356.2		403.4		606.5		565.7
Turn Bay Length (m)	30.0		20.0		60.0		55.0	
Base Capacity (vph)	302	1125	138	897	62	1517	557	2038
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.36	0.54	0.32	0.21	0.50	0.25	0.23	1.17

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	375	266	285	40	142	30	28	319	19	118	1816	347
Future Volume (vph)	375	266	285	40	142	30	28	319	19	118	1816	347
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.92		1.00	0.97		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1687	3249		1347	3232		1656	2713		1421	3216	
Flt Permitted	0.54	1.00		0.36	1.00		0.07	1.00		0.53	1.00	
Satd. Flow (perm)	968	3249		506	3232		114	2713		794	3216	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	412	292	313	44	156	33	31	351	21	130	1996	381
RTOR Reduction (vph)	0	5	0	0	18	0	0	3	0	0	11	0
Lane Group Flow (vph)	412	600	0	44	171	0	31	369	0	130	2366	0
Heavy Vehicles (%)	7%	3%	2%	34%	3%	36%	9%	33%	14%	27%	11%	2%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	26.6	26.6		18.6	18.6		61.4	61.4		73.4	69.4	
Effective Green, g (s)	26.6	26.6		18.6	18.6		61.4	61.4		73.4	69.4	
Actuated g/C Ratio	0.24	0.24		0.17	0.17		0.56	0.56		0.67	0.63	
Clearance Time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	266	785		85	546		63	1514		558	2029	
v/s Ratio Prot	c0.07	0.18			0.05			0.14		0.01	c0.74	
v/s Ratio Perm	c0.30			0.09			0.27			0.14		
v/c Ratio	1.55	0.76		0.52	0.31		0.49	0.24		0.23	1.17	
Uniform Delay, d1	41.4	38.8		41.6	40.1		14.8	12.4		7.3	20.3	
Progression Factor	0.49	0.55		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	248.7	0.4		5.2	0.3		25.0	0.4		0.2	80.5	
Delay (s)	269.1	21.6		46.9	40.4		39.8	12.8		7.5	100.8	
Level of Service	F	C		D	D		D	B		A	F	
Approach Delay (s/veh)		121.9			41.6			14.9			96.0	
Approach LOS		F			D			B			F	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	91.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.35		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	122.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	809	21	13	1355	61	36
Future Volume (vph)	809	21	13	1355	61	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		15.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.996					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3525	0	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3525	0	1770	3539	1770	1583
Link Speed (k/h)	60			60	50	
Link Distance (m)	530.2			289.7	475.3	
Travel Time (s)	31.8			17.4	34.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	879	23	14	1473	66	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	902	0	14	1473	66	39
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane	Yes					
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control	Free			Free	Stop	

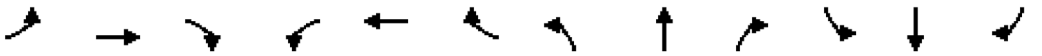
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 47.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	809	21	13	1355	61	36
Future Volume (Veh/h)	809	21	13	1355	61	36
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	879	23	14	1473	66	39
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			None		
Median storage veh)	2					
Upstream signal (m)				290		
pX, platoon unblocked					0.68	
vC, conflicting volume			902		1655	451
vC1, stage 1 conf vol					891	
vC2, stage 2 conf vol					765	
vCu, unblocked vol			902		1014	451
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			98		80	93
cM capacity (veh/h)			749		333	556

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	586	316	14	737	737	66	39
Volume Left	0	0	14	0	0	66	0
Volume Right	0	23	0	0	0	0	39
cSH	1700	1700	749	1700	1700	333	556
Volume to Capacity	0.34	0.19	0.02	0.43	0.43	0.20	0.07
Queue Length 95th (m)	0.0	0.0	0.5	0.0	0.0	5.8	1.8
Control Delay (s/veh)	0.0	0.0	9.9	0.0	0.0	18.5	12.0
Lane LOS			A			C	B
Approach Delay (s/veh)	0.0		0.1			16.1	
Approach LOS						C	

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		

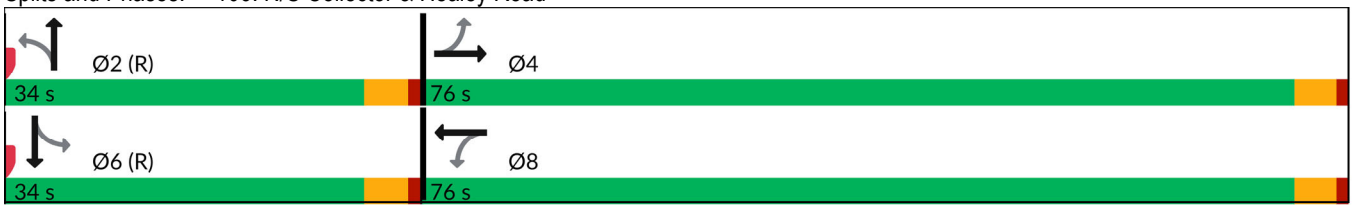


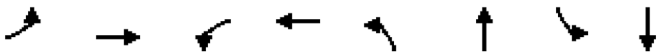
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	764	62	88	1293	3	58	123	76	8	140	17
Future Volume (vph)	19	764	62	88	1293	3	58	123	76	8	140	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989						0.943			0.984	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3500	0	1770	3539	0	1770	1757	0	1770	1833	0
Flt Permitted	0.091			0.245			0.609			0.550		
Satd. Flow (perm)	170	3500	0	456	3539	0	1134	1757	0	1025	1833	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15						28			5	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		289.7			536.6			472.1			202.6	
Travel Time (s)		17.4			32.2			28.3			12.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	830	67	96	1405	3	63	134	83	9	152	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	897	0	96	1408	0	63	217	0	9	170	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
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)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	76.0	76.0		76.0	76.0		34.0	34.0		34.0	34.0	
Total Split (%)	69.1%	69.1%		69.1%	69.1%		30.9%	30.9%		30.9%	30.9%	
Maximum Green (s)	71.5	71.5		71.5	71.5		29.5	29.5		29.5	29.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	59.2	59.2		59.2	59.2		41.8	41.8		41.8	41.8	
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.38	0.38		0.38	0.38	
v/c Ratio	0.23	0.47		0.39	0.74		0.15	0.32		0.02	0.24	
Control Delay (s/veh)	15.8	13.8		11.5	15.1		27.1	24.5		26.5	26.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	15.8	13.8		11.5	15.1		27.1	24.5		26.5	26.1	
LOS	B	B		B	B		C	C		C	C	
Approach Delay (s/veh)		13.8			14.9			25.1			26.2	
Approach LOS		B			B			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay (s/veh): 16.2		Intersection LOS: B	
Intersection Capacity Utilization 70.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 106: N/S Collector & Healey Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	21	897	96	1408	63	217	9	170
v/c Ratio	0.23	0.47	0.39	0.74	0.15	0.32	0.02	0.24
Control Delay (s/veh)	15.8	13.8	11.5	15.1	27.1	24.5	26.5	26.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.8	13.8	11.5	15.1	27.1	24.5	26.5	26.1
Queue Length 50th (m)	2.2	53.3	9.6	91.6	9.2	29.4	1.3	25.1
Queue Length 95th (m)	m4.3	57.8	m6.4	m59.5	22.3	56.6	5.5	48.3
Internal Link Dist (m)		265.7		512.6		448.1		178.6
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	110	2280	296	2300	431	685	389	700
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	0.39	0.32	0.61	0.15	0.32	0.02	0.24

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	764	62	88	1293	3	58	123	76	8	140	17
Future Volume (vph)	19	764	62	88	1293	3	58	123	76	8	140	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.94		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3500		1770	3538		1770	1756		1770	1833	
Flt Permitted	0.09	1.00		0.24	1.00		0.61	1.00		0.55	1.00	
Satd. Flow (perm)	169	3500		456	3538		1135	1756		1025	1833	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	830	67	96	1405	3	63	134	83	9	152	18
RTOR Reduction (vph)	0	7	0	0	0	0	0	17	0	0	3	0
Lane Group Flow (vph)	21	890	0	96	1408	0	63	200	0	9	167	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	59.2	59.2		59.2	59.2		41.8	41.8		41.8	41.8	
Effective Green, g (s)	59.2	59.2		59.2	59.2		41.8	41.8		41.8	41.8	
Actuated g/C Ratio	0.54	0.54		0.54	0.54		0.38	0.38		0.38	0.38	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	90	1883		245	1904		431	667		389	696	
v/s Ratio Prot		0.25			c0.40			c0.11			0.09	
v/s Ratio Perm	0.12			0.21			0.06			0.01		
v/c Ratio	0.23	0.47		0.39	0.74		0.15	0.30		0.02	0.24	
Uniform Delay, d1	13.4	15.7		14.9	19.5		22.4	23.9		21.3	23.3	
Progression Factor	0.89	0.87		0.81	0.78		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	0.2		0.1	0.1		0.7	1.1		0.1	0.8	
Delay (s)	13.2	13.9		12.2	15.4		23.1	25.0		21.4	24.1	
Level of Service	B	B		B	B		C	C		C	C	
Approach Delay (s/veh)		13.8			15.2			24.6			23.9	
Approach LOS		B			B			C			C	

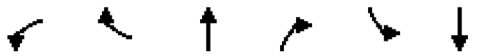
Intersection Summary			
HCM 2000 Control Delay (s/veh)	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	69	62	1017	24	17	2135
Future Volume (vph)	69	62	1017	24	17	2135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0	0.0		0.0	50.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.997			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3529	0	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3529	0	1770	3539
Link Speed (k/h)	50		70			70
Link Distance (m)	539.3		1501.3			483.8
Travel Time (s)	38.8		77.2			24.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	75	67	1105	26	18	2321
Shared Lane Traffic (%)						
Lane Group Flow (vph)	75	67	1131	0	18	2321
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 69.5%		ICU Level of Service C	
Analysis Period (min) 15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	69	62	1017	24	17	2135
Future Volume (Veh/h)	69	62	1017	24	17	2135
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)	75	67	1105	26	18	2321
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			None
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	2315	566			1131	
vC1, stage 1 conf vol	1118					
vC2, stage 2 conf vol	1197					
vCu, unblocked vol	2315	566			1131	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	58	86			97	
cM capacity (veh/h)	177	468			613	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	75	67	737	394	18	1161	1161
Volume Left	75	0	0	0	18	0	0
Volume Right	0	67	0	26	0	0	0
cSH	177	468	1700	1700	613	1700	1700
Volume to Capacity	0.42	0.14	0.43	0.23	0.03	0.68	0.68
Queue Length 95th (m)	15.3	4.0	0.0	0.0	0.7	0.0	0.0
Control Delay (s/veh)	39.5	14.0	0.0	0.0	11.0	0.0	0.0
Lane LOS	E	B			B		
Approach Delay (s/veh)	27.5		0.0		0.1		
Approach LOS	D						

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	8	12	5	26	19	39	19	2	5	5	20
Future Volume (vph)	16	8	12	5	26	19	39	19	2	5	5	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.955			0.947			0.996			0.907	
Flt Protected		0.979			0.995			0.969			0.992	
Satd. Flow (prot)	0	1742	0	0	1755	0	0	1798	0	0	1676	0
Flt Permitted		0.979			0.995			0.969			0.992	
Satd. Flow (perm)	0	1742	0	0	1755	0	0	1798	0	0	1676	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		539.3			284.2			367.8			475.3	
Travel Time (s)		38.8			20.5			26.5			34.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	9	13	5	28	21	42	21	2	5	5	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	54	0	0	65	0	0	32	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control		Stop			Stop			Stop			Stop	

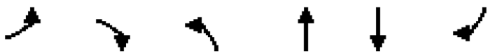
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	16	8	12	5	26	19	39	19	2	5	5	20
Future Volume (vph)	16	8	12	5	26	19	39	19	2	5	5	20
Peak Hour Factor	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)	17	9	13	5	28	21	42	21	2	5	5	22

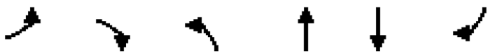
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	39	54	65	32
Volume Left (vph)	17	5	42	5
Volume Right (vph)	13	21	2	22
Hadj (s)	-0.08	-0.18	0.14	-0.35
Departure Headway (s)	4.1	4.0	4.3	3.8
Degree Utilization, x	0.04	0.06	0.08	0.03
Capacity (veh/h)	854	880	815	914
Control Delay (s/veh)	7.3	7.2	7.6	6.9
Approach Delay (s/veh)	7.3	7.2	7.6	6.9
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.3			
Level of Service	A			
Intersection Capacity Utilization	22.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	38	27	11	219	279	11
Future Volume (vph)	38	27	11	219	279	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0	0.0	0.0			0.0
Storage Lanes	1	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.995	
Flt Protected	0.950			0.998		
Satd. Flow (prot)	1770	1583	0	1859	1853	0
Flt Permitted	0.950			0.998		
Satd. Flow (perm)	1770	1583	0	1859	1853	0
Link Speed (k/h)	50			60	60	
Link Distance (m)	284.2			370.2	472.1	
Travel Time (s)	20.5			22.2	28.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	29	12	238	303	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	29	0	250	315	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	30.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	27	11	219	279	11
Future Volume (Veh/h)	38	27	11	219	279	11
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)	41	29	12	238	303	12
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	571	309	315			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	571	309	315			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	96	99			
cM capacity (veh/h)	478	731	1245			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	41	29	250	315
Volume Left	41	0	12	0
Volume Right	0	29	0	12
cSH	478	731	1245	1700
Volume to Capacity	0.09	0.04	0.00*	0.19
Queue Length 95th (m)	2.2	1.0	0.2	0.0
Control Delay (s/veh)	13.2	10.1	0.5	0.0
Lane LOS	B	B	A	
Approach Delay (s/veh)	12.0		0.5	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	30.5%	ICU Level of Service	A
Analysis Period (min)	15		

* Value less than 0.01.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	11	25	23	5	64	8	166	27	90	216	0
Future Volume (vph)	0	11	25	23	5	64	8	166	27	90	216	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.907			0.905			0.982				
Flt Protected					0.988			0.998			0.985	
Satd. Flow (prot)	0	1690	0	0	1666	0	0	1826	0	0	1835	0
Flt Permitted					0.988			0.998			0.985	
Satd. Flow (perm)	0	1690	0	0	1666	0	0	1826	0	0	1835	0
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		282.8			530.8			327.7			370.2	
Travel Time (s)		20.4			38.2			19.7			22.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	12	27	25	5	70	9	180	29	98	235	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	39	0	0	100	0	0	218	0	0	333	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

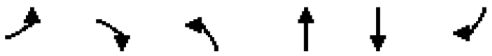
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.3%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	11	25	23	5	64	8	166	27	90	216	0
Future Volume (vph)	0	11	25	23	5	64	8	166	27	90	216	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	12	27	25	5	70	9	180	29	98	235	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	39	100	218	333
Volume Left (vph)	0	25	9	98
Volume Right (vph)	27	70	29	0
Hadj (s)	-0.38	-0.34	-0.04	0.09
Departure Headway (s)	5.0	4.9	4.6	4.6
Degree Utilization, x	0.05	0.14	0.28	0.43
Capacity (veh/h)	633	654	747	753
Control Delay (s/veh)	8.2	8.7	9.4	11.0
Approach Delay (s/veh)	8.2	8.7	9.4	11.0
Approach LOS	A	A	A	B

Intersection Summary				
Delay	10.0			
Level of Service	A			
Intersection Capacity Utilization	49.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	47	81	53	657	1878	39
Future Volume (vph)	47	81	53	657	1878	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.997	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3529	0
Flt Permitted	0.950		0.072			
Satd. Flow (perm)	1770	1583	134	3539	3529	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		28			5	
Link Speed (k/h)	50			70	70	
Link Distance (m)	530.8			351.5	839.8	
Travel Time (s)	38.2			18.1	43.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	88	58	714	2041	42
Shared Lane Traffic (%)						
Lane Group Flow (vph)	51	88	58	714	2083	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4	4	2			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	2	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	22.8	22.8	87.2	87.2	87.2	
Total Split (%)	20.7%	20.7%	79.3%	79.3%	79.3%	
Maximum Green (s)	18.3	18.3	82.7	82.7	82.7	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Min	C-Min	C-Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	9.7	9.7	94.2	94.2	94.2	
Actuated g/C Ratio	0.09	0.09	0.86	0.86	0.86	
v/c Ratio	0.33	0.53	0.51	0.24	0.69	
Control Delay (s/veh)	51.2	44.5	21.3	1.7	1.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	51.2	44.5	21.3	1.7	1.9	
LOS	D	D	C	A	A	
Approach Delay (s/veh)	46.9			3.2	1.9	
Approach LOS	D			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 100 (91%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay (s/veh): 4.3		Intersection LOS: A	
Intersection Capacity Utilization 65.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 111: Humber Station Road & E/W Collector



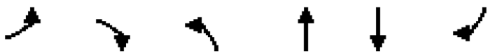


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	51	88	58	714	2083
v/c Ratio	0.33	0.53	0.51	0.24	0.69
Control Delay (s/veh)	51.2	44.5	21.3	1.7	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	51.2	44.5	21.3	1.7	1.9
Queue Length 50th (m)	10.9	13.0	1.8	9.1	2.1
Queue Length 95th (m)	22.2	28.1	m#29.7	15.1	m11.4
Internal Link Dist (m)	506.8			327.5	815.8
Turn Bay Length (m)	50.0		50.0		
Base Capacity (vph)	294	286	114	3029	3021
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	0.17	0.31	0.51	0.24	0.69

Intersection Summary

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

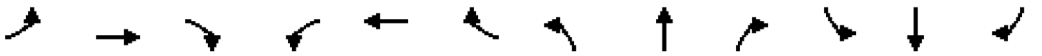
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	47	81	53	657	1878	39
Future Volume (vph)	47	81	53	657	1878	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	3539	3529	
Flt Permitted	0.95	1.00	0.07	1.00	1.00	
Satd. Flow (perm)	1770	1583	133	3539	3529	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	88	58	714	2041	42
RTOR Reduction (vph)	0	26	0	0	1	0
Lane Group Flow (vph)	51	62	58	714	2082	0
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4	4	2			
Actuated Green, G (s)	8.6	8.6	92.4	92.4	92.4	
Effective Green, g (s)	8.6	8.6	92.4	92.4	92.4	
Actuated g/C Ratio	0.08	0.08	0.84	0.84	0.84	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	138	123	111	2972	2964	
v/s Ratio Prot				0.20	c0.59	
v/s Ratio Perm	0.03	c0.04	0.43			
v/c Ratio	0.37	0.51	0.52	0.24	0.70	
Uniform Delay, d1	48.1	48.7	2.5	1.8	3.4	
Progression Factor	1.00	1.00	0.76	0.75	0.42	
Incremental Delay, d2	1.7	3.2	16.0	0.2	0.1	
Delay (s)	49.8	51.9	17.9	1.5	1.6	
Level of Service	D	D	B	A	A	
Approach Delay (s/veh)	51.1			2.7	1.6	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	4.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

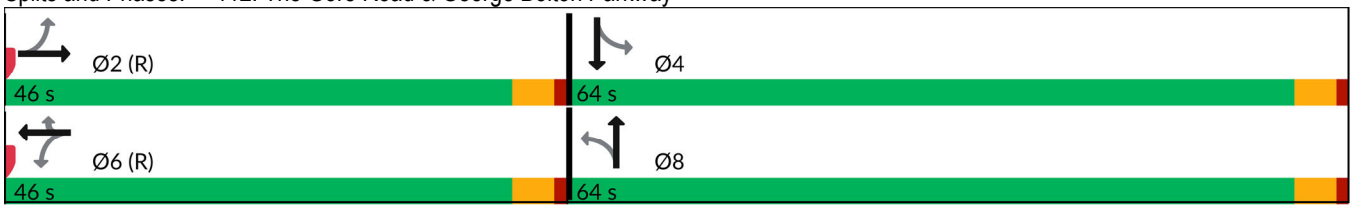


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	275	29	45	110	17	55	10	667	178	107	933	55
Future Volume (vph)	275	29	45	110	17	55	10	667	178	107	933	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.909				0.850		0.968			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1693	0	1770	1863	1583	1770	3426	0	1770	3511	0
Flt Permitted	0.746			0.704			0.113			0.174		
Satd. Flow (perm)	1390	1693	0	1311	1863	1583	210	3426	0	324	3511	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49				60		47			8	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		415.9			925.7			788.8			1501.3	
Travel Time (s)		25.0			55.5			40.6			77.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	299	32	49	120	18	60	11	725	193	116	1014	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	299	81	0	120	18	60	11	918	0	116	1074	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	46.0	46.0		46.0	46.0	46.0	64.0	64.0		64.0	64.0	
Total Split (%)	41.8%	41.8%		41.8%	41.8%	41.8%	58.2%	58.2%		58.2%	58.2%	
Maximum Green (s)	41.5	41.5		41.5	41.5	41.5	59.5	59.5		59.5	59.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min	C-Min	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	56.6	56.6		56.6	56.6	56.6	44.4	44.4		44.4	44.4	
Actuated g/C Ratio	0.51	0.51		0.51	0.51	0.51	0.40	0.40		0.40	0.40	
v/c Ratio	0.42	0.09		0.18	0.02	0.07	0.13	0.65		0.89	0.75	
Control Delay (s/veh)	21.1	8.7		20.3	20.2	7.8	20.7	26.6		32.6	18.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	21.1	8.7		20.3	20.2	7.8	20.7	26.6		32.6	18.8	
LOS	C	A		C	C	A	C	C		C	B	
Approach Delay (s/veh)		18.4			16.5			26.6			20.1	
Approach LOS		B			B			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay (s/veh): 21.8		Intersection LOS: C	
Intersection Capacity Utilization 64.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 112: The Gore Road & George Bolton Parkway

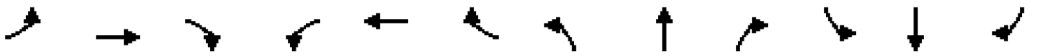




Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	299	81	120	18	60	11	918	116	1074
v/c Ratio	0.42	0.09	0.18	0.02	0.07	0.13	0.65	0.89	0.75
Control Delay (s/veh)	21.1	8.7	20.3	20.2	7.8	20.7	26.6	32.6	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	21.1	8.7	20.3	20.2	7.8	20.7	26.6	32.6	18.8
Queue Length 50th (m)	38.9	3.3	16.9	2.3	1.6	1.6	83.2	18.6	73.5
Queue Length 95th (m)	79.4	14.2	m18.6	m3.0	m3.2	4.7	80.9	m23.8	m90.1
Internal Link Dist (m)		391.9		901.7			764.8		1477.3
Turn Bay Length (m)	50.0		50.0			50.0		50.0	
Base Capacity (vph)	714	894	674	958	843	113	1874	175	1902
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.09	0.18	0.02	0.07	0.10	0.49	0.66	0.56

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	275	29	45	110	17	55	10	667	178	107	933	55
Future Volume (vph)	275	29	45	110	17	55	10	667	178	107	933	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.91		1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1694		1770	1863	1583	1770	3428		1770	3510	
Flt Permitted	0.75	1.00		0.70	1.00	1.00	0.11	1.00		0.17	1.00	
Satd. Flow (perm)	1389	1694		1312	1863	1583	211	3428		324	3510	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	299	32	49	120	18	60	11	725	193	116	1014	60
RTOR Reduction (vph)	0	24	0	0	0	29	0	28	0	0	5	0
Lane Group Flow (vph)	299	57	0	120	18	31	11	890	0	116	1069	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	56.6	56.6		56.6	56.6	56.6	44.4	44.4		44.4	44.4	
Effective Green, g (s)	56.6	56.6		56.6	56.6	56.6	44.4	44.4		44.4	44.4	
Actuated g/C Ratio	0.51	0.51		0.51	0.51	0.51	0.40	0.40		0.40	0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	714	871		675	958	814	85	1383		130	1416	
v/s Ratio Prot		0.03			0.01			0.26			0.30	
v/s Ratio Perm	c0.22			0.09		0.02	0.05			c0.36		
v/c Ratio	0.42	0.07		0.18	0.02	0.04	0.13	0.64		0.89	0.76	
Uniform Delay, d1	16.5	13.4		14.3	13.1	13.2	20.6	26.4		30.6	28.1	
Progression Factor	1.00	1.00		1.17	1.19	1.51	1.00	1.00		0.74	0.68	
Incremental Delay, d2	1.8	0.1		0.4	0.0	0.1	0.7	1.0		7.4	0.2	
Delay (s)	18.3	13.6		17.0	15.6	20.1	21.3	27.5		30.1	19.3	
Level of Service	B	B		B	B	C	C	C		C	B	
Approach Delay (s/veh)		17.3			17.8			27.4			20.3	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	22.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

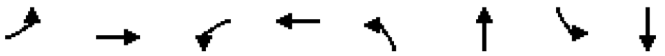
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	84	157	108	8	66	72	617	772	212	1740	102
Future Volume (vph)	73	84	157	108	8	66	72	617	772	212	1740	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.902			0.867			0.917			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3192	0	1770	3068	0	1770	3245	0	1770	3511	0
Flt Permitted	0.702			0.476			0.064			0.139		
Satd. Flow (perm)	1308	3192	0	887	3068	0	119	3245	0	259	3511	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			72			544			15	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		533.8			484.4			1231.2			318.5	
Travel Time (s)		32.0			29.1			63.3			16.4	
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)	79	91	171	117	9	72	78	671	839	230	1891	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	79	262	0	117	81	0	78	1510	0	230	2002	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
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)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	23.0	23.0		23.0	23.0		87.0	87.0		87.0	87.0	
Total Split (%)	20.9%	20.9%		20.9%	20.9%		79.1%	79.1%		79.1%	79.1%	
Maximum Green (s)	18.5	18.5		18.5	18.5		82.5	82.5		82.5	82.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	16.8	16.8		16.8	16.8		84.2	84.2		84.2	84.2	
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.77	0.77		0.77	0.77	
v/c Ratio	0.40	0.51		0.87	0.15		0.86	0.58		1.16	0.74	
Control Delay (s/veh)	64.1	54.4		94.0	12.1		81.6	4.2		116.3	2.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	64.1	54.4		94.0	12.1		81.6	4.2		116.3	2.6	
LOS	E	D		F	B		F	A		F	A	
Approach Delay (s/veh)		56.7			60.5			8.0			14.3	
Approach LOS		E			E			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 100 (91%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.16			
Intersection Signal Delay (s/veh): 17.4		Intersection LOS: B	
Intersection Capacity Utilization 83.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 113: Humber Station Road & George Bolton Parkway





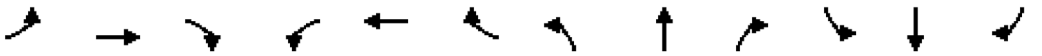
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	79	262	117	81	78	1510	230	2002
v/c Ratio	0.40	0.51	0.87	0.15	0.86	0.58	1.16	0.74
Control Delay (s/veh)	64.1	54.4	94.0	12.1	81.6	4.2	116.3	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	64.1	54.4	94.0	12.1	81.6	4.2	116.3	2.6
Queue Length 50th (m)	13.9	19.8	25.4	0.8	10.8	38.0	~62.1	10.7
Queue Length 95th (m)	m33.0	43.2	#57.2	7.8	#26.8	51.6	m#90.7	15.4
Internal Link Dist (m)		509.8		460.4		1207.2		294.5
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	219	566	149	575	91	2611	198	2691
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.46	0.79	0.14	0.86	0.58	1.16	0.74

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

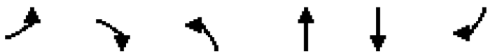
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	84	157	108	8	66	72	617	772	212	1740	102
Future Volume (vph)	73	84	157	108	8	66	72	617	772	212	1740	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.90		1.00	0.87		1.00	0.92		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)	1770	3193		1770	3067		1770	3244		1770	3510	
Flt Permitted	0.70	1.00		0.48	1.00		0.06	1.00		0.14	1.00	
Satd. Flow (perm)	1307	3193		888	3067		120	3244		259	3510	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	79	91	171	117	9	72	78	671	839	230	1891	111
RTOR Reduction (vph)	0	31	0	0	61	0	0	128	0	0	4	0
Lane Group Flow (vph)	79	231	0	117	20	0	78	1382	0	230	1998	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	16.8	16.8		16.8	16.8		84.2	84.2		84.2	84.2	
Effective Green, g (s)	16.8	16.8		16.8	16.8		84.2	84.2		84.2	84.2	
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.77	0.77		0.77	0.77	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	199	487		135	468		91	2483		198	2686	
v/s Ratio Prot		0.07			0.01			0.43			0.57	
v/s Ratio Perm	0.06			c0.13			0.65			c0.89		
v/c Ratio	0.40	0.48		0.87	0.04		0.86	0.56		1.16	0.74	
Uniform Delay, d1	42.0	42.6		45.5	39.7		8.8	5.3		12.9	7.0	
Progression Factor	1.41	1.41		1.00	1.00		1.00	1.00		0.38	0.19	
Incremental Delay, d2	5.1	2.9		48.1	0.2		50.5	0.3		101.1	0.7	
Delay (s)	64.5	62.9		93.6	39.9		59.3	5.5		106.0	2.0	
Level of Service	E	E		F	D		E	A		F	A	
Approach Delay (s/veh)		63.3			71.6			8.2			12.7	
Approach LOS		E			E			A			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

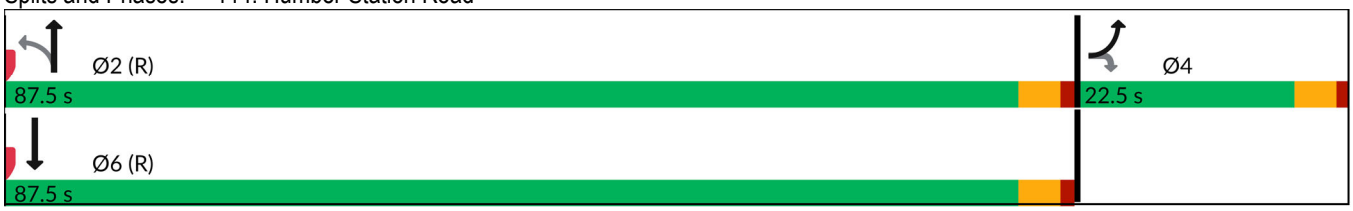


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	140	101	88	668	1953	86
Future Volume (vph)	140	101	88	668	1953	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.994	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3518	0
Flt Permitted	0.950		0.046			
Satd. Flow (perm)	1770	1583	86	3539	3518	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		24			12	
Link Speed (k/h)	50			70	70	
Link Distance (m)	420.4			318.5	351.5	
Travel Time (s)	30.3			16.4	18.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	110	96	726	2123	93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	110	96	726	2216	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	2	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	22.5	22.5	87.5	87.5	87.5	
Total Split (%)	20.5%	20.5%	79.5%	79.5%	79.5%	
Maximum Green (s)	18.0	18.0	83.0	83.0	83.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Max	C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	14.2	14.2	86.8	86.8	86.8	
Actuated g/C Ratio	0.13	0.13	0.79	0.79	0.79	
v/c Ratio	0.66	0.49	1.43	0.26	0.80	
Control Delay (s/veh)	59.4	41.2	273.0	3.0	3.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)	59.4	41.2	273.0	3.0	3.3	
LOS	E	D	F	A	A	
Approach Delay (s/veh)	51.7			34.6	3.3	
Approach LOS	D			C	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.43			
Intersection Signal Delay (s/veh): 14.9		Intersection LOS: B	
Intersection Capacity Utilization 80.6%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 114: Humber Station Road





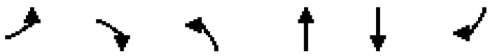
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	152	110	96	726	2216
v/c Ratio	0.66	0.49	1.43	0.26	0.80
Control Delay (s/veh)	59.4	41.2	273.0	3.0	3.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	59.4	41.2	273.0	3.0	3.3
Queue Length 50th (m)	32.7	17.9	~28.6	16.4	11.4
Queue Length 95th (m)	52.9	34.9	m#63.5	23.5	14.1
Internal Link Dist (m)	396.4			294.5	327.5
Turn Bay Length (m)	50.0		50.0		
Base Capacity (vph)	289	279	67	2791	2777
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.53	0.39	1.43	0.26	0.80

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

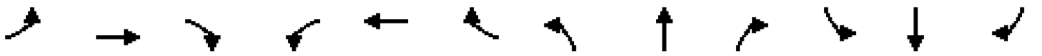
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	140	101	88	668	1953	86
Future Volume (vph)	140	101	88	668	1953	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	3539	3517	
Flt Permitted	0.95	1.00	0.05	1.00	1.00	
Satd. Flow (perm)	1770	1583	86	3539	3517	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	110	96	726	2123	93
RTOR Reduction (vph)	0	21	0	0	3	0
Lane Group Flow (vph)	152	89	96	726	2213	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	14.2	14.2	86.8	86.8	86.8	
Effective Green, g (s)	14.2	14.2	86.8	86.8	86.8	
Actuated g/C Ratio	0.13	0.13	0.79	0.79	0.79	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	228	204	67	2792	2775	
v/s Ratio Prot	c0.09			0.21	0.63	
v/s Ratio Perm		0.06	c1.11			
v/c Ratio	0.67	0.44	1.43	0.26	0.80	
Uniform Delay, d1	45.6	44.2	11.6	3.1	6.6	
Progression Factor	1.00	1.00	0.93	0.84	0.19	
Incremental Delay, d2	7.2	1.5	253.9	0.2	1.9	
Delay (s)	52.8	45.7	264.7	2.8	3.1	
Level of Service	D	D	F	A	A	
Approach Delay (s/veh)	49.8			33.4	3.1	
Approach LOS	D			C	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

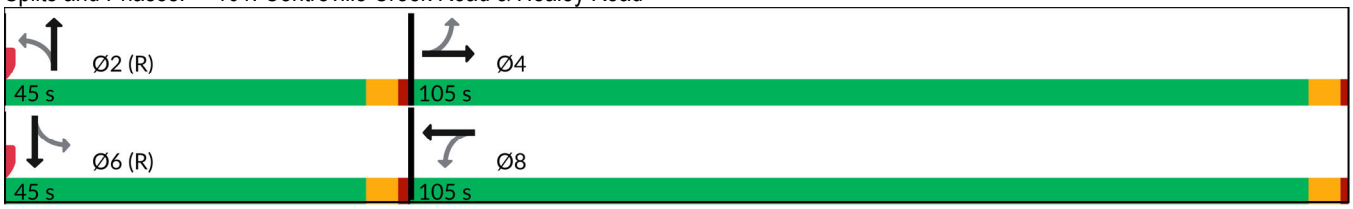


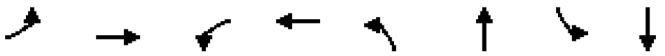
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	793	44	205	147	27	44	400	251	18	78	13
Future Volume (vph)	44	793	44	205	147	27	44	400	251	18	78	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.992			0.976			0.942			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3450	0	1805	3465	0	1719	3314	0	1805	3243	0
Flt Permitted	0.635			0.238			0.691			0.274		
Satd. Flow (perm)	1206	3450	0	452	3465	0	1250	3314	0	521	3243	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			29			90			12	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		295.9			1421.0			432.6			556.0	
Travel Time (s)		17.8			85.3			22.2			28.6	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	4%	0%	0%	2%	0%	5%	3%	2%	0%	9%	8%
Adj. Flow (vph)	47	844	47	218	156	29	47	426	267	19	83	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	47	891	0	218	185	0	47	693	0	19	97	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	105.0	105.0		105.0	105.0		45.0	45.0		45.0	45.0	
Total Split (%)	70.0%	70.0%		70.0%	70.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	100.5	100.5		100.5	100.5		40.5	40.5		40.5	40.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	79.6	79.6		79.6	79.6		61.4	61.4		61.4	61.4	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.41	0.41		0.41	0.41	
v/c Ratio	0.07	0.49		0.91	0.10		0.09	0.49		0.09	0.07	
Control Delay (s/veh)	12.5	22.6		62.6	8.4		37.0	33.8		39.7	30.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	12.5	22.6		62.6	8.4		37.0	33.8		39.7	30.2	
LOS	B	C		E	A		D	C		D	C	
Approach Delay (s/veh)		22.1			37.7			34.0			31.8	
Approach LOS		C			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 74 (49%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.91			
Intersection Signal Delay (s/veh): 29.5		Intersection LOS: C	
Intersection Capacity Utilization 65.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 101: Centreville Creek Road & Healey Road

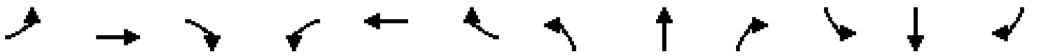




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	47	891	218	185	47	693	19	97
v/c Ratio	0.07	0.49	0.91	0.10	0.09	0.49	0.09	0.07
Control Delay (s/veh)	12.5	22.6	62.6	8.4	37.0	33.8	39.7	30.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	12.5	22.6	62.6	8.4	37.0	33.8	39.7	30.2
Queue Length 50th (m)	6.6	83.1	67.5	3.2	9.2	75.1	3.8	8.4
Queue Length 95th (m)	9.6	71.6	#95.7	3.2	22.3	114.0	12.4	17.7
Internal Link Dist (m)		271.9		1397.0		408.6		532.0
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	808	2314	302	2331	511	1410	213	1335
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.39	0.72	0.08	0.09	0.49	0.09	0.07

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)	44	793	44	205	147	27	44	400	251	18	78	13
Future Volume (vph)	44	793	44	205	147	27	44	400	251	18	78	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	0.94		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3451		1805	3467		1719	3315		1805	3245	
Flt Permitted	0.64	1.00		0.24	1.00		0.69	1.00		0.27	1.00	
Satd. Flow (perm)	1207	3451		452	3467		1250	3315		521	3245	
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)	47	844	47	218	156	29	47	426	267	19	83	14
RTOR Reduction (vph)	0	4	0	0	14	0	0	53	0	0	7	0
Lane Group Flow (vph)	47	887	0	218	171	0	47	640	0	19	90	0
Heavy Vehicles (%)	0%	4%	0%	0%	2%	0%	5%	3%	2%	0%	9%	8%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	79.6	79.6		79.6	79.6		61.4	61.4		61.4	61.4	
Effective Green, g (s)	79.6	79.6		79.6	79.6		61.4	61.4		61.4	61.4	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.41	0.41		0.41	0.41	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	640	1831		239	1839		511	1356		213	1328	
v/s Ratio Prot		0.26			0.05			c0.19			0.03	
v/s Ratio Perm	0.04			c0.48			0.04			0.04		
v/c Ratio	0.07	0.48		0.91	0.09		0.09	0.47		0.09	0.07	
Uniform Delay, d1	17.2	22.2		32.0	17.4		27.2	32.4		27.2	26.9	
Progression Factor	1.00	1.00		0.82	0.66		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.2		34.7	0.0		0.4	1.2		0.8	0.1	
Delay (s)	17.2	22.4		60.8	11.5		27.5	33.6		28.0	27.0	
Level of Service	B	C		E	B		C	C		C	C	
Approach Delay (s/veh)		22.2			38.2			33.2			27.2	
Approach LOS		C			D			C			C	

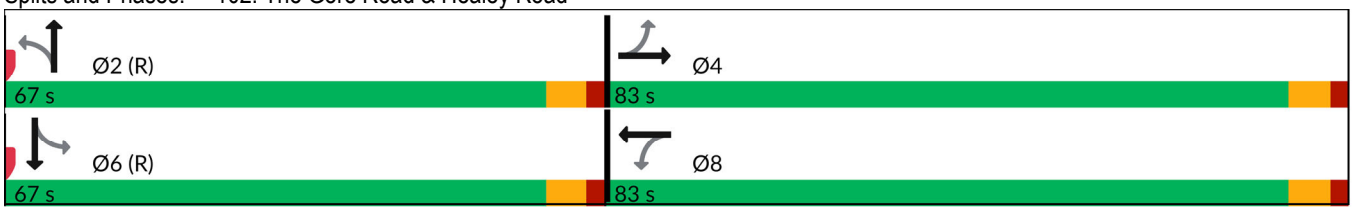
Intersection Summary			
HCM 2000 Control Delay (s/veh)	29.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

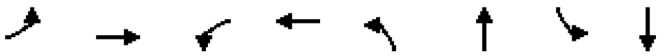
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	936	108	508	313	145	58	1826	576	63	616	2
Future Volume (vph)	35	936	108	508	313	145	58	1826	576	63	616	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.984			0.953			0.964				
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3485	0	1736	3343	0	1687	3274	0	1556	3283	0
Flt Permitted	0.440			0.160			0.304			0.066		
Satd. Flow (perm)	836	3485	0	292	3343	0	540	3274	0	108	3283	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			1			34				
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		1421.0			530.2			483.8			1079.4	
Travel Time (s)		85.3			31.8			24.9			55.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	1%	10%	4%	1%	7%	7%	7%	4%	16%	10%	0%
Adj. Flow (vph)	37	996	115	540	333	154	62	1943	613	67	655	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	1111	0	540	487	0	62	2556	0	67	657	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane					Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	25.6	25.6		25.6	25.6		26.6	26.6		26.6	26.6	
Total Split (s)	83.0	83.0		83.0	83.0		67.0	67.0		67.0	67.0	
Total Split (%)	55.3%	55.3%		55.3%	55.3%		44.7%	44.7%		44.7%	44.7%	
Maximum Green (s)	76.4	76.4		76.4	76.4		60.4	60.4		60.4	60.4	
Yellow Time (s)	4.6	4.6		4.6	4.6		4.6	4.6		4.6	4.6	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	76.4	76.4		76.4	76.4		60.4	60.4		60.4	60.4	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.40	0.40		0.40	0.40	
v/c Ratio	0.09	0.62		3.65	0.29		0.29	1.91		1.56	0.50	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay (s/veh)	15.3	18.5		Error	15.7		28.9	436.9		370.5	35.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	15.3	18.5		Error	15.7		28.9	436.9		370.5	35.1	
LOS	B	B		F	B		C	F		F	D	
Approach Delay (s/veh)		18.4			650.0			427.3			66.1	
Approach LOS		B			F			F			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 124 (83%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Pretimed			
Maximum v/c Ratio: 3.65			
Intersection Signal Delay (s/veh): 336.3		Intersection LOS: F	
Intersection Capacity Utilization 142.8%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 102: The Gore Road & Healey Road





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	37	1111	540	487	62	2556	67	657
v/c Ratio	0.09	0.62	3.65	0.29	0.29	1.91	1.56	0.50
Control Delay (s/veh)	15.3	18.5	Error	15.7	28.9	436.9	370.5	35.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	15.3	18.5	Error	15.7	28.9	436.9	370.5	35.1
Queue Length 50th (m)	4.1	66.2	~302.9	42.3	9.2	~628.1	~27.3	76.8
Queue Length 95th (m)	m10.3	170.8	#376.6	54.9	20.5	#665.5	#47.4	95.4
Internal Link Dist (m)		1397.0		506.2		459.8		1055.4
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	425	1780	148	1703	217	1338	43	1321
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	0.09	0.62	3.65	0.29	0.29	1.91	1.56	0.50

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

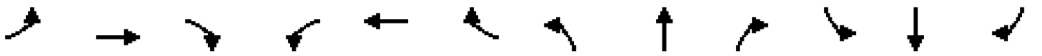
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	936	108	508	313	145	58	1826	576	63	616	2
Future Volume (vph)	35	936	108	508	313	145	58	1826	576	63	616	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.95		1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	3487		1736	3342		1687	3274		1556	3281	
Flt Permitted	0.44	1.00		0.16	1.00		0.30	1.00		0.07	1.00	
Satd. Flow (perm)	835	3487		292	3342		540	3274		108	3281	
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)	37	996	115	540	333	154	62	1943	613	67	655	2
RTOR Reduction (vph)	0	6	0	0	0	0	0	20	0	0	0	0
Lane Group Flow (vph)	37	1105	0	540	487	0	62	2536	0	67	657	0
Heavy Vehicles (%)	0%	1%	10%	4%	1%	7%	7%	7%	4%	16%	10%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	76.4	76.4		76.4	76.4		60.4	60.4		60.4	60.4	
Effective Green, g (s)	76.4	76.4		76.4	76.4		60.4	60.4		60.4	60.4	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.40	0.40		0.40	0.40	
Clearance Time (s)	6.6	6.6		6.6	6.6		6.6	6.6		6.6	6.6	
Lane Grp Cap (vph)	425	1776		148	1702		217	1318		43	1321	
v/s Ratio Prot		0.32			0.15			c0.77			0.20	
v/s Ratio Perm	0.04			c1.85			0.11			0.62		
v/c Ratio	0.09	0.62		3.65	0.29		0.29	1.92		1.56	0.50	
Uniform Delay, d1	18.9	26.4		36.8	21.1		30.2	44.8		44.8	33.5	
Progression Factor	0.77	0.64		0.87	0.72		0.81	0.80		1.00	1.00	
Incremental Delay, d2	0.4	1.5		1207.7	0.4		3.2	418.5		338.0	1.3	
Delay (s)	15.0	18.5		1239.8	15.7		27.8	454.3		382.8	34.8	
Level of Service	B	B		F	B		C	F		F	C	
Approach Delay (s/veh)		18.4			659.3			444.2			67.0	
Approach LOS		B			F			F			E	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	346.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.88		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	13.2
Intersection Capacity Utilization	142.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

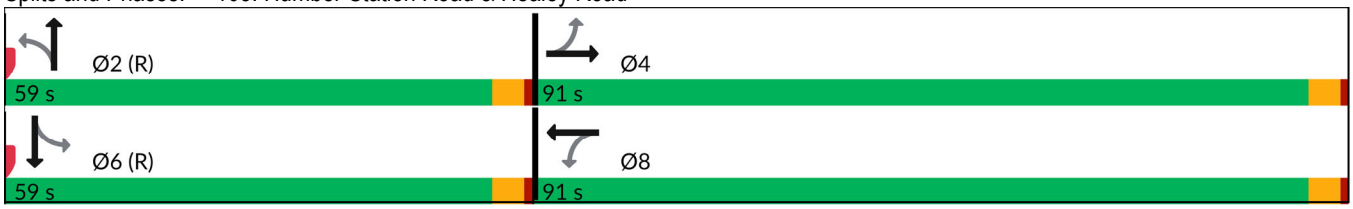


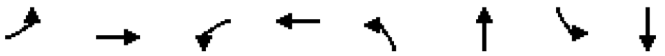
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	913	613	85	83	651	369	25	2083	12	31	715	65
Future Volume (vph)	913	613	85	83	651	369	25	2083	12	31	715	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.982			0.946			0.999			0.987	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1671	3545	0	1805	3391	0	1805	3467	0	1719	3468	0
Flt Permitted	0.198			0.324			0.189			0.073		
Satd. Flow (perm)	348	3545	0	616	3391	0	359	3467	0	132	3468	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17									7	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		536.6			1380.2			839.8			680.2	
Travel Time (s)		32.2			82.8			43.2			35.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	0%	0%	0%	0%	2%	0%	4%	7%	5%	3%	0%
Adj. Flow (vph)	941	632	88	86	671	380	26	2147	12	32	737	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	941	720	0	86	1051	0	26	2159	0	32	804	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	91.0	91.0		91.0	91.0		59.0	59.0		59.0	59.0	
Total Split (%)	60.7%	60.7%		60.7%	60.7%		39.3%	39.3%		39.3%	39.3%	
Maximum Green (s)	86.5	86.5		86.5	86.5		54.5	54.5		54.5	54.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	86.5	86.5		86.5	86.5		54.5	54.5		54.5	54.5	
Actuated g/C Ratio	0.58	0.58		0.58	0.58		0.36	0.36		0.36	0.36	
v/c Ratio	4.71	0.35		0.24	0.54		0.20	1.71		0.68	0.64	
Control Delay (s/veh)	Error	8.3		11.2	13.0		21.8	349.5		104.4	41.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	Error	8.3		11.2	13.0		21.8	349.5		104.4	41.9	
LOS	F	A		B	B		C	F		F	D	
Approach Delay (s/veh)		959.6			12.9			345.6			44.3	
Approach LOS		F			B			F			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 16 (11%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 4.71			
Intersection Signal Delay (s/veh): 412.6		Intersection LOS: F	
Intersection Capacity Utilization 149.6%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 103: Humber Station Road & Healey Road





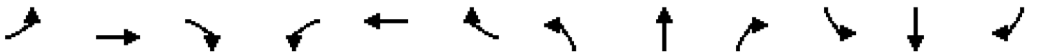
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	941	720	86	1051	26	2159	32	804
v/c Ratio	4.71	0.35	0.24	0.54	0.20	1.71	0.68	0.64
Control Delay (s/veh)	Error	8.3	11.2	13.0	21.8	349.5	104.4	41.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	Error	8.3	11.2	13.0	21.8	349.5	104.4	41.9
Queue Length 50th (m)	~499.9	37.1	9.8	76.0	4.3	~527.2	8.2	107.1
Queue Length 95th (m)	#579.5	57.1	m14.9	m91.2	m6.3	#554.9	#29.2	130.2
Internal Link Dist (m)		512.6		1356.2		815.8		656.2
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	200	2051	355	1955	130	1259	47	1264
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	4.71	0.35	0.24	0.54	0.20	1.71	0.68	0.64

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

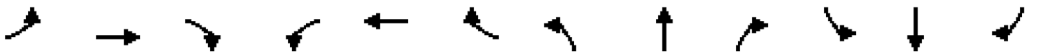
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	913	613	85	83	651	369	25	2083	12	31	715	65
Future Volume (vph)	913	613	85	83	651	369	25	2083	12	31	715	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.95		1.00	1.00		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)	1671	3544		1805	3390		1805	3468		1719	3469	
Flt Permitted	0.20	1.00		0.32	1.00		0.19	1.00		0.07	1.00	
Satd. Flow (perm)	348	3544		615	3390		360	3468		133	3469	
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)	941	632	88	86	671	380	26	2147	12	32	737	67
RTOR Reduction (vph)	0	7	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	941	713	0	86	1051	0	26	2159	0	32	800	0
Heavy Vehicles (%)	8%	0%	0%	0%	0%	2%	0%	4%	7%	5%	3%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	86.5	86.5		86.5	86.5		54.5	54.5		54.5	54.5	
Effective Green, g (s)	86.5	86.5		86.5	86.5		54.5	54.5		54.5	54.5	
Actuated g/C Ratio	0.58	0.58		0.58	0.58		0.36	0.36		0.36	0.36	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	200	2043		354	1954		130	1260		48	1260	
v/s Ratio Prot		0.20			0.31			c0.62			0.23	
v/s Ratio Perm	c2.70			0.14			0.07			0.24		
v/c Ratio	4.71	0.35		0.24	0.54		0.20	1.71		0.67	0.63	
Uniform Delay, d1	31.8	16.8		15.6	19.5		32.8	47.8		40.1	39.5	
Progression Factor	0.57	0.48		0.62	0.62		0.56	0.67		1.00	1.00	
Incremental Delay, d2	1676.7	0.1		0.2	0.2		2.4	323.4		54.9	2.4	
Delay (s)	1694.8	8.1		10.0	12.3		20.8	355.4		95.0	42.0	
Level of Service	F	A		A	B		C	F		F	D	
Approach Delay (s/veh)		963.7			12.2			351.4			44.0	
Approach LOS		F			B			F			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	415.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	3.54		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	149.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

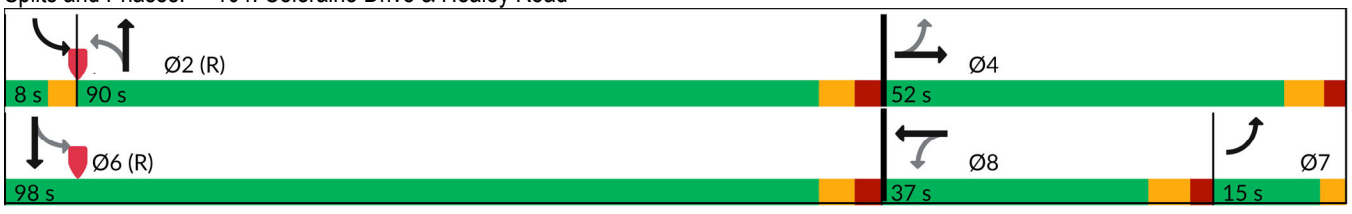


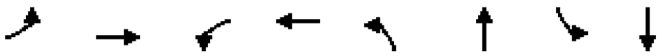
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	324	161	36	15	352	121	346	1979	93	76	334	390
Future Volume (vph)	324	161	36	15	352	121	346	1979	93	76	334	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	20.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00				1.00							
Frt		0.972			0.962			0.993			0.919	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1787	3455	0	1492	3254	0	1787	3146	0	1597	2813	0
Flt Permitted	0.266			0.619			0.347			0.047		
Satd. Flow (perm)	500	3455	0	972	3254	0	653	3146	0	79	2813	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			28			5			298	
Link Speed (k/h)		60			50			70			70	
Link Distance (m)		1380.2			427.4			630.5			589.7	
Travel Time (s)		82.8			30.8			32.4			30.3	
Confl. Peds. (#/hr)	1					1						
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	4%	21%	2%	19%	1%	14%	13%	13%	33%	5%
Adj. Flow (vph)	348	173	39	16	378	130	372	2128	100	82	359	419
Shared Lane Traffic (%)												
Lane Group Flow (vph)	348	212	0	16	508	0	372	2228	0	82	778	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	12.0		12.0	12.0		12.0	12.0		5.0	12.0	
Minimum Split (s)	8.0	37.0		37.0	37.0		37.0	37.0		8.0	37.0	
Total Split (s)	15.0	52.0		37.0	37.0		90.0	90.0		8.0	98.0	
Total Split (%)	10.0%	34.7%		24.7%	24.7%		60.0%	60.0%		5.3%	65.3%	
Maximum Green (s)	12.0	45.0		30.0	30.0		83.0	83.0		5.0	91.0	
Yellow Time (s)	3.0	4.6		4.6	4.6		4.2	4.2		3.0	4.2	
All-Red Time (s)	0.0	2.4		2.4	2.4		2.8	2.8		0.0	2.8	
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	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lead/Lag	Lag			Lead	Lead		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	
Walk Time (s)		12.0		12.0	12.0		12.0	12.0			12.0	
Flash Don't Walk (s)		18.0		18.0	18.0		18.0	18.0			18.0	
Pedestrian Calls (#/hr)		0		0	0		0	0			0	
Act Effct Green (s)	49.0	45.0		26.8	26.8		83.0	83.0		95.0	91.0	
Actuated g/C Ratio	0.33	0.30		0.18	0.18		0.55	0.55		0.63	0.61	
v/c Ratio	1.19	0.20		0.09	0.84		1.03	1.28		0.82	0.43	
Control Delay (s/veh)	152.6	22.1		51.1	69.3		88.9	160.4		73.3	9.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	152.6	22.1		51.1	69.3		88.9	160.4		73.3	9.7	
LOS	F	C		D	E		F	F		E	A	
Approach Delay (s/veh)		103.2			68.7			150.2			15.8	
Approach LOS		F			E			F			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 112 (75%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.28			
Intersection Signal Delay (s/veh): 109.6		Intersection LOS: F	
Intersection Capacity Utilization 112.2%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 104: Coleraine Drive & Healey Road





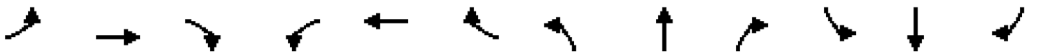
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	348	212	16	508	372	2228	82	778
v/c Ratio	1.19	0.20	0.09	0.84	1.03	1.28	0.82	0.43
Control Delay (s/veh)	152.6	22.1	51.1	69.3	88.9	160.4	73.3	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	152.6	22.1	51.1	69.3	88.9	160.4	73.3	9.7
Queue Length 50th (m)	~114.1	19.3	3.8	76.1	~123.7	~436.7	9.5	32.7
Queue Length 95th (m)	m#206.4	m30.4	10.4	96.6	#189.6	#475.4	#40.3	44.6
Internal Link Dist (m)		1356.2		403.4		606.5		565.7
Turn Bay Length (m)	30.0		20.0		60.0		55.0	
Base Capacity (vph)	293	1049	194	673	361	1743	100	1823
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.19	0.20	0.08	0.75	1.03	1.28	0.82	0.43

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	324	161	36	15	352	121	346	1979	93	76	334	390
Future Volume (vph)	324	161	36	15	352	121	346	1979	93	76	334	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		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	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.96		1.00	0.99		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	3457		1492	3253		1787	3147		1597	2814	
Flt Permitted	0.27	1.00		0.62	1.00		0.35	1.00		0.05	1.00	
Satd. Flow (perm)	500	3457		972	3253		652	3147		78	2814	
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)	348	173	39	16	378	130	372	2128	100	82	359	419
RTOR Reduction (vph)	0	13	0	0	23	0	0	2	0	0	117	0
Lane Group Flow (vph)	348	199	0	16	485	0	372	2226	0	82	661	0
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	1%	1%	4%	21%	2%	19%	1%	14%	13%	13%	33%	5%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	49.0	45.0		26.8	26.8		83.0	83.0		91.0	91.0	
Effective Green, g (s)	49.0	45.0		26.8	26.8		83.0	83.0		91.0	91.0	
Actuated g/C Ratio	0.33	0.30		0.18	0.18		0.55	0.55		0.61	0.61	
Clearance Time (s)	3.0	7.0		7.0	7.0		7.0	7.0		3.0	7.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	293	1037		173	581		360	1741		97	1707	
v/s Ratio Prot	c0.12	0.06			0.15			c0.71		c0.03	0.23	
v/s Ratio Perm	c0.27			0.02			0.57			0.48		
v/c Ratio	1.19	0.19		0.09	0.83		1.03	1.28		0.85	0.39	
Uniform Delay, d1	55.9	39.0		51.4	59.5		33.5	33.5		37.4	15.2	
Progression Factor	0.80	0.60		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	112.0	0.1		0.2	10.0		56.3	129.9		45.6	0.7	
Delay (s)	156.6	23.6		51.7	69.5		89.8	163.4		83.0	15.8	
Level of Service	F	C		D	E		F	F		F	B	
Approach Delay (s/veh)		106.3			69.0			152.9			22.2	
Approach LOS		F			E			F			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	112.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.28		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	112.2%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1516	59	32	924	42	21
Future Volume (vph)	1516	59	32	924	42	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		0.0	50.0		15.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			7.5		7.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.994					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3518	0	1770	3539	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	3518	0	1770	3539	1770	1583
Link Speed (k/h)	60			60	50	
Link Distance (m)	530.2			289.7	475.3	
Travel Time (s)	31.8			17.4	34.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1648	64	35	1004	46	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1712	0	35	1004	46	23
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane	Yes					
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control	Free			Free	Stop	

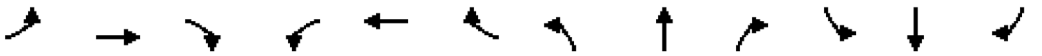
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1516	59	32	924	42	21
Future Volume (Veh/h)	1516	59	32	924	42	21
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1648	64	35	1004	46	23
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL			None		
Median storage veh)	2					
Upstream signal (m)				290		
pX, platoon unblocked					0.90	
vC, conflicting volume			1712		2252	856
vC1, stage 1 conf vol					1680	
vC2, stage 2 conf vol					572	
vCu, unblocked vol			1712		2165	856
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			90		65	92
cM capacity (veh/h)			367		130	301

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	1099	613	35	502	502	46	23
Volume Left	0	0	35	0	0	46	0
Volume Right	0	64	0	0	0	0	23
cSH	1700	1700	367	1700	1700	130	301
Volume to Capacity	0.65	0.36	0.10	0.30	0.30	0.35	0.08
Queue Length 95th (m)	0.0	0.0	2.5	0.0	0.0	11.5	2.0
Control Delay (s/veh)	0.0	0.0	15.9	0.0	0.0	46.9	17.9
Lane LOS			C			E	C
Approach Delay (s/veh)	0.0		0.5			37.3	
Approach LOS						E	

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		

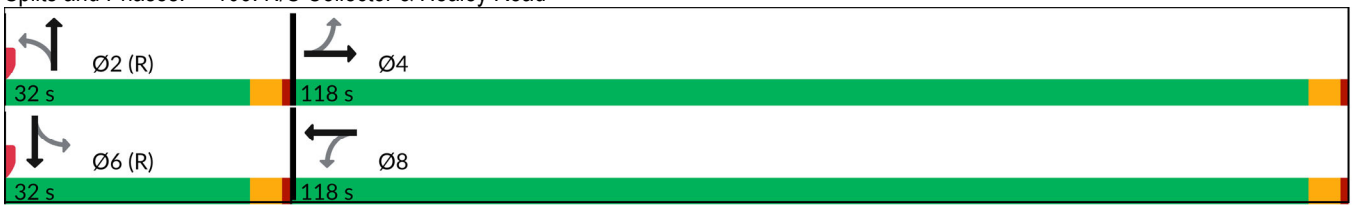


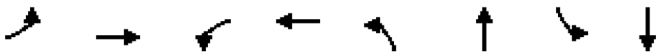
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	1409	68	54	891	6	49	74	51	9	64	16
Future Volume (vph)	60	1409	68	54	891	6	49	74	51	9	64	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.999			0.939			0.971	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3514	0	1770	3536	0	1770	1749	0	1770	1809	0
Flt Permitted	0.260			0.108			0.671			0.572		
Satd. Flow (perm)	484	3514	0	201	3536	0	1250	1749	0	1065	1809	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			1			20			7	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		289.7			536.6			472.1			202.6	
Travel Time (s)		17.4			32.2			28.3			12.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	1532	74	59	968	7	53	80	55	10	70	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	1606	0	59	975	0	53	135	0	10	87	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
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)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	118.0	118.0		118.0	118.0		32.0	32.0		32.0	32.0	
Total Split (%)	78.7%	78.7%		78.7%	78.7%		21.3%	21.3%		21.3%	21.3%	
Maximum Green (s)	113.5	113.5		113.5	113.5		27.5	27.5		27.5	27.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	107.5	107.5		107.5	107.5		33.5	33.5		33.5	33.5	
Actuated g/C Ratio	0.72	0.72		0.72	0.72		0.22	0.22		0.22	0.22	
v/c Ratio	0.19	0.64		0.41	0.38		0.19	0.33		0.04	0.21	
Control Delay (s/veh)	3.2	7.5		16.3	10.7		54.0	47.1		51.4	48.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	3.2	7.5		16.3	10.7		54.0	47.1		51.4	48.8	
LOS	A	A		B	B		D	D		D	D	
Approach Delay (s/veh)		7.3			11.0			49.1			49.1	
Approach LOS		A			B			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 144 (96%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay (s/veh): 12.6		Intersection LOS: B	
Intersection Capacity Utilization 65.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 106: N/S Collector & Healey Road

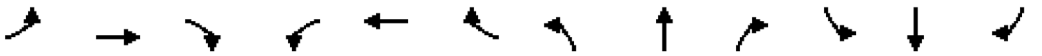




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	65	1606	59	975	53	135	10	87
v/c Ratio	0.19	0.64	0.41	0.38	0.19	0.33	0.04	0.21
Control Delay (s/veh)	3.2	7.5	16.3	10.7	54.0	47.1	51.4	48.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	3.2	7.5	16.3	10.7	54.0	47.1	51.4	48.8
Queue Length 50th (m)	1.9	35.2	6.7	54.6	14.2	31.7	2.6	21.5
Queue Length 95th (m)	m2.4	m27.3	m15.6	55.4	28.2	53.8	8.5	38.7
Internal Link Dist (m)		265.7		512.6		448.1		178.6
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	366	2661	152	2675	279	405	238	409
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	0.18	0.60	0.39	0.36	0.19	0.33	0.04	0.21

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	1409	68	54	891	6	49	74	51	9	64	16
Future Volume (vph)	60	1409	68	54	891	6	49	74	51	9	64	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.94		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)	1770	3515		1770	3535		1770	1749		1770	1808	
Flt Permitted	0.26	1.00		0.11	1.00		0.67	1.00		0.57	1.00	
Satd. Flow (perm)	484	3515		201	3535		1250	1749		1065	1808	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	1532	74	59	968	7	53	80	55	10	70	17
RTOR Reduction (vph)	0	3	0	0	0	0	0	16	0	0	5	0
Lane Group Flow (vph)	65	1603	0	59	975	0	53	119	0	10	82	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	107.5	107.5		107.5	107.5		33.5	33.5		33.5	33.5	
Effective Green, g (s)	107.5	107.5		107.5	107.5		33.5	33.5		33.5	33.5	
Actuated g/C Ratio	0.72	0.72		0.72	0.72		0.22	0.22		0.22	0.22	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	346	2519		144	2533		279	390		237	403	
v/s Ratio Prot		c0.46			0.28			c0.07			0.05	
v/s Ratio Perm	0.13			0.29			0.04			0.01		
v/c Ratio	0.19	0.64		0.41	0.38		0.19	0.31		0.04	0.20	
Uniform Delay, d1	7.0	11.1		8.5	8.3		47.2	48.6		45.7	47.4	
Progression Factor	0.52	0.67		1.06	1.24		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.0	0.0		1.8	0.1		1.5	2.0		0.3	1.1	
Delay (s)	3.7	7.4		10.8	10.4		48.8	50.6		46.0	48.5	
Level of Service	A	A		B	B		D	D		D	D	
Approach Delay (s/veh)		7.3			10.4			50.1			48.3	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	40	40	2420	78	42	1190
Future Volume (vph)	40	40	2420	78	42	1190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0	0.0		0.0	50.0	
Storage Lanes	1	1		0	1	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.995			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3522	0	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	3522	0	1770	3539
Link Speed (k/h)	50		70			70
Link Distance (m)	539.3		1501.3			483.8
Travel Time (s)	38.8		77.2			24.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	43	2630	85	46	1293
Shared Lane Traffic (%)						
Lane Group Flow (vph)	43	43	2715	0	46	1293
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	40	40	2420	78	42	1190
Future Volume (Veh/h)	40	40	2420	78	42	1190
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)	43	43	2630	85	46	1293
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			None
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	3411	1358			2715	
vC1, stage 1 conf vol	2673					
vC2, stage 2 conf vol	739					
vCu, unblocked vol	3411	1358			2715	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	69			69	
cM capacity (veh/h)	36	139			147	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	43	43	1753	962	46	647	647
Volume Left	43	0	0	0	46	0	0
Volume Right	0	43	0	85	0	0	0
cSH	36	139	1700	1700	147	1700	1700
Volume to Capacity	1.18	0.31	1.03	0.57	0.31	0.38	0.38
Queue Length 95th (m)	35.6	9.8	0.0	0.0	9.9	0.0	0.0
Control Delay (s/veh)	376.2	42.2	0.0	0.0	40.2	0.0	0.0
Lane LOS	F	E			E		
Approach Delay (s/veh)	209.2		0.0		1.4		
Approach LOS	F						

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	24	36	2	16	13	24	13	5	14	14	12
Future Volume (vph)	24	24	36	2	16	13	24	13	5	14	14	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.942			0.943			0.985			0.959	
Flt Protected		0.986			0.997			0.972			0.983	
Satd. Flow (prot)	0	1730	0	0	1751	0	0	1783	0	0	1756	0
Flt Permitted		0.986			0.997			0.972			0.983	
Satd. Flow (perm)	0	1730	0	0	1751	0	0	1783	0	0	1756	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		539.3			284.2			367.8			475.3	
Travel Time (s)		38.8			20.5			26.5			34.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	26	39	2	17	14	26	14	5	15	15	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	91	0	0	33	0	0	45	0	0	43	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Sign Control		Stop			Stop			Stop			Stop	

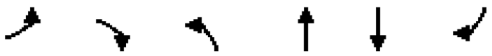
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 21.9%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	24	24	36	2	16	13	24	13	5	14	14	12
Future Volume (vph)	24	24	36	2	16	13	24	13	5	14	14	12
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	26	26	39	2	17	14	26	14	5	15	15	13

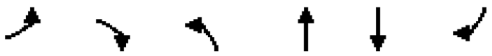
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	91	33	45	43
Volume Left (vph)	26	2	26	15
Volume Right (vph)	39	14	5	13
Hadj (s)	-0.17	-0.21	0.08	-0.08
Departure Headway (s)	4.0	4.0	4.3	4.1
Degree Utilization, x	0.10	0.04	0.05	0.05
Capacity (veh/h)	884	878	806	842
Control Delay (s/veh)	7.4	7.1	7.5	7.3
Approach Delay (s/veh)	7.4	7.1	7.5	7.3
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.4			
Level of Service	A			
Intersection Capacity Utilization	21.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	23	21	35	151	168	18
Future Volume (vph)	23	21	35	151	168	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	15.0	0.0	0.0			0.0
Storage Lanes	1	1	0			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.987	
Flt Protected	0.950			0.991		
Satd. Flow (prot)	1770	1583	0	1846	1839	0
Flt Permitted	0.950			0.991		
Satd. Flow (perm)	1770	1583	0	1846	1839	0
Link Speed (k/h)	50			60	60	
Link Distance (m)	284.2			370.2	472.1	
Travel Time (s)	20.5			22.2	28.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	25	23	38	164	183	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	25	23	0	202	203	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	23	21	35	151	168	18
Future Volume (Veh/h)	23	21	35	151	168	18
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	23	38	164	183	20
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	433	193	203			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	433	193	203			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	97	97			
cM capacity (veh/h)	564	849	1369			

Direction, Lane #	EB 1	EB 2	NB 1	SB 1
Volume Total	25	23	202	203
Volume Left	25	0	38	0
Volume Right	0	23	0	20
cSH	564	849	1369	1700
Volume to Capacity	0.04	0.03	0.03	0.12
Queue Length 95th (m)	1.1	0.7	0.7	0.0
Control Delay (s/veh)	11.7	9.4	1.6	0.0
Lane LOS	B	A	A	
Approach Delay (s/veh)	10.6		1.6	0.0
Approach LOS	B			

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	33.1%	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	5	9	23	11	88	22	98	27	84	105	0
Future Volume (vph)	0	5	9	23	11	88	22	98	27	84	105	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.910			0.903			0.976				
Flt Protected					0.991			0.993			0.978	
Satd. Flow (prot)	0	1695	0	0	1667	0	0	1805	0	0	1822	0
Flt Permitted					0.991			0.993			0.978	
Satd. Flow (perm)	0	1695	0	0	1667	0	0	1805	0	0	1822	0
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		282.8			530.8			313.3			370.2	
Travel Time (s)		20.4			38.2			18.8			22.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	5	10	25	12	96	24	107	29	91	114	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	0	133	0	0	160	0	0	205	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Stop			Stop	

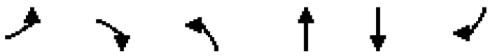
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.1%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	5	9	23	11	88	22	98	27	84	105	0
Future Volume (vph)	0	5	9	23	11	88	22	98	27	84	105	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	5	10	25	12	96	24	107	29	91	114	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	15	133	160	205
Volume Left (vph)	0	25	24	91
Volume Right (vph)	10	96	29	0
Hadj (s)	-0.37	-0.36	-0.04	0.12
Departure Headway (s)	4.6	4.4	4.4	4.5
Degree Utilization, x	0.02	0.16	0.20	0.26
Capacity (veh/h)	708	752	775	756
Control Delay (s/veh)	7.6	8.3	8.5	9.1
Approach Delay (s/veh)	7.6	8.3	8.5	9.1
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.7			
Level of Service	A			
Intersection Capacity Utilization	42.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	14	69	46	2068	795	42
Future Volume (vph)	14	69	46	2068	795	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.992	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3511	0
Flt Permitted	0.950		0.310			
Satd. Flow (perm)	1770	1583	577	3539	3511	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		75			14	
Link Speed (k/h)	50			70	70	
Link Distance (m)	530.8			346.8	839.8	
Travel Time (s)	38.2			17.8	43.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	75	50	2248	864	46
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	75	50	2248	910	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4	4	2			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	2	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	23.0	23.0	127.0	127.0	127.0	
Total Split (%)	15.3%	15.3%	84.7%	84.7%	84.7%	
Maximum Green (s)	18.5	18.5	122.5	122.5	122.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Min	C-Min	C-Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	7.3	7.3	133.7	133.7	133.7	
Actuated g/C Ratio	0.05	0.05	0.89	0.89	0.89	
v/c Ratio	0.18	0.51	0.10	0.71	0.29	
Control Delay (s/veh)	72.0	25.6	0.7	1.5	2.4	
Queue Delay	0.0	0.0	0.0	0.1	0.0	
Total Delay (s/veh)	72.0	25.6	0.7	1.6	2.4	
LOS	E	C	A	A	A	
Approach Delay (s/veh)	33.3			1.6	2.4	
Approach LOS	C			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 124 (83%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay (s/veh): 2.7		Intersection LOS: A	
Intersection Capacity Utilization 68.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 111: Humber Station Road & E/W Collector

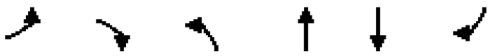




Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	15	75	50	2248	910
v/c Ratio	0.18	0.51	0.10	0.71	0.29
Control Delay (s/veh)	72.0	25.6	0.7	1.5	2.4
Queue Delay	0.0	0.0	0.0	0.1	0.0
Total Delay (s/veh)	72.0	25.6	0.7	1.6	2.4
Queue Length 50th (m)	4.6	0.0	0.4	11.7	2.8
Queue Length 95th (m)	12.3	17.1	m0.0	17.7	131.2
Internal Link Dist (m)	506.8			322.8	815.8
Turn Bay Length (m)	50.0		50.0		
Base Capacity (vph)	218	260	514	3154	3131
Starvation Cap Reductn	0	0	0	149	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.29	0.10	0.75	0.29

Intersection Summary

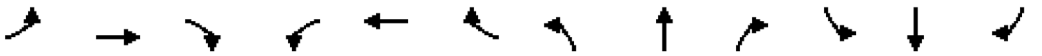
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	14	69	46	2068	795	42
Future Volume (vph)	14	69	46	2068	795	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	3539	3512	
Flt Permitted	0.95	1.00	0.31	1.00	1.00	
Satd. Flow (perm)	1770	1583	578	3539	3512	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	75	50	2248	864	46
RTOR Reduction (vph)	0	71	0	0	2	0
Lane Group Flow (vph)	15	4	50	2248	908	0
Turn Type	Perm	Perm	Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4	4	2			
Actuated Green, G (s)	7.3	7.3	133.7	133.7	133.7	
Effective Green, g (s)	7.3	7.3	133.7	133.7	133.7	
Actuated g/C Ratio	0.05	0.05	0.89	0.89	0.89	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	86	77	515	3154	3130	
v/s Ratio Prot				c0.64	0.26	
v/s Ratio Perm	c0.01	0.00	0.09			
v/c Ratio	0.17	0.05	0.10	0.71	0.29	
Uniform Delay, d1	68.5	68.0	1.0	2.4	1.2	
Progression Factor	1.00	1.00	0.35	0.21	1.76	
Incremental Delay, d2	1.0	0.3	0.3	0.9	0.2	
Delay (s)	69.4	68.3	0.6	1.5	2.3	
Level of Service	E	E	A	A	A	
Approach Delay (s/veh)	68.5			1.4	2.3	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	3.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	68.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

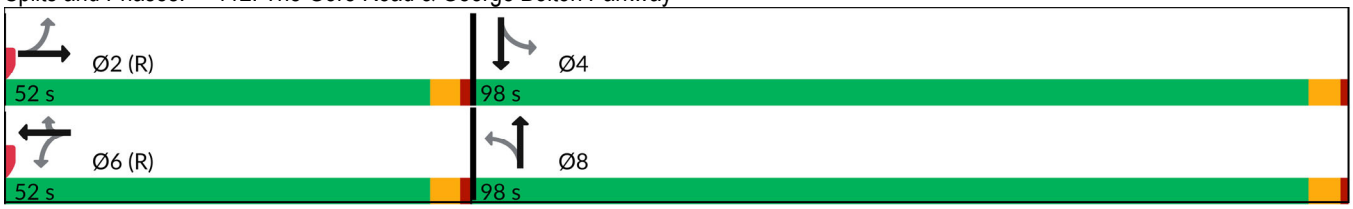


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	17	30	177	29	105	35	941	109	58	1037	165
Future Volume (vph)	175	17	30	177	29	105	35	941	109	58	1037	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.903				0.850		0.984			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1682	0	1770	1863	1583	1770	3483	0	1770	3465	0
Flt Permitted	0.736			0.724			0.087			0.133		
Satd. Flow (perm)	1371	1682	0	1349	1863	1583	162	3483	0	248	3465	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33				114		16			22	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		415.9			925.7			788.8			1501.3	
Travel Time (s)		25.0			55.5			40.6			77.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	190	18	33	192	32	114	38	1023	118	63	1127	179
Shared Lane Traffic (%)												
Lane Group Flow (vph)	190	51	0	192	32	114	38	1141	0	63	1306	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane											Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6	6	8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	52.0	52.0		52.0	52.0	52.0	98.0	98.0		98.0	98.0	
Total Split (%)	34.7%	34.7%		34.7%	34.7%	34.7%	65.3%	65.3%		65.3%	65.3%	
Maximum Green (s)	47.5	47.5		47.5	47.5	47.5	93.5	93.5		93.5	93.5	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min	C-Min	None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0	0	0	0		0	0	
Act Effct Green (s)	67.9	67.9		67.9	67.9	67.9	73.1	73.1		73.1	73.1	
Actuated g/C Ratio	0.45	0.45		0.45	0.45	0.45	0.49	0.49		0.49	0.49	
v/c Ratio	0.31	0.07		0.31	0.04	0.15	0.49	0.67		0.53	0.77	
Control Delay (s/veh)	30.1	13.1		33.2	31.6	9.0	45.8	30.3		18.6	21.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	30.1	13.1		33.2	31.6	9.0	45.8	30.3		18.6	21.2	
LOS	C	B		C	C	A	D	C		B	C	
Approach Delay (s/veh)		26.5			24.9			30.8			21.1	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 10 (7%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay (s/veh): 25.6		Intersection LOS: C	
Intersection Capacity Utilization 65.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 112: The Gore Road & George Bolton Parkway

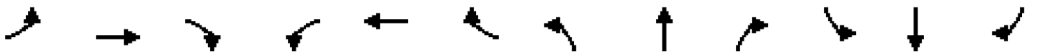




Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	190	51	192	32	114	38	1141	63	1306
v/c Ratio	0.31	0.07	0.31	0.04	0.15	0.49	0.67	0.53	0.77
Control Delay (s/veh)	30.1	13.1	33.2	31.6	9.0	45.8	30.3	18.6	21.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	30.1	13.1	33.2	31.6	9.0	45.8	30.3	18.6	21.2
Queue Length 50th (m)	37.1	3.1	36.7	6.0	4.1	7.7	137.0	9.5	117.5
Queue Length 95th (m)	65.8	13.2	m40.2	m8.0	m6.7	19.9	134.1	m11.6	m77.6
Internal Link Dist (m)		391.9		901.7			764.8		1477.3
Turn Bay Length (m)	50.0		50.0			50.0		50.0	
Base Capacity (vph)	620	779	610	843	778	100	2177	154	2168
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.07	0.31	0.04	0.15	0.38	0.52	0.41	0.60

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	17	30	177	29	105	35	941	109	58	1037	165
Future Volume (vph)	175	17	30	177	29	105	35	941	109	58	1037	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.90		1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1682		1770	1863	1583	1770	3484		1770	3466	
Flt Permitted	0.74	1.00		0.72	1.00	1.00	0.09	1.00		0.13	1.00	
Satd. Flow (perm)	1372	1682		1348	1863	1583	162	3484		248	3466	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	190	18	33	192	32	114	38	1023	118	63	1127	179
RTOR Reduction (vph)	0	18	0	0	0	62	0	8	0	0	11	0
Lane Group Flow (vph)	190	33	0	192	32	52	38	1133	0	63	1295	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6		6	8			4		
Actuated Green, G (s)	67.9	67.9		67.9	67.9	67.9	73.1	73.1		73.1	73.1	
Effective Green, g (s)	67.9	67.9		67.9	67.9	67.9	73.1	73.1		73.1	73.1	
Actuated g/C Ratio	0.45	0.45		0.45	0.45	0.45	0.49	0.49		0.49	0.49	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	621	761		610	843	716	78	1697		120	1689	
v/s Ratio Prot		0.02			0.02			0.33			c0.37	
v/s Ratio Perm	0.14			c0.14		0.03	0.23			0.25		
v/c Ratio	0.31	0.04		0.31	0.04	0.07	0.49	0.67		0.53	0.77	
Uniform Delay, d1	26.1	22.9		26.2	22.9	23.2	25.8	29.2		26.5	31.5	
Progression Factor	1.00	1.00		1.11	1.17	1.78	1.00	1.00		0.66	0.69	
Incremental Delay, d2	1.3	0.1		1.0	0.1	0.1	4.7	1.0		0.4	0.2	
Delay (s)	27.4	23.0		30.1	26.9	41.6	30.6	30.2		17.9	21.9	
Level of Service	C	C		C	C	D	C	C		B	C	
Approach Delay (s/veh)		26.4			33.7			30.2			21.7	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	26.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		

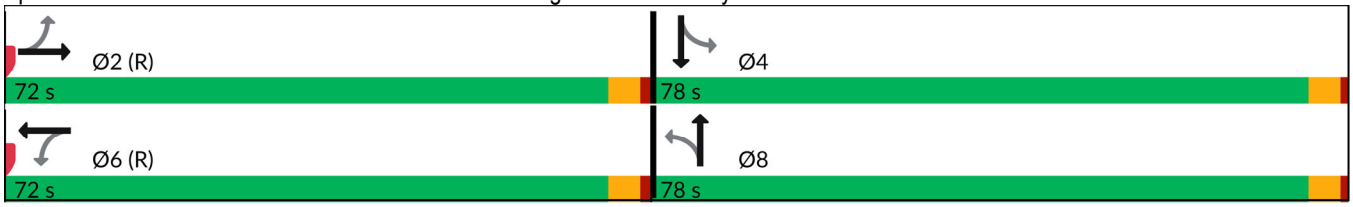
c Critical Lane Group

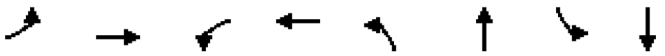
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	10	73	772	83	210	156	1835	108	68	795	72
Future Volume (vph)	101	10	73	772	83	210	156	1835	108	68	795	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	50.0		0.0	50.0		0.0	50.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.868			0.892			0.992			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3072	0	1770	3157	0	1770	3511	0	1770	3497	0
Flt Permitted	0.526			0.696			0.202			0.054		
Satd. Flow (perm)	980	3072	0	1296	3157	0	376	3511	0	101	3497	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		79			4			6			9	
Link Speed (k/h)		60			60			70			70	
Link Distance (m)		533.8			484.4			1231.2			323.2	
Travel Time (s)		32.0			29.1			63.3			16.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	110	11	79	839	90	228	170	1995	117	74	864	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	110	90	0	839	318	0	170	2112	0	74	942	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
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)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
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)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		22.5	22.5		22.5	22.5	
Total Split (s)	72.0	72.0		72.0	72.0		78.0	78.0		78.0	78.0	
Total Split (%)	48.0%	48.0%		48.0%	48.0%		52.0%	52.0%		52.0%	52.0%	
Maximum Green (s)	67.5	67.5		67.5	67.5		73.5	73.5		73.5	73.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Min	C-Min		C-Min	C-Min		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Don't Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	67.5	67.5		67.5	67.5		73.5	73.5		73.5	73.5	
Actuated g/C Ratio	0.45	0.45		0.45	0.45		0.49	0.49		0.49	0.49	
v/c Ratio	0.25	0.06		1.44	0.22		0.92	1.23		1.51	0.55	
Control Delay (s/veh)	9.0	0.9		239.9	25.4		86.3	141.3		340.5	24.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	9.0	0.9		239.9	25.4		86.3	141.3		340.5	24.6	
LOS	A	A		F	C		F	F		F	C	
Approach Delay (s/veh)		5.4			180.9			137.2			47.6	
Approach LOS		A			F			F			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 126 (84%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.51			
Intersection Signal Delay (s/veh): 122.9		Intersection LOS: F	
Intersection Capacity Utilization 120.3%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 113: Humber Station Road & George Bolton Parkway





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	110	90	839	318	170	2112	74	942
v/c Ratio	0.25	0.06	1.44	0.22	0.92	1.23	1.51	0.55
Control Delay (s/veh)	9.0	0.9	239.9	25.4	86.3	141.3	340.5	24.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	9.0	0.9	239.9	25.4	86.3	141.3	340.5	24.6
Queue Length 50th (m)	7.9	0.8	~352.2	30.9	48.2	~424.6	~30.5	57.3
Queue Length 95th (m)	9.9	0.5	#433.3	42.1	#100.3	#466.5	#65.8	121.1
Internal Link Dist (m)		509.8		460.4		1207.2		299.2
Turn Bay Length (m)	50.0		50.0		50.0		50.0	
Base Capacity (vph)	441	1425	583	1422	184	1723	49	1718
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	0.25	0.06	1.44	0.22	0.92	1.23	1.51	0.55

Intersection Summary

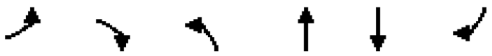
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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)	101	10	73	772	83	210	156	1835	108	68	795	72
Future Volume (vph)	101	10	73	772	83	210	156	1835	108	68	795	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.87		1.00	0.89		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3073		1770	3159		1770	3510		1770	3495	
Flt Permitted	0.53	1.00		0.70	1.00		0.20	1.00		0.05	1.00	
Satd. Flow (perm)	980	3073		1296	3159		376	3510		101	3495	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	110	11	79	839	90	228	170	1995	117	74	864	78
RTOR Reduction (vph)	0	43	0	0	2	0	0	3	0	0	5	0
Lane Group Flow (vph)	110	47	0	839	316	0	170	2109	0	74	937	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	67.5	67.5		67.5	67.5		73.5	73.5		73.5	73.5	
Effective Green, g (s)	67.5	67.5		67.5	67.5		73.5	73.5		73.5	73.5	
Actuated g/C Ratio	0.45	0.45		0.45	0.45		0.49	0.49		0.49	0.49	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	441	1382		583	1421		184	1719		49	1712	
v/s Ratio Prot		0.02			0.10			0.60			0.27	
v/s Ratio Perm	0.11			c0.65			0.45			c0.73		
v/c Ratio	0.25	0.03		1.44	0.22		0.92	1.23		1.51	0.55	
Uniform Delay, d1	25.6	23.0		41.3	25.2		35.6	38.3		38.3	26.7	
Progression Factor	0.30	0.14		1.00	1.00		1.00	1.00		1.16	0.88	
Incremental Delay, d2	1.2	0.0		207.2	0.4		44.8	107.5		307.6	0.3	
Delay (s)	8.8	3.4		248.5	25.6		80.5	145.7		351.9	23.7	
Level of Service	A	A		F	C		F	F		F	C	
Approach Delay (s/veh)		6.4			187.2			140.8			47.6	
Approach LOS		A			F			F			D	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	126.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.47		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	120.3%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	37	77	43	2103	858	77
Future Volume (vph)	37	77	43	2103	858	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0	0.0	50.0			0.0
Storage Lanes	1	1	1			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.850			0.988	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3497	0
Flt Permitted	0.950		0.275			
Satd. Flow (perm)	1770	1583	512	3539	3497	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		84			24	
Link Speed (k/h)	50			70	70	
Link Distance (m)	393.2			323.2	346.8	
Travel Time (s)	28.3			16.6	17.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	40	84	47	2286	933	84
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	84	47	2286	1017	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Number of Detectors	1	1	1	2	2	
Detector Template	Left	Right	Left	Thru	Thru	
Leading Detector (m)	2.0	2.0	2.0	10.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	2.0	2.0	0.6	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)				9.4	9.4	
Detector 2 Size(m)				0.6	0.6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4	4	2	2	6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	
Total Split (s)	23.0	23.0	127.0	127.0	127.0	
Total Split (%)	15.3%	15.3%	84.7%	84.7%	84.7%	
Maximum Green (s)	18.5	18.5	122.5	122.5	122.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	C-Max	C-Max	C-Max	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Don't Walk (s)	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	8.8	8.8	132.2	132.2	132.2	
Actuated g/C Ratio	0.06	0.06	0.88	0.88	0.88	
v/c Ratio	0.39	0.49	0.10	0.73	0.33	
Control Delay (s/veh)	77.9	22.7	0.3	5.3	0.6	
Queue Delay	0.0	0.0	0.0	1.0	0.0	
Total Delay (s/veh)	77.9	22.7	0.3	6.3	0.6	
LOS	E	C	A	A	A	
Approach Delay (s/veh)	40.5			6.2	0.6	
Approach LOS	D			A	A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 46 (31%), Referenced to phase 2:NBTL and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay (s/veh): 5.8		Intersection LOS: A	
Intersection Capacity Utilization 69.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 114: Humber Station Road & N/S Collector

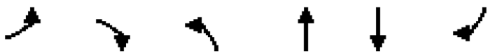




Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	40	84	47	2286	1017
v/c Ratio	0.39	0.49	0.10	0.73	0.33
Control Delay (s/veh)	77.9	22.7	0.3	5.3	0.6
Queue Delay	0.0	0.0	0.0	1.0	0.0
Total Delay (s/veh)	77.9	22.7	0.3	6.3	0.6
Queue Length 50th (m)	12.2	0.0	0.2	38.5	4.3
Queue Length 95th (m)	25.0	17.5	m0.3	m7.5	5.5
Internal Link Dist (m)	369.2			299.2	322.8
Turn Bay Length (m)	50.0		50.0		
Base Capacity (vph)	218	268	451	3119	3085
Starvation Cap Reductn	0	0	0	526	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.31	0.10	0.88	0.33

Intersection Summary

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	37	77	43	2103	858	77
Future Volume (vph)	37	77	43	2103	858	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1770	1583	1770	3539	3495	
Flt Permitted	0.95	1.00	0.28	1.00	1.00	
Satd. Flow (perm)	1770	1583	513	3539	3495	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	40	84	47	2286	933	84
RTOR Reduction (vph)	0	79	0	0	3	0
Lane Group Flow (vph)	40	5	47	2286	1014	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	8.8	8.8	132.2	132.2	132.2	
Effective Green, g (s)	8.8	8.8	132.2	132.2	132.2	
Actuated g/C Ratio	0.06	0.06	0.88	0.88	0.88	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	103	92	452	3119	3080	
v/s Ratio Prot	c0.02			c0.65	0.29	
v/s Ratio Perm		0.00	0.09			
v/c Ratio	0.39	0.05	0.10	0.73	0.33	
Uniform Delay, d1	68.0	66.7	1.2	3.0	1.5	
Progression Factor	1.00	1.00	0.16	1.53	0.20	
Incremental Delay, d2	2.4	0.2	0.0	0.1	0.3	
Delay (s)	70.4	66.9	0.2	4.7	0.6	
Level of Service	E	E	A	A	A	
Approach Delay (s/veh)	68.0			4.6	0.6	
Approach LOS	E			A	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Appendix G

Signalization Warrant Analysis

Signal Justification Calculation for Forecasted Volumes (OTM Book 12 - Justification 7)

Horizon Year: 2032 Total Traffic
Region/City/Township: Town of Fort Erie

Major Street: The Gore Road North/South: Y
Minor Street: Street A

Number of Approach Lanes: 1
Tee Intersection? Y
Flow Conditions: Free

PM Forecast Only? N

Warrant Results		
150% Satisfied	**No**	Justification for new intersections with forecast traffic
120% Satisfied	**No**	Justification for existing intersections with forecast traffic

Time Period	Major Street						Minor Street						Peds Crossing Main Road
	The Gore Road						Street A						
	Northbound			Southbound			Eastbound			Westbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
AM Peak Hour	0	297	32	28	782	0	0	0	0	89	0	98	0
PM Peak Hour	0	613	100	65	471	0	0	0	0	51	0	64	0
Average Hourly Volume	**0**	**228**	**33**	**23**	**313**	**0**	**0**	**0**	**0**	**35**	**0**	**41**	**0**

Warrant 1 - Minimum Vehicular Volume

Warrant	AHV
1A - All	673
1B - Mino	76
2A - Majo	597
2B - Cros	35

1A	Approach Lanes	1		2 or more		Average Hourly Volume
	Flow Conditions	Free	Restricted	Free	Restricted	
		X				
	All Approaches	480	720	600	900	673
					% Fulfilled	**140.1%**

1B	Approach Lanes	1		2 or more		Average Hourly Volume
	Flow Conditions	Free	Restricted	Free	Restricted	
		X				
	Minor Street Approaches	180	255	180	255	76
					% Fulfilled	**41.9%**

Warrant 2 - Delay To Cross Traffic

2A	Approach Lanes	1		2 or more		Average Hourly Volume
	Flow Conditions	Free	Restricted	Free	Restricted	
		X				
	Major Street Approaches	480	720	600	900	597
					% Fulfilled	**124.4%**

2B	Approach Lanes	1		2 or more		Average Hourly Volume
	Flow Conditions	Free	Restricted	Free	Restricted	
		X				
	Traffic Crossing Major Street	50	75	50	75	35
					% Fulfilled	**70.0%**

Signal Justification Calculation for Forecasted Volumes (OTM Book 12 - Justification 7)

Horizon Year: 2051 Total Traffic
Region/City/Township: Town of Fort Erie

Major Street: The Gore Road North/South: Y
Minor Street: Street A

Number of Approach Lanes: 1
Tee Intersection? Y
Flow Conditions: Free

PM Forecast Only? N

Warrant Results		
150% Satisfied	**No**	Justification for new intersections with forecast traffic
120% Satisfied	**No**	Justification for existing intersections with forecast traffic

Time Period	Major Street: The Gore Road						Minor Street: Street A						Peds Crossing Main Road
	Northbound			Southbound			Eastbound			Westbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
AM Peak Hour	0	1017	24	17	2135	0	0	0	0	69	0	62	0
PM Peak Hour	0	2420	78	42	1190	0	0	0	0	40	0	40	0
Average Hourly Volume	**0**	**859**	**26**	**15**	**831**	**0**	**0**	**0**	**0**	**27**	**0**	**26**	**0**

Warrant 1 - Minimum Vehicular Volume

Warrant	AHV
1A - All	1784
1B - Mino	53
2A - Majo	1731
2B - Cros	27

1A	Approach Lanes	1		2 or more		Average Hourly Volume
	Flow Conditions	Free	Restricted	Free	Restricted	
		X				
	All Approaches	480	720	600	900	1784
					% Fulfilled	**371.6%**

1B	Approach Lanes	1		2 or more		Average Hourly Volume
	Flow Conditions	Free	Restricted	Free	Restricted	
		X				
	Minor Street Approaches	180	255	180	255	53
					% Fulfilled	**29.3%**

Warrant 2 - Delay To Cross Traffic

2A	Approach Lanes	1		2 or more		Average Hourly Volume
	Flow Conditions	Free	Restricted	Free	Restricted	
		X				
	Major Street Approaches	480	720	600	900	1731
					% Fulfilled	**360.6%**

2B	Approach Lanes	1		2 or more		Average Hourly Volume
	Flow Conditions	Free	Restricted	Free	Restricted	
		X				
	Traffic Crossing Major Street	50	75	50	75	27
					% Fulfilled	**54.5%**

Signal Justification Calculation for Forecasted Volumes (OTM Book 12 - Justification 7)

Horizon Year: 2032 Total Traffic
Region/City/Township: Town of Fort Erie

Major Street: Healey Road
Minor Street: Street B
North/South: N

Number of Approach Lanes: 1
Tee Intersection? Y
Flow Conditions: Free

PM Forecast Only? N

Warrant Results		
150% Satisfied	**No**	Justification for new intersections with forecast traffic
120% Satisfied	**No**	Justification for existing intersections with forecast traffic

Time Period	Major Street						Minor Street						Peds Crossing Main Road
	Healey Road						Street B						
	Eastbound			Westbound			Northbound			Southbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
AM Peak Hour	0	606	32	18	341	0	103	0	39	0	0	0	0
PM Peak Hour	0	497	99	33	807	0	63	0	23	0	0	0	0
Average Hourly Volume	**0**	**276**	**33**	**13**	**287**	**0**	**42**	**0**	**16**	**0**	**0**	**0**	**0**

Warrant 1 - Minimum Vehicular Volume

Warrant	AHV
1A - All	665
1B - Mino	57
2A - Majo	608
2B - Cros	42

1A	Approach Lanes	1		2 or more		Average Hourly Volume
	Flow Conditions	Free	Restricted	Free	Restricted	
		X				
	All Approaches	480	720	600	900	665
					% Fulfilled	**138.6%**

1B	Approach Lanes	1		2 or more		Average Hourly Volume
	Flow Conditions	Free	Restricted	Free	Restricted	
		X				
	Minor Street Approaches	180	255	180	255	57
					% Fulfilled	**31.7%**

Warrant 2 - Delay To Cross Traffic

2A	Approach Lanes	1		2 or more		Average Hourly Volume
	Flow Conditions	Free	Restricted	Free	Restricted	
		X				
	Major Street Approaches	480	720	600	900	608
					% Fulfilled	**126.7%**

2B	Approach Lanes	1		2 or more		Average Hourly Volume
	Flow Conditions	Free	Restricted	Free	Restricted	
		X				
	Traffic Crossing Major Street	50	75	50	75	42
					% Fulfilled	**83.0%**

Signal Justification Calculation for Forecasted Volumes (OTM Book 12 - Justification 7)

Horizon Year: 2051 Total Traffic
Region/City/Township: Town of Fort Erie

Major Street: Healey Road
Minor Street: Street B
North/South: Y

Number of Approach Lanes: 1
Tee Intersection? Y
Flow Conditions: Free

PM Forecast Only? N

Warrant Results		
150% Satisfied	**No**	Justification for new intersections with forecast traffic
120% Satisfied	**No**	Justification for existing intersections with forecast traffic

Time Period	Major Street						Minor Street						Peds Crossing Main Road
	Healey Road						Street B						
	Northbound			Southbound			Eastbound			Westbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
AM Peak Hour	0	809	21	13	1355	0	61	0	36	0	0	0	0
PM Peak Hour	0	1516	59	32	924	0	42	0	21	0	0	0	0
Average Hourly Volume	**0**	**581**	**20**	**11**	**570**	**0**	**26**	**0**	**14**	**0**	**0**	**0**	**0**

Warrant 1 - Minimum Vehicular Volume

Warrant	AHV
1A - All	1222
1B - Mino	40
2A - Majo	1182
2B - Cros	26

1A	Approach Lanes	1		2 or more		Average Hourly Volume
	Flow Conditions	Free	Restricted	Free	Restricted	
		X				
	All Approaches	480	720	600	900	1222
					% Fulfilled	**254.6%**

1B	Approach Lanes	1		2 or more		Average Hourly Volume
	Flow Conditions	Free	Restricted	Free	Restricted	
		X				
	Minor Street Approaches	180	255	180	255	40
					% Fulfilled	**22.2%**

Warrant 2 - Delay To Cross Traffic

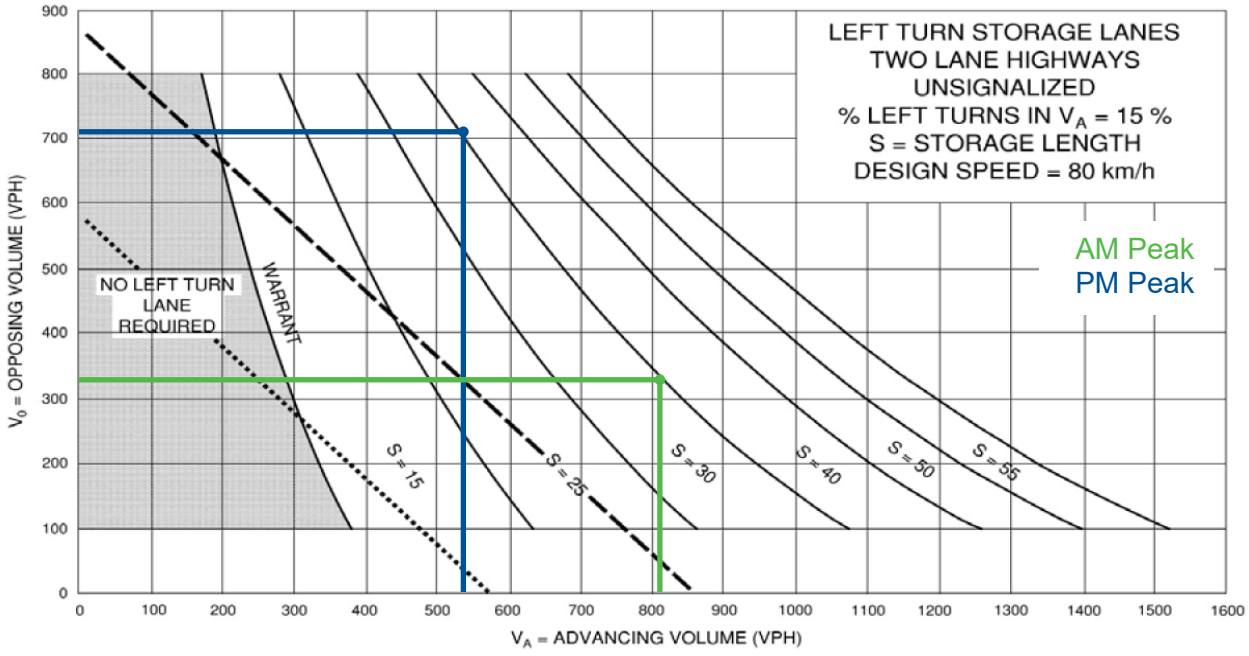
2A	Approach Lanes	1		2 or more		Average Hourly Volume
	Flow Conditions	Free	Restricted	Free	Restricted	
		X				
	Major Street Approaches	480	720	600	900	1182
					% Fulfilled	**246.3%**

2B	Approach Lanes	1		2 or more		Average Hourly Volume
	Flow Conditions	Free	Restricted	Free	Restricted	
		X				
	Traffic Crossing Major Street	50	75	50	75	26
					% Fulfilled	**51.5%**

Appendix H

Left-Turn Lane Warrants

Southbound



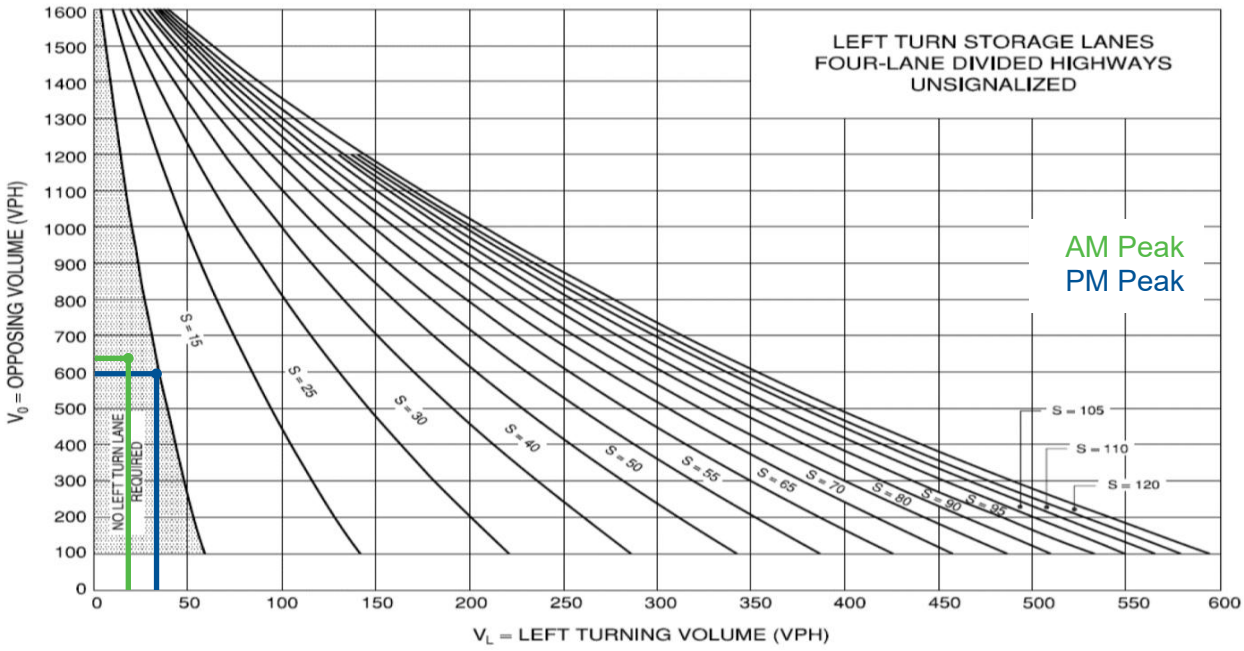
Street A & The Gore (2032)
Left-Turn Lane Warrant

12879 The Gore Road

250381

Figure H.1

Westbound



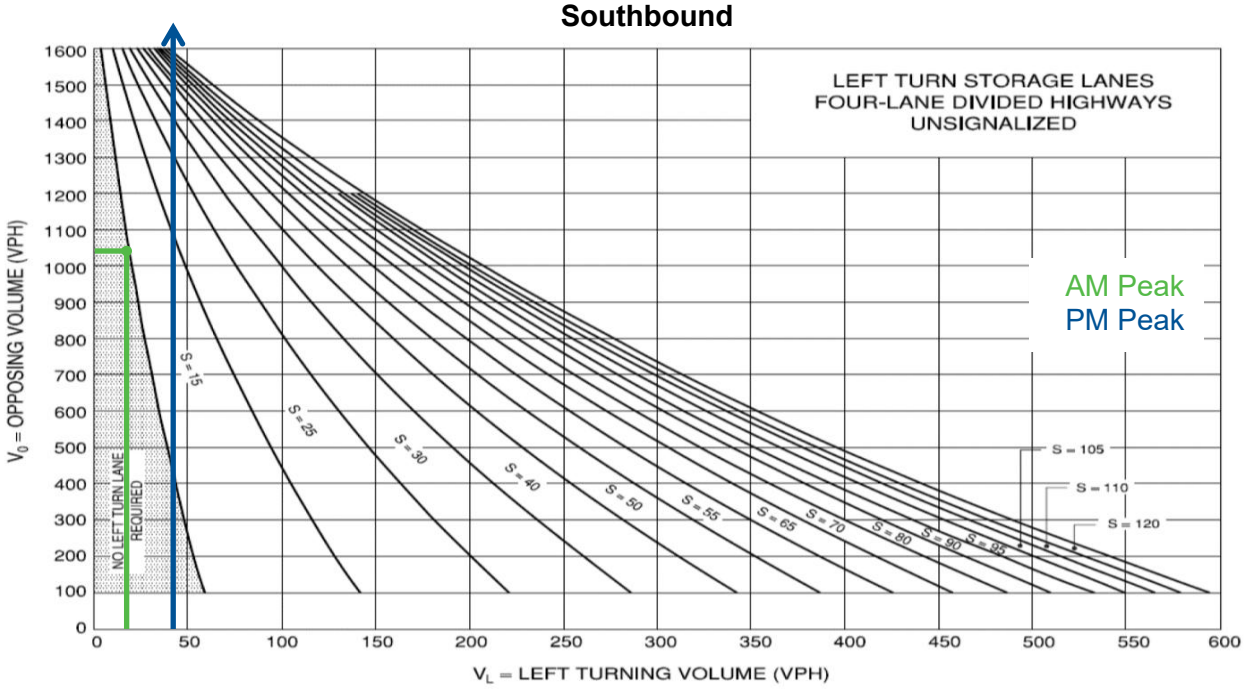
Healey Road & Street B (2032)
Left-Turn Lane Warrant

12879 The Gore Road

250381

Figure H.2

Southbound



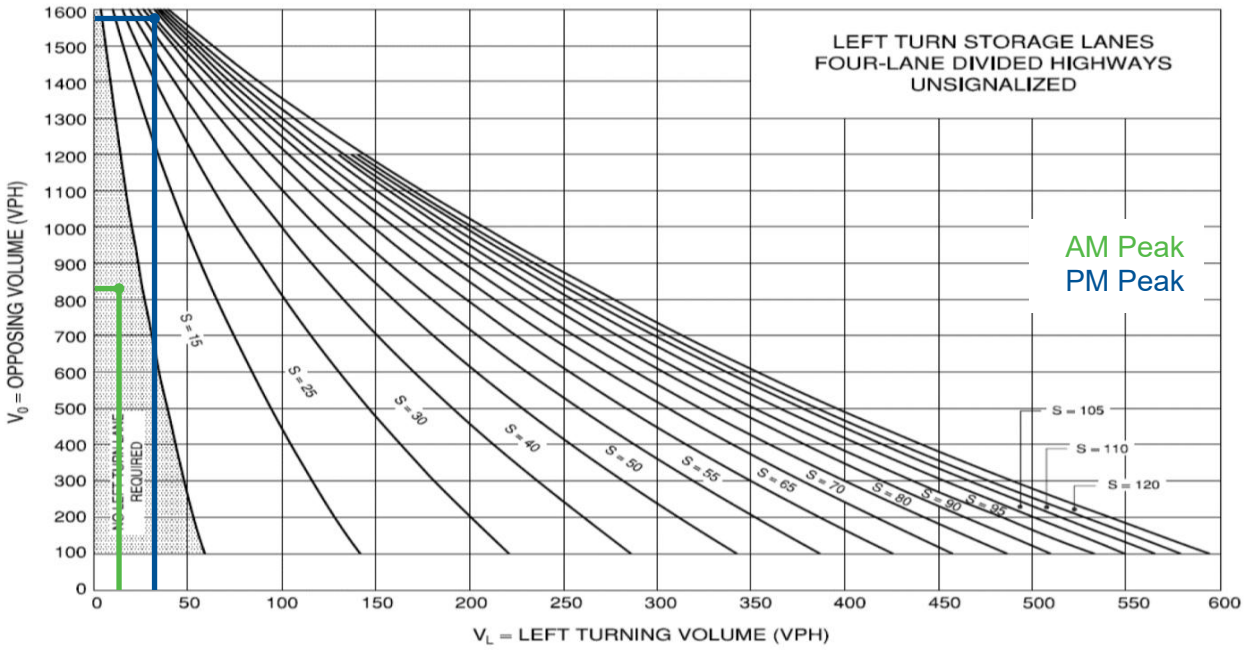
Street A & The Gore (2051)
Left-Turn Lane Warrant

12879 The Gore Road

250381

Figure H.3

Westbound



paradigm TRANSPORTATION SOLUTIONS LIMITED

Healey Road & Street B (2051)
Left-Turn Lane Warrant

12879 The Gore Road

250381

Figure H.4